



# Plastic in the Ocean



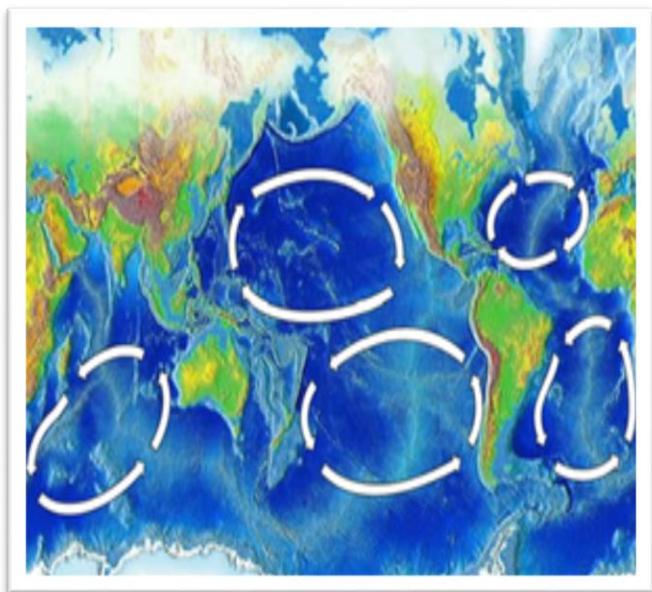
# Plastics in the ocean

## Introduction

In recent years more and more attention has been given in the media about plastic in the ocean. There is this 'plastic soup' somewhere in the world's oceans. But what is this plastic soup? Where does it come from and what can we do about it? Does it affect us in New Zealand?

## Plastic soup

Have you ever seen plastic bottles, wrappers, fishing line or small pieces of plastic lying on the beach? Somehow these plastics ended up in the sea and are washed up on the beach. This means there's a whole bunch of plastics that don't wash up. These are taken away by the ocean's currents and can be trapped in a gyre; an ocean current that goes around in a circle. There are five major gyres in the world's oceans.



[Ocean gyre Facts for Kids](#). *Kiddle Encyclopedia*.

Sometimes the gyre between the United States and Asia is called The Great Pacific Garbage Patch. This isn't the only one though, there are five of these gyres in total.

There are other spots where lots of plastic collect. These spots are not gyres, however they collect lots of plastics for other reasons. These places are called 'hotspots'. Sometimes these spots are inland- seas, bays by big cities (such as the Bay

of San Francisco or even Manukau Harbour) or places where island currents come together like Bali or Spirits Bay.



Photo: <https://www.abc.net.au/news/2018-03-06/diver-in-rubbish-off-indonesia/9508716>

## It's not just us.....

When plastic is floating in the ocean it is exposed to sunlight. Plastics are photo-degradable, this means that it will break down in sunlight. Plastic doesn't rot like food unfortunately, it just breaks down into smaller and smaller pieces, these are eaten by birds, fish and other sea life.

It is estimated that 90% of sea birds have eaten plastic, as it fills up their stomachs they die of starvation. Scientists in Manuawatu are finding more and more sea birds with plastic in their stomachs!



Photo retrieved from <https://ocean.si.edu/ocean-life/seabirds/laysan-albatrosses-plastic-problem>

If you look closely you can see that there are bottle caps in this bird's stomach. Would you throw away (the lid) of your reusable bottle? Probably not. Just imagine if everyone would start using reusable bottles....

<https://www.stuff.co.nz/national/102133405/sea-week-too-much-plastic-littering-manawatu-coastline-and-killing-our-birds>

When plastics become really small they become micro-plastics. Some micro-plastics act like little sponges for other chemicals floating in (and on the way to) the ocean making them super toxic. These can then be eaten by sea animals and cause a build-up of toxic materials in their bodies. The bigger the fish, the more toxins in their bodies. The poisons have now entered the food chain and onto our plates.

All these small bits of plastic together make a big, toxic plastic soup in the world's oceans, even in New Zealand.

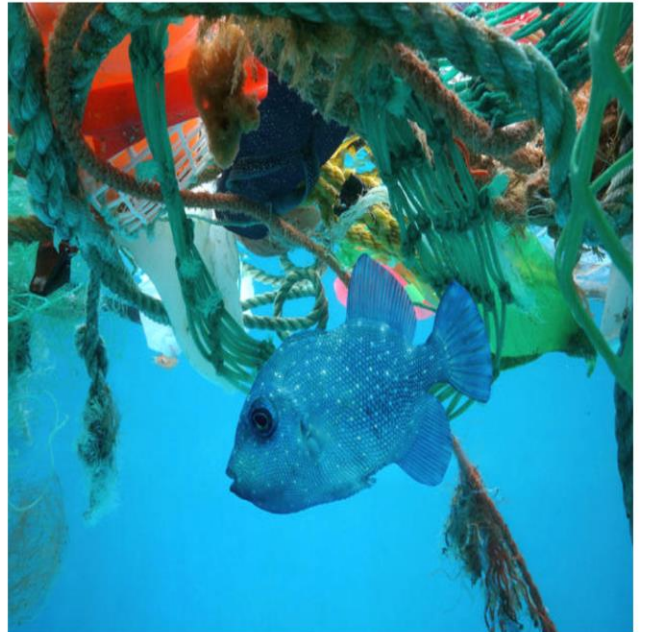
<https://www.stuff.co.nz/environment/101758004/waka-conducting-plastic-trawls-finds-higher-concentrations-around-harbours?rm=m>

### Where does it all come from?

80% of plastics in the ocean comes from land where it is dumped by industry and people. About 20% of all plastics in the ocean comes from fisheries.

Photo retrieved from:

<https://www.nrdc.org/stories/ocean-pollution-dirty-facts>



The equivalent of one truck of plastic is dumped into the ocean EVERY MINUTE! This happens across the whole world.

<https://www.greenpeace.org/international/story/15882/every-minute-of-every-day-the-equivalent-of-one-truckload-of-plastic-enters-the-sea/>

A huge amount of plastic (about 20%) comes from the fishing industry. Marine debris like old fishing nets, buoys and line make up about one fifth of all other plastic in the ocean.

### What can WE do about it?

All change starts at home and if we consider that 80% of all plastics in the ocean comes from the land, we must take responsibility for it.

- I. We can start by reducing the use of 'single use plastics'. These are plastics that are made to be used once such as, plastic water bottles, straws, plastic bags, glad-wrap, coffee/milkshake cups and lids and

things like pie wrappers. Alternatives to these are drinking with your mouth (no straws needed), bringing your own reusable water bottle, always carrying a bag with you and if you're really organised you can bring your own cup.

In the USA alone people use 500 million straws every day! If everybody would refuse a straw, how many would be used then?

- II. Make sure you NEVER litter! Most of us don't mean to litter but sometimes things can fly out of your hands. Good news is, if you are not using single use plastics you are far less likely to litter.
- III. When you are fishing, try not to cut the line if you don't need to and if you do have to cut it, do it close to the fish so that no extra plastic gets into the water. Make sure you use compostable bait (check the packet if it's protein soft bait or plastic ones, protein ones are edible) and if you have any bait bags and extra fishing line put them safely in the bin! Also if you can't find a bin, hold on to your rubbish until you have found one.
- IV. Pick it up when you see it! When walking down the beach (or road) pick up litter that you see, organise a clean-up, every little helps! Also if you can't find a bin, hold on to your rubbish until you have found one.

### **For More information:**

How much plastic is in the ocean (It's ok to be smart)

<https://www.youtube.com/watch?v=YFZS3Vh4IfI&t=100>

All the way to the sea: James and Isaac discover on what happens when you litter and what you can do about it.

<https://www.youtube.com/watch?v=sZW2ByM623g>

## **Awesome ocean saving things that kids have achieved!**



16 year old boy invents ocean cleaning machine:  
<https://www.youtube.com/watch?v=qQQffhWdihs>



Balinese girls start campaign to ban plastic bags:  
[https://www.ted.com/talks/melati\\_and\\_isabel\\_wijesen\\_our\\_campaign\\_to\\_ban\\_plastic\\_bags\\_in\\_bali?language=en](https://www.ted.com/talks/melati_and_isabel_wijesen_our_campaign_to_ban_plastic_bags_in_bali?language=en)

Kid starts no straw movement  
[https://www.nzherald.co.nz/nz/news/article.cfm?c\\_id=1&objectid=12116350](https://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=12116350)

Kids take action against Styrofoam Hawaii  
<https://www.youtube.com/watch?v=hKFV9IquMXA> (4.21 mins.)

Interesting sites full of information:

<https://www.plasticsoupfoundation.org/en/>

THIS YEAR OVER  
**9 MILLION TONNES**  
OF PLASTIC<sup>1</sup>  
WILL ENTER THE WORLD'S OCEANS

# PLASTIC DOES NOT GO AWAY

WE MUST ACT NOW



THE RATE WE ARE  
POLLUTING THE  
OUR OCEAN  
DOUBLES



EVERY 11 YEARS<sup>2</sup> of plastic each year of which



**192 BILLION**  
PIECES OF PLASTIC  
in Australia's marine environment<sup>2</sup>  
including (every year):

**180 MILLION**  
PLASTIC BAGS

**420 MILLION**  
PLASTIC BOTTLES

**200 MILLION**  
OTHER PIECES  
OF PLASTIC  
PACKAGING

**TRILLIONS OF**  
MICROPLASTIC  
BEADS & FIBRES

**PLASTIC DOESN'T  
DECOMPOSE**

IT JUST  
GETS SMALLER

Over time a single plastic bottle  
can break up into over  
**10,000 PIECES**  
OF MICROPLASTIC

Microplastics act as a toxic sponge.  
Studies show that it can be  
**1 MILLION TIMES MORE TOXIC**  
than the water around it<sup>3</sup>

This creates serious concerns  
regarding the potential  
contamination of our seafood.

**52%**  
of all  
SEA TURTLES<sup>4</sup>

**100%**  
of all  
CORAL REEFS<sup>5</sup>

**96%**  
OF ALL  
BIODIVERSITY  
potentially ingests plastics<sup>6</sup>  
including

**90%**  
of all  
SEA BIRDS<sup>7</sup>

The animals most  
vulnerable to the  
toxic effects of plastic  
contamination are those  
at the very top of the food  
chain – **US!**<sup>8</sup>

Join the campaign to  
**STOP MARINE PLASTIC POLLUTION**  
[www.boomerangalliance.org.au/plastic\\_pollution](http://www.boomerangalliance.org.au/plastic_pollution)

THE FIRST 4 STEPS  
WILL ELIMINATE OVER

**70%**

of marine plastic pollution  
**BEFORE** it enters our oceans:

- 1 Introduce a container deposit system to eliminate beverage rubbish
- 2 Ban all single-use plastic bags
- 3 Remove microbeads from personal care & laundry products
- 4 Ensure plastic producers & recyclers capture microplastics on their premises

## INFORMATION SOURCES

- 1 University of Georgia
- 2 CSIRO
- 3 Algalita Marine Research Foundation
- 4 University of Queensland
- 5 ARC Centre of Excellence for Coral Reef Studies
- 6 Sydney Institute of Marine Science
- 7 Australian Marine Conservation Society
- 8 Catalyst, ABC TV

For more information see our slideshow about marine plastic pollution and/or our submission to the Senate Inquiry into the Threat of marine plastic pollution in Australia: [http://www.boomerangalliance.org.au/plastic\\_pollution\\_resources](http://www.boomerangalliance.org.au/plastic_pollution_resources)

