



# How does plastic impact aquatic wildlife and human health?

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## What is 'plastic pollution' wildlife?

- Plastic pollution is the waste littering our oceans which is threatening the lives of millions of marine animals. Seals, whales, dolphins, seabirds, fish, crabs and many other sea animals are dying and becoming sick because of this deadly environmental concern. Microplastics are a major part of the issue.



# What impact does plastic have on aquatic wildlife?

- Fish, seabirds, sea turtle and marine animals can get tangled and caught in the plastic and waste and even ingest the small micro plastics. Deaths are caused by the ingestion of plastics, starvation, suffocation, infection, drowning and entanglement
- Plastic pollution affects at least 267 species worldwide including 84% of sea turtle species, 44% of all seabird species and 43% of all marine mammal species – but there are probably many more.



# Where does the plastic that affects aquatic wildlife come from?

- The most visible and disturbing impacts waste has on the marine life is starvation and suffocation. Marine life such as seabirds, whales, turtles and fish mistake plastic as food and for that reason die from either suffocation or starvation as the stomach gets filled with lots of plastic
- The plastic that affects aquatic wildlife comes from human waste. In fact, the top six countries for ocean garbage are China, Indonesia, the Philippines, Vietnam, Sri Lanka and Thailand, according to a 2015 study in the journal Science
- Because plastic has been around only since the 1950s, there's no way of knowing exactly how long it will last in the ocean. The trash in the ocean could be around for a very long time. Most plastics don't biodegrade, so the plastic waste humans have generated could be with us for hundreds or even thousands of years.



# Where does the plastic that affects aquatic wildlife come from?

- Every year, an estimated 8 million to 12 million metric tons of plastics enter the ocean on top of the estimated 150 million metric tons already in our marine environments, according to the Ocean Conservancy
- Unlike some other kinds of waste, plastic doesn't decompose. That means plastic can stick around indefinitely. Some plastics float once they enter the ocean, though not all do. As the plastic is tossed around, much of it breaks into tiny pieces, called microplastics
- Two kinds of microplastics pollute our oceans. The first type is tiny manufactured plastics they are called 'nurdles'. Manufactured microplastics are tiny microbeads used in products like facial and body scrubs, toothpastes and washing powders
- The second type of microplastic comes from larger plastics breaking down. When plastic bags, bottles and straws break down they keep getting smaller until they can't be seen, but they stay in the system forever.



## How much of an impact on wildlife are we really talking about?

- Since the rise of human civilisation 83% of wild mammals have been lost
- From tiny corals to majestic whales, more than 700 marine species are known to be killed either by the ingestion of plastic or entanglement - resulting in more than 100 million animal deaths a year, that we know of. Right now there are more than 51 trillion pieces of plastic in the ocean
- Trash Travels estimates that plastic bags can take 20 years to decompose, plastic bottles up to 450 years, and fishing line, 600 years; but in fact, no one really knows how long plastics will remain in the ocean.





**When plastics affect aquatic wildlife, there can be a follow-on effect for humans. What does this involve?**

- Humans ingest contaminated food
- Polluted water systems
- Very few of the chemicals known to easily migrate from plastic have been tested for their toxicity to humans.
- Severe health outcomes – Carcinogens (cancer)
- Invisible plastic has been identified in tap water, beer, salt and are present in all samples collected in the world's oceans, including the Arctic
- Plastic, which is a petroleum product, also contributes to global warming. If plastic waste is incinerated, it releases carbon dioxide into the atmosphere, thereby increasing carbon emissions.

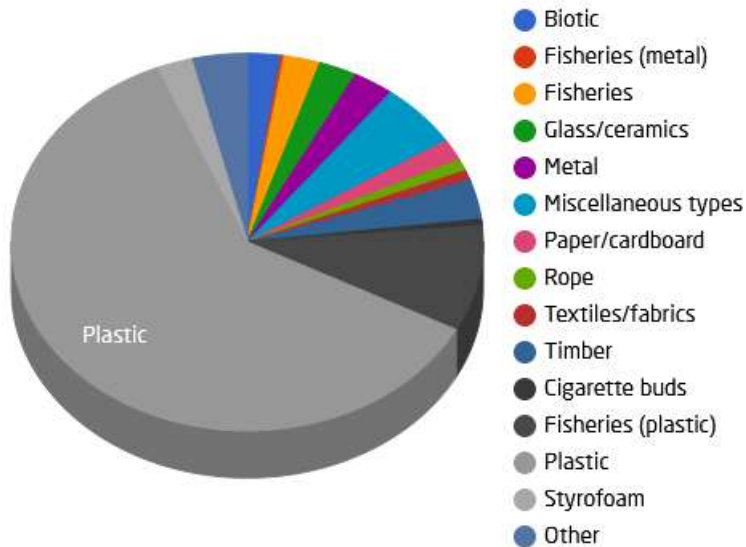


## Examples of the impact plastics have on aquatic wildlife?

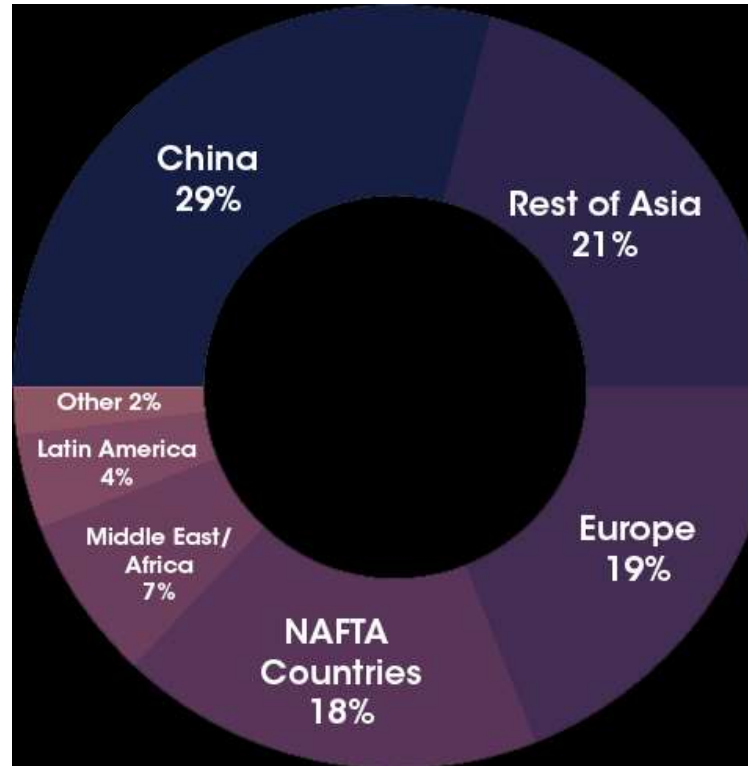
- Marine wildlife such as seabirds, whales, fish and turtles, mistake plastic waste for prey, and most die of starvation as their stomachs are filled with plastic debris
- Over 1 million marine animals (including mammals, fish, sharks, turtles, and birds) are killed each year due to plastic debris in the ocean. Currently, it is estimated that there are 100 million tons of plastic in oceans around the world
- Marine plastic pollution has effected over 267 species worldwide as a result of ingestion, starvation, suffocation, infection, drowning, and entanglement. The evidence of the plastic's impact on marine life is ever mounting: It is expected that there will soon be more plastic in our oceans than fish.



## Global composition of marine litter

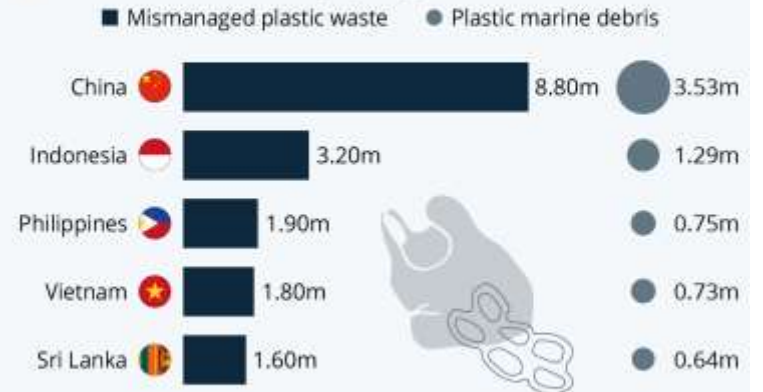


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## The Countries Polluting The Oceans The Most

Annual metric tons of mismanaged plastic waste and total amount ending up in global waters\*



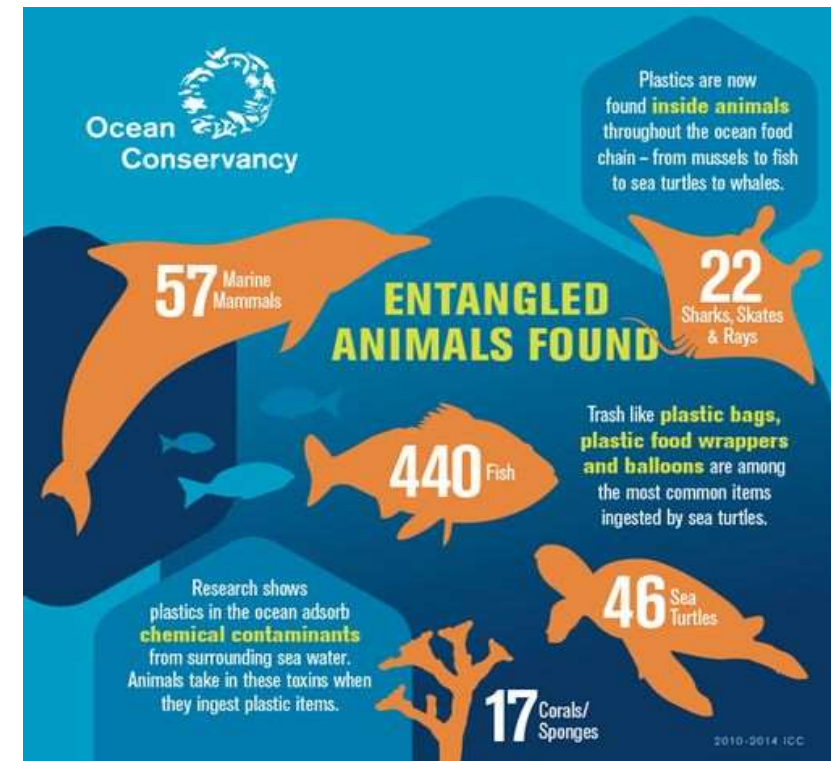
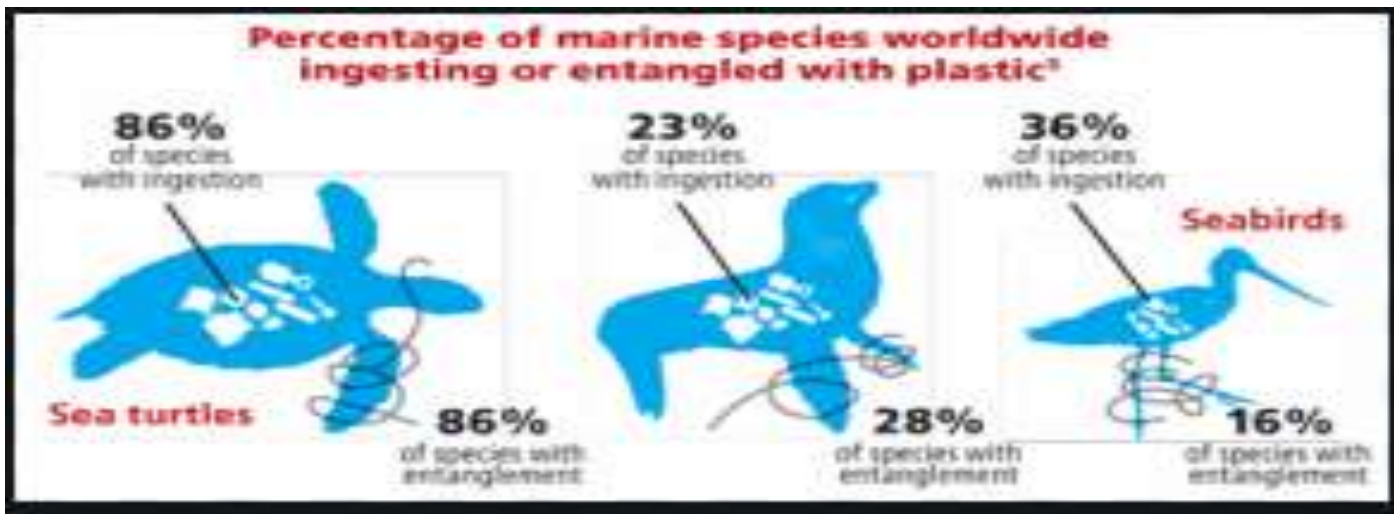
\* Generated in 2010 (selected countries)  
Source: The Wall Street Journal



statista

**A graph on the effects of plastic on aquatic wildlife, and analyse what the graph is showing?**

- High-income countries, including most of Europe, North America, Australia, New Zealand, Japan and South Korea have very effective waste management infrastructure and systems; this means discarded plastic waste is stored in secure, closed landfills
- Across many low-to-middle-income countries, inadequately disposed waste can be high; across many countries in South Asia and Sub-Saharan Africa, between 80-90 percent of plastic waste is inadequately disposed of, and therefore at risk of polluting rivers and oceans. This is strongly reflected in the global distribution of mismanaged waste and inputs from river systems.



**A graph on the effects of plastic on aquatic wildlife, and analyse what the graph is showing?**

- Plastics pollution has a direct and deadly effect on wildlife. Thousands of seabirds and sea turtles, seals and other marine mammals are killed each year after ingesting plastic or getting entangled in it
- Thousands of animals, from small finches to blue whales, die grisly deaths from eating and getting caught in plastic
- Endangered wildlife like Hawaiian monk seals and Pacific loggerhead sea turtles are among nearly 700 species that eat and get caught in plastic litter.

## On a personal level, what can you do about the plastics that continue to impact aquatic wildlife and human health?



- June 8th is World Ocean Day look around you right now: how much plastic do you see?
- Reduce plastic use. Help stop plastic pollution encourage family and friends to do the same.
- Plastic water bottles. Use a reusable water bottle and filtered water if necessary.
- Plastic bags. People use nearly 1 trillion plastic bags each year, and unfortunately, many of those end up ingested by sea turtles that mistake plastic for jellyfish. Remember to bring a reusable bag for food (including vegetables) and other shopping and save a life!
- Straws, cups to-go, food containers, and utensils. Bring your own reusable products like mugs when you get coffee and take a pass on the plastic utensils when you get take away food.
- Be aware of packaging. Pay attention to how much plastic comes with what you buy like lollies, headphones, pens, etc., all come in plastic packaging.
- An Hour for the Ocean – spend one hour at your local beach cleaning up trash to help your local wildlife!

# Interesting Facts

- Every human being in the developed world has traces of plastic constituents in his or her blood
- No-one in their daily life within a period of 10 minutes isn't touching something that is made of plastic
- Even in Australia, you can tell how far away you are from a city by how much plastic is on the beach and in the water near the beach
- Plastic is now a part of the ocean, and we don't yet know the full impacts of this toxic ecosystem we have created
- Only 10% of Australians take their plastic bags for recycling
- It costs the Australian government in excess of \$4 million to clean up plastic bag litter each year
- If each Australian family used 1 less plastic bag each week that would be 253 million bags less a year
- The #1 man made thing that sailors see in our ocean are plastic bags
- It takes just 4 family shopping trips to accumulate 60 plastic shopping bags

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