

OCEAN FACTS

# How Many Pounds of Trash in the Ocean?

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The issue of trash in the ocean has become a significant concern in recent years. With staggering estimates of there being 5.25 trillion pieces of plastic debris in the ocean, the impact on marine life and coastal environments is undeniable.



As scientists continue to study the problem, the extent and potential consequences of this pollution are becoming more apparent.

The Great Pacific Garbage Patch, a massive accumulation of marine debris primarily composed of plastics, spans across the North Pacific Ocean from the West Coast of North America to Japan.

In 2010, roughly 8 million metric tons of plastic entered the ocean, equivalent to the weight of nearly 90 aircraft carriers. This escalating presence of trash in the ocean not only threatens marine ecosystems but also affects human health and economies worldwide.

To effectively address the problem of ocean trash, a comprehensive understanding of the scope of the issue and collaborative efforts between governments, industries, and citizens on a global scale is essential.

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## Magnitude Of Issue

The problem of trash in the ocean has reached staggering levels, with an estimated 5.25 trillion pieces of plastic debris currently found in the world's oceans.

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This not only poses a significant threat to marine life and ecosystems but also raises concerns for human health and the economy.

A significant portion of this waste finds its way from land, through rivers, and eventually into the ocean. To put this into perspective, the amount of plastic waste generated in just one year equates to nearly 21 million school buses.

In terms of marine pollution, there are two primary types: chemical contamination (or nutrient pollution) and trash. Chemical contaminants typically result from human activities like agriculture, leading to the runoff of fertilizers and other chemicals into water bodies.

This form of pollution has far-reaching implications for public health, the environment, and the economy.



It is estimated that 14 billion pounds of plastics are dumped into the ocean each year, exacerbating the issue of marine debris. Furthermore, a significant portion of wastewater containing various pollutants contaminates groundwater after treatment.

In China, for example, 40% of the country's water supply is polluted to levels that render it unsafe for drinking, and half of the population relies on this tainted water for survival.

Efforts have been made to tackle the problem of ocean trash, such as The Ocean Cleanup's initiative, which has extracted over 1 million pounds (464,920 kg) of waste through their ocean and river programs combined as of the first quarter of 2021.

Nonetheless, there is still much work to be done to address this growing global issue.

## Sources Of Trash



Understanding the origins of this trash is crucial in order to develop effective strategies to prevent and mitigate its impact.

The main sources of trash in the oceans can be divided into two categories: land-based sources and marine-based sources.

## **Land-Based Sources**

Land-based sources of trash are responsible for approximately 80% of the waste found in the oceans.

This category includes a wide range of materials, such as plastic packaging, agricultural runoff, and industrial waste.

The main contributors to this problem are fast-growing economies with high rates of consumption, such as China, the Philippines, and Indonesia, which have been identified as the top sources of plastic waste entering the oceans.



According to a 2015 report, about 8 million tons of plastic waste enters the ocean each year. In the United States alone, people generated 262 million tons of solid waste in 2015, with around 13% of that being plastics.

Of this, over 14.5 million tons of plastic packaging and containers were disposed of as municipal solid waste in 2018.

Common land-based sources of ocean trash include:

- Littering on streets, parks, and beaches
- Stormwater runoff carrying trash into waterways
- Dumping of untreated sewage and industrial waste
- Agricultural practices causing chemical and solid waste pollution

## **Marine-Based Sources**

Marine-based sources, on the other hand, account for approximately 20% of the total trash found in the oceans.



These sources include trash from ships, offshore oil and gas platforms, and fishing vessels. Fishing gear, such as nets, ropes, and lines, contributes significantly to the marine-based waste.

These discarded items can cause harm to marine life through entanglement, ingestion, and habitat destruction.

Some statistics highlight the gravity of the situation. Up to and including the first quarter of 2021, The Ocean Cleanup project has extracted a total of 464,920 kgs (more than 1 million lbs) of trash from ocean and river cleanup programs combined.

Common marine-based sources of ocean trash include:

- Derelict fishing gear, including nets, buoys, and lines
- Marine litter caused by recreational boating activities
- Waste from cruise ships and cargo vessels
- Trash from offshore oil and gas platforms

## **Impact On Marine Ecosystems**

Ocean trash, particularly plastic debris, poses a significant threat to marine ecosystems.

The accumulation of plastic waste and its consequences on marine life, such as entanglement and ingestion, are concerning issues that need to be addressed.

## **Plastic Pollution**

According to scientists, about 5.25 trillion pieces of plastic debris are present in the ocean, with 269,000 tons floating on the surface and four billion plastic microfibers per square kilometer littering the deep sea.

These plastics come in various forms and sizes, contributing to a complex and growing problem for marine ecosystems.

## Entanglement

Entanglement in plastic debris is a serious threat to marine life, affecting a wide range of species such as sea turtles, seals, whales, and birds.

Marine animals can become trapped or entangled in debris like fishing nets, plastic bags, and other discarded items.

This can lead to restricted movement, injuries, and even death. Both larger debris and microplastics have been found to cause entanglement in various marine species.

## Ingestion

Another major issue related to ocean trash is the ingestion of plastic by marine organisms.

From tiny zooplankton to large whales, many marine animals ingest plastic debris either accidentally or because they mistake it for food.

This ingestion can have significant health consequences, including internal injuries, blockages in the digestive system, and malnutrition due to the consumption of indigestible materials.

Additionally, the chemicals found in many plastics can leach into the tissues of marine creatures and potentially enter the food chain, affecting both marine life and humans who consume seafood.

## Global Responses

### Cleanup Initiatives

Various organizations and industries have taken up the challenge of cleaning up the ocean trash.

One prominent example is The Ocean Cleanup, which has removed a total of 464,920 kgs (over 1 million lbs) of trash from oceans and rivers up until the first quarter of 2021. They plan to continue reporting their progress annually, aiming to make a significant impact on reducing marine pollution.

In a single-day campaign on September 15, 2018, more than 1 million people across 120 countries participated in the movement, picking up nearly 100 million plastic items weighing around 23 million pounds.

## Policies And Regulations

Recognizing the threat of plastic [pollution and marine litter](#), governments worldwide have started implementing policies and regulations to reduce the impact on marine ecosystems.

Bans on single-use plastics, such as plastic bags, straws, and cutlery, have been introduced in many countries to reduce the volume of plastic waste entering the oceans.

In addition to plastic bans, some governments are encouraging recycling and promoting circular economy models, aiming to reduce the amount of waste generated and subsequently disposed of in the oceans.

The United Nations has also acknowledged the issue of plastic pollution, with projections estimating a potential doubling of marine litter by 2030 if no action is taken. As a result, international collaboration is growing in order to tackle this pressing issue more effectively.

## Reducing Individual Footprints

As ocean pollution continues to pose a significant threat to marine life and ecosystems globally, it is imperative to combat this issue and reduce individual contributions to the problem.

### Recycling

One of the simplest and most effective ways to lessen the burden on the ocean is by recycling. Proper recycling of plastic waste can prevent it from reaching waterways, beaches, and ultimately the ocean. Individuals can do their part by:

- Consistently sorting waste and recycling plastics.
- Participating in local recycling programs.
- Staying informed about the types of plastics accepted by their local waste management facility.

By taking these actions, individuals can directly contribute to reducing the amount of plastic trash entering the ocean.

### Reducing Single-Use Items

- Choosing reusable shopping bags instead of single-use plastic bags.
- Opting for metal or paper straws instead of plastic ones.
- Switching to reusable water bottles and coffee cups instead of disposable options.

By taking these steps, individuals can make a conscious effort to reduce their plastic consumption and take responsibility for their impact on the environment.

## Conclusion

In summary, the issue of trash in the ocean has reached alarming levels, with over 5.25 trillion pieces of plastic debris found in the waters globally.

The massive amounts of waste have detrimental effects on marine life, ecosystems, and human health.

Recent studies have shown that the United States alone generated 262 million tons of solid waste in 2015, with 13% of that being plastics.

This immense generation of waste is contributing to the growing problem of ocean pollution, with examples such as the Great Pacific Garbage Patch highlighting the severity of the issue.

As of 2021, it is estimated that at least 363,762,732,605 pounds of plastic pollution exists within the world's oceans.

The presence of plastic waste has even reached the deepest parts of the ocean, [such as the Mariana Trench](#). Efforts have been made to remove some of this trash, with The Ocean Cleanup organization reporting a verified total catch of 235,505 kg (over 500,000 lbs) in 2020.

Addressing the challenge of ocean trash will require a coordinated global effort, and individuals, communities, and nations must come together to reduce waste generation, improve waste management, and implement innovative solutions to clean up existing pollution.

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