

Survey of Marine Litter on Beaches

The Survey of Marine Litter on Beaches along the Northwest Pacific Region, conducted by the Northwest Pacific Region Environmental Cooperation Center (NPEC), is a collaborative effort aimed at understanding the extent of coastal pollution caused by marine litter washing ashore. Launched in 1996, the survey has continued since 2010 under the name NEAR* Project. This international initiative brings together Japan, China, Korea, and Russia, with the cooperation of 38 local governments across the four countries. To date, surveys have been conducted on 267 beaches, with a total of 47,742 participants.

*The Association of North East Asia Regional Governments

Summary of Survey of Marine Litter 2024

Period

The survey was conducted from June to November of 2024

Participants and beaches

The survey was conducted with the cooperation of local governments, NGOs and NPOs, and elementary and middle schools.

In the 2024 survey, a total of 1,456 people from 11 local governments in Japan, Korea, and Russia took part in the surveys conducted on 32 beaches. (Fig.2)

Results

General marine litter

The average number of marine litter items per 100 m² (Figure 3) was 171. Plastic was the most prevalent type, averaging 105 items per 100 m² and accounting for 61% of the total. The second most prevalent type was styrene foam, with an average of 42 items (25%).

The average weight of marine litter per 100 m² was 2,032 grams. Of this, plastic was the most prevalent accounting for 1,332 grams (or 66% of the total). The second most prevalent type by weight was other artificial objects, averaging 218 grams (11%).

The most prevalent types of marine litter collected from beaches were lightweight and easily breakable materials, including plastic and Styrofoam. Additionally, looking at average numbers of marine litter items per 100 m² broken down by area (Fig 5), Area C had the highest count at 303 pieces, followed by Area F at 206. Area G had the smallest number at only 22 pieces.

Furthermore, when we break down our results by country, beaches in Japan exhibits a marked trend toward both a higher average quantity and weight of marine litter.

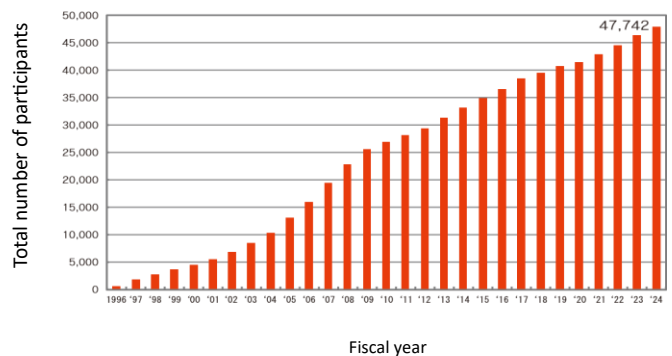


Fig.1 Change in the total number of participants involved in the survey



Fig. 2 Surveyed beaches 2024

Microplastics

The average number of microplastics found in the sand on the surveyed beaches per unit area was 2,354 pieces per square meter, while the average number of microplastics per unit volume was 94 pieces per liter. Both the quantity and the most prevalent types of microplastics showed variability across beaches. Since removing microplastics from the ocean is extremely difficult, it is essential to prevent plastics from entering the ocean in the first place. To protect the Northwest Pacific region, all relevant organizations in that area should collaborate by continuing joint surveys with citizens to better understand the current situation and to raise public awareness of the marine environment.

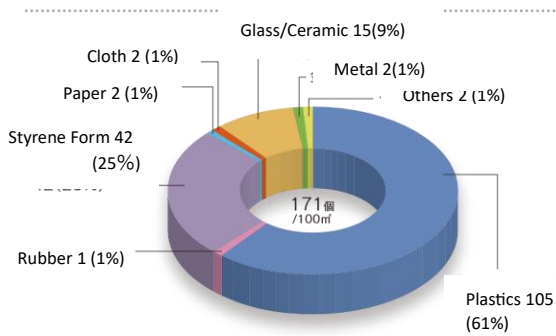


Fig. 3 Average number of marine litter per 100 m²

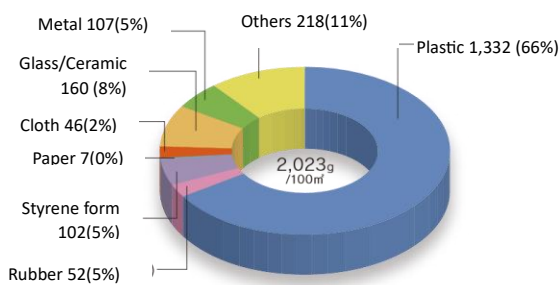


Fig. 4 Average weight of marine litter per 100 m²

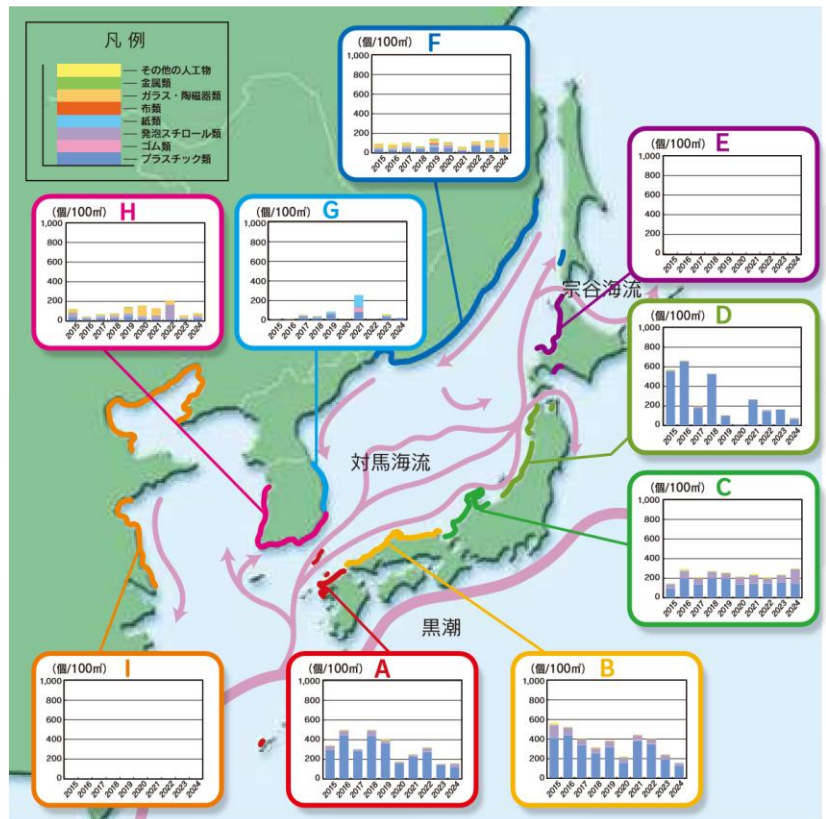


Fig.5 Change in the number of marine litter per 100 m² by area

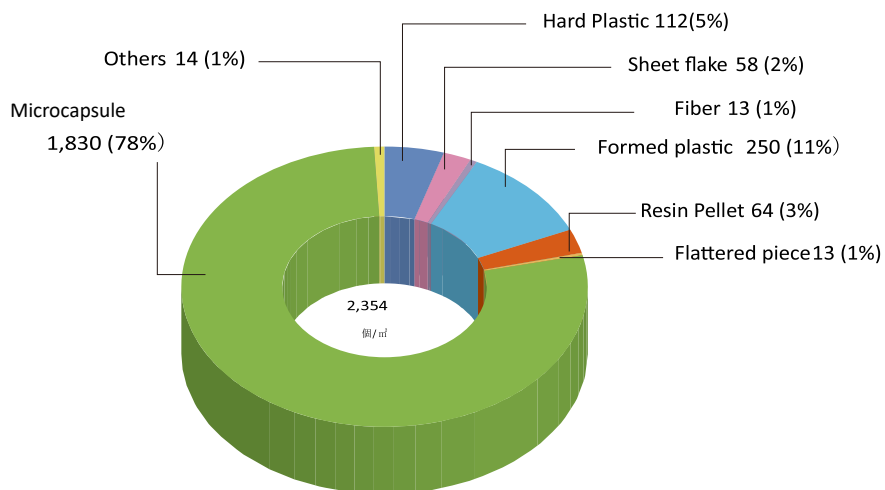


Fig 6 Average Counts of Microplastics per Unit Area in 2024

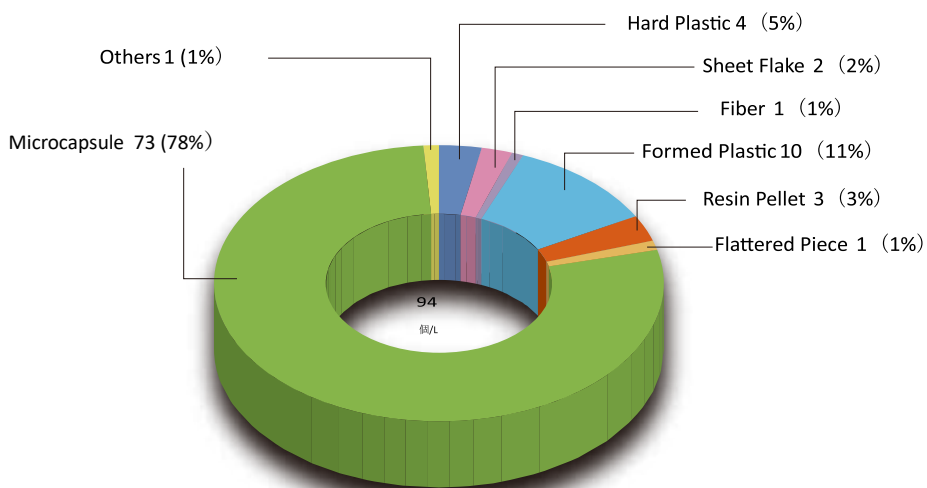


Fig. 7 Average Counts of Microplastics per Unit Volume in 2024