

# Microplastics / Nanoplastics in the Environment

## Water and Soil

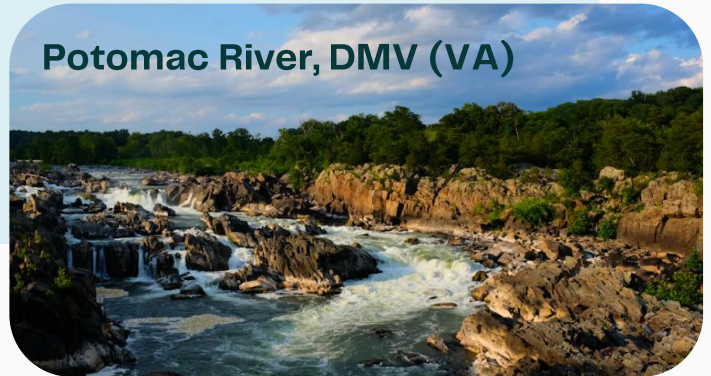


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### Water & Aquatic Ecosystems (US Rivers & Lakes)

- **Found in nearly every US river and lake samples**
- Highest levels near cities, wastewater plants
- Up to 90% of Great Lakes samples exceed safe wildlife thresholds
- Fish ingest microplastics in 85%+ of Great Lakes tributary cases
- Causes gut blockages, reduced feeding, growth stunting, and higher death rates
- Toxins hitchhike on particles → bioaccumulate in fish and predators
- Disrupts food webs: harms zooplankton, alters microbes, reduces reproduction
- **Contaminates US drinking water and seafood**

#### Potomac River, DMV (VA)



#### Microplastics / Nanoplastics Impact Crop Yields

Iowa



### Soil & Agriculture (US Farmlands)

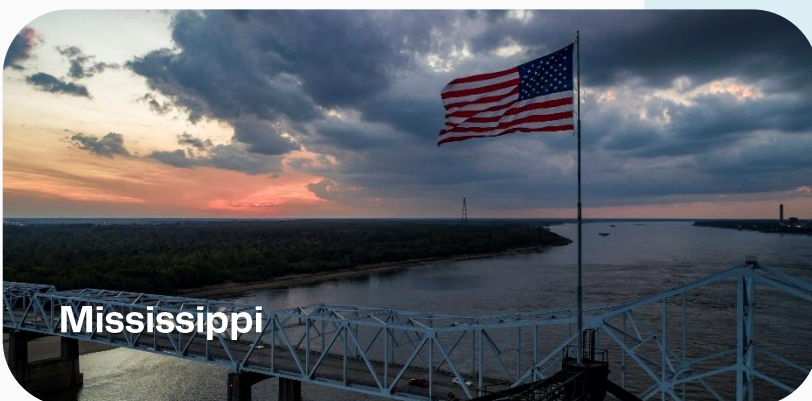
- US farms receive ~21,000 tons of microplastics yearly
- Plastic mulch films add 126 million pounds annually
- **Alters soil structure, water holding, and nutrient cycling**
- **Reduces root growth and crop nutrient uptake**
- Long-term use (30+ years) increases levels 10× and lowers soil fertility
- Harms earthworms and microbial diversity → poorer soil health
- **May decrease crop yields and contaminate fruits/vegetables**
- 107,000–730,000 tons enter soils ./ year

Michigan

Wyoming



Mississippi



California

