

But Why: A Podcast for Curious Kids

[Why Is There A Big Patch of Garbage In The Pacific Ocean?](#)

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[00:00:21] (JANE) This is *But Why: A Podcast for Curious Kids* produced at Vermont Public Radio. I'm Jane Lindholm. I'm the host of this show. But you are the ones who guide us in what we cover by sending in your questions.

[00:00:34] Today, we're not only answering a question that one of you sent us, but we're exploring an area where kids like you have been activists helping to change the world and clean up the mess, literally, that the adults who came before you have made. Here's the question we're focusing on today.

[00:00:52] (LEON) My name is Leon and I'm four years old and I'm from Minneapolis, Minnesota and I'm four years old. My question is, why is there a big patch of garbage in the Pacific Ocean?

[00:01:05] (JANE) So Leon is asking why there's a big patch of garbage in the Pacific Ocean. Have you ever heard about that? It's known as the Great Pacific Garbage Patch. And it's a real thing. It's a spot in the middle of the Pacific Ocean between California or Mexico and Hawaii, if that's a part of the world you can picture, and it's an area of the ocean that's really big, 1.6 million square kilometers, almost 618,000 square miles. That's three times the size of France or twice the size of Texas. This part of the Pacific Ocean is known as the North Pacific Gyre. A gyre is like a very slow-moving whirlpool. It's where ocean currents circulate. There are five gyres in the world, in the world's oceans. And so as these water currents swirl around, they collect all of this ocean trash into a concentrated location. There are three garbage patches and the most famous one is this Great Pacific Garbage Patch that Leon's asking about. Now, it might be a little hard to picture what exactly we're talking about. So as we answer Leon's question, we thought we'd talk to someone who's actually been to this garbage patch in the ocean.

[00:02:22] (ALLI) My name is Alli Maloney. I am the News and Politics Features Editor at *Teen Vogue*. And my pronouns are she and her. I was lucky enough to travel on a ship to the middle of the Pacific Ocean last fall. I was invited by an organization called Greenpeace who does environmental work all over the world. And they're kind of known for their actions in defense of the environment. So they have these ships. They invited me to go with them. And it's over a thousand miles from the shore. So we took off from Mexico. And then days and days and days later, we ended up at the Great Pacific Garbage Patch right in the middle of the ocean. It was wild to be there.

[00:03:00] (JANE) Alli wrote about her trip to the garbage patch in a feature she did for *Teen Vogue* as part of a series called Plastic Planet. Alli says a lot of people think the garbage patch is going to look like a big island of trash just floating on the surface of the water. But that's not really what it is.

[00:03:18] (ALLI) When you get to the part of the ocean where it is, you can tell that something is different based on the degree of plastic in the water. But it's not just a flat surface. It's not an island like you would think of. So you're not having to break through the plastic with the ship. You're just looking down and you're noticing that, yeah, it is different here. There is more plastic here.

[00:03:39] (JANE) So describe what it actually looks like once you get there. You're on this boat for days and days. And then you said you notice that something is actually different when you're in this gyre, when you're in this place where all of this garbage is.

[00:03:51] (ALLI) So you look out from the ship and you're standing on the deck and you can see in the water a lot of ghost nets. And those are where nets from the fishing industry and ships will kind of all come together into huge masses. So you've got tons of different colors of net and you can see that some are kind of rope and some are just clearly, you know, cut from plastic. But there's buoys of all different shapes and sizes. And then we would actually use a crane, mechanical crane, that would pull up from the side of the ship down into the water and pull out those ghost nets. So we started doing that when we got to the patch because we noticed them first. They're the biggest thing because the fishing and seafood industry actually is responsible for a lot of the trash. A lot of the plastics specifically in the ocean and a lot of the plastic in the patch. So we could notice these big masses that were clearly all net. And when we pulled them up on the back of the ship using this crane, we had to pull fish out. So we're pulling fish out and throwing them back in the water, just trying to save what we can see. And all the while, little crabs are running out from these big masses. But also in the water itself, you can see, you know, broken pieces of plastic. And we were tasked with keeping count because that was important for Greenpeace's research. So we could see everything, from buckets, to traffic cones, to just odd shapes and sizes, to kind of recognizable shapes and sizes. I remember seeing what looked like the front of an air conditioning unit just kind of floating by in the water. But it's more concentrated there, so you can see a lot more. And then when you're closer to the water, they would put us in smaller boats off of the ship. And when you're actually out in the water itself, you notice that it's not just big floating pieces of plastic. We would send down divers and what they said was underneath the water surface

[00:05:55] there's all of these teeny tiny pieces, these fragments of plastic. So those bigger pieces I saw floating, they break down farther and farther and farther, but they never fully go away. And the bottom of the ocean, especially in the Great Pacific Garbage Patch, is full of it. They could move their hands through the water and they'd be moving their hands through very small pieces of plastic.

[00:06:17] (JANE) And in some cases, sometimes people talk about things called microplastics and they can be even smaller than what you can see with your eye. Right? So there's plastic all through the water in various sizes.

[00:06:30] (ALLI) Exactly. And that was what I was just describing that the divers could see. So all of the plastics that we know and we touch in our day to day lives, if those aren't recycled properly and fully, that means that they're either going to go into a landfill where they seep into the ground and they ruin the soil or they're going to go into the ocean and the water will break it down over time if it doesn't end up on the shore. But if not, it's just slowly chipping away. And those little microplastics, that's what animals eat. You know, when they are going for their actual prey, these sea creatures that we know and love, when they're going to take a big gulp of, say, a fish in that big gulp, they're getting tons of microplastics. So it's not just the big pieces that they're eating or that we see on the shores. It's these teeny tiny little specks. But that was what Greenpeace was out there doing, lowering something into the water called a trawl, which we would run alongside the ship, we would pull it out and then we would sort through all of the microplastics. So we're seeing all of these different colors. There's blue, there's white, there's bright pink like a Barbie car. And it really starts to mess with you after a while, because that's thousands of little pieces. And those aren't even the big ones that catch your eye.

[00:07:48] (JANE) Where does all this plastic come from? Well, around the world, more than 380 million tons of plastic is produced each year. Half of all the plastic waste in the world comes from single use plastics. Stuff that's just used for moments and then thrown away like a plastic grocery bag, water or juice bottle or a straw. And if you think about it, most of the plastic stuff we use just gets tossed in the trash. Some of it ends up in our landfills. About nine percent of all the plastic that's ever been made in the world has been recycled. And some of it ends up in the ocean. And that's bad. It's nearly impossible to get all those tiny little pieces of plastic out of the ocean. Big and large plastic can cause lots of different problems.

[00:08:39] (ALLI) The problem with plastics is virtually that there's just too much. It ends up in the Great Pacific Garbage Patch, in the ocean, in our streams and on our shores, because we've created so much over the last, you know, between 50 to 70 years that the earth can't take it anymore and more is being produced every day. Another thing about plastic. Eight hundred species of animals have been documented to have eaten microplastics.

(JANE) Including humans, right?

(ALLI) Yeah, absolutely. And a big problem for humans is something called micro fibers, which come out of synthetic clothes.

[00:09:16] So when you wash your synthetic clothes, they're teeny tiny. You can't even see them, smaller than a human's cell, fragments of plastic that go in the water.

[00:09:26] The Environmental Protection Agency in the U.S. that's tasked with taking care of Americans and their environmental needs. Even the water there has micro fibers in it. So plastic is everywhere.

[00:09:38] And something that we don't really think about is how it's affecting us on a real human level. We know that there are some chemicals that are bad for us that are in plastics. But the way that plastics are made are toxic to the environment and the places where these projects are set up to make plastic or where the trash itself is dumped is usually in marginalized communities. So you have the poorest people dealing with the most plastic and then toxic air on top of that. So across the board, it's more than just, you know, plastic is going to leach into the soil. It's, it's a human problem. It's a sea animal problem, but it's really a global issue because there is not one place on Earth that isn't affected by all of the plastic that's been created in the short time that it's on Earth.

[00:10:30] (JANE) In just a minute, we're going to talk about what you can do to help this situation.

[00:10:37] This is *But Why: A Podcast for Curious Kids*. I'm Jane Lindholm. And today, we're answering four year old Leon's question about why there's a big concentration of trash out in the middle of the Pacific Ocean. It's called the Great Pacific Garbage Patch. And it's one of three areas in the world's oceans where ocean currents swirl a lot of plastic trash into one big area. It's not like an island of trash sitting on top of the water. But there's a lot of wasted plastic. And when divers go down into it, they see tons of little pieces of micro plastic floating suspended in the water. Sea creatures swallow this water and get that plastic into their bodies. And humans sometimes eat fish that already have that plastic in their bodies, or we drink water that has plastic or chemical fibers in it that are too small for us to see. We don't know yet all of the effects of this plastic in our environment or in our

bodies, but we know that it's bad. We're talking with Alli Maloney, a writer for a magazine called Teen Vogue. She got to go see the garbage patch herself to write about it for a series called Plastic Planet. And if you're feeling pretty bad about all this plastic, you're not alone. Alli says she got really emotional when she was out on that ship looking out over an ocean full of trash.

[00:11:58] (ALLI) It was really emotional because over the course of my life, I'm 20 years old. So over the course of my life, I have known nothing but plastic. I'm sitting there sorting through micro-plastics and thinking about over the course of my life just how irresponsible I personally had been. But the weight of the world kind of gets on your shoulders and that sort of situation. So it was actually pretty hard to be on the ship. I was lucky that I was surrounded by really enthusiastic activists and organizers who when we would feel like crying, we could cry and then we could, you know, go back to our tasks at hand. We could go back to the research because what we were doing there will influence what we know about plastics in the future, especially because it's so hard to get to the Great Pacific Garbage Patch. Besides fishing ships and besides, you know, merchant activity, there are a few people going out there. So the work that we were able to do, I kept having to keep that in my mind like this is for the greater good. And this is so people younger than me in the future, they're equipped with more information about just how just how grave the situation is when it comes to plastics.

(JANE) But you did cry.

(ALLI) I did cry and all. Did I cry? Totally. I mean, I am an outdoorsy person. I love being outside when I was growing up. Me and my sisters, you couldn't bring us inside. We were up in trees and out in the woods. And so to be out in the middle of the ocean and you're having this really emotional connection. We didn't see any other ships, any other anything besides seabirds for an entire three weeks. So the only other thing that you're seeing is plastic. And you go from being so moved by the sunset to seeing, you know, a VHS cassette tape case floating in the water. And it really just makes you think, it really makes you want to go home and tell your entire family like we've got to do something.

[00:13:55] (JANE) OK, so what can we all do now? Some of what has to be done is really large scale. Governments and big companies have to change the things they make and the way they operate.

[00:14:07] (ALLI) What gives me a lot of hope is, firstly, things are already being done. We have these organizations around the world like Greenpeace, but they're joined by, you know, a cohort of thousands of others who are really focused on this issue now. Some brands that are global brands like IKEA are phasing out single use plastics. By 2020, IKEA will have their ban, they say. Some grocery stores, major chains are banning plastic bags. But Greenpeace is pushing for audits. They're asking grocery stores to look around their shelves and do a full brand inventory audit to see just how much plastic they sell. People are holding these corporations accountable, and that's important. We've also seen things like plastic straw bans and plastic bag bans in cities and states all around the country. And those are the results of tiny movements that get really big. And a lot of those young people start at home by talking to your parents like, "Mom and dad, do you recycle? Do we have to have water bottles in the house? Instead of a juice box every day, Mom, can I have the same cup with a lid that I put on and I bring to school with me?" So you can do that kind of thing in your own home. But then when you go to school, look in the cafeteria and see if your cafeteria is using single use plastic utensils and start there, too. I mean, letters from a kid or any type of activism that's coming from a young person takes older people, it takes

them off guard in this way where I think that they become really receptive. So there's all these really great examples around the country of how kids have just simply posed a question to someone in power, whether it's a grocery store manager or their principal or their lunch lady or their mom, and started kind of a little mini revolution where other kids get on board.

[00:15:58] (JANE) There are even organizations that are dedicated to helping young people be activists on this subject.

[00:16:03] (ANIKA) My name is Anika Ballent and I'm the Education Director at Agalita and we're a small nonprofit that focuses on preventing plastic pollution.

[00:16:12] (JANE) Anika says there are ways to start small with your own personal use to combat the problem of so much plastic.

[00:16:20] (ANIKA) Definitely start with yourself first. Think about what you use in your daily life that's plastic. And then pick one thing that you want to start replacing. So it could be maybe you pack a water bottle in your lunch every day. Well, maybe you think about using a reusable bottle or reusing plastic one, even if you have no other option. And then once you've got that new habit down, start focusing on the next thing. So you could look at packing your whole lunch, plastic free or plastic smart as we like to say. So you can even reuse plastic items like plastic Tupperware is still better than a Ziploc baggie for your sandwich because you can use it so many times. And then you can also even go further. So you can if you're going grocery shopping with your parents, you can go.

[00:17:12] You can ask them to look for items that have, you know, packed things that are packaged in glass instead of plastic or in a paper bag or go to the bulk aisle and get your favorite snacks in bulk, bringing your own produce bags to put all your snacks in. So there's so many different ways that you can start to be aware of the plastic that you're using in your daily life and then taking one step at a time.

[00:17:41] (JANE) Anika has an example of how she does this in her own life.

[00:17:45] (ANIKA) I have a kit of reusables that I carry around with me wherever I go. So I have a fork and a spoon that I bring with me. So if I ever need to eat anything, whether I'm at work or I'm at an event or I go out to eat, I can use my reusables and I have a Tupperware as well that I carry around with me and leave in my car, too, that I can use. If I'm ever going out to eat, I can put my leftovers in it. I also make sure I always have a bag and a water bottle or a tea mug. And I also at home, I have a little clothesline that I hang up in my kitchen, that I wash out my plastic bags, say I still buy bread in plastic bags sometimes. So I'll reuse all of those things that I'm getting at the grocery store as packaging and I'll try to reuse them as trash bags or as produce bags until I can't use them anymore.

[00:18:47] (JANE) But what about the bigger steps? Anika says kids are making a big difference on this issue by making the adults in their lives think about how much of an impact plastic has on the world.

[00:18:58] (ANIKA) One school here in Los Angeles, they took all of their Styrofoam trays from one day at lunch and they stacked them up really high and put them in the front yard of the school next to a tree. And all the parents and teachers and administration saw it and realized just how much E.P.S. or Styrofoam they were using every single day. And they

decided to have the Los Angeles School District, eventually, it got so big that the Los Angeles School District decided to team up with the other large five largest school districts in the United States. And by teaming up together, they were able to reduce the cost of alternative compostable tray and were able to make the switch.

[00:19:46] (JANE) And there are other examples where students have asked their school to make reusable materials more available or to cut down on single use, plastic waste, or to stop making plastic straws available unless kids need them for mobility issues. But ultimately, it's going to take more than these small movements to make a big enough difference.

[00:20:06] (ANITA) We definitely need companies around the world to rethink their packaging, to work together with at the design phase, to work together with recyclers and making their packaging recyclable from the get go. And we also definitely need policy to help that along. And some make these things normal. Right? Because right now, it's a really big deal if a company says, hey, we're going to repackage our products so that it's more recyclable or less wasteful or uses less plastic. And those are our leaders right now. And we kind of need that to happen across the board and which is where policy will come into play and policies are starting to change.

[00:21:08](JANE) Big countries, small states, even cities are making changes around single use plastic. Here in Vermont, where But Why is based, there are a couple of different laws that lawmakers are debating right now that deal with the problem of plastic pollution. One of them would make it so stores can't offer single use plastic bags and customers wouldn't be able to, for example, get a bag at a grocery store that they'd just throw away when they get home. Any bag you got at a grocery store would have to be one that you reuse and you wouldn't be able to get Styrofoam containers if you got takeout food. Plastic bags are already banned in many cities around the United States. California has a ban on plastic bags and Hawaii more or less does as well. The most populous counties have all outlawed non-biodegradable bags. Four states require labeling and recycling programs for plastic bags. 10 states, though, have gone the other way entirely, passing laws that say plastic bags can't be outlawed. In Australia, when two supermarket chains stopped giving away plastic bags, they prevented 1.5 billion bags from going out in just three months. Most of the states and territories in Australia have taken steps to pass legislation to restrict plastic bag use. Straws are another issue. One study estimated that 500 million straws are used every day. Cities like Seattle, Washington, D.C. and Vancouver have already banned straws in sit down restaurants. In California, you're only supposed to get a straw if you specifically ask for one. So people are starting to realize what a big problem plastic can be and take action. What about you? Do you do something to prevent more plastic from going into the ocean or the landfill? Maybe you've told the adults in your life you don't want any more plastic toys or maybe you do something at your school like what we heard from Anika and Alli. Tell us about it and tell us what else you'd like to learn about.

[00:23:10] That's it for this episode. But if you have a question, you can have an adult in your life record it for you. Tell us your first name, where you live and how old you are and what you want to know. You can do it on a smartphone using the memo function or another free app that records voices. Then have your adult send the file to: questions@butwhykids.org. Thanks, in this episode, to Alli Maloney at Teen Vogue and Anika Ballent at Agalita. But Why is produced by Melody Bodette and me Jane Lindholm at Vermont Public Radio. Our theme music is by Luke Reynolds. We'll be back in two weeks with an all new episode. Until then, stay curious.