

# World's plastic plague resists any easy fixes

**ENVIRONMENT** | The problem keeps growing; only about 9% of the plastic waste generated in the U.S. is recycled.

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ATLANTA—Several years ago, Sonya Shah dumped the garbage out of her trash can and dug through the contents.

She found plastic food containers, shampoo bottles and other items mixed among food scraps and kitty litter. It was Plastic Free July, the monthlong global campaign to reduce plastic waste, and part of her taking action was to audit the plastic in her trash. While she and her husband were environmentally aware, they were not plastic-free.

"We don't eat meat, we take our cloth bags to the store and we were raised by parents that didn't have a lot of money, so we don't have the practice in our minds of buying things we don't use," said Shah, 48, of Atlanta. "We thought we were doing a lot, then we realized we weren't really scratching the surface."

Shah began looking for ways to reduce the single-use plastic — items like straws, shopping bags and plastic cutlery that are meant to be

them. She went almost two years without eating berries or grapes because she couldn't find any that didn't come in plastic packaging.

Her efforts helped reduce the amount of trash she and her husband produced each week to the size of a plastic grocery bag.

"The things that have been most difficult to eliminate are probably the things I don't need to be using," Shah said.

About 400 million tons of plastic are produced worldwide each year, and about half of that is single-use.

Chemicals used in plastic can be absorbed by humans. Plastic in landfills can leach chemicals into groundwater. Plastic debris lands in the ocean, injuring or killing marine life; and burning plastic waste can release toxic pollutants.

The plastic problem keeps growing — only about 9% of the plastic waste generated in the U.S. gets recycled — and experts said the fix will require everybody to do their part, from the engineers who have turned waste into biodegradable plastic to consumers making a choice to

## Types of plastic

Not all plastic is recyclable. The numbers from 1-7 inside the chasing arrows stamped on containers can help you decide which plastics to buy and how to recycle them.

**No. 1 PETE, or PET (polyethylene terephthalate):** This is intended for single use and should not be reused as it encourages bacteria growth and can leach chemicals. About 30% of PETE bottles in the U.S. are recycled as new PETE bottles and polyester fiber.

**No. 2 HDPE (high-density polyethylene):** This stiff plastic is considered relatively safe and easy to recycle, but only about 30% of HDPE used in the U.S. is recycled into picnic tables, plastic lumber and park benches.

**No. 3 PVC (polyvinyl chloride):** A soft, flexible plastic that leaches many toxins throughout the life cycle. It can be reused, but less than 1% is recycled.

**No. 4 LDPE (low-density polyethylene):** Less toxic than some other plastics, LDPE is increasingly being recycled as plastic lumber, landscaping boards, garbage-can liners and floor tiles.

**No. 5 PP (polypropylene):** Lightweight and heat-resistant, this plastic is used to protect against moisture, grease and chemicals. Only about 3% is recycled, but this is growing.

new uses for plastic waste or creating alternatives. This year, Super Bowl volunteers at Mercedes-Benz Stadium in Atlanta wore uniform jackets made from plastic water bottles by Unifi, a manufacturing company that turns recycled plastic into fiber.

"Plastic is a valuable material, but when we started designing things out of it with intended obsolescence, this was a big mistake," said Dianna Cohen, CEO of the Plastic Pollution Coalition. Cohen, who has a back-

She replaced her Tupperware with glass containers. She tossed rubber cooking utensils and bought stainless steel and wood. She carries an insulated cup and a food-grade stainless-steel bottle everywhere she goes, along with a set of bamboo utensils and a stainless-steel spork. When she orders carryout, she goes to restaurants that will put her food in a Mason jar she provides.

The life cycle of plastic, a synthetic material made from organic polymers, be-



FRED NELSON / THE SEATTLE TIMES

Recycling symbol #1 on a plastic bottle.

**No. 6 PS (polystyrene):** Lightweight and easily shaped, this plastic may leach styrene, a possible human carcinogen, into food products, particularly when heated in a microwave. Though the technology exists, polystyrene has a low recycling rate and accounts for about 35% of landfill material in the U.S.

**No. 7 Other (BPA, polycarbonate and Lexan):** As the catchall for all other plastics, this classification has limited protocols for recycling. It includes BPA (bisphenol A), a known endocrine disruptor, as well as plastics with "PLA" near the symbol, which is a compostable plastic made from bio-based polymers.

Source: [Eartheasy.com](http://Eartheasy.com)

and Saran Wrap. Plastic is one of the world's most versatile materials, used in everything from medical IV bags to automobile parts. But our dependence on single-use plastics transformed a valuable and durable material into one of the world's biggest environmental concerns.

Global output of plastic waste rose more in a single decade beginning in the early 2000s than it had in the previous 40 years, according to UN Environment

pieces of legislation to address plastic pollution, according to the National Caucus of Environmental Legislators, including bans or fees on a range of single-use plastics.

By 2025, there will be an estimated 155 million metric tons of plastic in the ocean, according to research from University of Georgia professor Jenna Jambeck. The Great Pacific Garbage Patch the mass of plastic in the Pacific Ocean between Hawaii and California that is twice the size of Texas, is the largest and most well-documented example.

More than 1 trillion plastic bags are discarded worldwide each year, and their ubiquity has made them a target for plastic reform. Kroger (and other stores) send plastic bags and packaging returned by shoppers to a recycler that uses them to make composite lumber products, said Felix Turner, spokesman for Kroger. Last year, the company said it would stop providing single-use bags at registers by 2025.

Kroger also announced an exclusive grocery retail partnership with Loop, a milkman-style service that allows customers to purchase brand-name items such as Pantene shampoo and Häagen-Dazs in long-lasting (at least 100 uses) reusable packaging that is shipped back for a refill of the product or a return of the deposit. Atlanta-based UPS partnered with Loop to create packaging design for the Loop tote and the pickup and delivery services for Loop customers.

Nationwide, companies