

Are Paper Straws Really Better for the Environment?

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Updated February 6, 2023



All across the globe, many companies and people are switching to paper straws instead of plastic, choosing paper over plastic as an eco-friendly alternative.



Over the summer, Starbucks announced it would eliminate plastic drinking straws in all locations by 2020. Seattle became the largest U.S. city to ban plastic straws in July 2018. McDonald's will begin testing alternatives to plastic straws in some U.S. restaurants this year, after beginning to phase them out in their U.K. and Ireland locations.



In the United States, it's estimated that Americans dispose of 500 million straws each day. A recent study shows that 8.5 billion plastic straws are thrown away each year in the U.K. Most of these straws end up in the ocean – one 2017

study estimated that as many as 8.3 billion plastic straws are polluting the world's beaches.

It's clear that the use of plastic straws is an issue that needs to be addressed. And with many companies choosing paper over plastic, it's worth exploring whether paper straws are helping or hurting the environment.

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But first, it's important to understand the larger context of why we use plastic straws and the effects of their mass consumption by people and businesses.

A brief history of plastic straws

In 1888, a man named Marvin Stone was drinking a mint julep on a hot summer day when his straw, made of natural rye grass, began to disintegrate and left a gritty residue in the drink. Stone fashioned a paper straw instead and filed the first patent for a drinking straw, and by 1890, Stone Industrial was producing more straws than cigarette holders.

After World War II, American manufacturers began mass-producing plastic goods for consumers, in need of a new market instead of wartime plastic. By the 1960s, corporations were producing plastic straws at increasingly high rates.

As of 2015, the world was producing *380 million tons* of plastic.

Plastic production & ocean pollution

As plastic production has increased, so has its effect on the environment, especially on the world's oceans. Plastic straws are a significant part of that effect. Plastic straws were designed as a single-use product that we use to consume drinks before throwing them away after just one use. However, plastic straws are not recyclable and contribute significant amounts of waste that ends up in landfills or our oceans.

A lot of single-use plastic collects in "garbage patches" that form as waste and debris get pushed together by circular ocean currents known as gyres. These garbage patches are primarily made up of microplastics, which make the water cloudy and gelatinous.

The largest garbage patch is the Great Pacific Garbage Patch, a.k.a. the Pacific Trash Vortex – it's twice the size of Texas. However, only about 1 percent of plastic waste collects at the surface in patches like the Pacific Trash Vortex; most of it aggregates at the floor of the ocean, where deep-sea sediments behave as a sink for the microplastics. And microplastics are formed from, you guessed it, single-use plastics such as plastic straws.

A single plastic straw can take up to 200 years to decompose. Plastic straws are not biodegradable – instead, they slowly fragment into smaller and smaller plastics (a.k.a. microplastics), which fish and marine animals mistake for food, ingesting the plastic. It's estimated that up to 71 percent of seabirds and 52 percent of turtles end up ingesting plastic to their stomachs.

Beyond strangulation of marine life, the larger reason plastic is so dangerous is that it releases toxic chemicals like bisphenol-A (BPA) when it breaks down. Plastic straws are made out of polypropylene – a petroleum byproduct that is essentially the same stuff that fuels our cars. So, when plastic straws begin to decompose, they release harmful toxins like BPA that pollute our oceans.

Because of these negative effects, many industries across the world have started to ban plastic straws in lieu of alternatives.

The rise of plastic straw bans

Many countries are starting to restrict single-use plastics like plastic straws and plastic bags. In 2002, Ireland imposed a tax on plastic bags, which was followed by a 94 percent decrease in the use of plastic bags. As of 2017, 28 countries had imposed bans or taxes on plastic bags.

But according to Ocean Conservancy's 2017 Coastal Cleanup Report, straws and stirrers make up just 3 percent of the total trash found on beaches. And Bloomberg News estimates that on a global scale, straws would probably only account for 0.03 percent of total plastic waste by mass.

This isn't to say that reducing plastic straw use doesn't matter, though. It's an important first step towards drastically limiting plastic in the ocean, by psychologically motivating people to engage in similar behaviors.

Paper straws vs. plastic straws: 5 benefits of using paper over plastic

It's clear that the use of plastic straws is an issue that needs to be addressed. But are paper straws truly better for the environment?

Making the switch from single-use plastic straws to paper straws can certainly have less of an impact on the environment. Here are 4 benefits of using paper straws over plastic straws.

Paper straws are biodegradable

Even if you toss your plastic straws in the recycling bin, they'll likely end up in landfills or the ocean, where they can take years to decompose.

On the flip side, paper straws are fully biodegradable and compostable. If they do end up in the ocean, they'll start to break down within just three days.

Paper straws take less amount of time to decompose

As we learned, plastic straws can take hundreds of years to fully decompose, lasting for up to 200 years in a landfill. It's much more likely that they'll wind up in the ocean, where they break into smaller microplastics that end up being ingested by fish and marine life.

Unlike plastic, paper straws will decompose back into the earth within 2-6 weeks.

Switching to paper straws will reduce the use of plastic straws

Our use of plastic straws as a planet is staggering. Each day we use millions of straws – enough to fill 46,400 school buses per year. In the last 25 years, 6,363,213 straws and stirrers were picked up during annual beach cleanup events. Choosing paper over plastic will greatly reduce this footprint.

They're (relatively) affordable

As more businesses become aware of the negative effects of plastic straws and environmentally conscious of their waste and recycling footprint, demand for paper straws has risen. In fact, paper straw supply companies can't keep up with the demand. Businesses can now buy paper straws in bulk for as little as 2 cents each.

Paper straws are safer for wildlife

Paper straws are marine life-friendly. According to a study from 5 Gyres, they'll break down in 6 months, meaning they're safer for wildlife than plastic straws.

5 eco-friendly alternatives to paper & plastic straws

There are other options out there worth exploring for those who wish to reduce their paper and plastic waste. Here are 5 alternatives to paper and plastic straws.

1. Stainless steel straws

The first alternative for those looking to reduce waste is stainless steel straws. Just like metal cutlery, stainless steel straws are reusable, easy to clean, have a long lifespan, and are dishwasher safe. Many frequently come with pipe cleaners for easy wash.

Additionally, they won't affect the taste of your drink, and they look relatively attractive.

1. Bamboo straws

Straws made out of all-natural bamboo sourced from sustainable forests are a great, lightweight alternative. Once bamboo straws wear out, they compost in a few months. Bonus – they’re perfect for tiki drinks.

1. **Straw straws**

Yes, they’re kitschy but they are biodegradable and eco-friendly alternatives to plastic straws. In the 1800s, before paper and plastic, people were literally drinking through straws made of straw. And they’re still around today – check out Harvest Straws.

1. **Glass straws**

Glass straws are reusable and durable, plus they’re dishwasher safe. These are available in a variety of lengths, diameters, and colors.

1. **No straws**

Of course, the most sustainable solution for the environment is going without straws altogether. If you can, choose not to get a straw with your drink. Or, if you’re a business that serves drinks, don’t offer your customers straws unless they ask for one.

What else can we do to reduce our plastic use?

Although reducing plastic straw use may not get rid of all the plastic in the ocean, there are other things you can do to lower your plastic consumption:

- Use reusable shopping bags at the grocery store instead of paper or plastic bags
- Use metal or reusable water bottles instead of buying plastic water bottles
- Buy foods in bulk in order to reduce packaging use
- Pack your lunch or snacks in reusable Tupperware rather than plastic bags

Learn about how Rubicon is working to end waste in [our first annual ESG Report](#). And read the [RUBICONMethod](#) to start developing a more successful waste reduction and recycling program today.

Originally published November 7, 2018



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