THE PROBLEM WITH PLASTIC:

Why Care about Reducing Plastic Use?

Plastic is used in almost every industry in our society: packaging, fashion, electronics, healthcare, automotive, food, telecommunications, construction, agriculture, and more. Plastics are energy and toxic chemical-intensive to produce and most of it is created to be disposed of after minimal usage. ***A lot of plastic waste ends up accumulating in our environment.***

MICROPLASTICS

Plastics, unlike natural materials, cannot biodegrade when they enter the environment. Instead, they break down into ever smaller particles. In addition to being in the environment, including in water bodies and the air, many microplastic particles become small enough to enter the food chain. **Microplastics have been found in almost every part of our bodies**, including the lungs* and stomach*, and scientists have determined negative effects including increased risk of heart attack and stroke*.

Microplastics are harmful to the environment and human health for many reasons including:

- Small plastics can be mistaken as food by wildlife
- Chemicals can leach from plastic and enter soil, surface water, and groundwater
- Toxic chemicals and microplastics are consumed by filter feeders (like fish) and small animals which bioaccumulate up the food chain and impact both humans and wildlife.

Microplastics can bind to toxic chemicals such as heavy metals and organic pollutants and carry them into our bodies and cause adverse health effects.

HOW MUCH PLASTIC IS IN OUR BODIES?

The main exposure routes for humans include food, drinking water, and air inhalation. A study* published in 2021, found that **the average person consumes around 883 tiny pieces of plastic each day**, or about 4 micrograms each day. Some is excreted, but some is accumulating. The science isn't clear yet.

The chemicals used when synthesizing plastic polymers can have negative health effects because they can leach out of the plastic. Many additives are endocrine disruptors, such as bisphenol-A (BPA). Some microplastics are per- and polyfluoroalkyl substances (PFAS)*, the forever chemicals that have numerous negative health effects.

PLASTICS IN THE ENVIRONMENT

There are two major sources of plastics entering the environment:

1. Litter – either from being:
   - Blown away during collection and/or transport from residents and businesses
   - Intentionally or accidentally left outside
2. Microplastics that end up down the drain (e.g. laundering synthetic clothes)

Another source of plastic in the environment is plastic in compost collection from condiment packets, labels applied by the store to fruits and vegetables, and single use plastics (like utensils and snack bags). **Please remove all labels from fruits and vegetables before putting them in compost.**

LITTER

Litter — whether intentional or unintentional — is the main source of plastic in the environment. According to the United Nations Environment Program (UNEP), 22% of plastic waste ends up as litter. Litter can increase rates of communicable disease, risk of fire, and attract unwanted wildlife, and can cause:

- Car accidents attempting to avoid debris
- Injuries to humans and wildlife
- Death of wildlife due to choking, constriction, or consumption of plastic
- Soil pollution and stunted plant growth due to toxins
- Clogged storm and sewer pipes

Cigarette butt filters are the most common type of plastic waste in the environment* closely followed by **food packaging (like bags and wrappers), bottles, straws, and grocery bags!**

PLASTICS DOWN THE DRAIN

When products such as wet wipes and menstrual hygiene products are flushed down the toilet or when **clothing made with synthetic materials (such as fleece or those containing polyester, nylon, or spandex)** is laundered, plastic microfibers are released into the water discharged from your home.

- If your home is on a sewer system, the treatment plant does not destroy the microplastics: some are released to waterways and the rest end up in the sludge often reused to make compost or land applied
- If you have a septic system, much of the plastics settle out into wet muck that is collected when the system is pumped out for cleaning. This is typically sent to a wastewater treatment or land applied

PLASTICS IN OUR WATERWAYS

According to the UNEP, the equivalent of **2,000 garbage trucks full of plastic are dumped into the world's oceans, rivers, and lakes each day** - equaling 19-23 million tons of plastic waste entering aquatic ecosystems every year. Large plastics can entangle and lead to the death of wildlife. Over time the plastic breaks apart, becoming microplastics with all the problems outlined earlier.

BURNING PLASTICS

When plastics are burned, dioxins are produced. Dioxins are toxic chemicals and persistent organic pollutants (POPs) that do not break down in the environment and have adverse effects on human health. Like microplastics, POPs accumulate in the environment and up the food chain.

Burning plastics in an uncontained setting, such as backyard burns releases toxins into the air that you, your family, and your neighbors breathe. Toxins are also left on the ground where they can harm children and animals and pollute water resources. **Burning of all trash, including plastic items is illegal. Be kind - don't do it!**

WANT TO LIMIT YOUR PLASTIC EXPOSURE? REDUCE THE NUMBER OF PLASTIC PRODUCTS YOU USE AND PURCHASE!

*For references and more information, visit www.newmoa.org/projects/plastics-in-consumer-products-food-service

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