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FEBRUARY 15, 2021 • \$5.15  
THE NEWSMAGAZINE FOR TEENS

The New York Times

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## The Truth About RECYCLING

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Americans toss into blue bins? p. 10



ISSN # 15251292 VOL. # 153 NO. 9



SCHOLASTIC

# THE TRUTH ABOUT RECYCLING

What really happens to all the plastic Americans toss into blue bins? BY CHRISANNE GRISE

Plastic waste can leach harmful chemicals into the environment.

Imagine this scene: You finish a bottle of water and make sure to toss it into the recycling bin, because you know how harmful plastic can be to the environment.

By keeping the bottle out of the garbage, you feel confident that you've helped protect the planet. You give yourself a mental pat on the back for taking this small but necessary step.

There's just one problem: A huge portion of the stuff that Americans think is getting recycled is actually going to landfills with the rest of the trash. In other words, the vast majority of supermarket containers, takeout boxes, and plastic silverware that you and your family diligently sort to get reused in some fashion likely ends up buried in mountains of garbage.

"Recyclable is possibly the most meaningless word," says Roland Geyer, a professor of environmental science at the University of California at Santa Barbara. "Much of the activities surrounding plastic recycling . . . generate little to no environmental benefit."

Of the seven types of plastic that people put into recycling bins, five categories almost never get recycled (see "What That Recycling Symbol Means (and Doesn't Mean)" p. 12). In fact, about 8.5 percent of discarded plastic in the U.S. went through the recycling process in 2018, the latest year for which figures are available, according to the Environmental Protection Agency (E.P.A.).

So why have we all been taught to discard our used plastic into blue recycling bins, when most of that waste is going to landfills? Experts say the plastics industry has done a great job marketing recycling as an easy way to be environmentally conscious. The industry wants consumers to think they can

Advertisements have promoted the throwaway lifestyle for decades.

GARY CRABBE/ENLIGHTENED IMAGES PHOTOGRAPHY (PLASTIC WASTE); BARRIE FANTON/UNIVERSAL IMAGES GROUP/NEWSCOM (SORTING); IMAGES COURTESY OF THE ADVERTISING ARCHIVES (ADS)

Sorting plastic bottles to be recycled in Wellsville, New York



Five of the seven types of plastic are almost never recycled.

use plastic products without doing damage to the planet. The truth is, most recycling facilities aren't sophisticated enough to process many common plastics, even if you find the ubiquitous "chasing arrows" sign on the package.

## America's Plastic Addiction

In the meantime, the world is getting overrun by plastic waste. The latest numbers from the

E.P.A. show that in 2018, 27 million tons of U.S. plastic ended up in landfills. There, plastic can leach harmful chemicals that spread into the soil and groundwater. And there's no end in sight. Plastic production is increasing, with analysts predicting it will triple by 2050, creating a total of 12 billion metric tons of landfill worldwide. That's about 35,000 times the weight of the Empire State Building.

Americans' addiction to plastic began around World War II (1939-45). The material—most of which is made from fossil fuels—is light, efficient, and cheap, making it ideal for

household goods, such as plates, cups, and utensils. Companies marketed it heavily to overworked "housewives," promising them that, instead of washing the dishes, they could throw their plastic ones away. The marketing worked, and the throwaway lifestyle picked up steam over the next several decades.

Of course, not all plastic items are meant to be tossed out after one use. The material is also used to make plenty of long-lasting devices that we rely on today, including car seat belts and airbags, helmets for



firefighters and soldiers, and the incubators that keep premature babies alive. In those instances, plastic is helping to save lives.

But plastic waste often ends up in nature, where it can cause serious problems for wildlife. Animals can suffocate inside plastic grocery bags or choke on disposable straws, for example. And when plastic ends up in the ocean, it breaks down into tiny pieces (known as microplastics), which many sea creatures mistake for food. They can fill up on so much plastic that they don't have room in their stomachs for real nutrients, leading them to ultimately die of starvation.

### The Rise of Recycling

In the 1970s, environmental activists began pushing back against plastic waste, concerned about its effects on nature. Some cities eventually went on to ban certain plastics, and many people pressured plastic manufacturers to do something about the problem.

The plastics industry eventually grew so worried about its negative image that it started pushing recycling initiatives in the '70s and '80s. While these programs were advertised as a simple and effective solution, the reality is a lot messier. Recycling is a complicated process, and it costs more to recycle most types of plastics than it does to make new ones, experts say. And there isn't much of a market for products made out of recycled plastic, so many manufacturing companies think it's not worth



**Wild animals** are often caught in plastic litter. Sea creatures may also mistake tiny pieces of plastic for food.



the effort or cost to deal with it.

According to an investigation chronicled in the 2020 *Frontline* documentary *Plastic Wars*, the industry never believed recycling would work in a meaningful way. Instead, it hoped the concept would erase the public's guilt about plastic so people would continue buying plenty of it.

"If the public thinks that recycling is working, then they are not going to be as concerned about the environment," Larry Thomas, former president of a plastics trade group, said in the documentary.

Along with the recycling initiatives came the chasing arrows symbol, often found on the bottom of plastic containers. When you see that symbol, you probably assume that the item will be recycled as long as it ends up in the right bin. But in reality, that symbol just means that the

product can *theoretically* be recycled. There's a good chance your local facility doesn't have the capability to recycle it while still turning a profit, experts say. It's often cheaper and easier to send it to a landfill instead.

Recently, the situation has grown worse. The U.S. used to export a third of its recycling—20 million tons a year—and pay countries such as China to handle it for us. But in 2018, China banned imports of various types of plastic and paper and tightened standards for materials it does accept.

## WHAT YOU CAN DO

Keep this advice in mind next time you go shopping

**It's going to take a lot of collaboration between the government and the plastics industry to fix the recycling crisis in this country, experts say. But you can help make a difference by thinking critically about the products you purchase every day. The most important step: Get only what you can't do without. Do you really need that plastic bottle of water, for example? Or can you fill up a reusable bottle instead? Reducing your number of purchases and reusing things you already own are far more effective strategies than trying to recycle single-use plastic products, experts say. "If you're about to buy something, think, 'Is there an unpackaged version of it?'"**

says Roland Geyer, a professor of environmental science at the University of California at Santa Barbara. "Or do I even need this right now? Could I go without this?" And if you absolutely do need that item, try looking for a version that's made using more sustainable methods. If you buy a shampoo bottle that's made out of 80 percent recycled plastic, for example, you're supporting eco-friendly efforts and helping to create a demand for more. "Buying recycled content might be more powerful than just throwing everything in the blue bins," Geyer says. "You actually know that it's gone full circle."



**A reusable bottle** can help decrease the amount of plastic you buy.

This change forced hundreds of American cities and states to scale back or shut down their recycling programs, since they no longer have a place to send much of their plastic. Oregon, for example, is known for having one of the most aggressive recycling programs in the country. But residents there can no longer recycle common items such as yogurt containers and milk cartons, even though many of the packages claim to be recyclable on the label.

"Recycling has been dysfunctional for a long time," says Mitch Hedlund, executive director of the nonprofit Recycle Across America. "But not many people really noticed when China was our dumping ground."

### Looking to the Future

Today, many who work in the plastics industry acknowledge that U.S. recycling programs are inadequate and say that they're working on improvements, such as making products that are easier to recycle and donating billions of dollars to sustainability projects. But to truly strengthen recycling programs, they say, they'll need the U.S. government to support and encourage their efforts.

"The current status quo of the U.S. recycling system is insufficient . . . and strong federal leadership is needed to work in partnership with industry to ensure the advancement of recycling in the United States," says Matt Seaholm, vice president of government affairs for the Plastics Industry Association.

As Americans grow increasingly aware of the plastic

crisis, many have turned to alternatives, such as paper or biodegradable products. Unfortunately, those can also have negative effects on the planet, says Geyer from the University of California at Santa Barbara. Paper, for example, involves cutting down trees, while most biodegradable plastics don't break down well.

"That magical green material that has no environmental impact doesn't really exist," Geyer says.

That's why many environmental advocates would also like the government to step in. They say the country needs to enact policies that force corporations and plastic manufacturers to take more responsibility, rather than letting them shift the burden of cleaning up the Earth onto consumers.

But that doesn't mean individuals can't chip in too. What Americans purchase when they're out shopping can make a difference (see "*What You Can Do*"). And while it's still important that consumers recycle whatever they can, environmentalists agree that the best bet is for everyone to adopt the mindset that none of the plastic they use will get recycled. Perhaps then Americans will be motivated to change their consumption habits.

"The only material that doesn't need disposal," Geyer says, "is the one we never made." •

*With additional reporting by Livia Albeck-Ripka and Michael Corkery of The New York Times.*

## WHAT THAT RECYCLING SYMBOL MEANS (AND DOESN'T MEAN)

The chasing arrows sign tells you which kind of plastic your item is made of. It's not a guarantee that your item will be recycled. In fact, categories three through seven almost never are. Here are some common examples of each type of plastic.

 <p><b>PETE</b> Soda and water bottles, peanut butter jars, rope, clothing and carpet fibers</p> 	 <p><b>HDPE</b> Milk jugs, non-carbonated drink bottles, shampoo bottles, and cereal box liners</p> 	 <p><b>PVC</b> Credit cards, pet toys, plumbing pipes, garden hoses, and cooking oil bottles</p> 	 <p><b>LDPE</b> Plastic wrap, sandwich bags, squeezeable bottles, and grocery bags</p> 	 <p><b>PP</b> Prescription bottles, yogurt containers, chip bags, straws, and most bottle tops</p> 	 <p><b>PS</b> Take-out containers, plastic utensils, packing peanuts, and egg cartons</p> 	 <p><b>OTHER</b> Baby bottles, sippy cups, large water cooler bottles, DVDs, eyeglasses, and fiberglass</p> 
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