Plastic pollution - information sheet

Publications summarized:

- *Science assessment of plastic pollution* (Published October 7, 2020). Public comments received on the draft science assessment were considered and a summary of the comments was published.
- *A proposed integrated management approach to plastic products to prevent waste and pollution* (Published on October 7, 2020, for a 60-day public comment period). Public comments received on the proposed approach were considered and a what we heard report was published.

On this page

Overview

- The Government of Canada undertook a thorough scientific review of the potential impacts of plastic pollution on human health and the environment.
- The purpose of the science assessment was to summarize the current state of the science regarding the potential impacts of plastic pollution on human health and the environment, as well as to guide future research and inform decision-making on plastic pollution in Canada.
- Based on the information provided in the science assessment, the Government is moving forward with regulatory measures under the *Canadian Environmental Protection Act, 1999* to protect the environment from plastic pollution.

About plastic pollution

- Plastic pollution is considered to be plastic that is discarded, disposed of, or abandoned in the environment.
- In an environmental context, plastics are often categorized by size, with macroplastics being larger than 5 millimetres (mm) and microplastics being less than or equal to 5 mm.
- The improper management of plastic waste has contributed to plastic pollution, in both macroplastic and microplastic form, becoming ubiquitous in the environment.
- Plastic pollution has been found on shorelines and in surface waters, sediment, soil, groundwater, indoor and outdoor air, drinking water and food. It has also been found in the digestive tracts of animals.
- There is increasing global concern that plastic pollution negatively affects the environment and may negatively affect human health.
- The discussion paper, *A proposed integrated management approach to plastic products to prevent waste and pollution*, outlined a

methodology to categorize single-use plastic and provided details on other risk management measures being considered.

Release to the environment

- Plastics enter the environment through various sources, which may include litter, mismanaged waste, fishing based activities, or agricultural activities.
- Plastics from land and water-based activities can be released into the environment:
    - as macroplastics in their initial manufactured form, for example, as discarded single-use plastic bags and straws, or through spillage during transport;
    - as macroplastics in the form of large pieces of plastics sourced from their initial manufactured form,, for example, abandoned, lost or discarded fishing gear; or
    - as microplastics, for example, microfibres released from washing clothes.
- Microplastics can come from the breakdown of larger plastic items in the environment.
- Microplastics found in indoor air are usually the result of shedding of fibres from clothing, furniture, carpeting and household goods, while the presence of microplastics in outdoor air is influenced by various sources including vehicle tire wear and tear.

Exposure and impacts on the environment and humans

- Plastic pollution is found on shorelines across Canada.
- Macroplastics have been shown to cause physical harm to individual animals and to have the potential to negatively affect the habitat of animals.

    - Animals can become entangled in macroplastics, which can lead to suffocation, strangulation, and even mortality.
    - Animals can also ingest plastic, which can lead to suffocation or starvation.
    - Plastic pollution may disrupt habitats by acting as transport mediums for non-native species, which may lead to a loss of biodiversity and to the transport of diseases in wildlife, thus altering their genetic diversity.
- Microplastic particles are found in fresh and marine surface waters. These particles have been found in aquatic organisms, specifically fish and shellfish. In addition, microplastic particles may eventually sink in aquatic environments, leading to their accumulation in the bottom sediment. Microplastics are also found in soil.
- The evidence for the potential effects of microplastics on individual animals and the environment was less clear.
- People in Canada may be exposed to microplastics by eating food and drinking bottled water and tap water, as well as from breathing indoor and outdoor air. More research is needed to better understand the extent and nature of human exposure and the potential toxicological hazards posed by microplastics.

Science assessment recommendations

- The Government proposed that action be taken to reduce the presence of plastic pollution in the environment.
- The science assessment recommended that research be conducted to address key knowledge gaps, including:
    - developing standardized methods for sampling, quantifying, characterizing, and evaluating the effects of macroplastics and microplastics;
    - furthering the understanding of the ecotoxicological effects of microplastics;

- furthering the understanding of human exposure to microplastics;
- furthering the understanding of the effects of microplastics on human health; and,
- expanding and developing consistent monitoring efforts to include parts of the environment which are less studied, such as soil.

Preventative actions on plastic pollution

Updates on Canada's actions on plastic waste and pollution are available. New activities can also be found on the plastic pollution web page.

Related information

- Ocean Plastics Charter
- Plastics initiatives and regulations
- *Microbeads in Toiletries Regulations*
- Canada's Zero Plastic Waste Agenda
- Plastic waste and pollution reduction
- Canadian Plastics Innovation Challenge
- Canada-wide Strategy on Zero Plastic Waste and Action Plan

Date modified:
2023-12-29