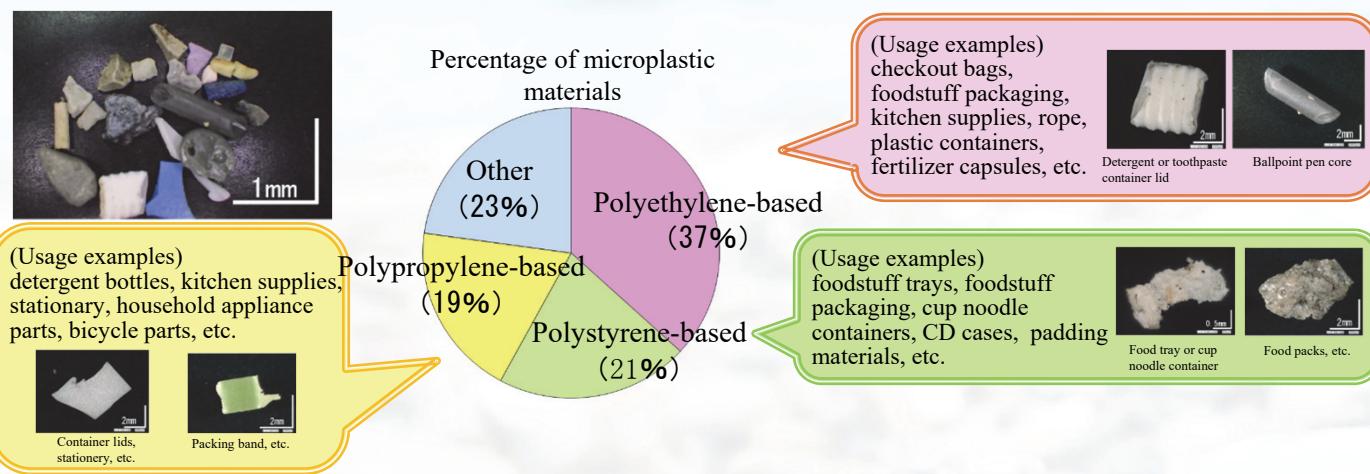


What are microplastics?

In recent years concern has been increasing globally about the potential impacts of marine plastic waste on ecosystems. Of these wastes, “microplastics” are seen as particularly problematic.

Microplastics refers to minute plastics such as the beads contained in toothpaste and facial cleansing products, or from plastic wastes, such as those in checkout bags and PET bottles which have been broken down to 5mm or less due to the action of ultraviolet rays or waves.

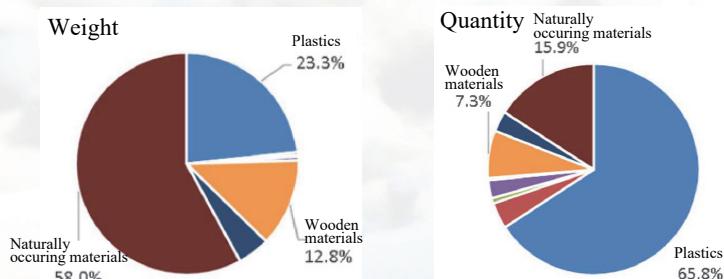
Many of these microplastics have their origin in everyday waste such as packaging and lifestyle goods, and they are said to be difficult to collect due to their minute size and permeation of environments.



Microplastics on the Toyama Prefecture coastline

Source: Toyama Prefecture Field study on microplastics on the Toyama coastline (2017)

According to a Ministry of the Environment survey, while by type most waste is of natural origin on a weight basis, plastics represent the most abundant by type on a quantity basis, and if they are allowed to continue to increase, there are estimations by international authorities that the volume of plastic waste suspended in oceans will exceed the volume of fish by 2050.



	Weight	Quantity
Plastics	23.3%	65.8%
Metals	0.4%	4.0%
Fabrics	0.2%	0.8%
Glass/ceramics	0.6%	2.8%
Paper	0.03%	0.3%
Wooden materials	12.8%	7.3%
Other manmade substances	4.7%	3.1%
Naturally occurring materials	58.0%	15.9%

Ratio of substances in marine waste by weight, by quantity

Source: Ministry of the Environment Comprehensive investigation into countermeasures for flotsam waste (2016)

Issues with microplastics

1 . Difficulty of recovery

Microplastics are extremely minute, meaning they are difficult to recover from seas and coastlines. Further, as the plastics are not broken down, they remain in the natural environment on a semi-permanent basis.

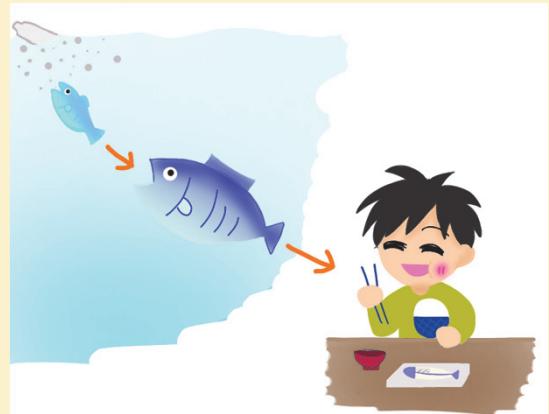


2 . Negative impacts on marine ecosystems

Microplastics also have impacts on marine ecosystems. As a result of consumption after mistaking them for food, marine organisms sustain injuries to their internal organs from these substances, or their intestines may rupture resulting in death.

3 . Negative impacts on health

Regarding impacts on human health, while most have yet to be clarified scientifically, there is a recognized risk of impacts on ecosystems from chemicals in microplastics or the chemicals which they adsorb accumulating in the food chain.



4 . Negative economic impacts on ocean industries, etc.

Polluted seas and coastlines lose their attraction for the tourism sector.



In addition, microplastics accumulate on coral and reduce the algae which have a symbiotic relationship with this coral. There are also cases studies pointing to the destruction of this symbiotic relationship, as well as concern about the economic losses incurred as a result of decreased incomes not only in the tourism industry but also in fisheries and fish cultivation.

Countermeasures for the microplastics issue

It is known that 80% of marine waste in Japan and overseas is comprised of waste which has run off from littering or illegal disposal occurring on land.

It is necessary to swiftly process plastic waste before it is converted to microplastics and becomes difficult to recover.

We can also play our part in countermeasures to the microplastics issue.

1 . Mitigate the generation of plastic waste

Please make efforts to mitigate the generation of plastic waste such as by using one's own bag, and refraining from the use of plastic drinking straws. Recycling, including playing your part in resource recovery, such as that for plastic food trays implemented at supermarkets is also effective.



Unnecessary generation of waste is avoided by reducing checkout bag use and recovering and recycling of resources at supermarkets and similar locations in Toyama Prefecture.



2 . Ensure to bring home any rubbish

Do not litter or illegally dispose of empty PET bottles, or fishing and camping equipment at leisure and recreational facilities, and ensure to bring these home with you when you leave.

3 . Participate in cleanup campaigns for waterways and coastlines

Cleanup campaigns for waterways and coastlines are implemented by local government and private entities. Please take the time to participate in such activities.

* The waste which is disposed of in parks and streets in our immediate surroundings will be carried by the rain and wind to rivers, and even if they are far away from the ocean will ultimately be washed into the sea. Do not forget that wherever we are in the region in which we all live this is connected to rivers and the sea, and that any waste you throw away will eventually be washed into the sea.

Initiatives by country

Initiatives both to decrease the amount of waste, and to decrease plastics specifically, are underway throughout the world as measures to fight the microplastics issue. An increasing number of countries or corporations are banning the use of checkout bags and plastic drinking straws. Initiatives such as those given below are already underway in respective countries.



Japan

Charging for checkout bags

Resource recovery, including for plastic packaging



China

Banning of manufacture, sale, and use of checkout bags

Implementation of community-wide initiatives to decrease household waste, including those for farming villages, etc.



South Korea

Charging for checkout bags

Implementation of cleanup campaigns with the cooperation of fishermen, businesses, and civic groups.



Russia

Compulsory separation and recovery of recyclable plastic, glass, paper, cardboard, aluminium cans, etc.



Mongolia

Banning of sale/use of checkout bags

Implementation of cross-border initiatives to decrease waste in rivers which connect to the sea .

All of us need to become actively involved in initiatives to restore beautiful seas, and to ensure that these continue to be maintained.



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