

# Water pollution

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*“Thousands have lived without love, not one without water.” — W. H. Auden*

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Active citizenship- Water Pollution

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## Introduction

Amid the current pandemic, life has we know it has paused. We are at home most if not all the time, shops are closed, and planes and cars are not moving. However, one thing that has not stopped is not just the hospitals and key workers, but something much more simple- WATER.

For billions of years, this liquid which has been crucial for the survival of plants, animals, birds, fish and us, has gone around a continuous cycle that allows life to thrive and our oceans to be filled. We drink it, clean with it, swim in it: but we, as humans, are also abusing it.

## The Issue

### What is happening

- Every year, at least 6 million tonnes of plastic enter our oceans; this cannot even be measured properly as there is so much.
- According to WWF, it takes more than 20,000 litres of water to produce just 1 kilogram of cotton, which is the most used material in the textile industry.
- Every year 1.3 million gallons of petroleum is spilled into US waters alone from vessels and pipelines.

- The top water wasting countries are:
- **China:** 362 trillion gallons/year.
- United States: 216 trillion gallons/year.
- Brazil: 95 trillion gallons/year.
- Russia: 71 trillion gallons/year.
- Mexico: 53 trillion gallons/year.
- India: 30 trillion gallons/year.
- England: 20 trillion gallons/year.
- France: 20 trillion gallons/year.

## Why ?

You may be wondering- why is this happening? These are three of the causes of water pollution I will be writing about. Plastic, cotton production, and oil spills/exploitation. And now I will discuss them in further detail.

### Plastic



Plastic is one of the most popular man-made materials. We use it a lot because it is cheap and durable. This should be a reason to reuse it, however many things made of plastic just cannot be used more than once. Like that thin plastic covering when you open your multipack of baked beans, or those plastic bags you get in the supermarket that unexpectedly create holes that cause your tomato sauce you made in food tech to leak on the tram (not that I'm talking from experience). So, we throw it away. As it is transported to the landfill, because of its light weight, it can be blown away and end up clogging drains or entering rivers and oceans. These eventually form clumps of plastics

There are several garbage dumps in our oceans. they carry millions of pieces of plastics and many of them contain toxic chemicals. Sediments from dredging and mining make sea water cloudy. This prevents sunlight to reach the marine plants on the sea bed which prevents them from growing.



[HTTPS://PHYS.ORG/NEWS/2018-03-PACIFIC-PLASTIC-DUMP-LARGER.HTML](https://phys.org/news/2018-03-pacific-plastic-dump-larger.html)

### Cotton

- Is the most used material in the textile industry. Although cotton is a natural material, doesn't mean its good for the environment. According to WWF, it takes more than 20,000 litres of water to produce just 1 kilogram of cotton. This water cannot be put back in the ocean. And with the constant demand for fast fashion so we can keep up with the latest trends, factories are being built to produce cotton. Cotton also uses fertilizers

that are detrimental to the environment, running off into freshwater habituates and groundwater and causing oxygen-free dead zones in water bodies.

## Marine Oil Spills

- Oil spills are the release of the liquid petroleum hydrocarbon into the oceans and marine ecosystems. We use petroleum for heating, transportation fuel, feedstocks, and many more things so it is 'essential'. Oil spills are a form of pollution. They happen when there is failure of the oil drilling machinery like a leak and can be done on purpose or accident by human error. Oil is the most dangerous form of marine pollutant. Its effects are not only the most harmful but are also permanent.



[HTTPS://WWW.CHEMISTRYWORLD.COM/FEATURES/OIL-SPILL-CLEANUP/3008990.ARTICLE](https://www.chemistryworld.com/features/oil-spill-cleanup/3008990.article)

## Consequences

I will now give a few examples of how these 3 components have affected our waters. But please be aware that these aren't the only ones.

### 1. Fish and marine life

Plastic particles that have been broken down when plastic ends up in our oceans are tiny enough to be eaten by plankton. Due to the food chain these plankton are eaten by fish and the particles can end up in their brains. This is obviously extremely toxic and can kill them or eaten by us which in turn means that we are digesting the plastic too. As well as this, bigger chunks of plastic are equally if not worse for marine life. When plastic debris is discarded into the oceans, sea animals can get stuck and tangled in it. This either seriously injures them or even kills them.

When exposed to oil, adult fish may experience reduced growth, enlarged livers, changes in heart and respiration rates, fin erosion, and reproduction impairment

### 2. Plants in the oceans

Additionally, pollution of waters can cause deadly outbreaks of plants that release toxic chemicals.

Half of the great barrier reef (which is the largest coral reef in the world) has been bleached and killed due to this pollution. This not only affects the plants, but the once vibrant wildlife and ecosystems that live there



### 3. Seabirds

Seabirds are the main victims of oil entering our oceans, the oil sticks to their wings, making them flightless.

4. Oil on the oceans

Since oil is of a lesser density than water, it rests on the surface and forms a thick impermeable membrane. This prevents sunlight from entering the oceans so consequently plants that need to photosynthesise can't live for much longer. Additionally, sea animals that require oxygen like dolphins won't be able to reach the surface of the water without being killed.

5. Cotton's damage

When factories release toxic substances into rivers, they are basically making water sources to the nearby villagers unusable and disgusting. A Stacey Dooley documentary shows a village under these circumstances and kids washing in the toxic waters as there is nowhere else they can.

6. Water running out

The Aral Sea has been exploited by things like the cotton industry so much that it has 'disappeared'. Water was channelled away from the vast inland sea for Uzbek cotton farms. This once beautiful place where families would ride on their boats on happy days out is now an isolated empty space. This lack of water also makes the area much warmer as there isn't as much water to absorb the sunlight. It has had a horrible effect on the people.

[HTTPS://WWW.DAILYMAIL.CO.UK/SCIENCETECH/ARTICLE-5820825/HAUNTING-IMAGES-REVEAL-DEMISE-ARAL-SEA-COTTON-FARMING-CLIMATE-CHANGE.HTML#:~:TEXT=UNESCO%20HAS%20BRANDED%20THE%20DEMISE,WHICH%20CONTINUES%20TO%20THRIVE%20TODAY.](https://www.dailymail.co.uk/sciencetech/article-5820825/haunting-images-reveal-demise-aral-sea-cotton-farming-climate-change.html#:~:text=UNESCO%20has%20branded%20the%20demise,which%20continues%20to%20thrive%20today.)



## The solution

### How do we fix this or prevent it getting worse?

I believe that to fix this problem and save our oceans, we must give clear instructions on what you can do as someone that doesn't have a lot of power but with changes can influence other people like friends and family to do the same, so here are some:

- Educate yourself more on the situation  
This will allow you to have a clearer idea of what is going on and motivate you to make a change.
- Find ways to reuse plastic that you have to buy before we find a fixed alternative

You can save plastic containers you get fruit in and use them to store belongings, sort out drawers. Ice cream containers can be used to store food in the fridge. These are just some ways you can reuse plastic. Keep plastic bags you use for shopping if they are still clean and double bag your shopping with them to prevent holes.

- Try to find alternatives to plastic as much as you can

You can use electric toothbrushes as they last much longer or bamboo ones. Items that are biodegradable mean that they won't last too long which is good for the oceans.

- Don't buy as many clothes

Buy only clothes that you truly like as you will use them much more. This will decrease the demand for fast fashion so less clothes need to be made from cotton. If possible try to steer away from cotton clothing, but if this isn't possible, just thinking before you snag a spend £50 get £5 off deal where you have bought an outfit you wouldn't ever wear could really make a difference. Finding a style you really like will mean you won't need to give in to trends as much as usual.

- Buy second-hand clothes and give old ones to the charity shop

This one may be one of the best ideas for you if you really love getting lots of clothes and can't think of stopping for some reason. You can find great deals at the charity shop and if you look well enough, will find something you love! This helps because it means you aren't letting clothes go to waste and encouraging retailers to make excessive amounts of it.

- Inform others

This is probably one of the most important things you can do. TELL OTHERS. SHARE STORIES OF THOSE SUFFERING. The only way we can make a real change is if we tell other people about it. Keeping thoughts to yourself about this won't make any difference. Most people aren't buying clothes from Primark with the intention of destroying another river or lake, they aren't evil, they just don't know. The more we talk about this, the more people will want to save our oceans! So spread the word and save our oceans.

- **DO NOT** pour fat from cooking or any other type of fat, oil, or grease down the sink. ...

- Support charities that help

The global water challenge specialises in helping people who don't have access to clean water. You can support by donating.

So, you've seen how many bad things have happened to our oceans, and all those affected by the damage done to it. Water is something we all need, so if we lose it, we lose our lives.

**“Water is the driving force of all nature.”**

## — Leonardo da Vinci