The Impacts of Plastic Pollution and the Power of Community Organizing

Watershed Committee of the Ozarks | April 3, 2026

stream teams united

SHOW-ME LESS PLASTIC

MISSOURI RIVER BIRD OBSERVATORY

stream teams united

MISSOURI RIVER BIRD OBSERVATORY

Missouri Foundation for Health

SHOW-ME LESS PLASTIC

Our 5 service areas include 84 counties and the city of St. Louis

WHERE WE WORK >

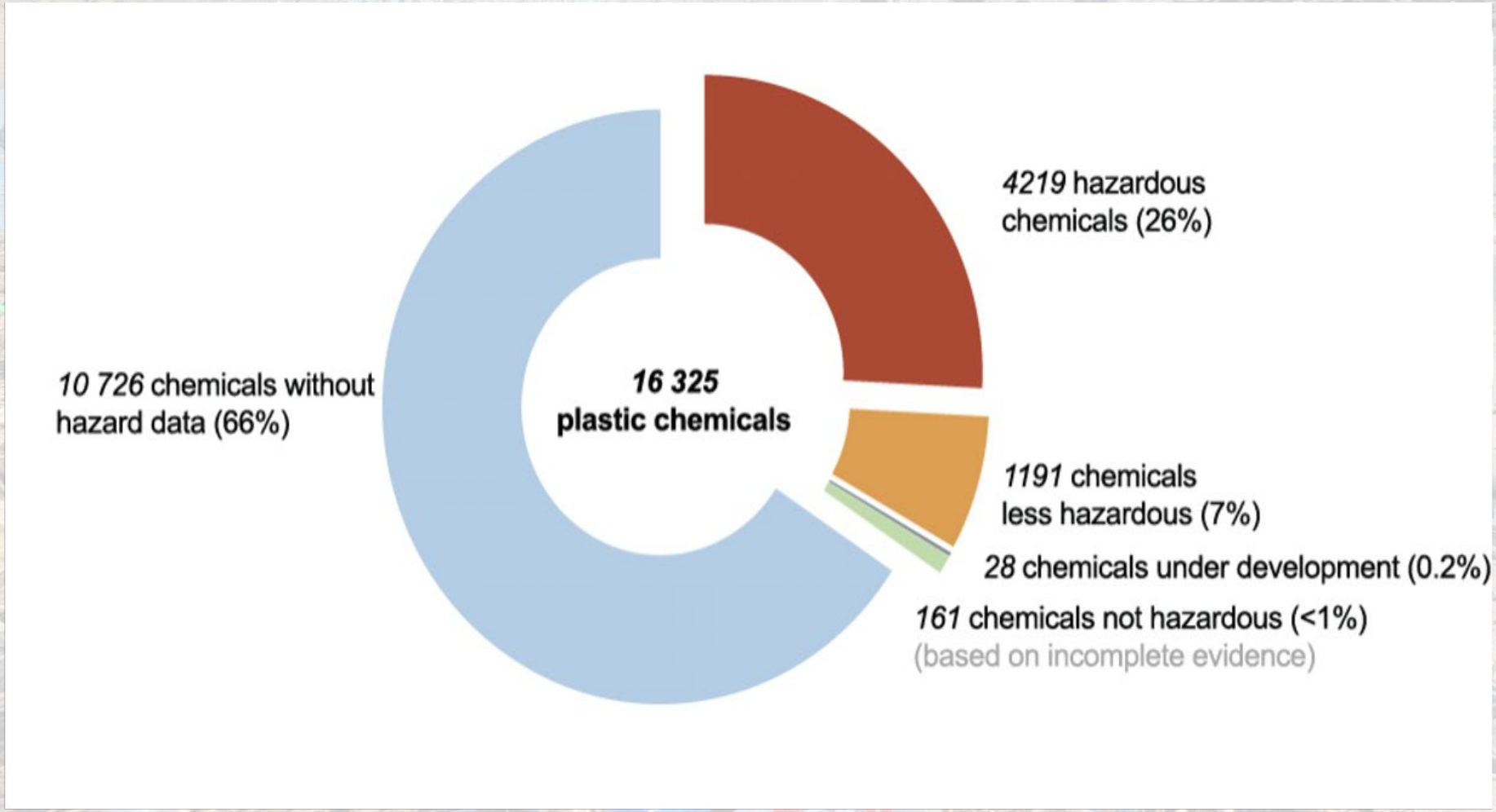
LOWA
WWW.LOWATERSHED.ORG

EARTH'S CLASSROOM
An Outdoor Education Center

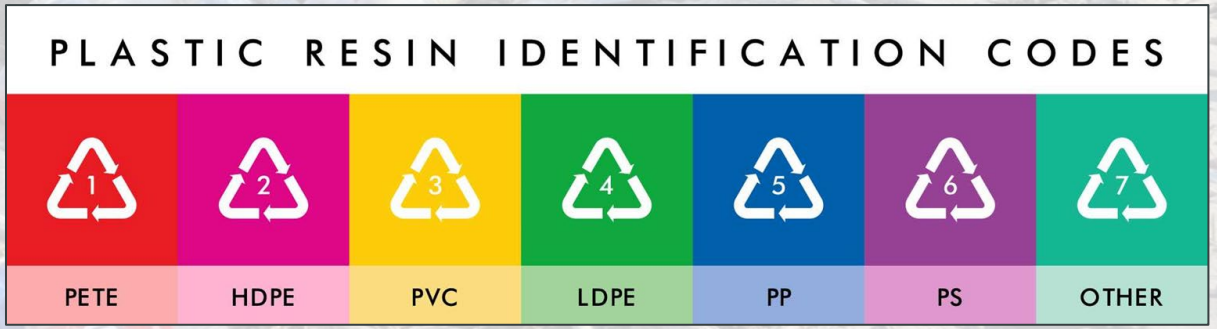
MISSOURI RIVER RELIEF

JAMES RIVER BASIN PARTNERSHIP

What is plastic?

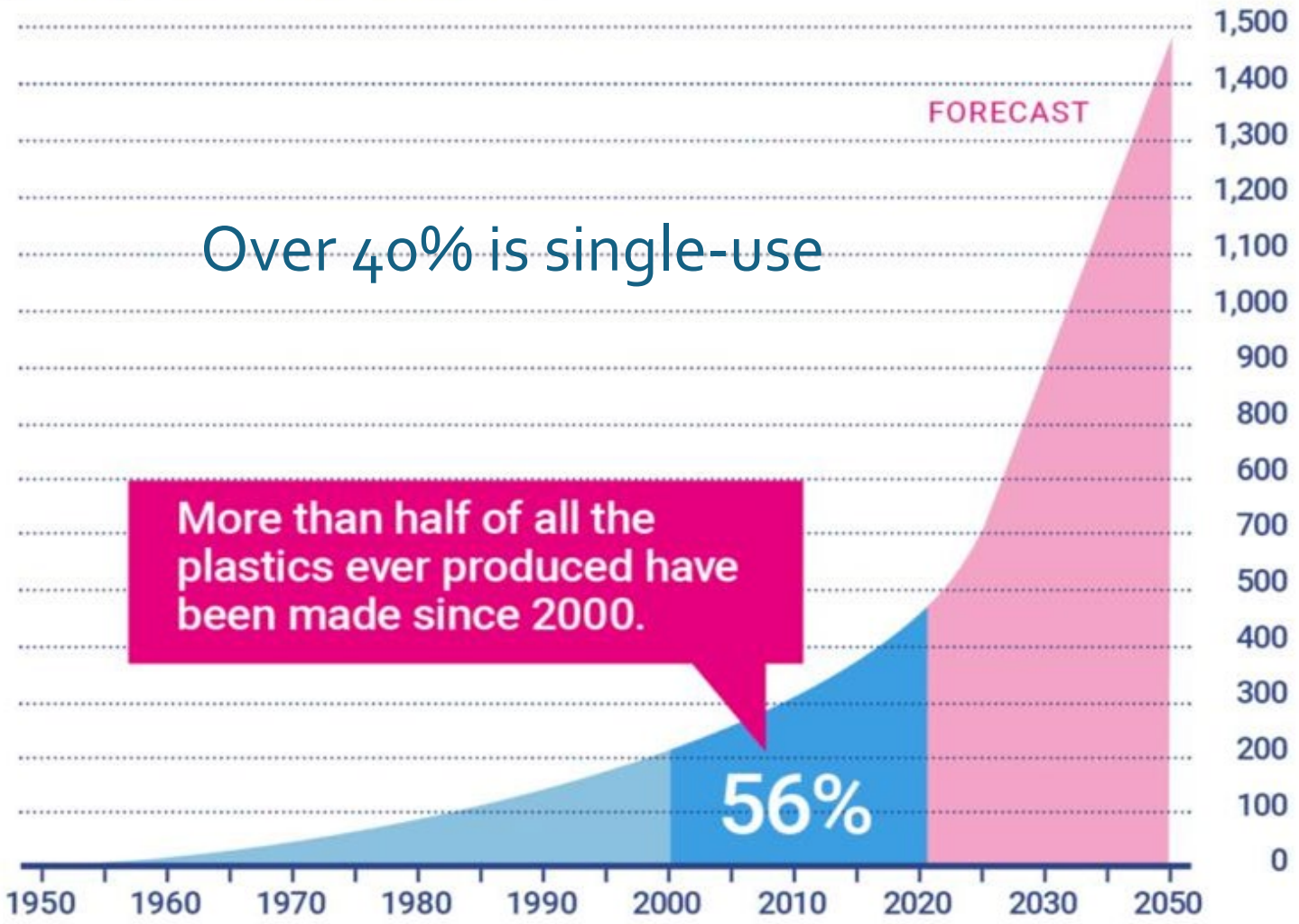


The History of Plastic



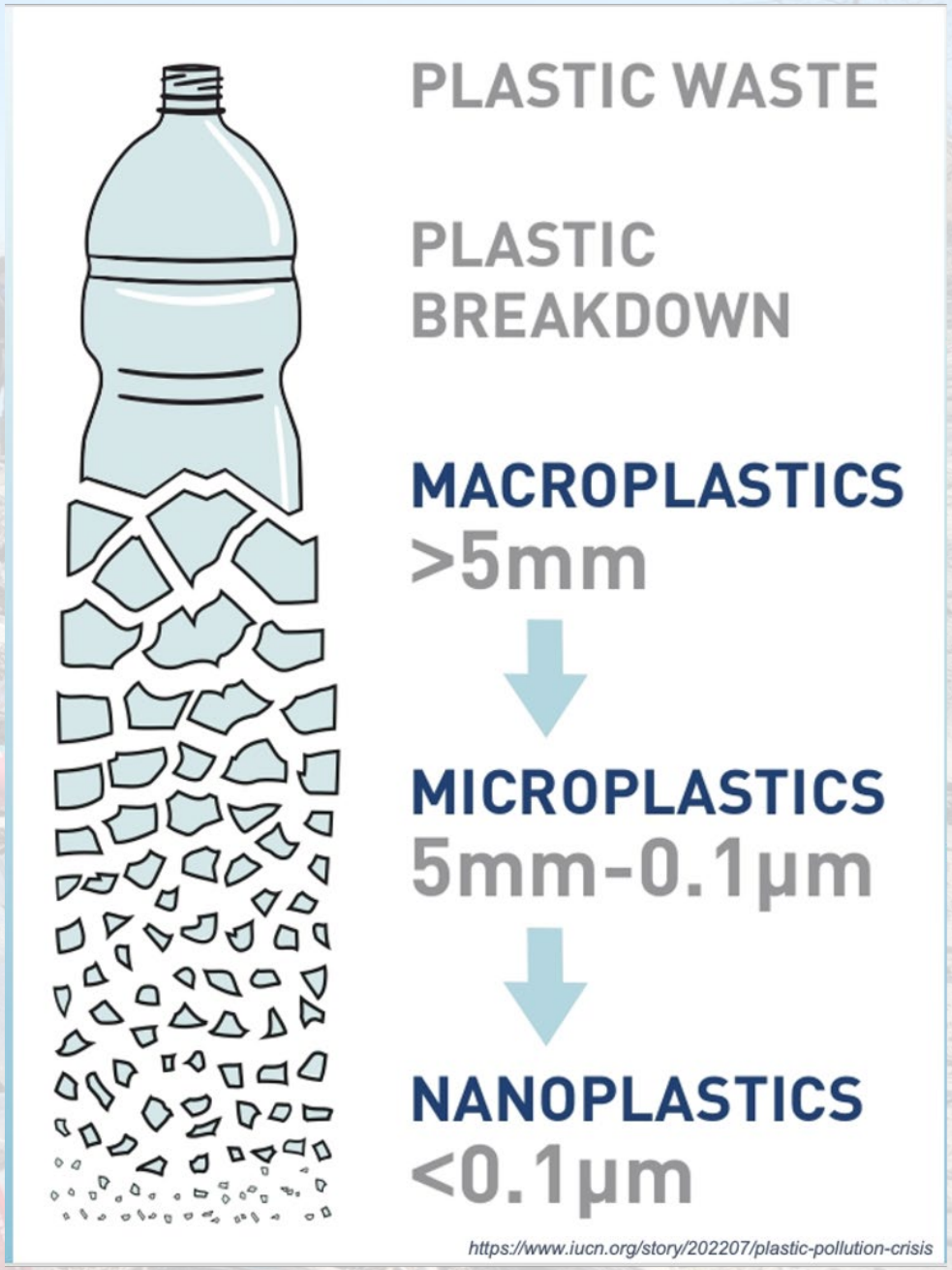
PRODUCTION OF PLASTIC

Global annual plastic production in million tonnes.



SOURCE: PLASTIC ATLAS, ASIA EDITION, 2021 | © PLASTI

Plastics Persist – they don't go away



THE RESULT?

Plastics are **everywhere** and **in everything**.

PLASTICS & NATURAL RESOURCES

FACT SHEET

QUICK FACTS

- Plastic pollutes at **all phases** of its life cycle and emits nearly **2 gigatons** of carbon dioxide equivalents per year.[1]
- Over **99%** of plastics are made from fossil fuels.[2]
- There are more than **16,000 chemicals** used in plastics manufacturing, many with unknown personal and environmental health impacts, and these chemicals are known to leach out of plastics and enter the environment.[1,3]
- Plastic production has increased from **2 million metric tons in 1950** to **460 million metric tons in 2019**.[1]
- Less than **10%** of all plastics produced have been recycled, and "chemical recycling" is even less effective and produces harmful fuels and chemicals.[1,4]
- Each year, over **22 million tons** of plastic waste enters the environment.[1]

PLASTICS ARE UBIQUITOUS

They have been found in...


SOIL, CROPS, AND LIVESTOCK


RIVERS AND LAKES

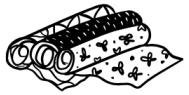

FISH AND WILDLIFE


FOOD AND DRINKING WATER


SINGLE-USE FOOD WARE


ROADWAYS


AIR


TEXTILE FABRICS

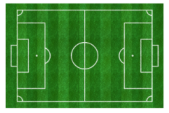
FERTILIZERS


TIRES


PAINTS


ROPE


COSMETICS


ARTIFICIAL TURF

THE HUMAN BODY

... and so much more[5-9]

PLASTICS & NATURAL RESOURCES

ECOSYSTEM IMPACTS

RIVERS & LAKES

- Plastics enter waterways and break into micro- and nanoplastic fragments, impacting aquatic plants and organisms, habitat, and water quality.[10]
- Plastic particles are transported, deposited, and resuspended by water movement.[10]

AIR

- Production and disposal of plastic products emit toxic chemicals into the air, including carcinogens.[1,12]
- Wind is a major pathway for distribution of airborne plastics, including micro- and nanoplastic particles, which are linked to negative human health impacts when inhaled.[6]

SOIL & AGRICULTURE

- Microplastics in agricultural soils influence nutrient availability, decrease seed germination, and inhibit plant growth and productivity.[5,11]
- High concentrations of microplastics in agricultural soils have shown to impair crop yields by up to 25%.[11]
- Large plastic items, such as bags and mulch film, can cause physical harm to livestock through ingestion or entanglement.[11]
- Smaller fragments, such as seed coatings and fragments from degraded plastics, may be ingested by livestock and cause damage to tissues and cells.[11]

FISH, BIRDS, & WILDLIFE

- Plastics accumulate in aquatic and terrestrial organisms and transfer up the food chain.[6]
- Essential biological functions are harmed by plastic pollution.[13]
- Ingestion can lead to obstructed digestion or lacerated intestines and can lead to nutritional deprivation and inflammatory responses.[6]
- Entanglement can cause drowning, choking, or physical injury.[13]

SOLUTIONS

Policy action and management strategies that shift the financial burden of plastic waste management from the consumers to the producers to hold producers accountable for the production of harmful plastics and associated plastic waste.

LEARN MORE

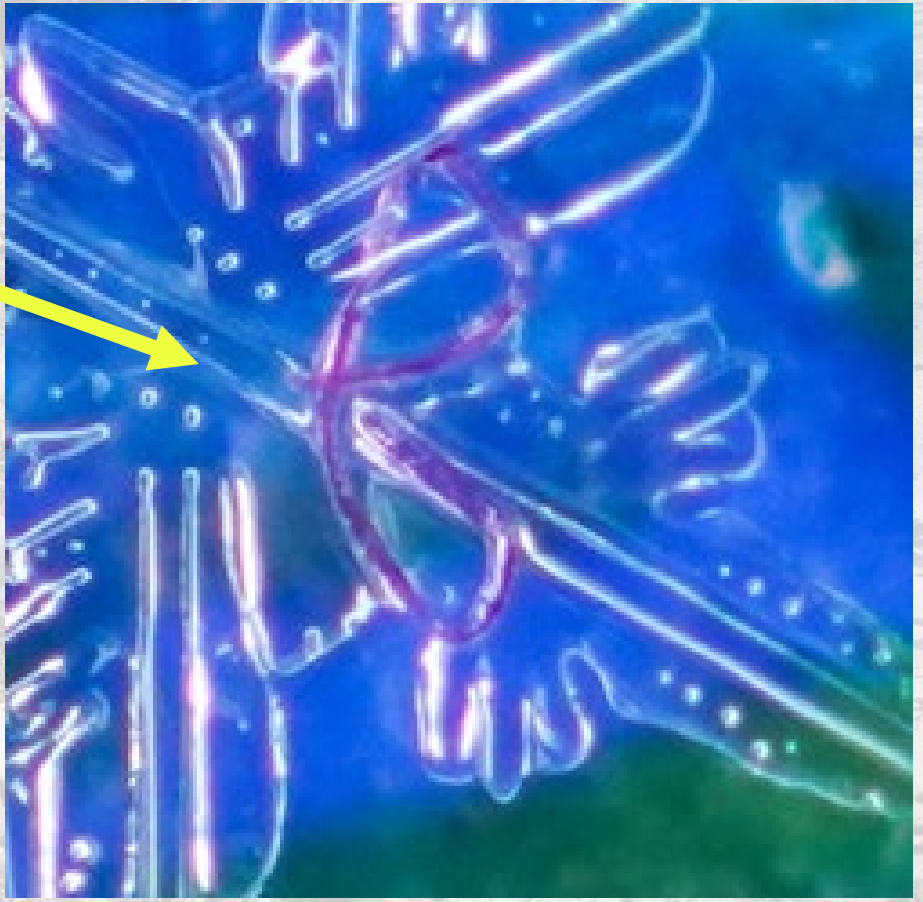
For more information about this project and to view the sources of this information, please visit:

www.streamteamsunited.org/show-me-less-plastic.html

573-337-4058

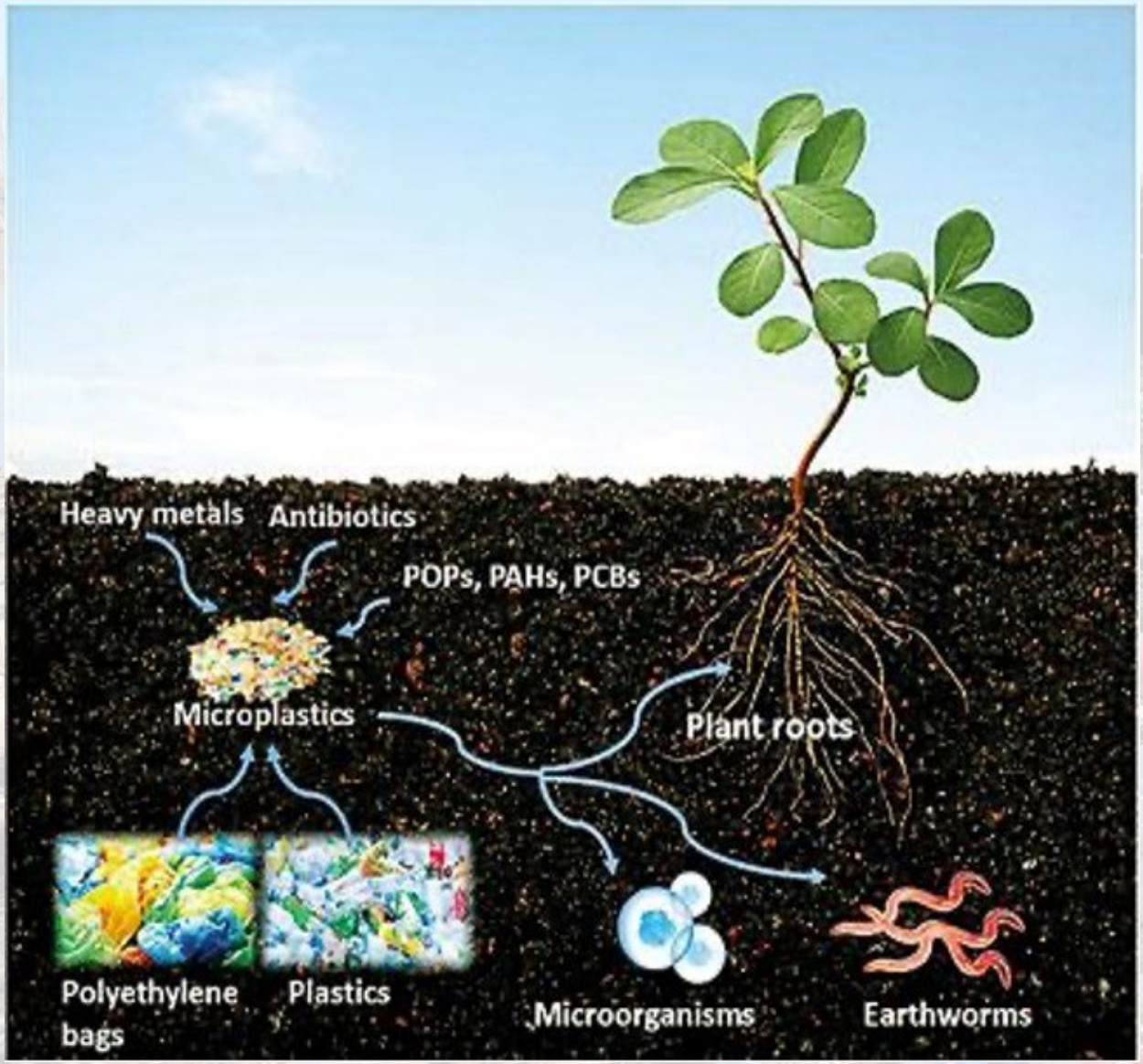
streamteamsunited@gmail.com

SHOW-ME LESS PLASTIC



Doug Wewer / DesertSnowPhotography.com


MICROPLASTICS FOUND
IN DRINKING WATER
SVALBARÐI



NOVEMBER 26, 2025

Microplastics disrupt gut microbiome and fermentation in farm animals, study reveals

by University of Helsinki

edited by Gaby Clark, reviewed by Robert Egan

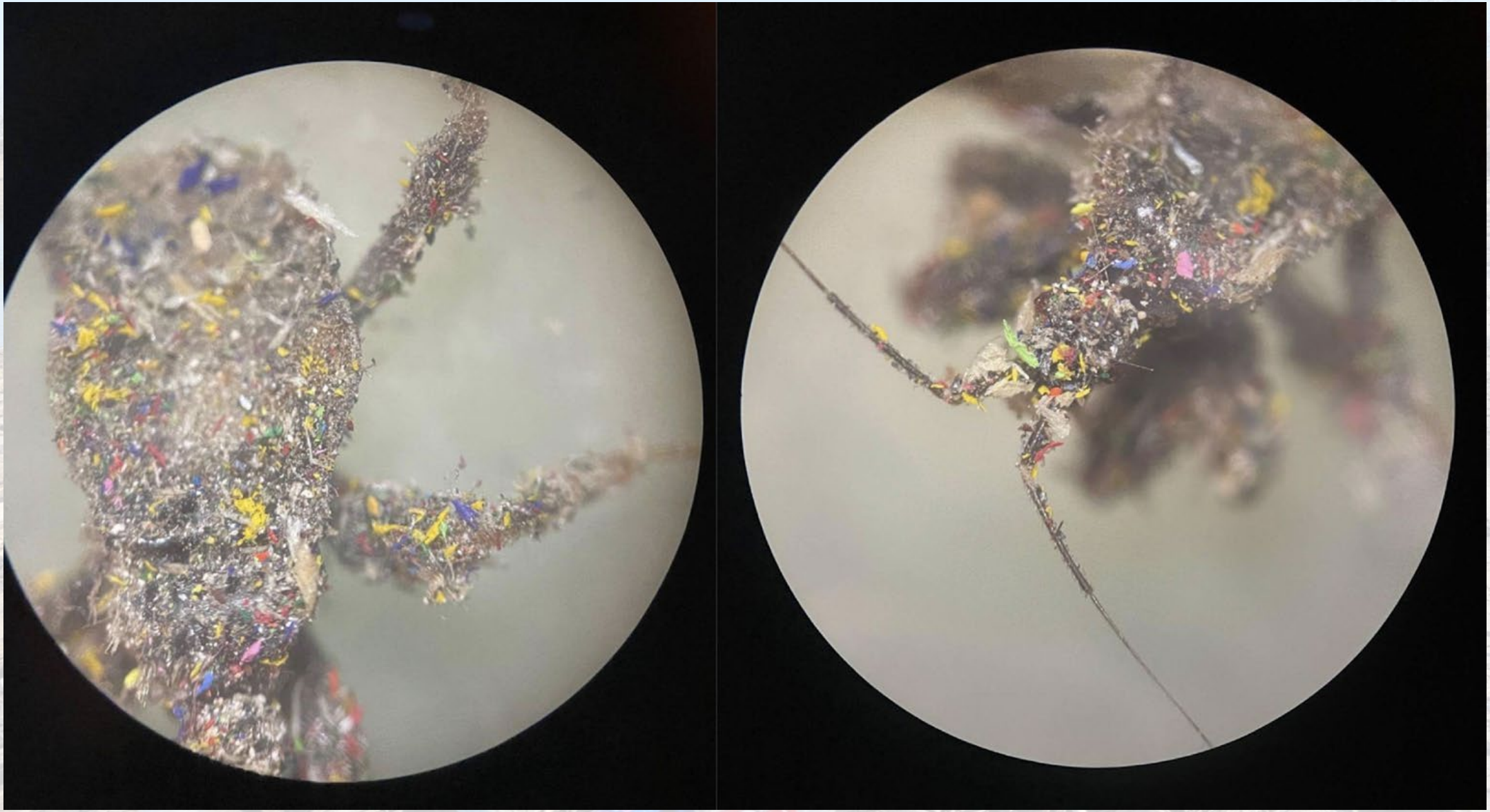
Editors' notes

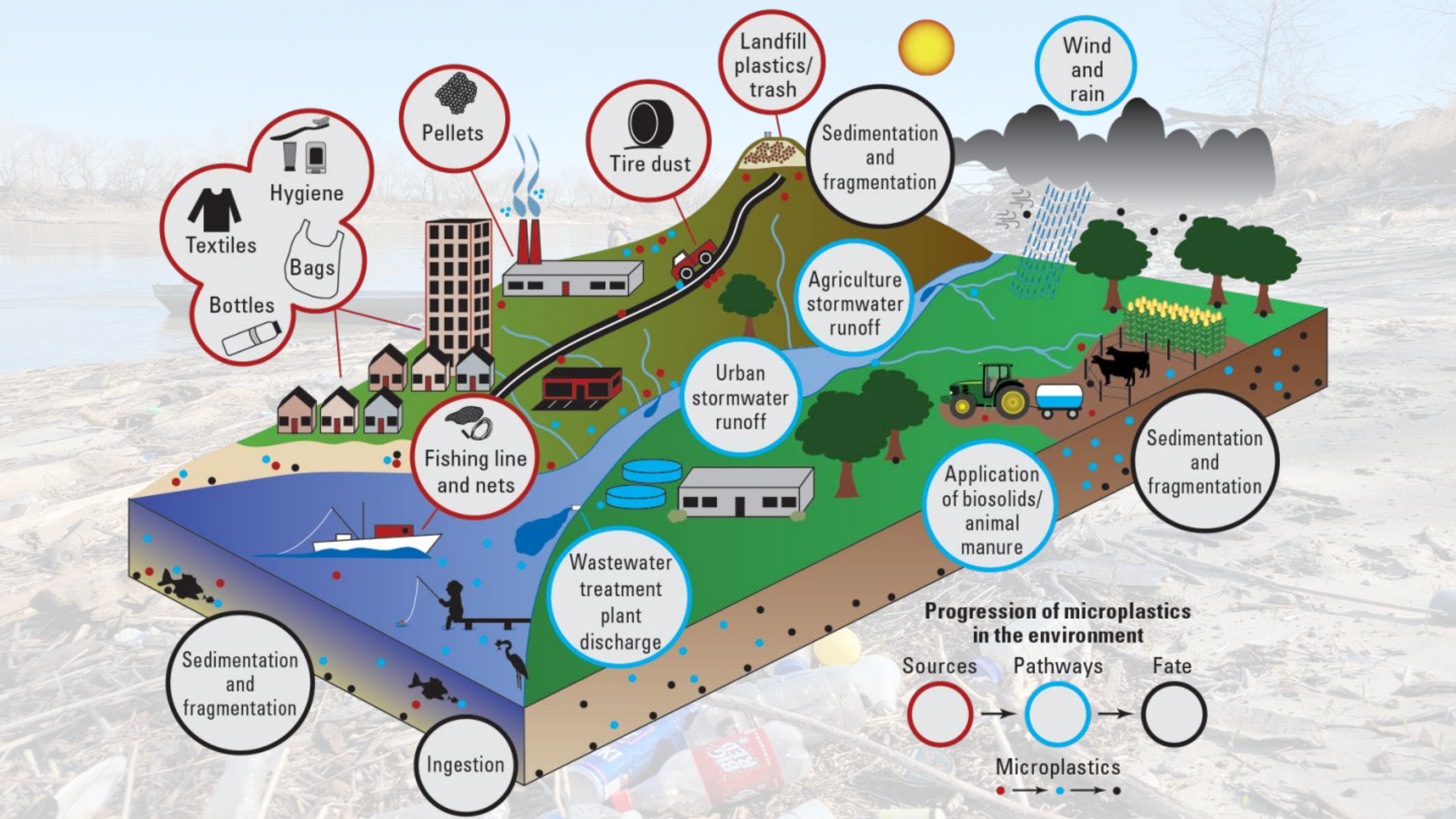
The GIST

Add as preferred source

Tiny plastic particles pervasive in agricultural environments, interact with and disrupt the microbial ecos…


www.albatrossthefilm.com




Landfill plastics/ trash
Wind and rain
Pellets
Tire dust
Sedimentation and fragmentation
Hygiene
Textiles
Bags
Bottles
Agriculture stormwater runoff
Urban stormwater runoff
Fishing line and nets
Application of biosolids/ animal manure
Sedimentation and fragmentation
Wastewater treatment plant discharge
Sedimentation and fragmentation
Ingestion
Progression of microplastics in the environment
Sources
Pathways
Fate
Microplastics

PLASTICS AND HUMAN HEALTH

FACT SHEET

Plastic products are known to contain and leach **toxic chemicals** including various endocrine disruptors, carcinogens, and reprotoxicants (substances that negatively impact reproduction). These chemicals, in addition to plastic particles, have been found in several major organs and in bodily fluids. Negative effects are highest among **infants**, **young children**, and **firefighters** and communities located near **farms**, **airports**, **military bases**, **landfills**, and **incinerators**.

PARTICLE SOURCES & EFFECTS

- Plastic particles come from many different sources and in many different shapes and sizes. Some sources include packaging, paints, cosmetics, and food.[1]
- These particles can cause damage to human cell membranes, chronic inflammation, and oxidative stress.[2-3]
- Newborns and young children are the most vulnerable.[4]

CHEMICAL SOURCES & EFFECTS

- There are over 16,000 chemicals used to make plastics. Of those, over 25% are known to be hazardous to human health, and over 65% have no known hazard data.[5]
- Each plastic item has its own unique chemical composition, and most of those chemicals are not bound to the material and will be released during production, use, or disposal.[6-7]
- These chemicals leach out of plastics, enter the environment, cause air, water, soil, and food pollution, and result in human exposure and disease.[8]
- Plastic chemical exposure has been linked to:
  - Birth defects, autism, ADHD, lower IQs, and language delays in young children.[8-9]
  - Negative impacts to the endocrine, reproductive, immune, and respiratory systems.[7,10-12]
  - Increased risk of infertility, obesity, diabetes, cancer, stroke, and cardiovascular disease.[3,8,11]
  - Neurodevelopmental disorders, metabolic disruption, skin conditions, and obstructed bladder syndrome.[7,11-12]

DID YOU KNOW?
Plastic particles have been found in:
Arteries
Blood
Blood vessels
Bone
Bone marrow
Brain
Breast milk
Cartilage
Cells
Colon
Elbow joints
Feces
Heart tissue
Intervertebral discs
Kidney
Knee joints
Liver
Lung
Lymph node tissues
Meconium
Olfactory bulb
Placenta
Saliva
Semen
Spleen
Sputum
Stomach
Testicles
Urine
Veins
... and research continues
See sources 2-3,10,13-22, 28

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Meconium
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Placenta
Saliva
Semen
Spleen
Sputum
Stomach
Testicles
Urine
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... and research continues
See sources 2-3,10,13-22, 28

Newsweek

HEALTH

Plastic Food Packaging Can Contain Hundreds of Chemicals That Cause Cancer, Infertility: Study

BY SIMONA KITANOVSKA, ZENGER NEWS ON 6/7/22 AT 3:06 PM EDT

Chronic diseases linked to EDCs

Hormone-related cancers
ADHD
Learning disabilities
Pre-term birth
Allergies
Infertility
Endometriosis
Heart disease
Diabetes
Degenerative diseases
Autoimmunity
Autism
Asthma
Fibroids
Obesity
polycystic ovaries

Environmental Health Sciences

THE COSTS OF PLASTIC POLLUTION

FACT SHEET

WHAT ARE THE COSTS?

WASTE MANAGEMENT

Plastic production has doubled since the turn of the century, increasing from 230 million metric tons to 460 million metric tons between 2000 and 2019.[1] During that same time, the annual cost of waste management activities in Missouri increased from **$3.9 million in FY2000** to nearly **$7.4 million in FY2019**.[2] While not all solid waste is plastic waste, the US EPA reports that at least 12.2% of municipal solid waste *is* plastic waste.[3]

TOURISM

Tourism is a **$19.9 billion** industry in Missouri.[4] Plastic pollution is visually unappealing in public spaces and interferes with public enjoyment and use of those spaces, thus creating a negative impact on tourism revenue.[5]

LIVELIHOOD AND LOCAL INDUSTRY

Fishing and beer are two important industries in Missouri, contributing over **$10.5 billion** to Missouri's economy each year.[6-7] Microplastic pollution of water can impact fish and beer products and cause health concerns for consumers.[8]

HEALTH CARE

Health care costs of disease and disability caused by just three chemicals associated with plastic exceeded **$920 billion** in the United States in 2015.[9]

ENVIRONMENT

Plastic production results in **$341 billion** in annual greenhouse gas emissions costs.[9]

THE COSTS OF PLASTIC POLLUTION

WHO PAYS THE COSTS?

1. Taxpayers
2. Municipal governments
3. Communities
4. Small and large businesses
5. Schools
6. Sheltered Workshops
7. Not-for-profit organizations

See source #10

WHO DOES NOT?

The Plastics Industry

SOLUTIONS

Policy action and management strategies that shift the financial burden of plastic waste management from the consumers to the producers to hold producers accountable for the production of harmful plastics and associated plastic waste.

Above: Plastic litter accumulated under the I-55 bridge over the River des Peres, **St. Louis, MO.**

LEARN MORE

For more information about this project and to view the sources of this information, please visit:

www.streamteamsunited.org/show-me-less-plastic.html

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SHOW-ME LESS PLASTIC


state policy
individual action
business actions
local policy
school policy
community organizing
federal policy
voluntary action
education
organizational action
household changes
international policy

SHOW-ME LESS PLASTIC

BEYOND PLASTICS

NETWORK

BEYOND PLASTICS

OZARKS

stream teams united

Missouri River Bird Observatory

SMCOG

Show-Me Less Plastic: Regional Roundtable

Join us for an interactive discussion about tangible actions that communities can take to reduce plastic use, plastic waste, and the negative health effects associated with plastic.

- The Library Center
  4653 S. Campbell Ave, Springfield, MO 65810
- Friday, April 17, 2026
- 12PM to 3:30PM
- Lunch is included
- Registration is free!

We will explore:

- The impacts of plastic pollution
- Examples of plastic reduction strategies
- Community-specific solutions

SCAN THE QR CODE TO REGISTER

Registration deadline: ***Friday, April 10***

THIS PROJECT IS SUPPORTED BY:

Missouri Foundation for Health

For more information, contact:
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Get Connected!

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Learn more:
https://www.streamteamsunited.org/show-me-less-plastic.html

Beyond Plastics Ozarks

beyondplasticsozarks@gmail.com

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Beyond Plastics

https://www.beyondplastics.org/

April 17 Regional Roundtable

Registration deadline: April 10th