

OUTREACH MATERIALS FOR DECISION-MAKERS

The target audience category “decision-makers” includes state and federal legislators, directors and managers at state and federal agencies, and other leaders (both public and private sector) in the position to influence policy or the allocation of funds to address microplastics. When creating material for decision-makers:

- keep messaging brief
- explain the issue
- state why they should care
- convey how they should act/respond (what should they do?)




When presenting information on an issue to decision-makers, make sure to include the reasons why the issue is important and actions that can be taken to mitigate the issue. Actions to be taken may include providing information, encouraging further research, providing support or funding, etc.

First and foremost, follow your organization’s policies and procedures for legislative contacts! Whether you work for a governmental agency or represent a volunteer organization, your agency likely has a policy or process in place for contact with legislators. Please follow your agency’s guidance.

Types of Outreach Materials for Decision-Makers

Fact Sheets

Fact sheets for decision-makers should be focused and short (maximum of one double-sided page). Use color appropriately, and make sure to include figures and graphics to illustrate your points. Additional information can be provided in a background document that answers further questions. Below is a fact sheet for decision-makers and a background document/focus sheet. A list of microplastics outreach materials prepared for all audiences can be found in the [index](#).

 <p>What are Microplastics?</p> <p>Microplastics are plastic particles that are greater than 5 micrometers in size and less than 5 millimeters in length. They are found in the environment in a wide range of sizes, from 1 micrometer to 5 millimeters. They are found in the environment in a wide range of sizes, from 1 micrometer to 5 millimeters. They are found in the environment in a wide range of sizes, from 1 micrometer to 5 millimeters.</p> <p>Why are We Concerned?</p> <p>Microplastics can contain or carry harmful chemical contaminants and additives which are introduced into the environment. Due to their small size, these microplastics can be inhaled or ingested by humans and other organisms, and can be mistaken for food by some organisms.</p> <p>What are Sources of Microplastics?</p> <p>Primary microplastics are manufactured or man-made materials, such as leather, vinyl, plastic, and polyethylene. Secondary microplastics are the result of degradation of larger plastic items, such as car tires, cigarette butts, and water bottles. Tertiary microplastics are the result of degradation of plastic in the environment.</p> <p>Why are We Concerned?</p> <p>Microplastics have been accumulating since early plastic production in the 1940s and are ubiquitous in the environment. They are found in drinking water, surface waters, air, soil, living organisms, and in the food we consume. Microplastics accumulate and persist for a long time in the environment.</p> <p>What to Know More?</p> <p>The Interstate Technology & Regulatory Council (ITRC) is a unique coalition of state, federal, tribal, and local government agencies working together to address environmental issues. For more information, visit www.itrcweb.org.</p>	 <p>Focus Sheet for State Agencies Working with Decision-Makers to Address Microplastics Pollution and Exposure</p> <p>Objective</p> <p>The objective of this fact sheet is to provide decision-makers with the information they need to understand the issue of microplastics and the actions that can be taken to address it. The fact sheet is intended for use by state agency directors and managers, and other leaders in the public sector.</p> <p>Introduction</p> <p>Microplastics are a growing environmental concern. They are found in the environment in a wide range of sizes, from 1 micrometer to 5 millimeters. They are found in the environment in a wide range of sizes, from 1 micrometer to 5 millimeters. They are found in the environment in a wide range of sizes, from 1 micrometer to 5 millimeters.</p> <p>Microplastics are a growing environmental concern.</p> <p>Microplastics are a growing environmental concern. They are found in the environment in a wide range of sizes, from 1 micrometer to 5 millimeters. They are found in the environment in a wide range of sizes, from 1 micrometer to 5 millimeters. They are found in the environment in a wide range of sizes, from 1 micrometer to 5 millimeters.</p> <p>Microplastics are a growing environmental concern.</p> <p>Microplastics are a growing environmental concern. They are found in the environment in a wide range of sizes, from 1 micrometer to 5 millimeters. They are found in the environment in a wide range of sizes, from 1 micrometer to 5 millimeters. They are found in the environment in a wide range of sizes, from 1 micrometer to 5 millimeters.</p> <p>Microplastics are a growing environmental concern.</p> <p>Microplastics are a growing environmental concern. They are found in the environment in a wide range of sizes, from 1 micrometer to 5 millimeters. They are found in the environment in a wide range of sizes, from 1 micrometer to 5 millimeters. They are found in the environment in a wide range of sizes, from 1 micrometer to 5 millimeters.</p> <p>Microplastics are a growing environmental concern.</p> <p>Microplastics are a growing environmental concern. They are found in the environment in a wide range of sizes, from 1 micrometer to 5 millimeters. They are found in the environment in a wide range of sizes, from 1 micrometer to 5 millimeters. They are found in the environment in a wide range of sizes, from 1 micrometer to 5 millimeters.</p>	 <p>Microplastics (MP)</p> <p>This presentation has been developed by the Interstate Technology and Regulatory Council (ITRC) Microplastics Outreach Team. You may modify the slide deck as appropriate for your audience. We ask that you acknowledge the products of ITRC in your presentation. Thank you!</p> <p>ITRC</p> <p>Interstate Technology & Regulatory Council (ITRC) is a unique coalition of state, federal, tribal, and local government agencies working together to address environmental issues. For more information, visit www.itrcweb.org.</p>
<p>What Are Microplastics Fact Sheet</p>	<p>Focus Sheet: Working with Decision-Makers to Address Microplastics Pollution and Exposure</p>	<p>Microplastics Presentation</p>

Social Media Materials

Social media posts geared toward a [general audience](#) may provide useful information for decision-makers, as well as for their constituents.

Presentations

In some, but definitely not all cases, a slide presentation may be an effective way to provide information to decision-makers. A short (5–10 slide) slide presentation containing concise, bulleted text and interesting images can be used to provide information to decision-makers on an issue, why they should care, and what they can do. The ITRC Microplastics Team created a [short presentation](#) to provide a high-level overview on the topic of microplastics and current regulatory actions aimed at addressing this important topic. Users may modify the slide deck as appropriate for their audience. We ask that you acknowledge the products of ITRC in your presentation.

Elevator Speeches

Elevator speeches can be used in situations where there is a brief time allowed to present information. Elevator speeches should be concise and present key messages effectively and efficiently. An example of an elevator speech on microplastics is:

Plastic pollution isn't just single-use plastics, like water bottles and straws. A big problem is their breakdown into micro- and nanoplastics. These microplastics can then get into the food web, wreaking havoc on the environment and human health. Microplastics also include particles from the wear of tires. We now have concerns related to tire additives called antiozonants that are toxic to fish. More research is needed to determine which plastic additives are detrimental.

Tips for Communication and Engaging with Legislators

Working with legislators is a unique experience. Legislators represent a diverse cross section of society where decisions must consider broad, and sometimes conflicting, societal demands. Legislators are often called upon to be knowledgeable in many diverse topics, while having limited time to learn about the nuances of any one topic. The following are some tips for working with legislators.

First and foremost, follow your organization's policies and procedures for legislative contacts! Whether you work for a governmental agency or represent a volunteer organization, your agency likely has a policy or process in place for contact with legislators. Please follow your agency's guidance.

Strategize your campaign

Timing is important. When reaching out to legislative groups, consider the legislative session calendar and time communication with legislators and their staff accordingly during their less busy times. The following timeframes apply to a federal legislative calendar. For state calendars, timeframes should be adjusted accordingly to align with their legislative calendars.

- The best time to reach out to federal legislative groups is March to June, as that's after the president's budget is released and before the legislative break in August and the end of the fiscal year on September 30th.
- In August, Congress/House staff return to their home states, so it could be effective to try to reach out to members at events while they are at home.

Meeting with legislators

Meeting with staff members can be beneficial even if a specific "action" has not yet been identified, because it establishes a relationship and provides education for them to be better prepared to support

the issue. Congressional staff teams will have a subject matter expert to research and follow up on ideas and material brought to them.

- Typically, 30 minutes are allotted for meetings with a legislative aid, so use your time wisely. Do at most a 10-minute presentation to share the issue, why they should care, and action requested (don't use the whole time on introducing and framing the issue), and use the rest of the time for Q&A.
- Don't just talk at the staffer—have a conversation.
- Tell a story effectively by using statistics/facts, verbally giving high points, and providing a handout with more details. A printed handout of a PowerPoint presentation showing statistics/graphs can be provided when technology is not available for an actual PowerPoint presentation.
- Choose one person in the group to tell the story and hold off on introducing the whole group until the end, if you have time.
- Make connections between microplastics and other issues/chemicals, such as per- and polyfluoroalkyl substances (PFAS) or climate change.
- Follow your agency's or company's process for reaching out to legislative representatives.
- Research your representatives and "Committee of Jurisdictions" chairs by visiting [Congress.gov](https://www.congress.gov)

Provide handouts

- Use colorful, 1–2 page fact sheets that contain succinct information which is general and not too technical.
- Follow up with an email of a digital copy of the handout (easier to access later and easier to email to a committee).
- Graphs with statistics can serve as good visuals.

Tips for Communication and Engaging with Business Leaders and Industry Groups (Private Sector Decision-Makers)

In general, the same stepwise approach to communicating and engaging with legislators applies to communicating and engaging with business leaders and industry groups. One key distinction is that legislators work for the people, and business leaders and, by proxy, industry groups, work for owners/investors whose primary interest is profit. Although decisions that affect profit are a keen consideration for business leaders and industry groups, they also astutely understand the benefits and impacts that their products and services can have on society and the planet, often much more than they are given credit for. This is evidenced in the environmental, social, and governance (ESG) movement, which has propelled dramatic changes in sustainability by publicly held corporations around the world. You will be in a much better position when approaching business leaders and industry groups (and legislators) by understanding that any major business decision made will consider factors such as reputation, liability, profitability, and access to capital (a key reason why ESG ratings carry so much weight in the business world).



Picture: Oregon State University, CC BY-SA 2.0 - <https://www.flickr.com/photos/oregonstateuniversity/21282786668>



MP-1-19 07/2024



What are Microplastics?

What Are Microplastics?

Microplastics are plastic particles that are greater than 1 nanometer (nm) and less than 5 millimeters (smaller than a strand of DNA and up to the diameter of a straw). This definition includes nanoplastics, which range from 1 nm to 1,000 nm.

What Are Sources of Microplastics?

Primary microplastics are manufactured as raw materials, such as nurdles (small plastic resin pellets designed specifically for use in plastic product manufacturing) and textiles, or for use in other products such as cosmetics and household cleaning products. Secondary microplastics are the result of larger plastic items, such as car tires, cigarette butts, and water bottles, breaking down due to exposure to physical or environmental forces.

Where Are Microplastics?

Microplastics have been accumulating since early plastic production in the 1940s and are ubiquitous in the environment. They are found in drinking water, surface waters, air, soil, living organisms, and in the food we consume.

Microplastics accumulate and persist for a long

time and can move great distances through different habitats in the environment.

Why Are We Concerned?

- Microplastics can contain or carry harmful chemical contaminants and additives that are introduced into the environment. Due to their small size, humans and other organisms can inadvertently consume, inhale, or ingest these microplastics, and some organisms can mistake them for food.
- Microplastics pose a potential risk to humans and wildlife through exposure to the chemicals in plastic and through physical impact. More research is needed to better understand potential impacts on human health and the environment.
- Organisms (including humans) are exposed to microplastics from many different sources during daily activities via ingestion, inhalation, and sometimes dermal contact.
- Additional research, education, and regulation are needed to reduce and mitigate the presence of microplastics.

Want to Know More?

The Interstate Technology & Regulatory Council (ITRC) has a complete, interactive Microplastic Guidance document available at <https://mp-1.itrcweb.org/#gsc.tab=0>.



Objective

This focus sheet provides a list of recommended approaches for environmental professionals who work with agency management and legislators on the decision-making process to address microplastics pollution and exposure. The focus sheet also provides a summary of current actions underway or planned to reduce or eliminate plastic and microplastics pollution at the state, tribal, federal, and international levels.

Introduction

Plastics have become pervasive in modern life and are now used in a wide range of commercial and industrial applications. As a result, microplastics have become one of the most ubiquitous emerging concerns to the global environmental community. Although there is no universally accepted definition of microplastics, there is a consensus that microplastics are solid polymeric materials that are greater than 1 nanometer (nm) and less than 5 millimeters (mm) in size (e.g., smaller than a strand of DNA up to the diameter of a drinking straw) to which chemical additives or other substances may have been added during production. Microplastics may be intentionally produced for specific applications and products or may result from the degradation and fragmentation of larger plastics. Regardless of their origin, microplastics are now ubiquitous in our environment—they have been found on the top of the highest mountain peaks, at the bottom of the Mariana Trench in the Pacific Ocean, and everywhere in between. Microplastics are detected in air, soil, water, and the food humans and animals consume.

Microplastics are broadly divided into two categories:

a) Primary microplastics are intentionally manufactured as microplastic particles for commercial application or use in products (e.g., nurdles—small plastic resin pellets that are designed specifically for in plastic product manufacturing—and microbeads in personal care products and household cleaning products).

b) Secondary microplastics result from the breakdown of larger plastics (e.g., breakdown of plastic water bottles and tire wear particles from tire use).

Microplastics are a contaminant of emerging concern, and the state of the science is rapidly evolving. While research is ongoing to better understand the effects of microplastics on humans, fish, wildlife, and other organisms, many decision-makers are taking actions to reduce the amount of microplastics that are released to the environment to protect food and drinking water supplies.

Below is a non-exhaustive list of concerns regarding microplastics pollution in the environment and exposure of humans and wildlife to microplastics:

- Plastic production is expected to increase globally in the future. Therefore, the amount of microplastic pollution in the environment is also expected to increase substantially over the next decades.
- Microplastics are persistent and mobile in the environment. As a result, there is concern about microplastics causing harm to ecosystems and humans.
- Chemicals intentionally added to microplastics during the manufacturing process can later leach into the environment and become biologically available.
- Environmental contaminants (such as PFAS, PCBs, and pesticides) can adsorb to the surface of microplastics and then can be consumed by humans and wildlife.
- Humans are exposed to microplastics via inhalation, ingestion, and dermal routes.
- Humans and wildlife can ingest microplastics throughout the food web.
- Microplastics have been reported in human blood, in the deep lung, and in placenta, meconium, and human excrement.



- Vulnerable communities, including those who depend on wild fish and shellfish for their diet, face greater risks to their health and livelihoods from litter and microplastics in marine and freshwater environments.

Recommendations for State Agencies to Address Microplastics Pollution and Exposure

It is recommended that state agencies develop strategies to reduce microplastics pollution and exposure and improve the plastics circular economy. Here's a summary of recommended strategies:

- Implement programs and support legislation to reduce plastic containers and packaging and increase reuse.
- Reduce consumption of plastic products by reducing their appeal to consumers through the development of educational resources and public outreach.
- Improve strategies to collect waste and to manage materials more sustainably to prevent plastic pollution.
- Develop resources for local government agencies to improve recycling of plastic waste.
- Conduct or support the development of life cycle assessments and alternative analysis of plastic products and materials to prevent regrettable substitutions.
- Support research and development (e.g., at state universities) that address microplastic data gaps, technology developments, and more sustainable alternatives.
- Increase stakeholder engagement and collaboration to address microplastics.
- Where practical, align state goals with federal and global recommendations to prevent plastic pollution.
- Enhance public education and engagement with disproportionately affected communities.

Detailed information on prevention and mitigation of microplastics pollution can be found in the [Mitigation and Abatement](#) section of the ITRC Microplastics Guidance document.

Summary of Actions Taken to Address Microplastics Pollution and Exposure

States

In 2021, ITRC surveyed agencies from all states in the United States to determine regulatory status for microplastics. The ITRC survey showed that only four of the 26 states that responded had sampled microplastics and none of the states had established a criterion or standard for microplastics in any environmental and industrial media. See [Section 5.1](#) and [Appendix B](#) of the ITRC Microplastics Guidance Document for more information about the state survey. U.S. EPA programs associated with the Clean Water Act and the Safe Drinking Water Act include tools available to state agencies to assess and mitigate emerging contaminants, including microplastics. As more information becomes available on the effects of microplastics in the future, it is anticipated that states will have increasing interest in developing regulations on microplastics. Currently, California is the leading state to address microplastics; it has a number of legislative bills addressing the issue ([Appendix A.1](#)) The summary of current state-level actions taken on microplastics can be found at [Appendix C](#) of ITRC's Microplastics Guidance document.

Tribes

No specific tribal microplastics regulations were enacted prior to the publication of ITRC's Microplastics Guidance document. However, in August 2023 three tribes in the Northwest petitioned the U.S. EPA to ban the use of the chemical 6PPD in tires. The chemical is used as a stabilizer to extend the life of the tire but when 6PPD reacts with oxygen/ozone, 6PPD-quinone is created, which is linked to significant impacts to wild salmon populations. Many tribal entities administer their own regulatory programs, which are generally aligned with the U.S. EPA programs, but as is the case with



6PPD-quinone, reduction of this harmful chemical is likely only if mitigated at a federal level. Many tribes have initiated plastic reduction strategies, single-use plastic bans, and marine debris cleanups. These initiatives are important components for mitigating plastic and microplastics pollution. The summary of current tribal-level actions taken on microplastics can be found at [Appendix C](#) of ITRC's Microplastics Guidance document.

Federal

Although there are limited federal regulations that specifically address microplastics, some initiatives and regulations exist to limit or eliminate intentionally added microplastics in consumer products (e.g., microbeads in personal care products). The summary of current federal-level actions taken on microplastics can be found at [Appendix C](#) of ITRC's Microplastics Guidance document.

International

The European Commission has a directive to ban certain single-use plastics, and in September 2023 approved regulations to reduce microplastics intentionally added to consumer products. The government of Canada and several countries in Europe and other parts of the world, including India, also have legislative actions or executive orders to reduce or eliminate plastic and microplastics pollution. The summary of current international-level actions taken on microplastics can be found at [Appendix C](#) of ITRC's Microplastics Guidance document.

Working with Agency Management and Legislators

State agencies can work with state and federal legislators to develop approaches to address the growing problem of mismanaged plastic waste. State agencies often have agency-specific protocols that must be followed when communicating with legislators. Below is a summary of recommendations for state agency staff when engaging with management or elected officials.

- Prepare a briefing document that answers the following questions:
 - What is the problem?
 - Why should the legislator or director/manager care?
 - What action are you asking for?
 - What is the recommended solution?
- During a meeting with legislative staff or agency management, be prepared to define the problem clearly and summarize key messages quickly. It is important to allow time to answer questions from the legislative staff and agency management.
- If there is existing proposed legislation that addresses the issue:
 - review the proposed legislation to ensure there are no concerns with the current proposal
 - note any concerns with the proposed legislation and summarize recommended amendments
 - discuss the proposed legislation with the legislator to gain their support
- If there are existing programs that address the issue, contact those programs—via phone calls, emails, and meetings—to solicit input on your recommended approaches, proposed actions, and implementation plans.
- If a new program implementation is necessary:
 - prepare a one-page document that summarizes the issue, recommended actions, and the implementation plan
 - prepare talking points for a meeting with agency managers or legislators
 - contact agency managers or legislators to brief them on the issue and the proposed program
 - integrate recommendations into long-term state agency planning documents/action plans to highlight the importance of new program needs, and so the recommendations can be referenced in these plans

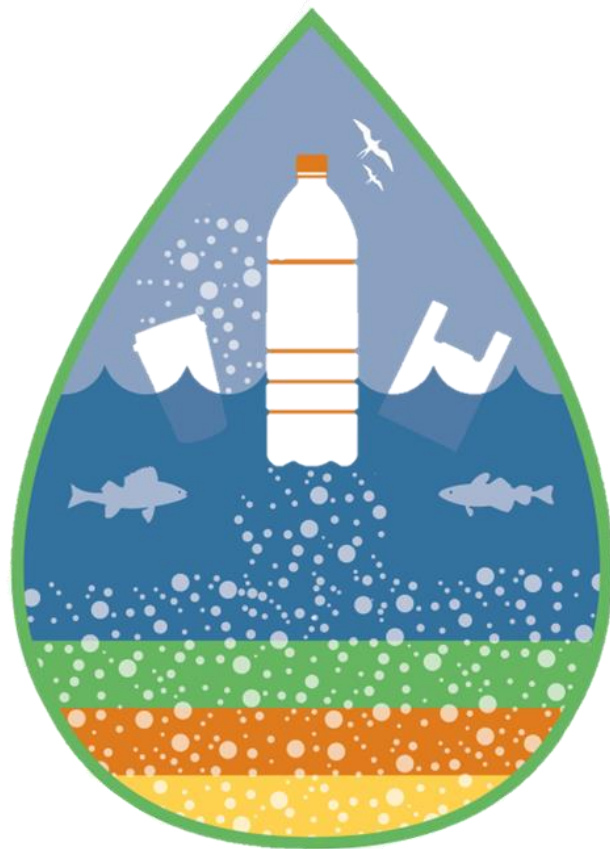
Microplastics (MP)

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What's the Big Deal with Small Plastic?



Microplastics (MP)



What are they?

Plastic particles ranging in size from 1 nanometer to 5 millimeters that contain chemical and/or other additives

Where do they come from?

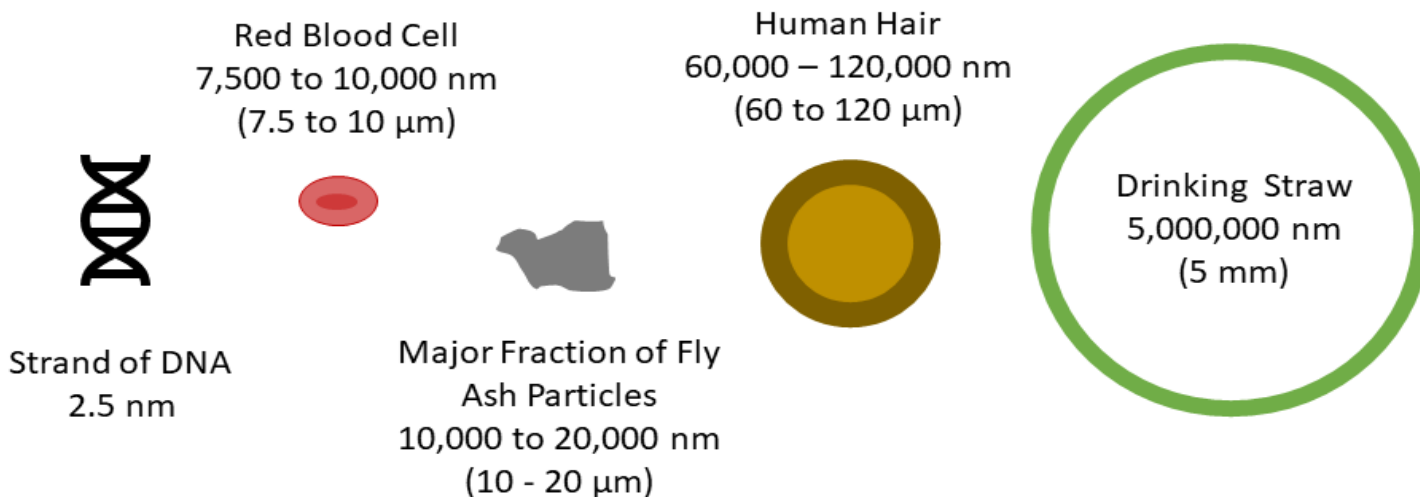
Consumer products (primary and/or direct point source) and/or the breakdown of larger plastics (secondary and/or nondirect point source)

Where are they found?

Everywhere. MP have been found in drinking water, the human body, food, air, soil, and in water, to name a few places

Microplastic Size

Items Comparable in Size to Microplastics (between 1 nm and 5 mm)



1,000 nm = 1µm
1,000,000 nm = 1 mm
1,000 µm = 1 mm

ITRC MP Figure 1-2
Source: V. Hanley

What We Know about Microplastics

- Ubiquitous in the environment
- Accumulate & persist in the environment
- Can contain harmful chemical contaminants & additives
- Consumed by humans and other organisms
- Cause adverse health impacts in organisms



Source Top: Flickr, Global Water Forum

Source Bottom: Oregon State University, [CC-BY-SA-2.0](https://creativecommons.org/licenses/by-sa/2.0/)

Where Are Microplastics Found?

- ITRC MP conceptual site model
- Multifunctional tool
 - Overview information
 - Document navigation



Conceptual Site Model - Point Sources

Marine point sources:
Materials lost or discarded from vessels



Stormwater outfalls

Wastewater outfalls

Industrial smokestacks

Conceptual Site Model - Nonpoint Sources

Microplastics transported through atmosphere and deposited far away from the source

(Macro)plastic trash washes into the ocean, then breaks down into smaller pieces, eventually becoming microplastics

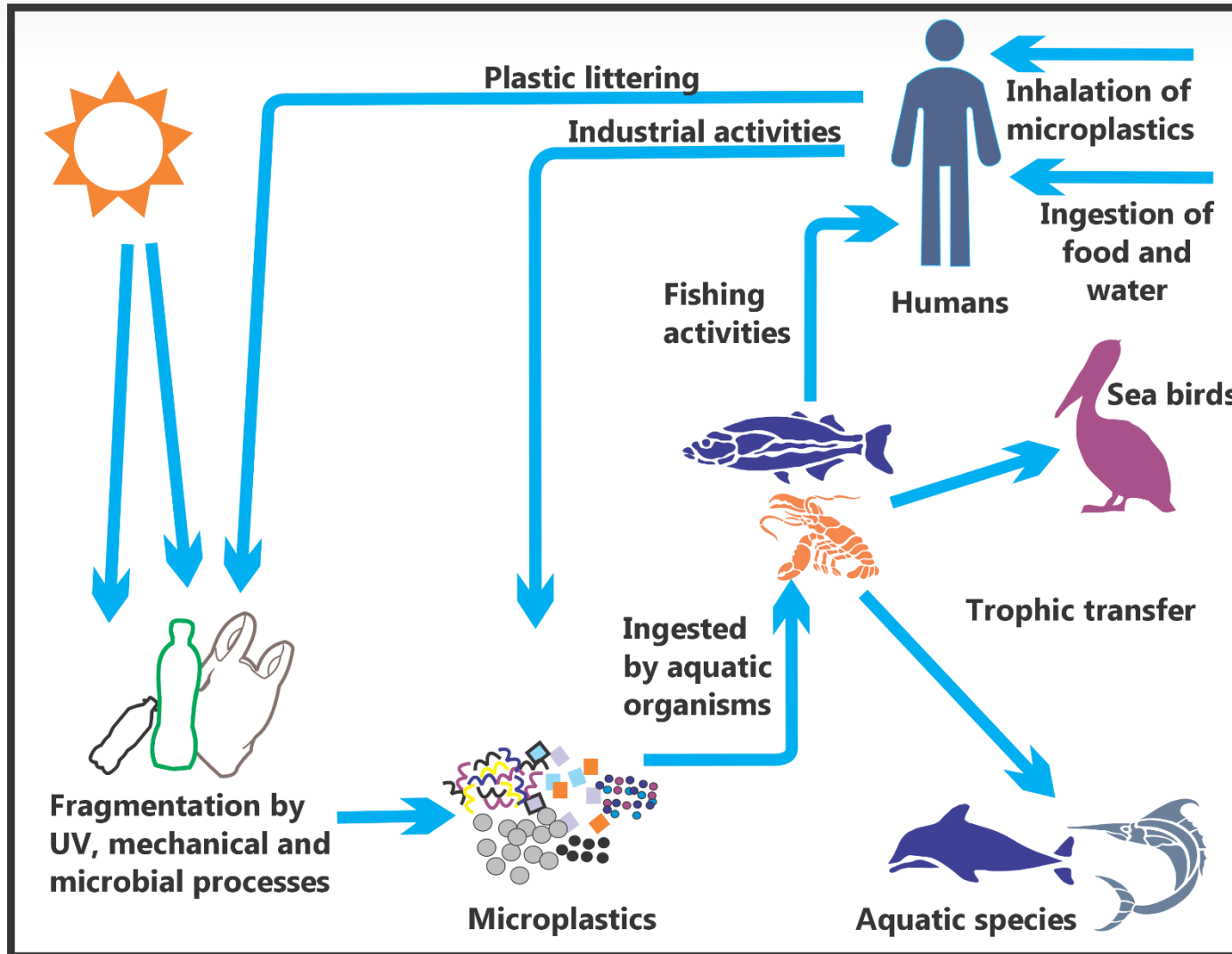
Microplastics generated through typical tire wear and breakdown of roadway materials



Microplastics present in household products such as toothpaste or facial cleaners. Microplastics generated through household activities such as laundering of clothing

Microplastics present in agricultural lands due to direct application of fertilizer pellets, biosolids from wastewater treatment plants, or breakdown of plastic sheeting

Why Should We care?



ITRC MP Figure 4-2

Challenges in Toxicity Research

- Exposure ≠ Adverse health effect
- Numerous nonhuman mammalian studies available but methodologies vary
- Uncertainties due to study design, exposure concentration, data quality, reporting, data gaps
- Not enough information to establish toxicity criteria to use in environmental or human health risk assessment



Source: Thornton Hampton et al. 2022

What Is Being Done?

- Local actions
- State actions
- Federal actions
- International actions

Local Actions

Single-Use Plastic Bans



Photo credit: Rob Barnes, Grid Arendal

State Actions

California Safe Drinking Water Act: Microplastics

Adopt a definition of microplastics in drinking water

Adopt a standard methodology to test drinking water for microplastics

Establish requirements for four years of testing and reporting microplastics in water



POLICY HANDBOOK ESTABLISHING A STANDARD METHOD OF TESTING AND REPORTING OF MICROPLASTICS IN DRINKING WATER

August 9, 2022

Prepared by:
THE DIVISION OF DRINKING WATER
STATE WATER RESOURCES CONTROL BOARD
STATE OF CALIFORNIA

[CA Health and Safety Code 116376](#)

State Actions

Statewide Microplastics Strategy - 2 Track Approach

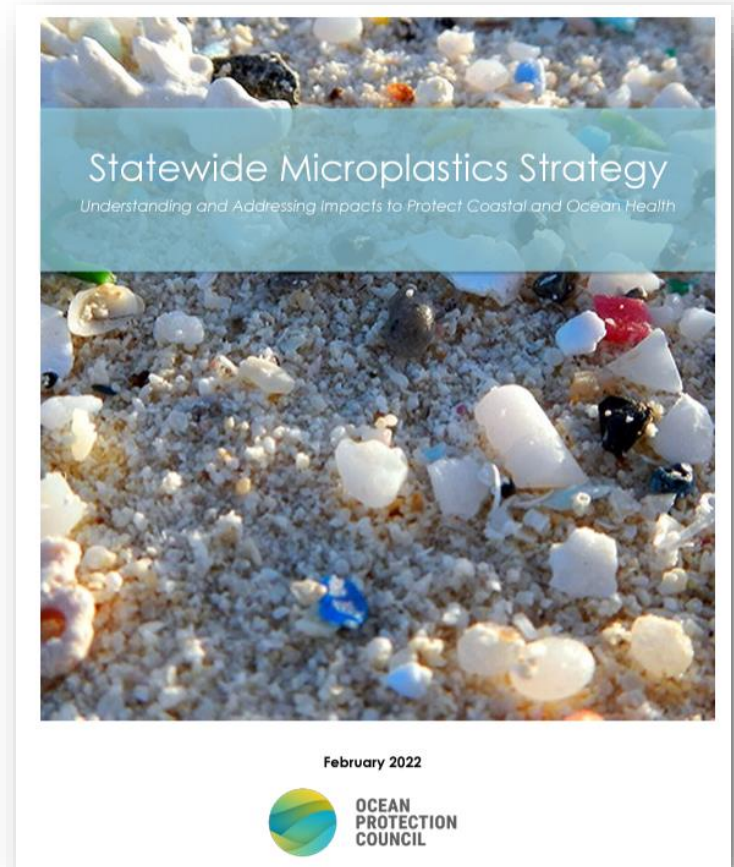
Track 1: Solutions

- **Pollution prevention**
- **Pathway interventions**
- **Outreach & education**

Track 2: Science to inform future action

- **Monitoring**
- **Risk thresholds & assessments**
- **Sources & pathways prioritization**
- **Evaluating new solutions**

[CA Public Resources Code, Division 26.5, Chapter 3.2](#)



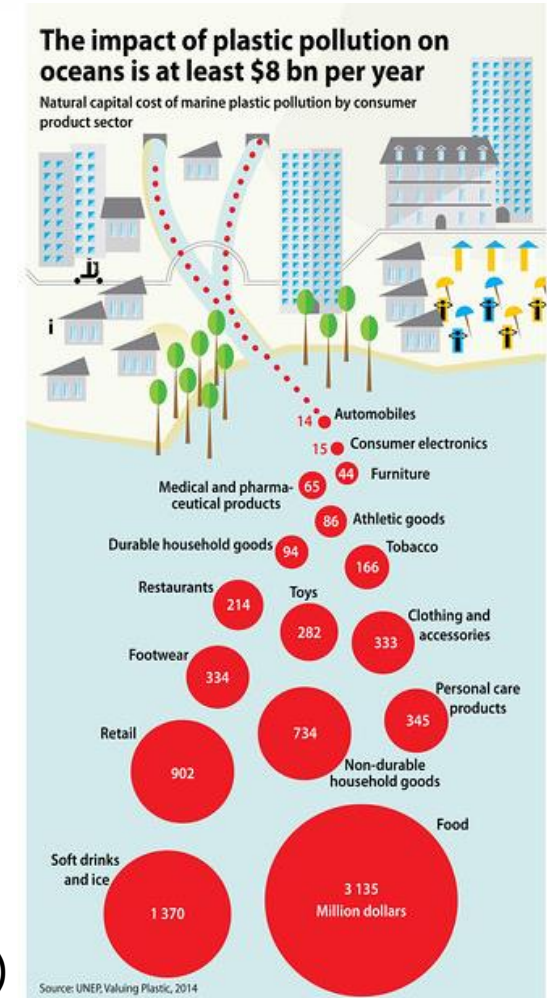
Federal Actions

Save Our Seas 2.0 Act

[\(Public Law 116-224\)](#)

Three main goals of Act

- Combat marine debris
- Enhance global engagement
- Improve domestic infrastructure



Source: <https://www.grida.no/resources/6912> (Maphoto/Riccardo Pravettoni)

International Actions: European Union

European Chemicals Agency proposes restriction on intentionally added microplastics to consumer and professional products

2019



Approved by European Parliament and the Council

2023

International Actions- UN Plastics Report

Purpose of report:

- Designed for decision-makers & stakeholders
- Explains the changes surrounding plastics
 - Market shifts
 - Policies
- Goal is to end plastic pollution



Today's Plastics Are Tomorrow's Microplastics – How Do We Manage Them?

- Identify & remediate point sources of pollution
- Understand fate & transport of microplastics
- Establish thresholds for toxicity for human health and the environment
- Responsible:
 - Governing bodies
 - Consumerism
 - Manufacturing
 - Recycling

Technical Guidance:

Web-based document: <https://mp-1.itrcweb.org>

The screenshot shows the ITRC Microplastics web-based document interface. The top navigation bar includes the ITRC logo, the title "Microplastics", "ENHANCED BY Google", a search icon, and a "HOME" button. A left sidebar contains a table of contents with the following items: Introduction, Environmental distribution, fate, and transport, Sampling and analysis, Human Health and Ecological Effects, Regulatory Context, Mitigation and Abatement, Data Gaps and Future Research Needs, References, Appendix A. Microplastics Case Studies, and Appendix B. Microplastics State. The main content area features a large graphic with the text "Welcome Microplastics" and an illustration of a water drop containing a plastic bottle, with various environmental elements like fish and birds. Below the graphic, there are two paragraphs of text. The first paragraph discusses the pervasiveness of plastics and the global environmental threat posed by microplastics (MP), mentioning the United Nations Plastic Summit in 2022 and the United Nations Environment Assembly 2022 resolution. The second paragraph discusses the health effects of microplastics, noting that they can be consumed by humans and other organisms, and that research on their fate and transport is ongoing.

Microplastics ENHANCED BY Google HOME

Welcome
Microplastics

Plastics have become pervasive in modern life and are now used in a wide range of commercial and industrial applications. **Microplastics (MP)** are one of the biggest emerging threats to the global environmental community. Recognizing the importance of tackling the global plastics problem, the United Nations convened the **UN** Plastics Summit in Uruguay in 2022 to develop a legally binding instrument on plastic pollution. The Environment Assembly of the United Nations Environment Programme resolution recognizes that plastic pollution includes MP ([United Nations Environment Assembly 2022](#)^[634]). Microplastics may be intentionally produced for specific applications and products or may result from the degradation and fragmentation of larger plastics. Regardless of their origin, MP are now ubiquitous in our environment—they have been found on the top of the highest mountain peaks, at the bottom of the Marianas trench, and everywhere in between.

Because of their small size and pervasiveness in the environment, MP, along with any other contaminants that are adsorbed to the MP or intentionally added through the manufacturing process, may be consumed by humans and other organisms. Microplastics have been reported in human blood, in the deep lung, and in placenta, meconium, and human excrement ([Braun et al. 2021](#)^[84], [Zhang, Wang, et al. 2021](#)^[386]). The science surrounding MP, their potential health effects, and knowledge of their fate and transport is very new and ongoing, with research articles being published at a rapidly accelerating rate. Even techniques and best practices for sample collection and analysis of these tiny particles and fibers are still very much evolving.