

# MICROPLASTICS IN THE ENVIRONMENT

---

BY: ISHAAN GOYAL

# Microplastics Problem

“328 billion particles, weighing approximately 811,870 kg in the Mississippi”

One study found that 12% of fish had consumed at least one microplastic particle

Another study found there to be 14 - 83 MPs/L



# What are microplastics?

---

Microplastics are plastics smaller than 5 mm

Form from the fragmentation of bigger plastic items



# Where they come from

---



## Primary Microplastics

Micro beads:

- Exfoliating/personal care products

Nurdles:

- Little plastic pellets
- Used in manufacturing
- Can easily spill

Clothing products:

- Microfibers
- One wash cycle sheds thousands of fibers

# Where they come from

---



## Secondary Microplastics

Plastic litter:

- Water bottles
- Plastic bags
- Containers

Broken down by the Sun, water, wind  
and washed away

# Threats to Wildlife

## DAMAGES SOIL

Earthworms, for example, make their burrows differently when microplastics are present

## TOXIC EFFECTS

Disrupts the hormonal system of many species, suppress diet

## DISEASE CARRIERS

Microplastics can carry disease causing organisms

# SOLUTIONS



- **Reduction**

Buying less plastic products like single use plastics and synthetic clothes

- **Water Treatment**

Removes 90% of microplastics in the water



- **Mass Education**

More responsible consumption of plastics and thoughtfulness when purchasing



- **Legislation**

That prohibits or limits the use of plastics and microplastics

# Sources

---

## What are Microplastics?

<https://oceanservice.noaa.gov/facts/microplastics.html#:~:text=Microplastics%20are%20small%20plastic%20pieces,our%20ocean%20and%20aquatic%20life.>

Microplastics in mainstem Mississippi River fishes <https://www.frontiersin.org/articles/10.3389/fenvs.2022.1065583/full>

## Microplastics in the Mississippi River and Mississippi Sound:

<https://www.frontiersin.org/articles/10.3389/fenvs.2022.1065583/full>

What Are Nurdles: <https://oceanblueproject.org/what-are-nurdles-why-you-need-to-worry-about-them/#:~:text=A%20nurdle%20is%20a%20small,damage%20is%20giant%20and%20immeasurable.>

Identification and Quantification of Microplastic Pollution...: [https://digitalcommons.lsu.edu/gradschool\\_theses/5184/](https://digitalcommons.lsu.edu/gradschool_theses/5184/)

Easy ways to reduce microplastic pollution & consumption...: <https://www.perchenergy.com/blog/lifestyle/reduce-microplastic-pollution-consumption>