PLASTIC POLLUTION CLEAN-UP & BRANDING SURVEY

Aquatic Park, Berkeley
2025

Shark Stewards a Project of the Earth Island Institute

Plastic Ocean Trash, Branding and the Recycling Myth

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Acknowledgements

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Executive Summary

This report is based on plastic cleanup surveys conducted at Berkeley Aquatic Park CA, a public park surrounding tidal lagoons with exchange to the San Francisco Bay. The Shark Stewards team, volunteers, and community, conducted monthly cleanups on Sundays for 2-3 hours throughout the year. Together we gathered debris and collected data in over 40 categories with a focus on plastic. Over the year we conducted 11 cleanup events and recorded 17,728 items. An estimated total 3,017 pounds of waste were collected, disposed of, or recycled (when possible).

Plastic Recycling and Brands

Branding data was collected for the most common manufacturers with an emphasis on plastic bottles and food wrappers. McDonalds food containers were the most prevalent (lids and straws), followed by plastic bottles (Costco, Crystal Geyser, Coca Cola) and food wrappers (Hershey, Snickers, Cheetos, Lays). Although these brands display the three arrow recycling symbol, most are not even recyclable. Through more clear labeling, producing products from recycled materials, and producing materials that are actually recyclable, manufacturers can reduce plastic pollution. Better consumer choices and action will protect the marine environment, the wildlife, and humans from plastic pollution.

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Summary of Impact

- 11 cleanup events
- 300 volunteers
- 900 volunteer hours
- 17,728 items
- 3017 pounds of total waste collected, recycled and disposed of

Introduction

Over the course of 2025 Shark Stewards engaged the Berkeley community through monthly cleanups and debris surveys at Berkeley Aquatic Park in California. Members of UC Berkeley's Ocean Society and Cal Surfrider Clubs, students from Berkeley High School, and numerous other community members from Berkeley and the surrounding area all contributed. Additionally, college students and interns participated in data collection, including recording species observations on iNaturalist, with on-site plankton identification using a compound microscope.

Over the period of this project we conducted 11 community cleanup events and quantified debris, entering the data into Ocean Conservancy's CleanSwell App by category. Cleanups were held (usually the 3rd Sunday of the month) between 10am and 1 pm. Participants ranged from our core team of 5, to over 150 volunteers during special events like the California Coastal Cleanup Day. During the course of the cleanups volunteers collected marine debris from around the Aquatic Park lagoons and quantified by type (e.g. cigarette butts, plastic bottle, straws) and plastic by brand. Data using collection sheets were aggregated and entered into the CleanSwell App which provides an estimate of weight, and documents the event.

Over 300 volunteers participated with approximately 900 volunteer hours during the community cleanups and monitoring events. Over 45 Berkeley undergraduates and high school students, and adult mentors planned and participated in these events. This Aquatic Park Stewardship program worked with the East Bay Disc Golfers, the Berkeley Paddling and Rowing Club, Waterside Works, and Friends of Five Creeks and local schools. Additionally, we engaged community members passing by our table who also contributed by joining in cleanup activities on the day of events.

In this report, we feature the types of plastic collected by categories adopted using the Ocean Conservancy methods, including branded plastics recovered in Aquatic Park. We discuss plastic types, recycling claims, recyclability of plastic, microplastics and threats to human and environmental health from plastic in our waterways.

Methods

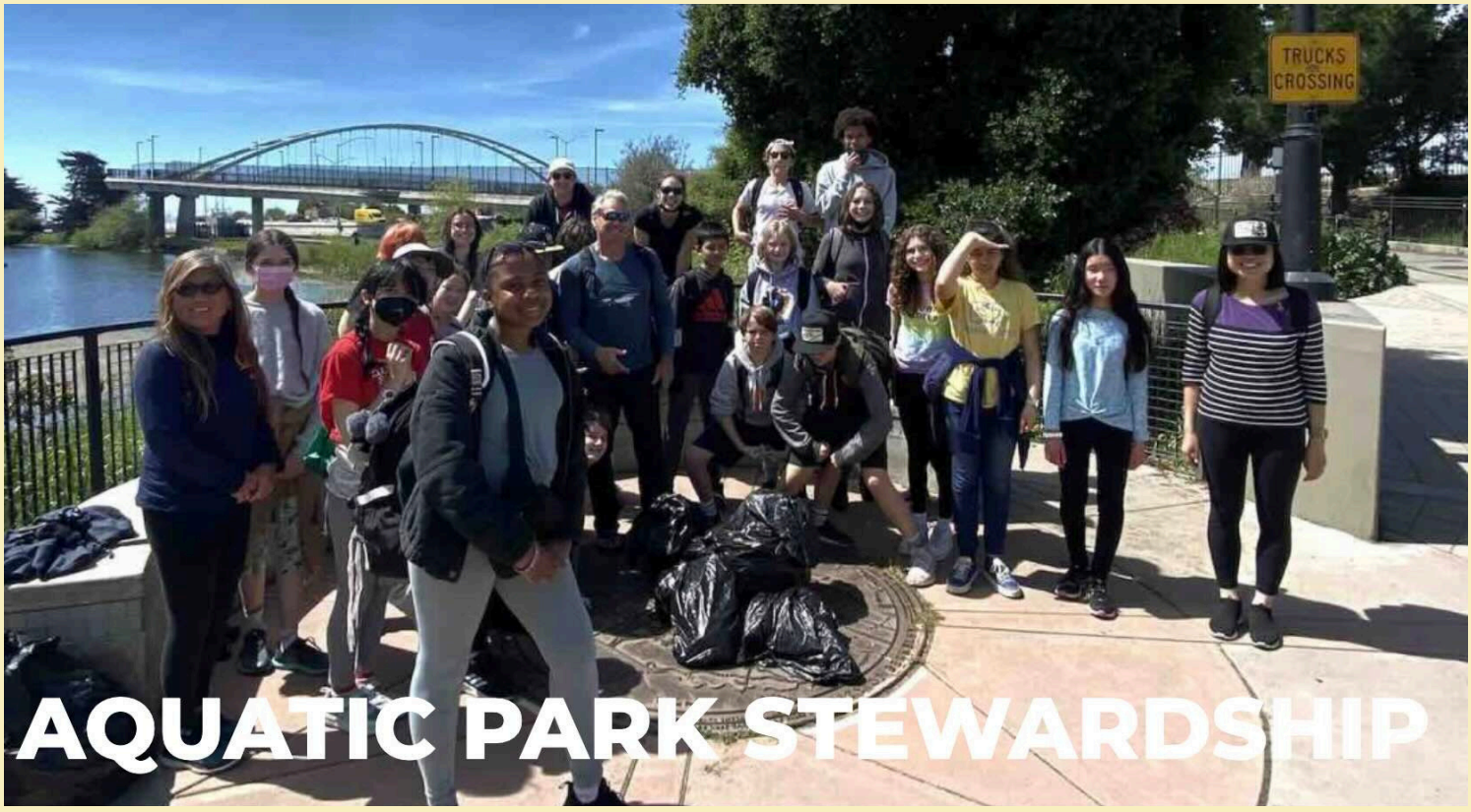
- Cleanups conducted on third Sundays, 10am-1pm
- 5-30 volunteers used buckets, tongs and gloves
- Data collected during cleanups
- Branding data noted and categorized
- Cleanup data entered into CleanSwell App
- Items recycled or disposed

https://www.sharkstewards.org

Aquatic Park Stewards

The Aquatic Park Stewards engages youth, the community and the City of Berkeley to improve the health of the Aquatic Park Lagoon and San Francisco Bay.
The study site is at Berkeley Aquatic Park, an urban park surrounding several brackish lagoons connected to the east San Francisco Bay via culverts beneath the East Shore I-80 Freeway. This 100-acre park, and 60 acre lagoon has a long history of human use and recreation, including rowing, paddling and water-skiing clubs. In addition to our monthly cleanups, community volunteers and students tabled and raised awareness on ongoing issues, observed birds, fish and other wildlife at Aquatic Park and added them into the iNaturalist database (California Academy of Sciences).

Besides the marine debris and plastic brand survey, the Aquatic Park Stewards program includes routine water quality monitoring, and a shark and ray mortality with Shark Stewards. Funded by the UC Berkeley Chancellors Community Fund, this program focuses on the environmental conditions, wildlife and human health issues in the Aquatic Park lagoons and the greater Bay Area.



Results- Items by Category

Much of our collection focus was the park along the margins of the main and central lagoon, and inside the lagoon by SUP and Kayak. Sources of waste are variable in the park. The south parking lot attracts visitors in vehicles with cigarette butts, beer bottles and condoms liberally distributed. The east and north end are used by families, disc golfers, cyclists and rowers with BORP (BORP Adaptive Sports and Recycling) and Waterside Works. This area has more food-related waste like wrappers and fast food containers from picnickers. The west side refuse is more related to freeway-related discards like plastic wrap, drink containers, and automobile parts**.** A number of unhoused campers also contribute to waste along the west shore.
Food wrappers like Cheetos, Hersheys and Lays blow into the lagoon, and blow down to the eastern shoreline, along with small floating plastic, bottles and bottle caps.

The most common items collected were uncategorized plastic at 18.69%, plastic and foam fragments less than 1 inch (18.5%) and cigarette butts (13.75%). Although most items recovered were from shoreside cleanup, some materials were collected during water surveys on kayak and by standup paddle board. Plastic bottle caps made up 3% of the waste, with most of these recovered from the lagoon.

Table 1 Select Plastics Data by Category - Total Items Aquatic Park

Aquatic Park Select Cleanup Waste by Category 2025

Date	Plastic bottles	Plastic caps	Cigarette butts	Food wrappers (candy, chips, etc.)	Small plastic	Condoms	Total Items Collected	Pounds
2/16/2025	19	17	41		181	30	807	62.8
3/23/2025	21	55	213	79	317	25	1238	224.3
4/20/2025	25	35	104	44	202	26	973	85.6
5/11/2025	61	32	342	34	180	51	1721	156.1
6/24/2025	12	15	169	35	77	21	697	180.8
7/13/2025	7	21	64	5	77	24	590	49.5
8/24/2025	18	71	335	28	121	56	1686	402.3
9/20/2025	28	138	867	213	321	141	4610	1,323.00
10/12/2025	51	72	476	88	186	75	2169	0
11/16/2025	31	96	178	165	244	64	2035	182.3
12/14/2025	26	33	209	85	73	39	1202	350.1
TOTAL	299	585	2998	776	1979	552	17728	3016.8

Table 1 is a summary of the most 6 common plastic types we collected by category out of the over 40 separated and quantified. Categories are based on those accumulated by the Ocean Conservancy for comparison purposed, with some added for our location and by brand. 299 plastic beverage bottles were collected with 778 food wrappers. The highest categories collected are small plastics <1 inch, plastic food wrappers including Hersheys and snickers, unidentifiable plastic food containers (not paper or cardboard), plastic bottles and plastic caps. An example of the entire collection sheet by category is in Appendix II. All data were added into the Ocean Conservancy Cleansweep app which provides an estimate of the weight collected, an underestimate when considering large items.
Materials most common recycled and the recycling myth is discussed in Section II.

Figure 1 Items Cleaned up by Category

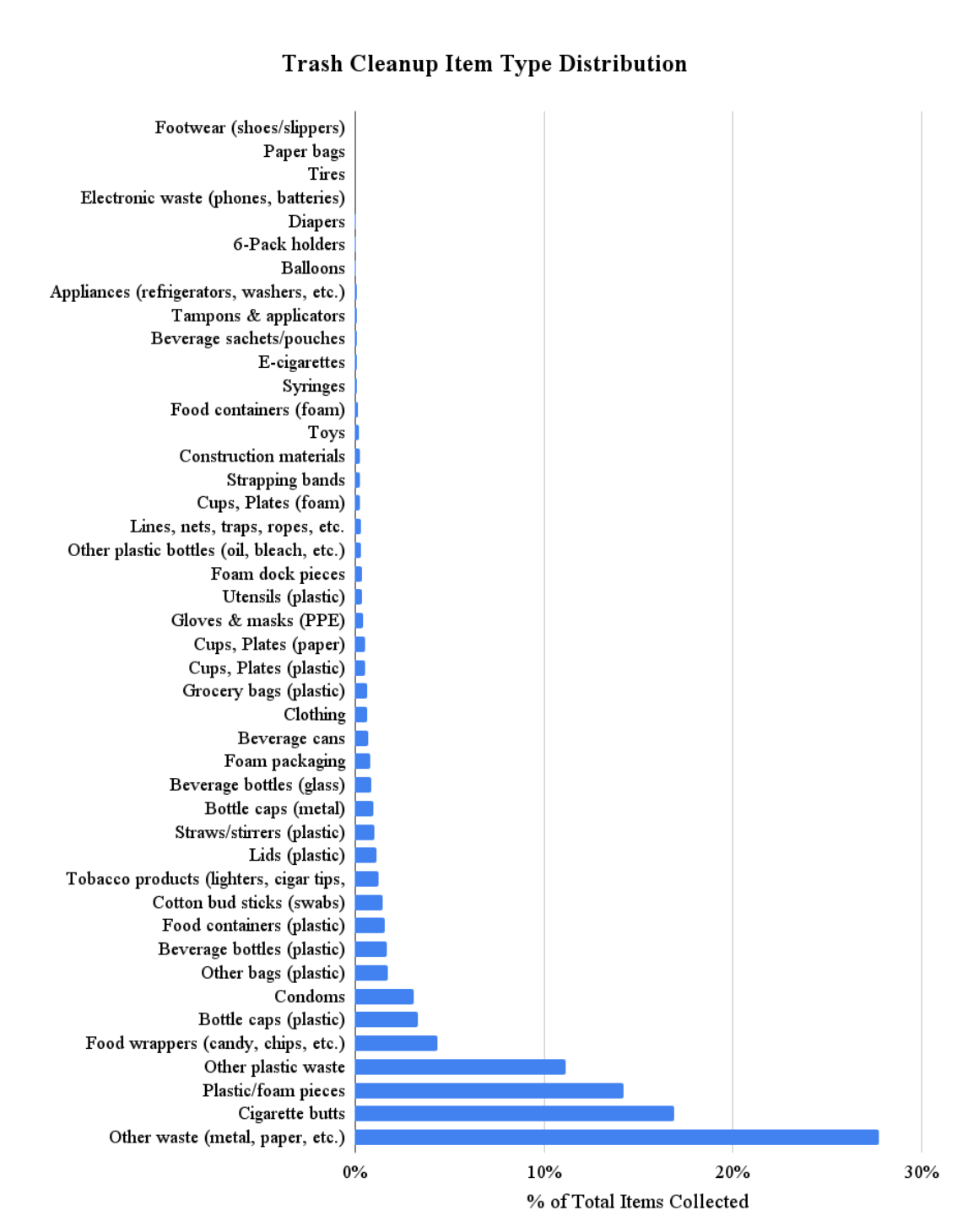
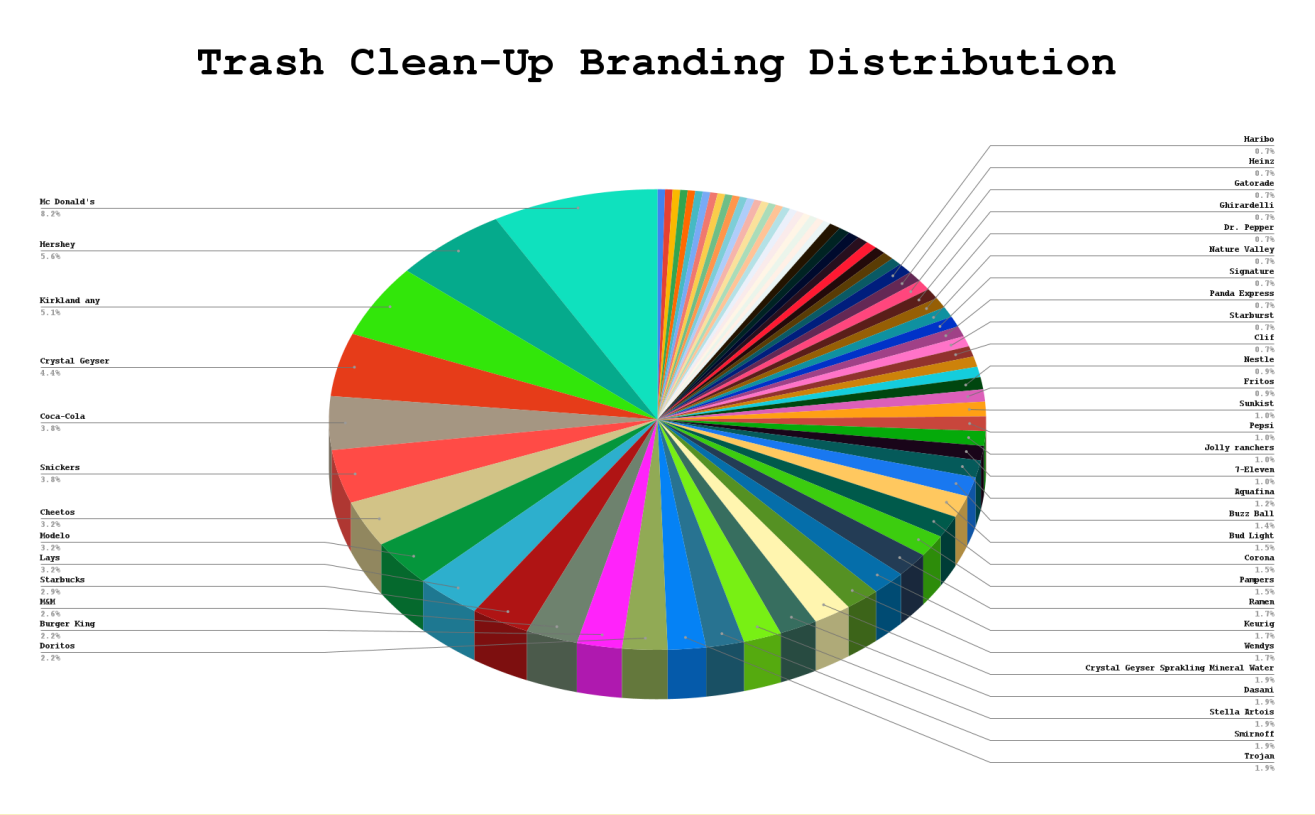


Figure 1 displays the total distribution of items collected by category in percentage of the total number of items. The largest category by volume is “other” waste which includes non-plastic waste and is not analyzed for this discussion on plastic. Cigarette butts followed by plastic and foam pieces less than one inch, and other plastic (uncategorized) are the largest categories by volume. These items are generally unrecyclable or in the case of cigarette butts are not recycled with the exception of a small percentage by Terracycle. The next section‘s discussion will focus on brands, labeling and recycling.

Results- Branding

Figure 2 shows the distribution of items cleaned up by brand. Similar to other cleanup data recorded by 5 Gyres and the California Coastal Commission, cigarette butts are common. Filters are composed of ethyl acetate, a plastic, and toxic chemicals from the tobacco are concentrated in the filter.
Food containers, plastic bottles and beer cans are all common in the cleanups. Glass bottles and aluminum cans are recyclable and although categorized, are not included in the discussion.
Although many of these containers and packaging have the 3 arrow recycling symbol, most of this waste is not recyclable, and finds its way into the environment. A discussion on the different plastic materials and most common Resin ID Codes is in Section II.

FIGURE 2 DEBRIS BY TYPE AND % REPRESENTED



In addition to collecting data on items by category, we collected data on brands and manufacturers of the most common plastic waste. Many plastic items in the lagoon were unidentifiable by brand due to wear were added to categories if practicable e.g. wrappers, bottles etc. These were not added to the branding quantification and leads to an underestimation of the actual brands represented. In this study and in this discussion, only the clearly identifiable brands were quantified. Quantity and types of plastoc brands results are discussed below.

Results Branding

Discarded plastic bottles are common in this survey, with 20 collected on average per cleanup, and although many claim they are recyclable, these often end up in waterways and along beaches and are not recycled.

In this survey, Kirkland (Costco) plastic beverage bottles were the most common (4.8 %) of the bottles identified, followed by Crystal Geyser (4.2%), and Coca Cola at 3.5% of all items collected (Figure 2). Fast food discards are also common- with the cups, bags and clamshells dumped from vehicles. Most harmful in fast food discards are the plastic tops and straws from soft drinks cups, or clamshells made from hard plastic take out. Expanded Polystyrene (or EPS) clamshells are effectively banned in California as of January 1, 2025, but are still present in the waste stream and from distributers.

In this survey MacDonalds was the most common of all brands (8.2%) we collected. Food wrapping is also prevalent in the park and in the waterway including Hershey's, Snickers, Lays and Cheetos wrappers commonly observed. These wrappers are a composite made of mixed materials, like a plastic film and a thin layer of aluminum, that cannot be separated by recycling facilities and are not recyclable.

Over 90% of the plastic bottles we recovered are HDPE. Although recyclable, these bottles were mostly contaminated with remnants of soft-drink, lagoon water with sediment, or urine and cannot be recycled without cleaning. In the next section we will discuss recycling and the most common types of plastic resin recycled. Coca-Cola bottles themselves are not made from HDPE; they are primarily made from PET (Polyethylene Terephthalate), identified by the #1 recycling symbol, but the caps are typically HDPE plastic.

Other post consumer plastic waste e.g. syringes, condoms, and condom wrappers (Trojan, Lifestyle) are not considered recyclable but are commonly picked up at Aquatic Park. These are uncommon at beaches and many areas but not uncommon to urban parks.

FIGURE 3 DEBRIS BY BRANDS AND % REPRESENTED

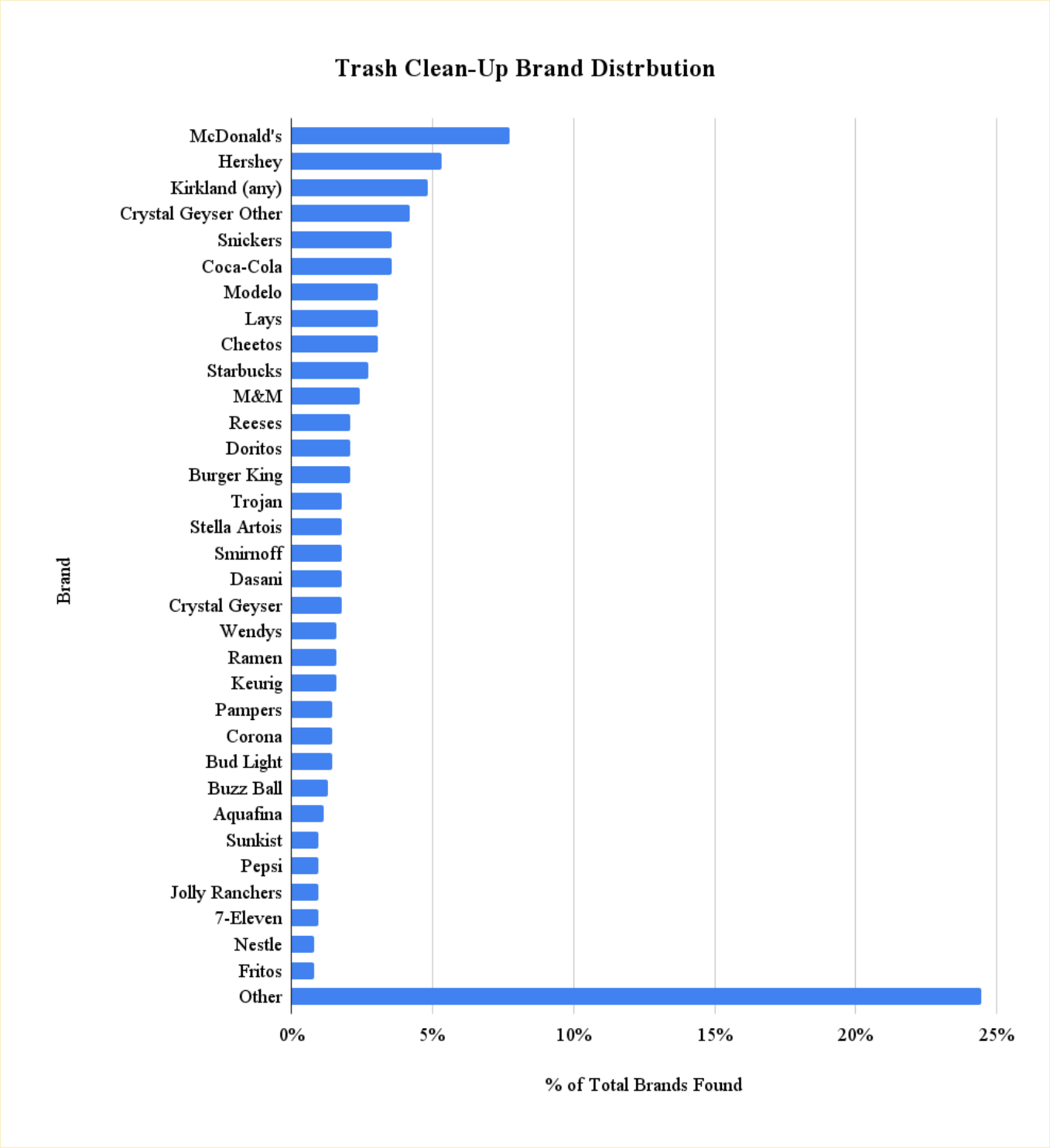
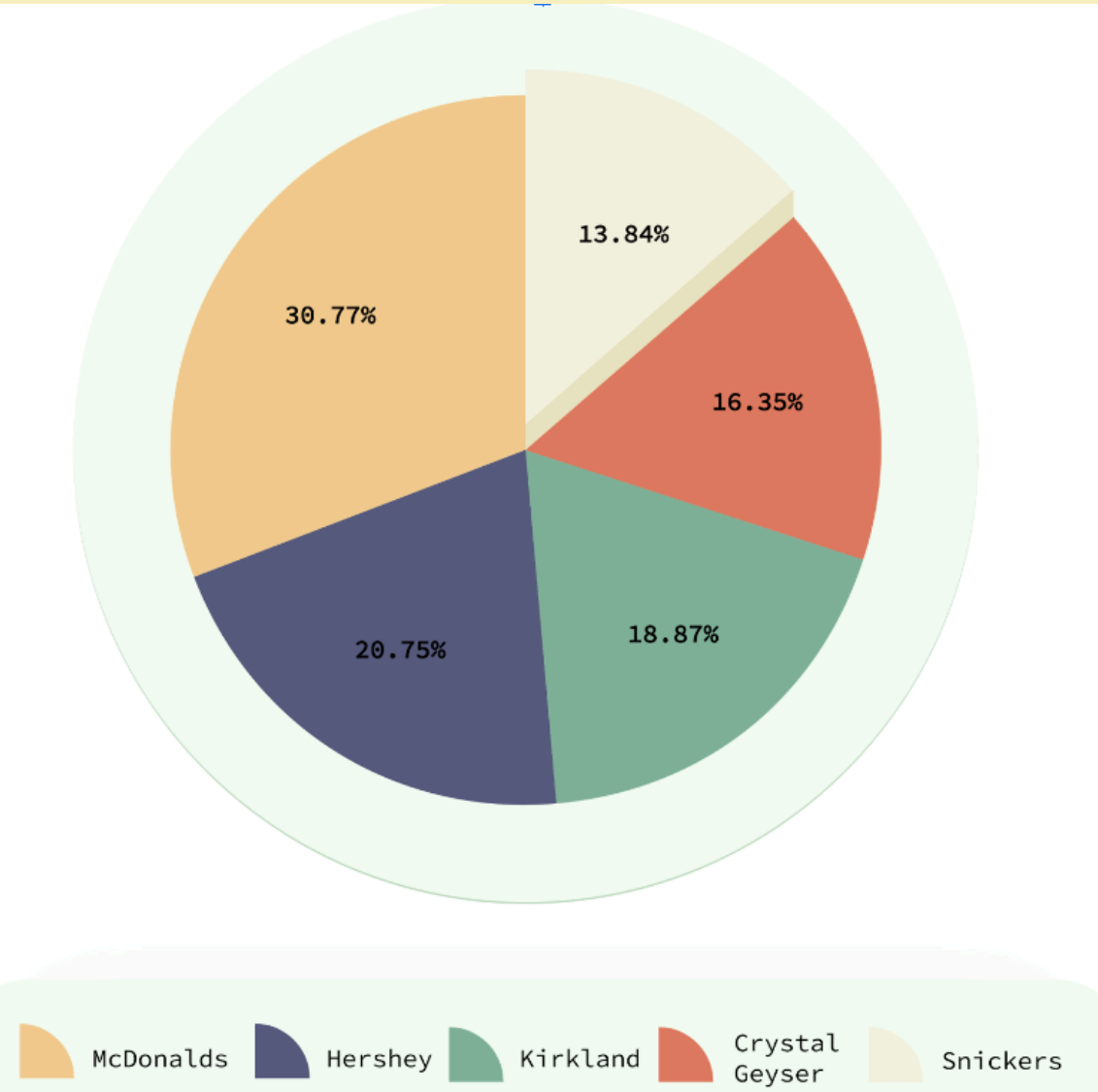


Figure 3 shows the most common plastic waste by brand collected and recorded in this survey. This data is also represented in the pi chart in Figure 2. McDonalds containers are highest by count, followed by Hershey wrappers at over 5% of total by number. Kirkland water bottles, Crystal Geyser, Snickers wrappers and Coca Cola bottles represented more than 3% each of the plastic waste brands collected. Removing the fast food category, the top plastic brands are represented by % in Figure 4.

FIGURE 4 PLASTIC BY MOST COMMON BRANDS COLLECTED



The five most common plastic brands we collected in this study are shown in Figure 4. McDonald's, Hersheys (Mars Inc), Kirkland - Costco (HDPE bottles), and Crystal Geyser (Mars Inc) all collectively added up to 43.42% of the numbers of brands collected in this survey when the fast food waste. Excluding the fast food waste, the top 4 brands which include Coca Cola make up 22.5% of all brands collected. The first two wastes Polypropylene (PP5) in cup tops, and multi-layered film of plastic in Snickers consists of polypropylene and aluminum foil, (often called metallized plastic) are not recycled. Despite the three arrows, wrappers like Hersheys include Polyvinyl film (PVC 3)- which includes the forever chemical polyfluoroalkyl substances (PFAS), and are not recyclable. Food film wrappers like Reeses, Fritos, Cheetos and Lays are all composite materials and generally unrecyclable. The plastic bottles most common including Kirkland - Costco are composed of High-Density Polyethylene (HDPE 2). Crystal Geyser bottles are composed of Pet Polyethylene Terephthalate (Pet 1)and some partially recycled rPet). These are the highest volume of plastic waste category recycled in California. The next section discusses recycling and recyclability of these materials, including the shockingly low volume of plastic recycled in the USA.

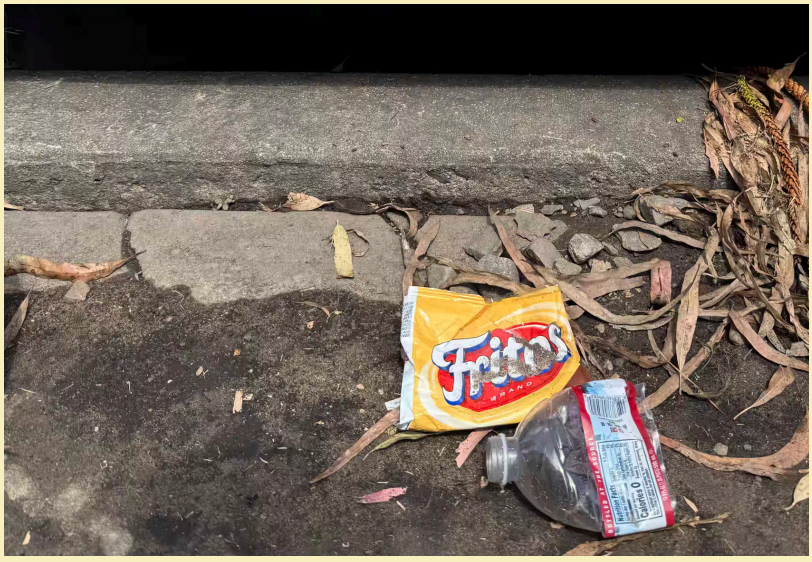
SECTION II

Most Common Plastic Recycled

The bottle category of post consumer plastic is the largest by volume, with two types of plastic the most common from virgin sources. The categories below are primarily made up of the most valuable resins and recycled:

PET Bottles (#1):
Consistently makes up the largest share of the plastic recovered for recycling. The increase in 2021 volumes recovered was primarily due to increased PET bottle recovery [APR Press Release: North American Plastic Recycling Volumes Recover From Pre-Pandemic Levels]. 2019 Volume: 1,776.8 million pounds of PET Bottles were recovered, representing about 35% of all recovered plastic that year.

HDPE Bottles (#2):
The second-largest category, including natural (like milk jugs) and colored (like detergent bottles) HDPE. The 2019 Volume: 997.9 million pounds of HDPE Bottles were recovered, representing about 20% of the total [2019 U.S. Post-consumer Plastic Recycling Data Report]. PET and HDPE bottles together make up over 97% of the plastic bottles in the US market. While specific volume data fluctuates yearly, the two types of plastic together consistently account for the vast majority of plastic bottle production and recycling in the United States.



RECYCLING SYMBOLS SOLUTION OR POLLUTION?

Nearly all packaging and containers we recovered have the iconic three circular arrow symbol with an abbreviated type and number in the center, implying that these are indeed recyclable. The plastic recycling symbols, officially known as Resin Identification Codes (RICs), categorize plastic into seven main types based on the polymer resin used. The numbers (1 through 7) in the center and often an abbreviation below.

Table 2 shows the different types of plastics by RIC codes.
The overall percentage of plastic recycled in the United States has been declining and is currently estimated to be very low. Of the 40 million tons of plastic waste generated in the United States in 2021, only five to six percent—or about two million tons—was recycled, according to a new report, conducted by the environmental groups Beyond Plastics and The Last Beach Cleanup.

The volume of plastics that are recycled is heavily concentrated in the two most common types: **PET (#1) and HDPE (#2).**

The most common plastics recycled are **PET (#1) -** Polyethylene Terephthalate. PET is known for its clarity, strength, and light weight. It is commonly used for food and beverage packaging.

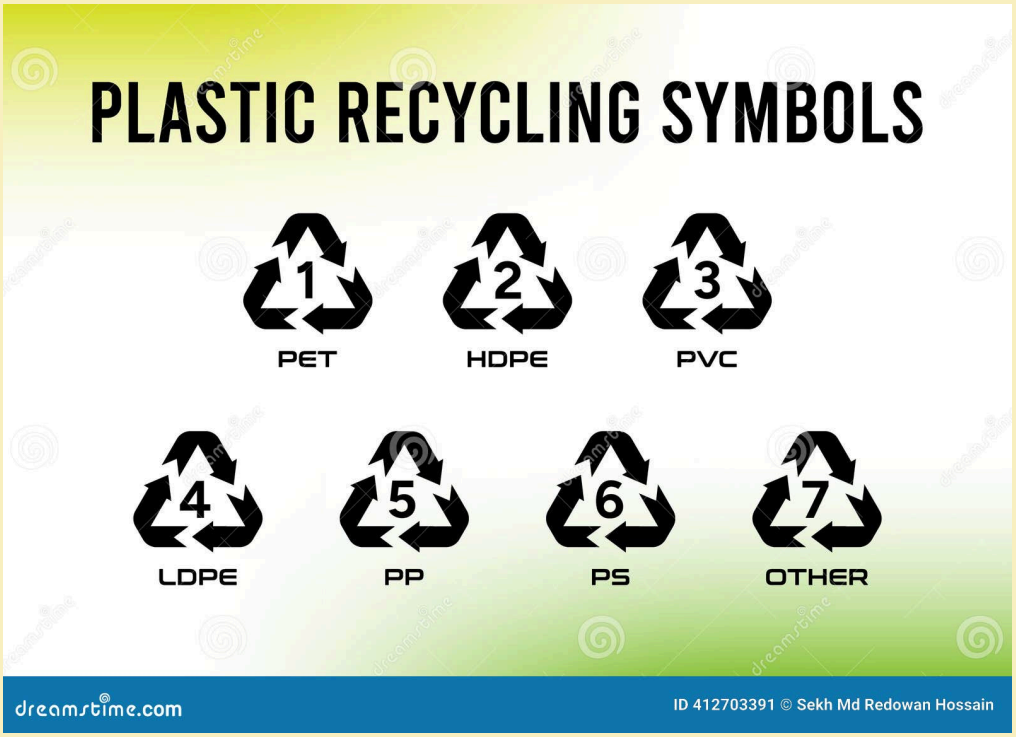
The second most recycled plastic product is **HDPE (#2)** - High-Density Polyethylene. HDPE is opaque, semi-rigid, and highly durable, with excellent resistance to chemicals and moisture. According to a report by the Association of Plastic Recyclers (APR), in 2021, over 5 billion pounds of post-consumer plastic were recovered for recycling in the USA.

PET and HDPE bottles together make up over 97% of the plastic bottles in the US market. While specific volume data fluctuates yearly, the two types of plastic together consistently account for the vast majority of plastic bottle production and recycling in the United States.

However, Only 20% of the HDPE Bottles produced in 2019 were recovered (997.9 million pounds) for recycling according to the 2019 U.S. Post-consumer Plastic Recycling Data Report.

Chasing Arrows- The Recycling Myth

The recycling symbol on plastic items (the chasing arrows) contains numbers 1-7, each identifying a different plastic type or Resin Indentification Code (RIC). A 2019 study by the Consumer Brand Association revealed that 92% of U.S. consumers did not understand the recycling labels. 68% presumed that all items marked with the three arrow symbol are recyclable when that is not the case at all As discussed, PET 1 and HDPE 2 are the most recycled material. Most films and wrappers gum up recycling processors and separators and are removed from recycling streams.



Plastic by Category (RIC Codes)

- 1 PETE/PET (Polyethylene Terephthalate): Soda/water bottles, peanut butter jars, fruit containers.
- 2 HDPE (High-Density Polyethylene): Milk jugs, detergent bottles, shampoo bottles, rigid pipes.
- 3 V/PVC (Polyvinyl Chloride): Clear food wrap, pipes, window frames, some bottles.
- 4 LDPE (Low-Density Polyethylene): Squeeze bottles, plastic bags, films.
- 5 PP (Polypropylene): Yogurt cups, medicine bottles, straws, car parts.
- 6 PS (Polystyrene): Styrofoam, disposable cutlery, takeout containers.
- 7 OTHER: A mix of plastics, polycarbonate, acrylic, nylon; often hard to recycle.

Key Takeaway:

The arrows and number symbol shows the type of plastic, not that it is recyclable in your local program, with #1 (PETE) and #2 (HDPE) being the most accepted. Type 7 is not recycled curbside in most cities.

Breakdown by Specific Resin (RIC) Type

Breakdown Process

Plastic does not truly decompose, it breaks down in the environment. Plastic does not biodegrade like natural materials. Instead, it breaks down into smaller and smaller pieces.

These smaller pieces continue to degrade into fragments less than 1 mm called **microplastics**. These are found everywhere and can enter into the body, the blood stream and even cross the blood brain barrier and are harmful to wildlife and humans.

Timeframe: A plastic bottle can take up to 450 years to decompose in a landfill or the ocean. Some estimates suggest it can take up to 1,000 years and it never truly goes away.

Plastic is derived from fossil fuels, including natural gas and crude oil, and also contains chemicals that are known endocrine disruptors and threaten human health.

These microplastics are practically everywhere on earth and pose a deadly problem for wildlife. If too much microplastic accumulates in an animal, it can cause punctured organs or intestinal blockages. Human exposure to plastics with these chemicals may cause hormonal imbalances, reproductive problems and even cancer.

DOES PLASTIC GO AWAY?

Plastic does not truly decompose, it breaks down. Plastic does not biodegrade like natural materials. Instead, it breaks down into smaller and smaller pieces, eventually forming microplastics that can be assimilated by animals and humans.

Microplastic formation.

Plastic breaks down physically into smaller pieces, and continues into fragments less than 1 mm called microplastics. These are found everywhere and are harmful to wildlife and humans.

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Plastic does not decompose. Instead, it breaks up into smaller pieces called **microplastics**. Microplastics are tiny plastic particles, typically 1 nanometer to 5 millimeters in size (smaller than a grain of rice.) These microplastics are practically everywhere on earth and pose a deadly problem for wildlife. If too much microplastic accumulates in an animal, it can cause punctured organs or intestinal blockages. Human exposure to plastics with these chemicals may cause hormonal imbalances, reproductive problems and even cancer

Landfills:

Plastic bottles in landfills can take up to 450 years to decompose. During this prolonged period, they have the potential to leach toxic additives into the groundwater.

Ocean Impact:

The vast majority of plastic in the ocean comes from land-based sources, primarily transported by rivers and coastlines, with a smaller portion coming from marine activities.There are varying estimates for the amount of plastic flowing into the ocean annually, with some of the most prominent figures being:

11 million metric tons (or 19-23 million tonnes of plastic waste leaks into aquatic ecosystems, including lakes, rivers and seas) per year, according to sources like the UNEP (United Nations Environment Programme).

An earlier and widely-cited estimate is 8 million metric tons per year. This figure represents the midpoint of a 2015 study that looked at land-based plastic waste from coastal countries.

The Impact of Microplastics on Marine Life

Microplastics, defined as plastic pieces less than (5 mm in size), are a major concern because they are easily ingested and their long-term effects can disrupt entire ecosystems. Recent estimates suggest there could be 171 trillion microplastic particles floating in the ocean's surface layer alone.

1. Ingestion and Physical Harm

Mistaken for Food: Marine organisms, from the smallest plankton to large filter-feeders and fish, often mistake microplastics for their natural prey.
Physical Damage: Ingestion can cause blockages in the digestive tract, reduced feeding efficiency, and malnutrition, which can lead to starvation and death.

2. Toxicity and Bioaccumulation

- **Toxin Carriers**: Microplastics are not just inert plastic; they have a high surface-area-to-volume ratio, causing them to accumulate toxic contaminants from the surrounding seawater, such as persistent organic pollutants (POPs) and heavy metals.
- **Transfer to Tissues**: When marine animals ingest the plastic, these accumulated toxins can leach out and transfer to their internal tissues.
- **Food Chain Contamination**: As smaller organisms are consumed by larger predators, microplastics and their associated toxins bioaccumulate (increase in concentration) up the food chain, ultimately posing a risk to apex predators (like orcas) and to humans who consume seafood.

3. Ecosystem Disruption

Disruption of Key Cycles: Studies suggest microplastics can alter the photosynthesis of phytoplankton and change the feeding behavior of zooplankton. These tiny organisms are at the base of the food web and play a critical role in the biological carbon pump—the process by which the ocean stores carbon. This disruption could have long-term effects on global climate regulation.

Behavioral Changes: Exposure to microplastics has been linked to changes in swimming behavior, foraging patterns, and other essential activities in fish and other organisms.

Plastic and Climate Change

According to the United Nations Environment Programme (UNEP), more than 400 million tonnes of plastic is produced every year worldwide, half of which is designed to be used only once.

Plastic pollution and climate change are deeply intertwined: plastic production, largely from fossil fuels, releases massive greenhouse gases (GHGs). This makes plastic manufacturing a major climate polluter, and some forms of plastic recycling add to emissions. A warming climate accelerates plastic breakdown, releasing more GHGs and increasing pollution. This creates a vicious cycle that requires systemic solutions beyond individual recycling to cut production at the source.

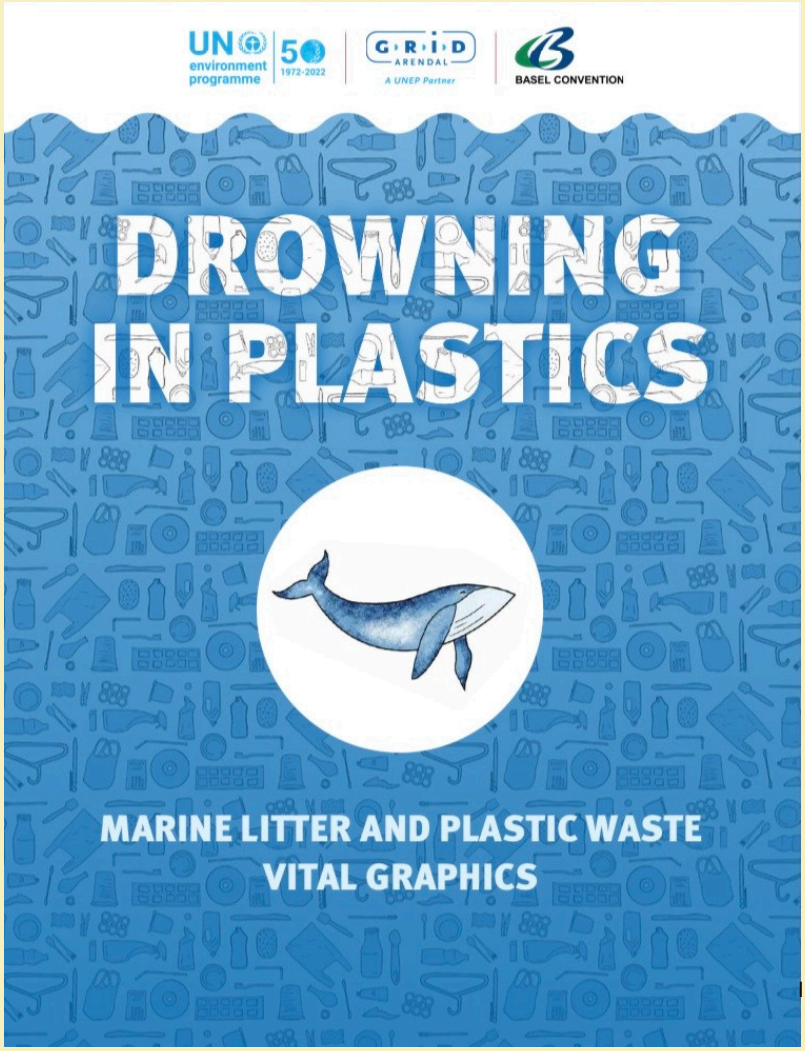

Image: Drowning in Plastics UNEP 2021

Plastic production has seen a nearly 230-fold increase since 1950, with the last two decades experiencing a doubling in production.

A 2024 report published by the Lawrence Berkeley National Laboratory (LBNL) confirms that plastic production is a huge contributor to global climate change. If production continues at the current rate, it is estimated that by mid-century, global climate change pollution from the plastics industry could triple. This would account for one-fifth of the Earth's remaining carbon budget by 2050.

Plastic Legislation: California

In 2024, it is estimated that Californians threw away nearly 8.5 million tons of single-use packaging and food ware, according to an updated material characterization study by CalRecycle. In California, roughly 12 billion plastic bottles are sold every year. Although about 70% are recycled, often into other types of plastic packaging, more than 3 billion bottles are not recycled at all, according to the CalRecycle report. Most of those are dumped in landfills or discarded as litter in the outdoors. About 40 million tons of total material went to landfills in 2024.

SB 54, first enacted in 2022, aims to reduce plastic pollution and increase recycling rates by requiring producers to fund the disposal of their products and increase the circularity of those products. SB 54 requires producers of single-use packaging and plastic food service ware to meet recycling targets and reduce the use of non-circular materials.
Waste diversion is a major facet of SB 54. This law aims to reduce the amount of certain single-use packaging and plastic single-use food service ware, known as covered material, from entering California landfills. The law also requires an overall reduction of such packaging, along with requirements to make covered materials recyclable or compostable by 2032.

By increasing the market for used plastics, fewer containers will end up as litter. Under this law companies that produce everything from sports drinks to soda to bottled water must use 25% recycled plastic by 2025, and 50% recycled plastic by 2030.

In October 2025 California Governor Gavin Newsom signed into law **SB 343** banning the use of misleading recycling labels, with additional measures to reduce single-use trash pollution and support recycling goals. SB 343 requires products to meet benchmarks in order to be advertised or labeled as recyclable, helping consumers to clearly identify which products are recyclable in California. Extended Producer Responsibility holds manufacturers accountable for plastic packaging waste.

SB 343 prohibits the use of the chasing arrows symbol or any other indicator of recyclability on products and packaging unless producers can demonstrate that certain criteria are met. It also places responsibility for recyclability labeling on the producer of the product and packaging. Manufacturers and other interested parties will have to use the report as part of their assessment of whether products may be considered recyclable for labeling purposes.

In 2024, **SB 270**, the Retail Plastic Bag Ban: reinstates former legislation removed during CoVID 19, requiring all plastic bags, including thicker reusable ones, at retail stores starting January 1, 2026, to close loopholes in previous bans by 2026.

California has also passed significant laws targeting microplastic reduction, notably **AB 823** (2025), which bans microbeads in leave-on personal care/cleaning products and glitter by 2029/2030. Additionally, AB 1628 (2023), requires microfiber filters in new washing machines to reduce microplastics effluent from clothing.

THE TAKE AWAY

Every day, the equivalent of 2,000 garbage trucks full of plastic are dumped into the world's oceans, rivers, and lakes. Globally, approximately 9% of plastic is recycled, with the rest ending up in landfills or the environment. In the United States, despite being the world's largest producer, has a recycling rate less than the worldwide average; with studies suggesting the true rate is closer to 5-6%. The vast majority of plastic waste, around 79%, accumulates in landfills or the natural environment, while 12% is incinerated. Plastic is ubiquitous, it is toxic and claims of recycling are largely untrue. Additionally, plastic continues to break down into microplastics in the environment with considerable threats to wildlife and human health.

The plastics industry has placed the onus and the environmental burden upon the consumer and has misled the public that their products are recycled or even recyclable, when the truth is the opposite. Recycling is not the solution to pollution. Plastic production is a major threat to climate change and the health of our planet, and the suggestion that tossing trash into the blue bin is a solution is a lie.

The vast majority of the volume of plastics actually recycled comes from #1 PET bottles and #2 HDPE bottles and rigid containers. Nearly all plastic bottles (90%) we recovered are PET, and with contamination, are unrecyclable. Plastic bottle caps, although many HDPE, are recyclable, are one of the most common small plastic items near the water's edge. Most plastics are recycled in negligible volumes, and recycling is unavailable at the park even for glass or bottles: the most recycled post- consumer materials. Thus the circular arrows on most plastic products, and the common blue bins where Americans attempt to recycle plastic are deceiving consumers.

Plastic is a pernicious threat to human and environmental health, and the consumer has a right to products that are branded honestly, and are made from reusable materials, or products that are indeed recycled and doesn't end up in our waterways, beaches and ocean. Most of the onus to recycle has been placed unfairly on the consumer. It is the responsibility of regulatory agencies to enact regulations for plastic waste reduction like SB 54 and the 2024 California Law SB 343, to require manufactures comply with truth in advertising, reduce plastic waste and increase recyclability. Solutions to reduce microplastic and petro-chemical byproducts in our environment and our bodies exist.

It is up to the consumers to demand a choice in food and beverage packaging that does not present these insidious health risks. Manufacturers bear the responsibility to honestly label and produce products that do not end up as toxic trash in California beaches, waterways and land.

Project Sponsors

ACKNOWLEDGEMENTS

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ALAMEDA COUNTYWIDE cleanwater PROGRAM

MARY A. CROCKER TRUST established 1889

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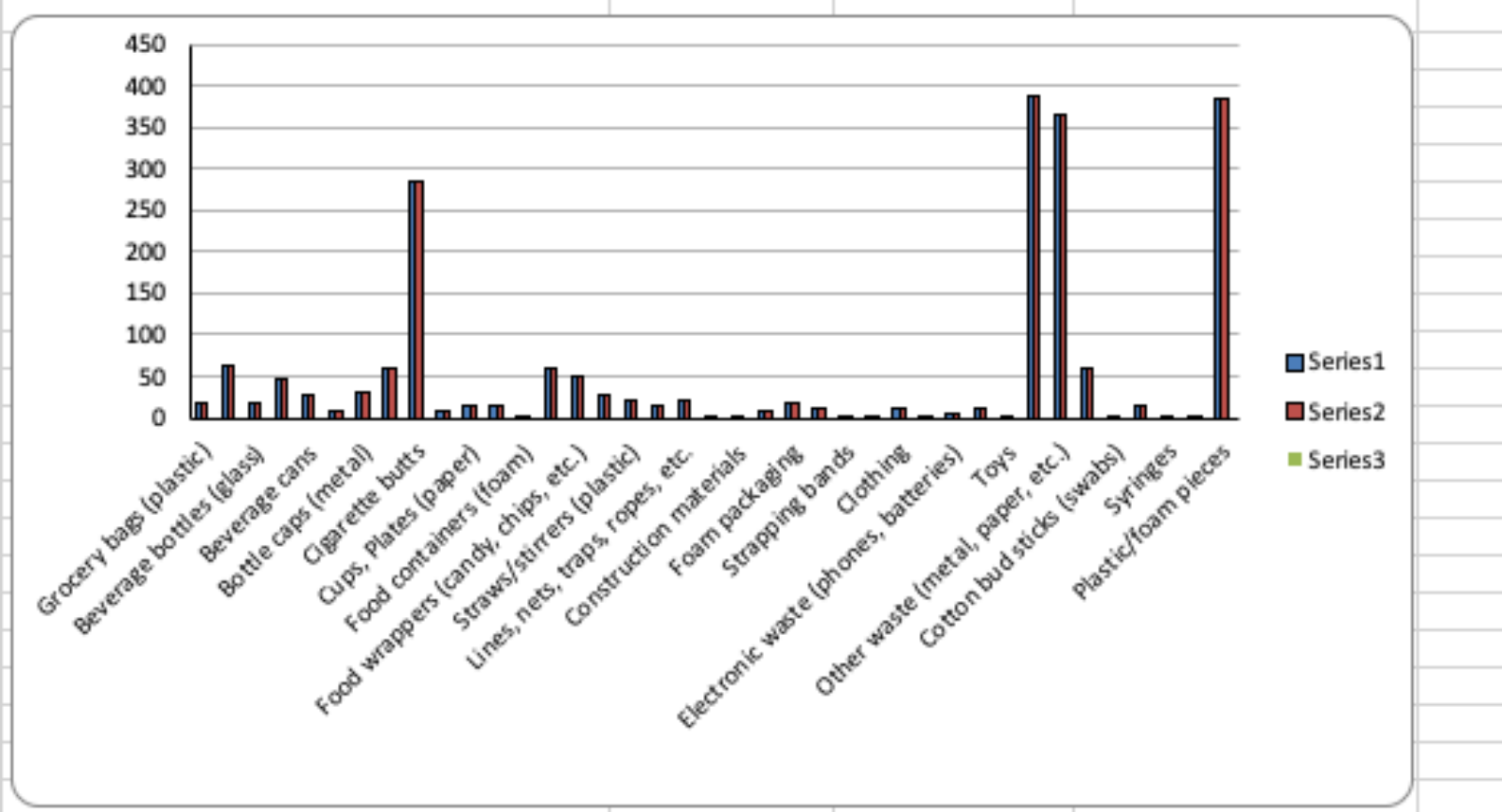
Appendix I Cleanup Sheet 09/20/2025

Summary — Aquatic Park Berkeley, CA, USA 09/20/2025			
Clean Up Summary	**Land**	**Total**	
Number of Cleanups	4	**4**	
People	45	**45**	
Weight (lbs)	160.4	**160.4**	
Distance (mi)	12	**12**	
Area (mi2)			
Total Items Collected	2081	**2081**	

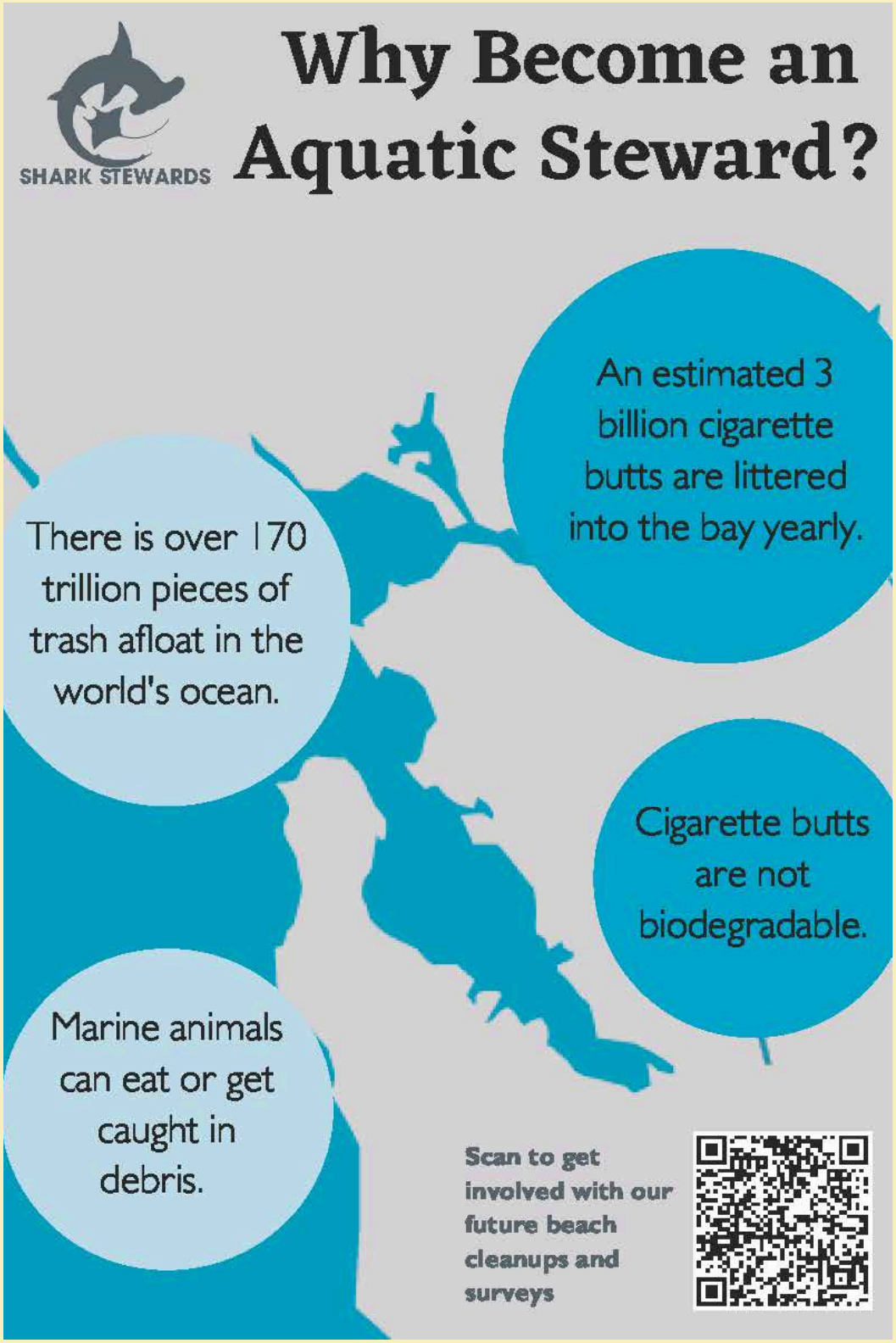
Items	Land	Total Items	Percentage of
Grocery bags (plastic)	18	**18**	0.86%
Other bags (plastic)	64	**64**	3.08%
Beverage bottles (glass)	19	**19**	0.91%
Beverage bottles (plastic)	48	**48**	2.31%
Beverage cans	28	**28**	1.35%
Beverage sachets/pouches	9	**9**	0.43%
Bottle caps (metal)	30	**30**	1.44%
Bottle caps (plastic)	59	**59**	2.84%
Cigarette butts	286	**286**	13.74%
Cups, Plates (foam)	9	**9**	0.43%
Cups, Plates (paper)	13	**13**	0.62%
Cups, Plates (plastic)	13	**13**	0.62%
Food containers (foam)	3	**3**	0.14%
Food containers (plastic)	61	**61**	2.93%
Food wrappers (candy, chips,	49	**49**	2.35%

Lids (plastic)	28	**28**	1.35%
Straws/stirrers (plastic)	20	**20**	0.96%
Utensils (plastic)	13	**13**	0.62%
Lines, nets, traps, ropes, etc.	20	**20**	0.96%
Foam dock pieces	1	**1**	0.05%
Construction materials	1	**1**	0.05%
6-Pack holders	7	**7**	0.34%
Foam packaging	18	**18**	0.86%
Other plastic bottles (oil,	12	**12**	0.58%
Strapping bands	2	**2**	0.10%
Balloons	2	**2**	0.10%
Clothing	12	**12**	0.58%
E-cigarettes	2	**2**	0.10%
Electronic waste (phones,	4	**4**	0.19%
Tobacco products (lighters,	11	**11**	0.53%
Toys	2	**2**	0.10%
Other plastic waste	389	**389**	18.69%
Other waste (metal, paper,	365	**365**	17.54%
Condoms	60	**60**	2.88%
Cotton bud sticks (swabs)	1	**1**	0.05%
Gloves & masks (PPE)	13	**13**	0.62%
Syringes	3	**3**	0.14%
Tampons & applicators	1	**1**	0.05%
Plastic/foam pieces	385	**385**	18.50%
Total Items Collected	**2081**	**2081**	**100%**

Figure 2 Waste by Category
09/20/2025



Get Involved



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