FROM PLASTICS YOU SEE TO THOSE YOU DON'T:

Understanding the Scale of the Environmental Problem from Trash to Microplastics

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5 GYRES
SCIENCE TO SOLUTIONS

OUR MISSION

empowering action against the global health crisis of plastic pollution through **science, education,** and **advocacy**

A BRIEF HISTORY

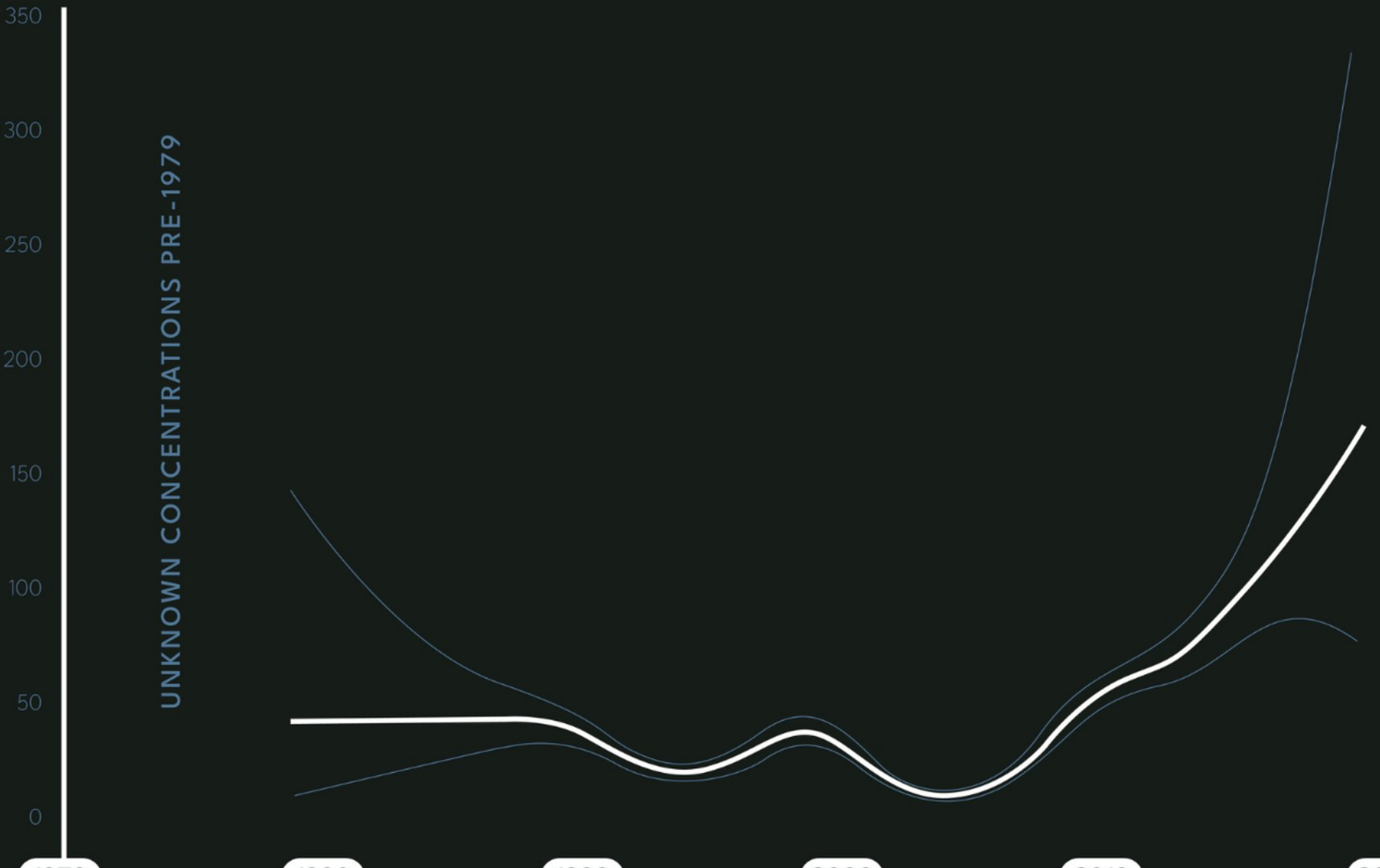
- Founded in 2009 to answer key questions about plastic pollution
- Led 19 research expeditions to all five subtropical gyres and many of the world's lakes and rivers
- Published the first Global Estimate of Marine Plastic Pollution


MORE THAN 170 TRILLION PLASTIC PARTICLES
ARE AFLOAT IN THE WORLD'S OCEAN.

GLOBAL ESTIMATE OF PLASTIC PARTICLES

Trillions of Plastic Particles

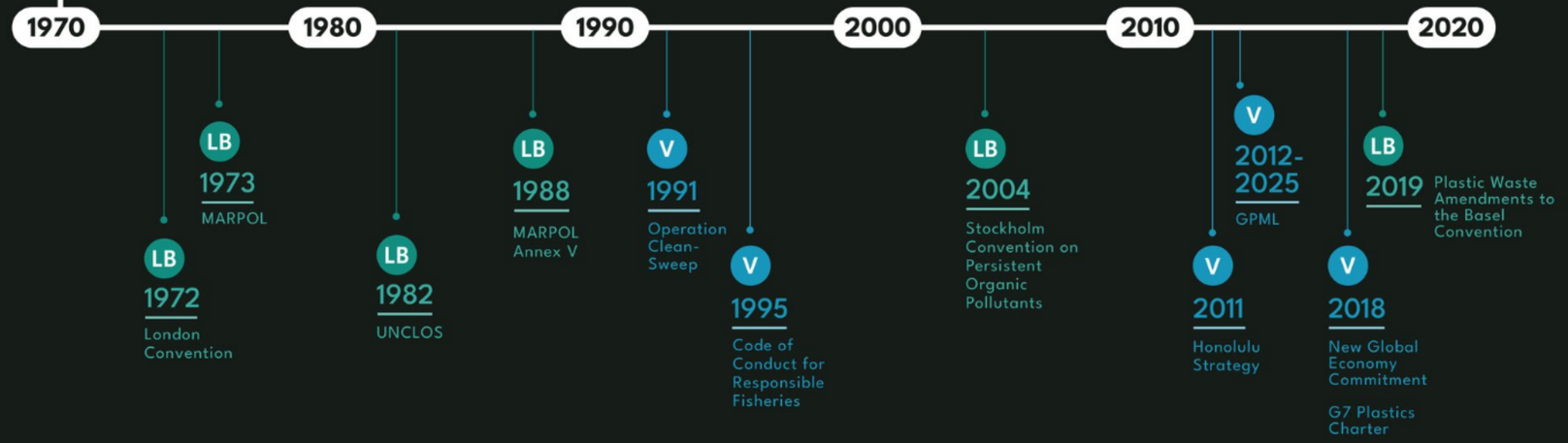
- Average amount
- High and low estimates



YEAR

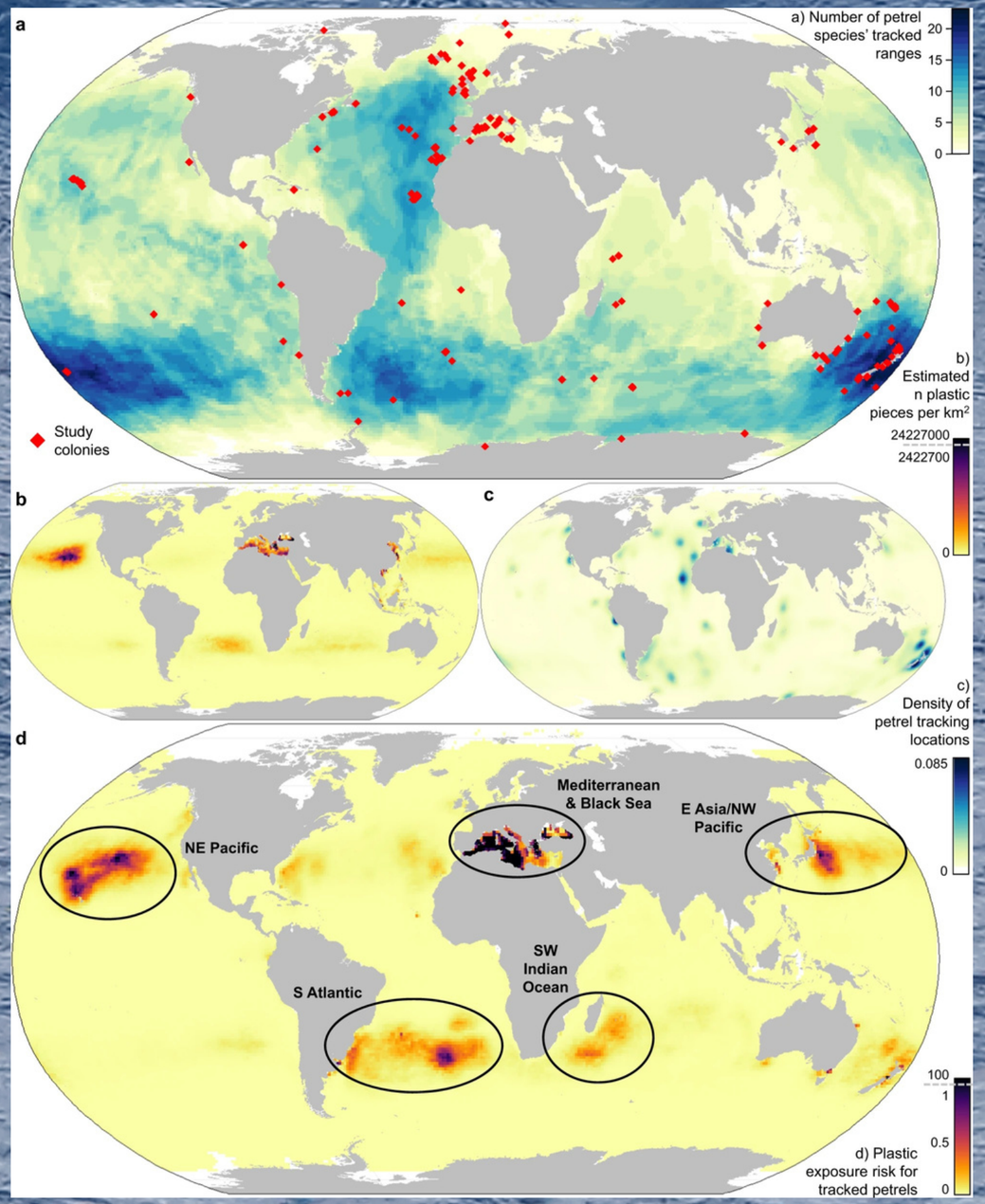
Policy Timeline

- LB Legally Binding
- V Voluntary



THE IMPACT OF PLASTIC POLLUTION

Ocean plastics are hazardous for marine life due to risks of ingestion and entanglement, especially migratory species like the petrel.



THE IMPACT OF PLASTIC POLLUTION

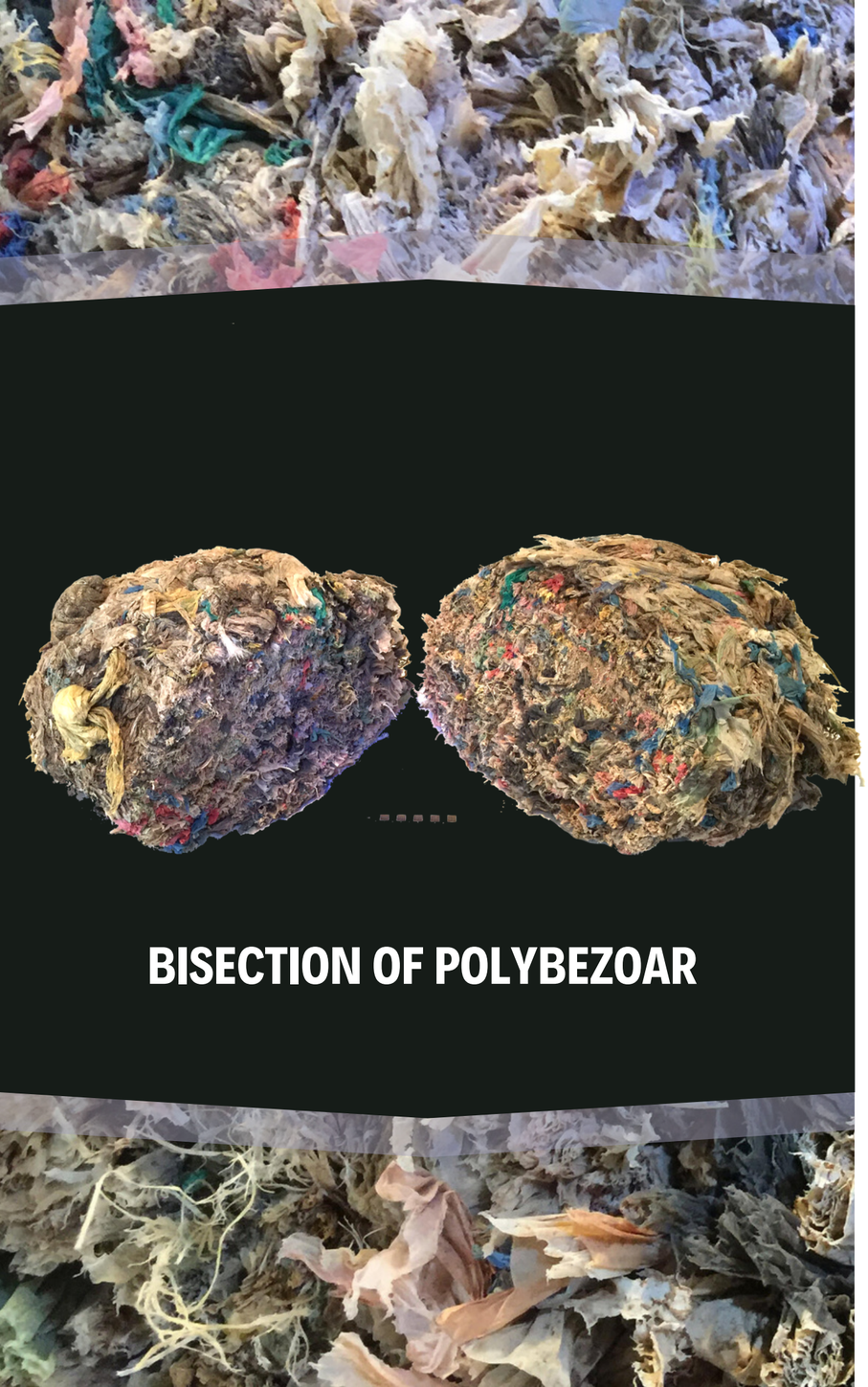


Table 2
FTIR analysis of 10 fragments of synthetic material, two from each of the five polybezoars.

Sample	Description	Polymer	Fragment image
A1	Blue and white film, possible bag	Polyethylene (both colors)	
A2	White film, possible bag	Polyethylene co-polymer, co-polymer possibly triacetate	
B1	White and green rope	Polypropylene	
B2	Mixed ropes, lime, white, grey	All colors were polypropylene	
C1	Calcified green rope	Polypropylene	
C2	White rope	Polypropylene	
D1	Blue and white film, possible bag	Polyethylene (both colors)	
D2	White film, possible bag	Polyethylene	
E1	Blue film, possible bag	Polypropylene	
E2	Black rope	Ethylene vinyl acetate	

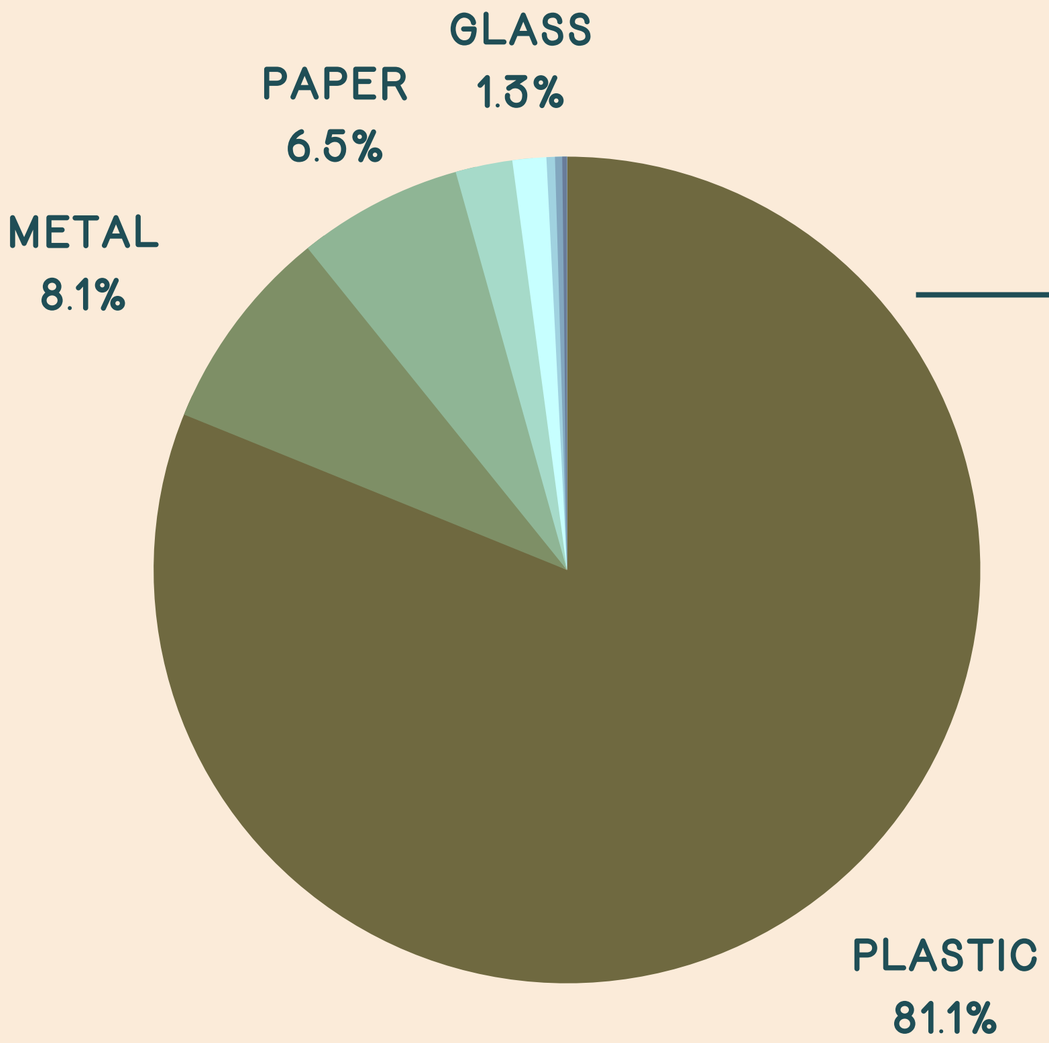
Plastic-Free Parks TRASHBLITZ 2022

Site Map

558 VOLUNTEERS PARTICIPATED IN 44 CLEANUPS AT SITES AROUND THE COUNTRY, INCLUDING NATIONAL PARK UNITS AND FEDERAL LANDS (URBAN PARKS, NATIONAL FORESTS, AND MONUMENTS MANAGED BY NPS).

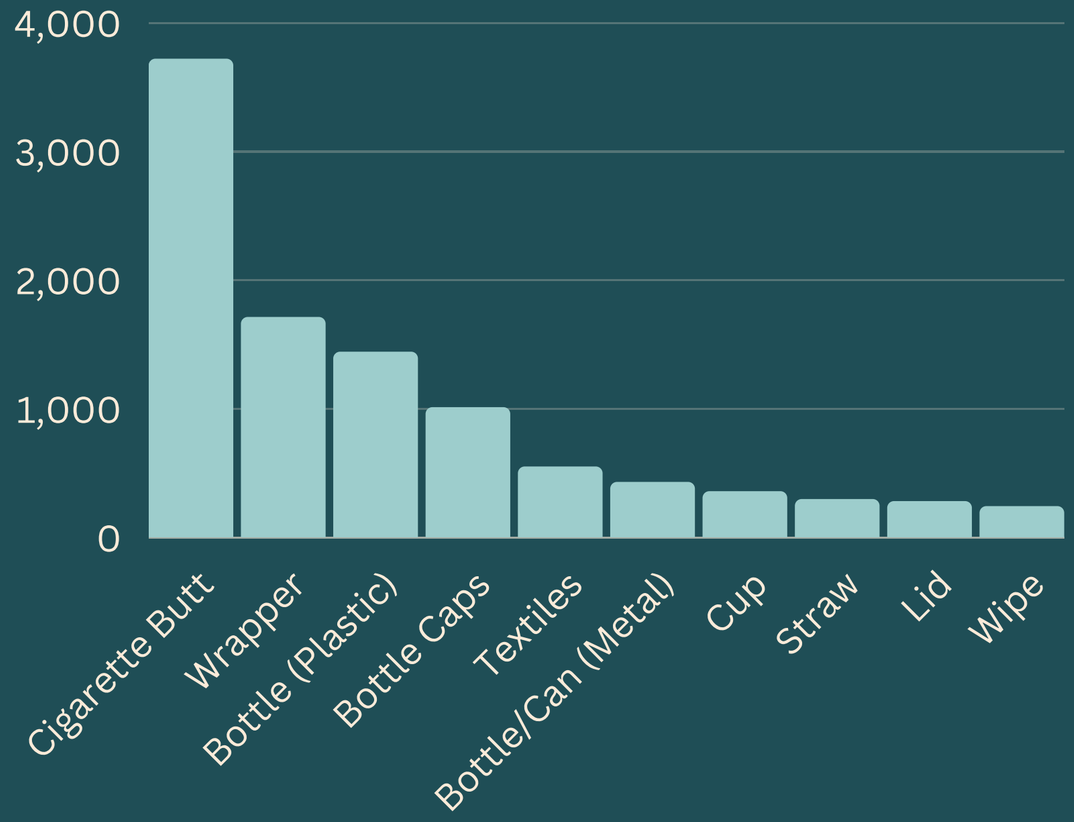
1. Ocean Beach
2. Maritime Historical Park
3. Pinnacles NP
4. Yosemite NP
5. Crater Lake NP
6. Glacier NP
7. Theodore Roosevelt NP
8. Chattahoochee River
9. Cuyahoga Valley NP
10. Daingerfield Island
11. Washington DC Capital Area
12. Delaware Water Gap
13. Fire Island Lighthouse
14. Kenai Fjords NP
15. Ala Kahakai National Historic Trail
16. Northern Mariana Islands

2022 RESULTS

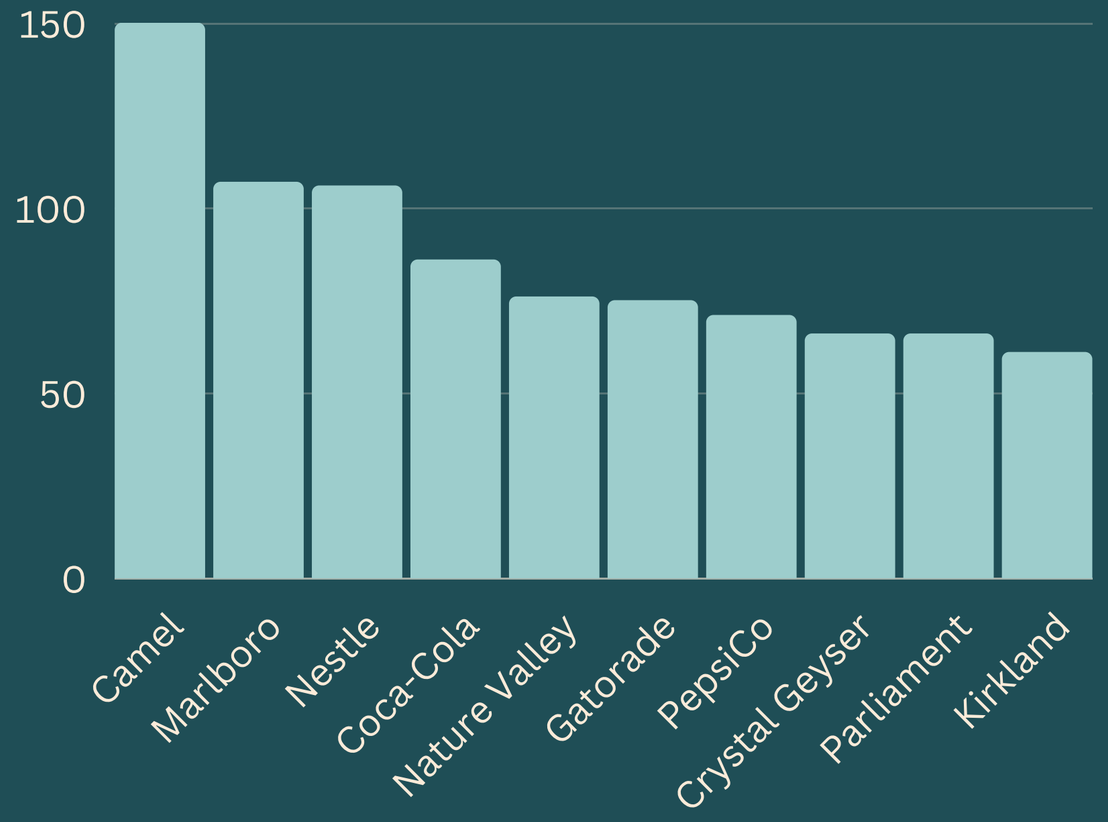


#1 PET	1,797
#2 HDPE	71
#3 PVC	19
#4 LDPE	1,887
#5 PP	484
#6 PS	331
#7 OTHER	4,571
# UNKNOWN	2,392

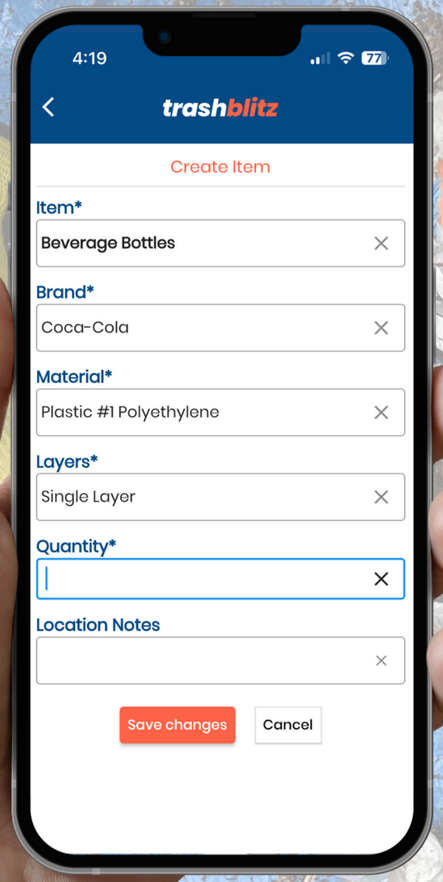
Results: BY ITEM



Results: BY BRAND



TRASHBLITZ LOS ANGELES



Total top 20

Items

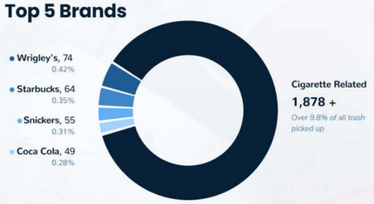
items	count	percent
cigarette butts	4,024	25.45%
misc plastic fragment	2,979	18.84%
food wrapper	1,773	11.21%
bottle caps and rings	1,338	8.46%
misc plastic foam	1,084	6.85%
cup	883	5.58%
straws	598	3.78%
misc plastic film	458	2.89%
lids	408	2.58%
other bags	345	2.18%
stationary, pens, caps	313	2.18%
tobacco packaging/wrap	280	1.98%
beverage bottles	227	1.43%
take-out food containers	225	1.42%
other bottles	180	1.13%
pieces (newsprint, etc)	173	1.09%
sachet	160	1.01%
forks, knives, spoons	134	0.84%
textiles, clothes, gloves	121	0.76%
strapping bands	105	0.66%

Food/beverage related:

Packaging

material	count	percent
plastic	11,852	68.84%
paper	4,018	23.33%
metal	397	2.30%
glass	271	1.57%
foam	229	1.33%
other	213	1.23%
fabric	98	0.56%
cardboard	85	0.49%
chemicals	19	0.11%
rubber	18	0.10%
wood	16	0.09%

Top 5 Brands



17,216
Pieces of trash picked up

17,216
Total number of items picked up

Marlboro
Most picked up brand

Cigarette butts
Most picked up item

MICROFIBERS

Plastic microfibers derived from textiles pose a significant risk to environmental and public health.

PLASTIC AIR STUDY (2024)

We know that laundering our clothing contaminates the air we breathe with plastic microfibers, but we know very little about the scale of this contamination.

We're studying microfiber emissions from drying machines in commercial laundry facilities in San Francisco to better understand plastic microfiber sources.

THANK YOU!

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