

51st ANNIVERSARY

EARTH DAY

CLEAN-UP

SATURDAY, APRIL 24, 2021

Bags, Vests, Pickers & Gloves provided!

 Please join in to help clean up our community!

 Cady Field behind PV Town Hall

 Registration starts @ 8:30 (Rain date 5/1/21) *at*

 Clean-up from 9am to Noon

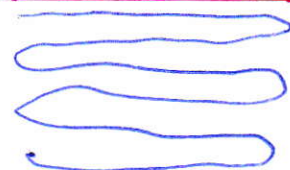
 Composting demonstration at Noon

 Plastics Display from 11:00AM till 1:00PM

 Climate Smart Communities Informational

Booths will be available

For more information please contact MAlbrecht@pleasantvalley-ny.gov



2021



United States Congress

BREAK FREE FROM PLASTIC POLLUTION ACT

Introduced by Senator Merkley and Representative Lowenthal

Plastic pollution is a crisis threatening our public health, our climate, our economy, and our planet. Plastic production and waste is fueling climate change and poisoning our bodies through the air we breathe, the water we drink, and the food we eat. And unless we act, things are only going to get worse. **The Break Free From Plastic Pollution Act**, from U.S. Senator Jeff Merkley (D-OR) and U.S. Representative Alan Lowenthal (D-CA) is the national strategy we need to address this growing crisis.

Plastic pollution has exploded into a global crisis that threatens our public health, economic security, and the future of our planet.

- Studies suggest that humans swallow a credit card's worth of plastic every week. Exposure to plastic toxins has been linked to cancers, birth defects, and other ailments.
- The United States disposes or incinerates 32 million tons of plastic waste each year, burdening our local government budgets and overwhelming systems to handle it.
- Our recycling system is broken: just 8% of plastic waste in the United States is sorted for recycling, and less than 3% of plastic waste is recycled into a similar quality product.
- Global plastic production will triple by 2050, accounting for 20% of global oil consumption and emissions linked to plastic will reach 1.3 billion tons by 2030, equal to 300 coal-fired power plants.
- Emissions from plastic production and waste management facilities are disproportionately impacting low-income and minority communities, perpetuating the harm of historic environmental injustices.

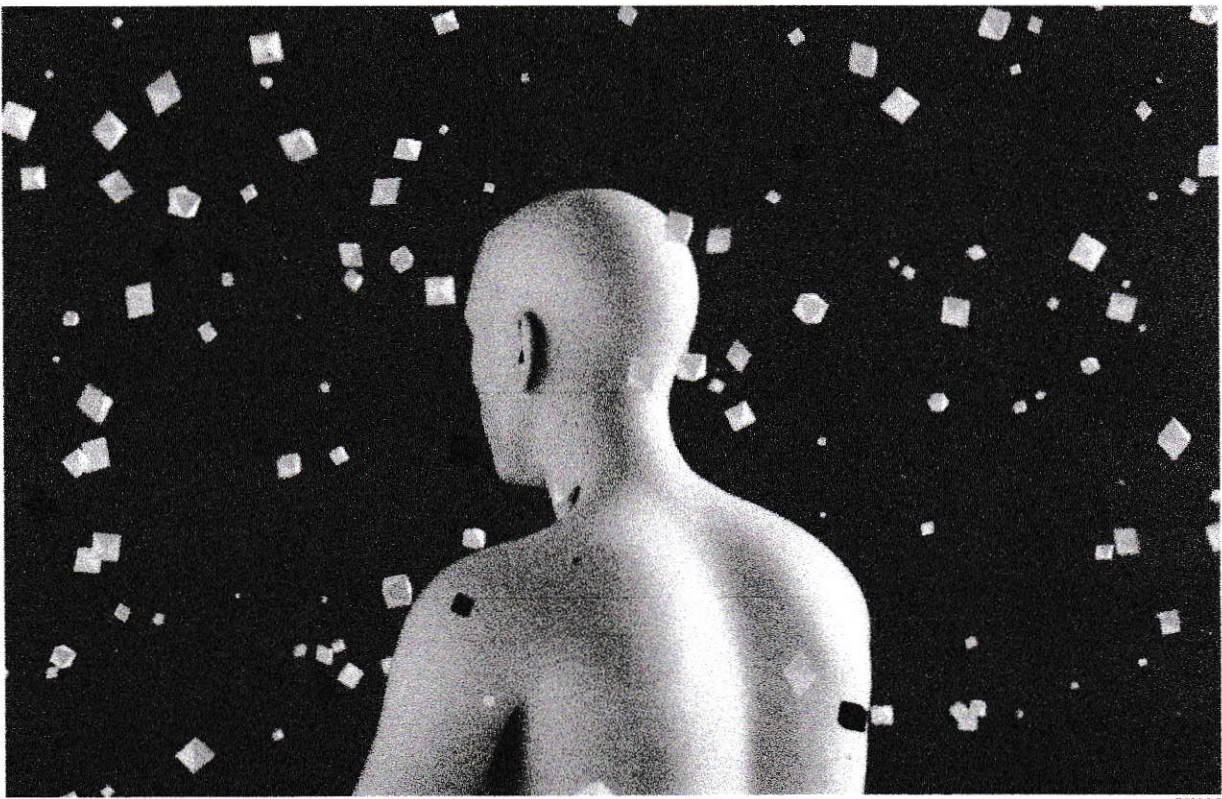
Americans are fed up with the plastic pollution crisis and broadly support many steps to tackle the plastic pollution crisis. Recent polling shows that two-thirds of Americans believe that businesses that produce or use plastics in their products should pay for collecting, sorting, and recycling plastics.

The Break Free from Plastic Pollution Act will provide national leadership to reduce the amount of wasteful plastic produced and reforming our broken waste and recycling systems. The bill will shift the burden of cleanup and waste management to where it belongs: on the corporations that produce this waste, by –

- Requiring big corporations take responsibility for their pollution, requiring producers of plastic products to design, manage, and finance waste and recycling programs.
- Spurring innovation, incentivizing big corporations to make reusable products and items that can actually be recycled.
- Creating a nationwide beverage container refund program, which is successful at the state level.
- Reducing and ban certain single-use plastic products that are not recyclable.
- Establishing minimum recycled content requirements for beverage containers, packaging, and food-service products.
- Generating massive investments in domestic recycling and composting infrastructure, while pressing pause on new plastic facilities until critical environment and health protections are put in place.

Together we can tackle plastic pollution with the bold action – but we must act now, before it's too late.

From "Beyond Plastic" website



ZOLLO

New York Times 06-26-2020

We're All Inhaling Microplastics

Janice Brahney

WE WEREN'T looking for what we found.

LOGAN, UTAH
My research group was trying to determine how much phosphorous was being carried by wind and rain into some of the most remote regions of the West and how this nutrient might affect lakes and streams. To do so, we sampled dust in 11 scattered locations, from Joshua Tree National Park in California to the Wind River Range in Wyoming.

Back at the lab, peering through microscopes at our samples, we could see pollen, insect parts and bits of minerals — all of which would have made it just another day in the life of a dust scientist. But what made it different was an unexpected interloper: tiny bits of plastic, most from synthetic microfibers used for making clothing. They were in all of our samples. And lots of them.

There was so much microplastic, we calculated that up to 6 percent of the dusts in those far-flung locations are microplastics and that more than 1,000 metric tons are deposited in those places every year by wind and rain. Some blew in from nearby cities, but most came from much farther away and represented decades of plastic waste. Four colleagues and I recently published our findings in the journal *Science*.

This waste has become so ubiquitous that it's now in the air we breathe. Airborne microplastics don't care what ZIP code you live in. Preventing a landfill in your community won't limit your exposure. And there are still many questions. If dust in the Grand Canyon contains mi-

croplastics, how many of these tiny plastic particles are in city dust? How high will airborne concentrations of microplastics get? What effect are they having on the environment? Are microplastics more toxic than other, better-understood sources of air pollution such as natural and industrial dusts?

We know that inhaled plastics can produce inflammation and lesions in lungs, and repeated exposure is suspected of leading to respiratory problems like asthma and cancer. Inhaling microplastics may also increase exposure to other toxic substances and coatings associated

We found these tiny particles in dust in the most remote places.

with plastics and their manufacture.

Natural dust, which include dusts generated by humans, and industrial dusts can also contain dangerous components, like the pathogen *Coccidioides*, a soil-borne fungus that causes valley fever, which can produce flu-like symptoms. Industrial, urban and agricultural dusts often contain heavy metals as well as synthetic toxins. Outdoor air pollution causes roughly seven million premature deaths a year and is associated with pulmonary diseases, even when adjusted for underlying risk factors. Those statistics most likely include some of the effects of plastic. That we can breathe in microplastics has been known for decades. We just haven't fully appreciated the scale of the problem.

But as Steve Allen, who does research on microplastics at the University of

Strathclyde in Glasgow, Scotland, put it recently to *The Washington Post*, "It is hard to imagine a sentence starting with: 'The health benefits of breathing airborne microplastic. . . .'"

We shouldn't be surprised by these findings. In 2018, about 359 million metric tons of plastics were produced worldwide. Plastics are useful, of course, and we need them for medicine, food safety and technology. But do we really need plastic lawn decorations for every holiday? The plastic pollution crisis seems to have as much to do with industry as it does with consumer choices. A 2017 study in the journal *Science Advances* estimated that "if current production and waste management trends continue, roughly 12 billion metric tons of plastic waste will be in landfills or in the natural environment by 2050."

Movements against plastics pollution have led to bans on plastic straws and plastic bags, and microbeads in cosmetics. But airborne microplastics mostly come from clothing, car tires and the fragmentation of commodities and packaging used briefly and then thrown away, sometimes decades ago.

Reducing plastic waste means taking aim at consumer comfort and convenience, and offering sustainable alternatives to plastics for those on all rungs of the economic ladder.

The path forward to cleaning up this problem is not clear but undoubtedly will require sweeping and uncomfortable changes. Taking on this issue requires understanding it, and as our findings underscore, one thing is clear: We're breathing in microplastics. That can't be good. □

JANICE BRAHNEY is an assistant professor of watershed sciences at Utah State University.

Plastic, Plastic Everywhere

Why **micro**plastics are a **mega** problem



Sherri Mason, professor of chemistry and the sustainability coordinator at the Behrend College at Penn State Erie, is a leading researcher in

freshwater plastic pollution. Her work highlights the environmental and potential public health threats posed by microplastics. Mason spoke with *Nutrition Action's* Caitlin Dow.

PLASTIC PLANET

Q: It's hard to imagine a life without plastic.

A: It is, but we've only been able to mass produce plastics since World War II. So we've only had them for public use for about 70 years.

Q: How much plastic do we make?

A: Worldwide, we produce over 300 million metric tons each year. If things don't change, the industry will nearly quadruple that amount by 2050.

Q: Why is that a problem?

A: First, plastics are made from fossil fuels, so producing them creates greenhouse gases that contribute to the climate crisis. And plastic doesn't biodegrade. That means it doesn't break down into its basic components, which get reincorporated back into the soil.

Plastic can break into smaller and smaller pieces, but it retains the same chemical structure. And most plastic ends up as waste in landfills or it pollutes natural environments like the ocean.

Q: What is a microplastic?

A: It's any piece of plastic that's smaller

We can't always see them, but tiny particles of plastic are everywhere. Microplastics have been found in the most remote parts of the globe ...and in humans. Scientists are still uncovering the impact of microplastic pollution on our—and the planet's—health. Here's what you need to know.

than 5 millimeters, which is about the length of a grain of rice. Many microplastics are far smaller than that, and are far too small to see with the naked eye.

Q: Where do they come from?

A: They can come from larger pieces of plastic that have broken apart. But some, like microbeads—which were used as exfoliators in body washes and toothpastes before they were banned for that use by the FDA—are manufactured. Microbeads are still in personal care products in some other countries, though.

Q: Do microplastics also come from clothes?

A: They do. Synthetic fabrics like polyester, nylon, and spandex are all types of plastic. I'm draped in plastic right now. Sixty percent of clothing fabrics are synthetics, rather than natural fibers like cotton, wool, linen, or hemp.

And we all know from cleaning out the lint trap in our dryers that pieces of our clothes break off. It happens in the washing machine as well. The fibers from synthetic clothing are a type of microplastic. They break off in the wash and go down the drain.

Q: Where do they end up?

A: About 95 percent of microplastics are filtered out at wastewater treatment plants. That sounds great, but the 5 percent that make it through add

up. Our study of 17 wastewater treatment plants in the U.S. showed that each facility was releasing, on average, more than 4 million microplastic particles into our waterways every day. And we have about 15,000 plants.

Q: So microplastics contaminate the oceans?

A: Yes. One study estimated that there are roughly 5 trillion pieces of microplastics floating in the world's oceans.

But they're also in the air. Researchers have even found microplastics in snow samples from the Arctic. Every place we've looked, we've found microplastics.

Q: Do plastics harm marine animals?

A: Yes. Most of the focus has been on larger plastics. You've probably seen the pictures of sea turtles with straws up



Plastic waste is harming marine life from the bottom to the top of the food chain.

their noses. And there have been reports of beached whales with stomachs full of plastic debris like plastic bags, cups, netting, and so on.

Q: How about microplastics?

A: We're still learning, but we know that animals are ingesting microplastics, and there's evidence that they impair the reproduction, growth, mobility, and feeding patterns of small marine animals.

It starts with plankton at the very base of the food chain. The plankton ingest microplastics, which sometimes kills them, and then the animals that rely upon them have less food. If the plankton don't die before they're eaten, their microplastics end up inside whatever eats them. So the plastics might accumulate as you go up the food chain.

SIDE OF PLASTIC?

Q: Are microplastics in food?

A: Yes. Seafood was one of the first foods they were found in. I've had people say, "Well, I don't eat seafood. I just eat chicken, so I'm fine." We haven't looked for microplastics in chicken. But I can assure you that if they're in seafood, they're in chicken, because they're in our air, water, and soil.

Q: What about other foods?

A: There are all sorts of foods that we haven't analyzed yet. But we've found microplastics in water, beer, and sea salt. And a recent study showed that they can make their way into vegetables through the roots.

Q: How do microplastics get into soil?

A: Wastewater treatment plants retain everything that gets filtered out. It's called sewage sludge. About half of that sludge gets treated and applied to agricultural land, because it's very nutrient-rich.

Microplastics from the sludge can then percolate through the soil and end up in fruits, vegetables, and grains. Or they might end up as runoff that flows into a river and doesn't go through a wastewater treatment plant. So applying the sewage sludge to agricultural land may delay

the plastics from entering the waterways, but they eventually move into our food.

Q: And they're in our drinking water?

A: Yes. We studied tap water from 14 different countries, including the U.S. In each liter of water, on average, there were about 5½ pieces of microplastic.

Some people were like, "Oh my gosh, I'll just drink bottled water." But in another study, we found twice as much microplastic in bottled water as in tap water. You should assume that anything that's wrapped in plastic is going to contain microplastic. A recent study concluded that the number one thing



We produce more plastic than we know what to do with, and we can't recycle our way out of the problem.

people can do to reduce their ingestion of plastic is to not drink bottled water.

Q: How much plastic do we consume?

A: One recent study estimated that some people may be consuming up to five grams' worth of plastic a week. That's the amount of plastic in a credit card.

Q: Do microplastics harm our health?

A: It appears that we can absorb some plastics, depending on their size and chemistry. For example, one study found microplastics in four of six women who had just given birth. But we don't know yet if that harms us.

Also, there are a lot of chemicals in plastics like BPA and phthalates. Many are hormone disruptors that have been linked to fertility problems, obesity, type 2 diabetes, and some cancers.

We still have much to learn, but we know that plastics and microplastics can adversely affect marine life, even if we don't know everything yet. So we need to take a precautionary approach.

CUTTING THE PLASTIC CORD

Q: Do we need to stop using plastic?

A: No. Plastics serve a lot of necessary purposes, and we can't eliminate them. I'm not anti-plastic; I'm anti-unnecessary-plastic, like single-use plastics. We need to rethink our relationship with plastic.

Q: So reduce, reuse, recycle?

A: Yes. And they're in that order for a reason. Reducing is most important. And reusing what we have gets the most life out of a single item.

Q: And recycle?

A: Yes. But in the U.S., we only recycle 9 percent of our plastics. Some plastics can't be recycled. And most are complex blends of different plastics and additives that can't be teased apart, which makes them difficult or impossible to recycle.

Also, recycling plastic is more expensive than making new plastic. So even if plastic can be recycled, it often isn't.

Corporations have put the responsibility on consumers to recycle ourselves out of this problem. But that won't work.

Q: What else can we do?

A: In some cases, we can change the types of materials that we buy and use. Consumers have a bigger impact than we give ourselves credit for. If we demand materials other than plastic, the industry will respond. In other cases, the industry could move to a bioplastic, something that can biodegrade.

But if we're going to fix this problem, we need to hold corporations accountable. Once they are responsible for their packaging after consumers have disposed of it, there will be less plastic, plastic will be more durable, and systems will be put in place to collect it.

And this isn't just about us. We have to demand change and reduce our use of plastics now, for the future for our kids and grandkids. Our focus should not simply be on avoiding certain foods. It's about changing the system so plastics are not in the foods to begin with.

BREAKING up with PLASTIC

The best way to avoid microplastics—and to curb our contribution to microplastic pollution—is to use less plastic.

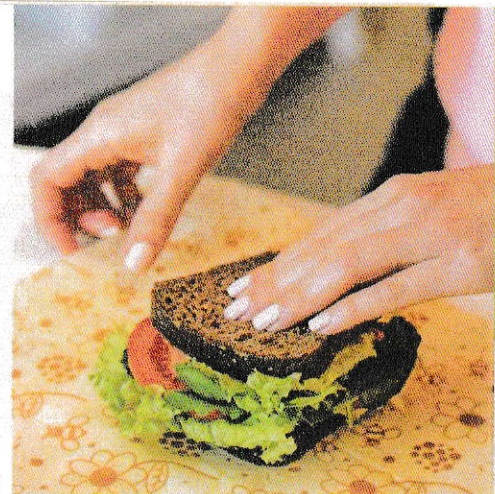
“You don’t need to get rid of all your plastic and buy new things,” says Penn State’s Sherri Mason. “But as things break or you lose them, try to replace them with reusable items made out of more sustainable materials like glass or stainless steel.”

And curbing plastic doesn’t have to mean spending money. Wash out and reuse food jars. And repurpose tote bags into grocery or produce bags (or sew your own!).

Here are some other tips to get you started.

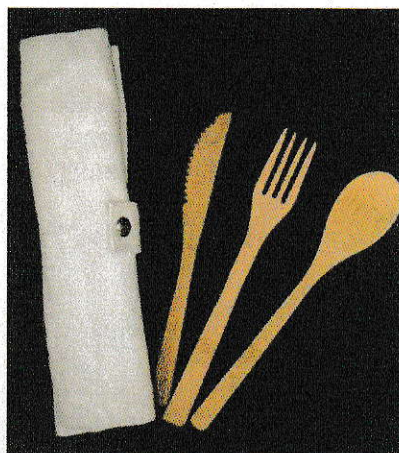
SMART STORAGE

- Store food in glass jars or storage containers.
- If you buy food in plastic containers, reuse them. (Use glass for liquids or hot food.)
- Beeswax wraps can replace plastic wrap or bags.



SAY GOODBYE TO SINGLE-USE

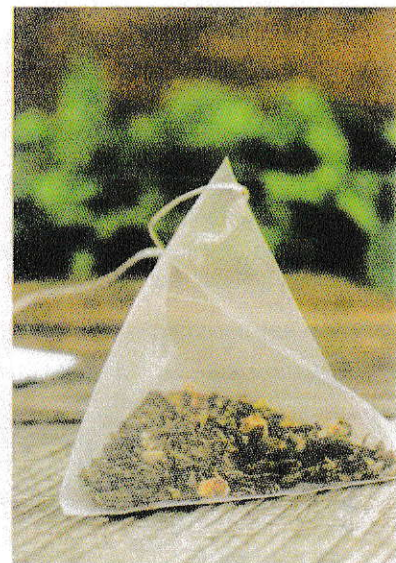
- Ditch the bottled water. Keep a refillable bottle on hand.
- Say no to plastic straws and utensils in takeout orders. Keep your own set of utensils with you.
- Bring your own containers for restaurant leftovers.



PLASTIC-FREE STEEPING

When researchers steeped plastic tea bags (like the one pictured) in hot water for five minutes, each cup ended up with 11.6 billion microplastic particles.

- Teavana says that its store-bought tea bags are made out of plastic.
- Celestial Seasonings, Tazo, and Lipton say that their tea bags are mostly paper with some plastic added.
- Yogi, Numi, Traditional Medicinals, and Stash say that their tea bags are made without plastic.
- Try a metal infuser for loose-leaf tea.



REVAMP YOUR GROCERY RUN

- Consider reusable grocery and produce bags. Many are made of polyester or other synthetic fabrics, so look for bags made from natural fibers like cotton or hemp.
- When you can, buy in bulk and look for food that’s sold in glass or metal instead of plastic.



CONSCIOUS CLOTHING

One study estimated that a 13-pound laundry load of polyester clothing releases nearly 500,000 microfibers.

- When replacing clothing, consider secondhand first. Aim for natural fibers, if you can.
- Wash your clothes less often. (Bonus: they’ll last longer!)

■ In two studies, Environmental Enhancements’ MicroPlastics LUV-R Filter (which attaches to home washing machines) prevented roughly 75 to 80 percent of polyester microfibers from heading down the drain. (You toss the trapped particles into your trash bin.)