

Microplastics

Derived from Microplastics Report by B. Stevens

What are Microplastics?

Microplastics are plastic synthetics made from fossil fuels or biomass that are less than 5 mm in diameter.

- Microplastics have been found in every ocean with the highest concentrations found in the deep-sea
- Plastic-based litter has since become the most abundant form of solid-waste pollution
- About 1 million tons of microplastics are released annually into the waterways
- The average consumer discards around 2.4 mg of microplastics per day

Impacts of Microplastics

Marine Species Health

- Many species cannot filter out the microplastics once ingested, eventually causing them to starve

Water Quality

- The small size allows more chemicals/heavy metals to attach and transfer to different bodies of water or organisms

Human Health

- Humans are exposed through fish consumption, drinking water and even in the air
- Both the microplastics and the chemicals attached pose potential risks

What can you do?

Educate

- Visit nccoast.org/marinedebris
- Visit oceanservice.noaa.gov/facts

Advocate

- Let businesses and politicians know you want to keep plastic out of the waters
- Get behind laws being passed or campaigns going on to show your support

Alternatives

- Cut single-use plastics out of your daily routine by using reusable containers and shopping bags, stainless steel drink containers, metal straws, etc.



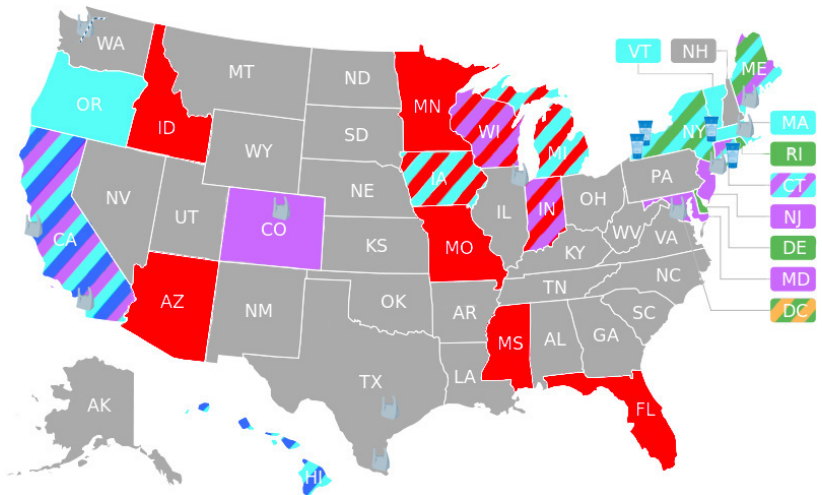
Two Types of Microplastics

Primary sources: those which have been intentionally created and voluntarily added, a byproduct of some process, or through unintentional release

- Microbeads for scrubbing in personal care products, cleaning products, etc.
- Normal wear and tear of synthetic items such as clothing, plastic-based paint, car tires, etc.
- Unintentional release during transport

Secondary sources: arise when larger pieces of plastic, or 'parent' plastics, break apart and fragment

- Any plastic item in a waterway can be fragmented through environmental factors such as animal digestion, waves, etc.
- Many biodegradable plastics will break into microplastics instead of disappearing completely



	States that banned single-use plastic bags; HI has a de facto statewide ban
	States that banned microbeads before the 2015 national ban
	Statewide bottle bill
	States with fees or taxes imposed on single-use plastic bags
	Statewide Labeling, Recycling, or Reuse Programs for Single-Use Plastic Bags
	States with preemptive legislation regarding single-use plastic bags
	Cities/Countries that banned single-use plastic bags; not an exhaustive list
	Counties that banned microbeads prior to the 2015 national ban
	Cities that banned plastic straws and plastic utensils; currently only Seattle, WA

94% of American tap water has been found to be contaminated with microplastics and 93% of bottled water brands have also been found to be contaminated with microplastics; on average there are about 10 microplastic particles in every liter of water consumed.

Big sources of microplastics include synthetic clothing which use microfibers made from plastics.

Up to 85% of microplastic pollution stems from this.

Removing Microplastics from Your Water

Faucet Filters: cheaper option

- Can attach straight to a faucet, under the sink or as whole-house filters and then all faucets are covered

Carbon Block Filters: cheaper option

- Attach to a sink faucet and use replaceable filters
- tappwater.co/us/faucet-water-filter/

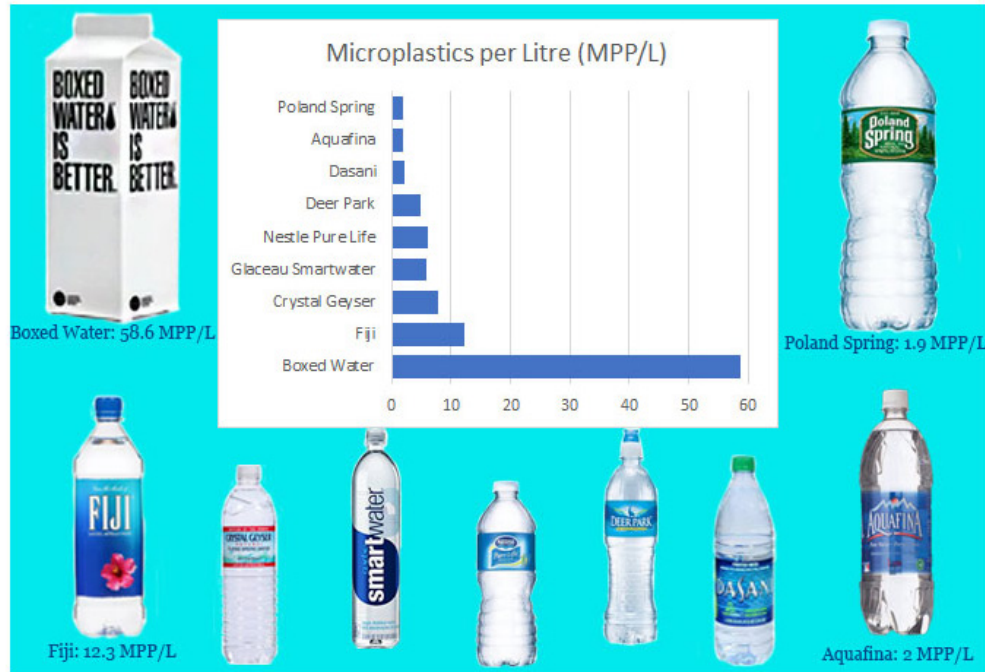
Granular Activated Carbon: price varies

- Installed as pairs
- Can either be for the whole house or under a sink

Reverse Osmosis Filters: best, more expensive

- Can also filter out GenX pollutants; these are usually designed to be whole-house filters

How Much Microplastic Gets Bottled?



Removing Microplastics from Your Laundry

Washing Machine Accessories: cheaper option

- Used with every wash cycle; after every load the microplastics can be collected and properly disposed of
- coraball.com/products/cora-ball
- patagonia.com/product/guppy-friend-washing-bag

Washing Machine Filters: price varies

- Attach to the drainage pipe so all the water used during the cycle is filtered before exiting
- Either have replaceable filters or metal filters that will not need to be replaced, just cleaned

Lint LUV-R Filter: more expensive option

- Metal Filter
- environmentalenhancements.com/Lint-LUV-R-order

Filtrol 160: more expensive option

- Replaceable filter bag
- septic-safe.com/filtrol-160-lint-filter-with-1-filter-bag

