

Marine Litter Guidelines for Tourists and Tour Operators in Marine and Coastal Areas

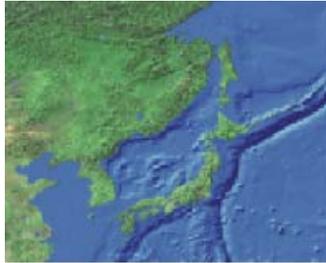


NOWPAP
Northwest Pacific Action Plan



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1. Introduction

Marine Litter

Marine litter is one of the most serious global environmental problems that world oceans now face. Marine litter is defined as any persistent, manufactured, or processed solid materials that are discharged, disposed of, or abandoned in the marine and coastal environment. Marine litter consists of items that have been made or used by people and deliberately discarded on the seas, rivers, or beaches; brought indirectly to the sea via rivers or sewage by storm water or winds; accidentally lost (e.g. fishing gear, cargo) at sea in bad weather; or deliberately left by people on the beaches and shores (UNEP 2005). Litter is not only aesthetically unpleasant but also has serious adverse effects on the marine and coastal environment, human health, and marine navigation.

Marine litter in different forms can be found on the beaches and shorelines, in the water column, on the water surface, and on the seabed. As opposed to natural substances, marine litter consisting of synthetic materials has a longer life and remains in the environment unless removed. Marine litter on the coastline can be found easily; however, litter accumulated in the deep sea or on remote islands is difficult to find. Thus, the total volume of existing marine litter is difficult to estimate and identify the sources.

The Ocean Conservancy has cleaned coastal areas for 25 years and collected 166 million items and 65,000 metric tons of marine litter. According to a 2011 report based on data compiled during the last 25 years of cleanup campaigns, 90% of marine litter comes from land-based sources, which are shoreline and recreational activities, smoking related activities, dumping activities, and medical/personal hygiene-related activities (Figure 1).

Marine litter on the beaches and coastlines consist of cigarette butts, food wrappers and containers, caps, tableware (e.g., disposable forks and spoons), and beverage bottles. Such marine litter originates from the daily consumption practices of people. To reduce marine litter around the world, every person must pay closer attention to their own life styles and stop generating garbage.

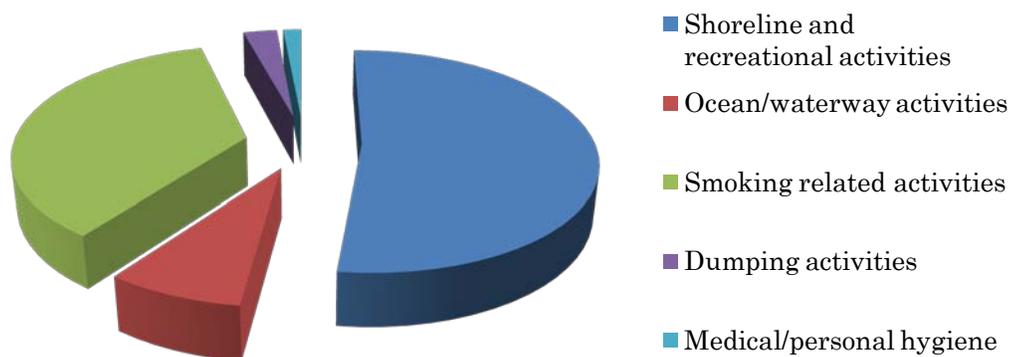


Figure 1 Sources of marine litter
2011 Ocean Conservancy Report: Tracking Trash - 25 years of Action for the Ocean

Situation on marine litter in the NOWPAP region

The NOWPAP member states (China, Japan, Korea, and Russia) monitor the volume of marine litter on beaches and shorelines. In 2009, a monitoring survey was conducted at 82 sites. The total amount of collected marine litter was 175,000 items and the total weight was 12,000 metric tons. Figure 2 shows the amount and weight of marine litter per 100 m² at each monitoring site.

The monitoring status (frequency, number of monitoring sites, and size of each monitoring site) is different for each member state, so it is difficult to compare the situation. However, the western part of Japan and the southwestern part of Korea, in particular, are the most serious.

In addition, there is a difference in the characteristics of marine litter between Japan and Korea. In Japan, the amount of marine litter collected is much greater than in Korea. However, the total weight of marine litter in Korea is greater, which means that most marine litter in Japan is small plastic pieces and cigarette butts. On the other hand, the bigger and heavier marine litter in Korea consists of fishing gear (buoys and ropes).

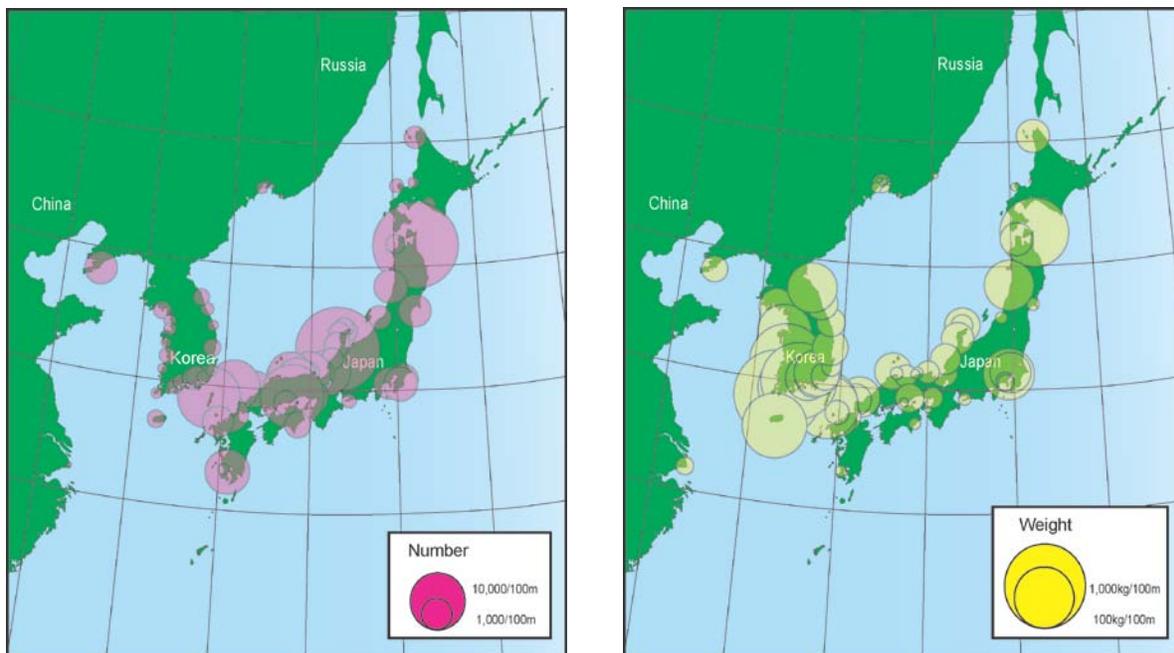


Figure 2 Distribution of marine litter in the NOWPAP region
The map on the left shows the amount of marine litter per 100 m², and the map on the right shows the weight per 100 m² at each site, respectively.
Size of circles indicates the amount of marine litter.

NOWPAP National Monitoring of Marine Litter
(http://www.cearac-project.org/MALITA/NOWPAP_National_Monitoring/top2009.htm)

Tourism

Tourism is the largest and fastest growing sector in the world economy. The World Tourism Organization estimated that the number of foreign tourists totaled 940 million in 2010 with much larger numbers of domestic tourists at the same time.

Tourists want to visit beautiful natural landscapes; however, careless actions may deteriorate the natural environment. Therefore, one of the challenges confronting the tourism sector is how to use the natural environment in a sustainable manner. Therefore, tourism organizations have developed guidelines to reduce the negative impact of tourists on the natural environment. Tourists are required to follow the guidelines and minimize or reduce the negative impacts on the environment.

In fact, tourists are one of the main generators of litter. According to cleanup campaigns implemented by the Ocean Conservancy, marine litter from shoreline and recreational activities is mostly driven by tourism. If the tourists who visit the beaches discard garbage indiscriminately, the wind will carry it away into the ocean to finally become marine litter.

The sources of marine litter are not only the coastal areas but also the upstream areas of rivers. Garbage from overflowing rubbish bins is carried into the rivers by the wind and rain to finally reach the ocean without appropriate waste treatment in the inland areas. This type of garbage increases the amount of marine litter. In the beautiful, scenic areas that usually attract a large number of tourists, an insufficient number of rubbish bins allow garbage to find its way into the air, land, rivers, and oceans.

These guidelines briefly introduce marine litter, the known adverse impacts, and best practices for tourists participating in marine recreational activities (e.g. cruising, fishing, and diving) and coastal recreational activities (e.g. camping, barbequing, and bathing). The guidelines also suggest actions that tour operators can employ to reduce tourist-generated marine litter.



2. Types of Marine Litter in Marine and Coastal Areas

Many types of marine litter can be found in marine and coastal areas. Such litter commonly comprises materials that degrade very slowly, such as plastic products, polystyrene foam, metal, and glass fragments. More specifically, tourist litter commonly includes food wrappings, beverage cans and bottles, cigarette filters, plastic bags, and fishing lines.

These types of litter do not necessarily stay in the local area where they were discarded; they can be transported to distant locations through wind, ocean currents, and waves to subsequently pollute other beaches and shorelines. Such litter is also found in the water column and on the seafloor.

The greatest amount of marine litter from recreational activities is beverage containers. In recent years, plastic bottles have been used for beverages all over the world because of they are light, durable, and portable. Even though the collection and recycling of plastic bottles are widely encouraged, not all plastic bottles are recycled. Discarded plastic bottles easily become marine litter. Because of the light weight and durability, plastic bottles are transported long distances and reach beaches far from the original locations—sometimes thousands of kilometers away. As a result, bottles with foreign labels are often found. Plastic bottles frequently break down into small pieces, making collection and cleanup quite difficult. In addition, these small pieces are often mistakenly ingested by marine organisms, where the litter accumulates in the stomach since plastics cannot be digested.



3. Impact of Marine Litter

Some of the adverse impacts caused by marine litter are as follows.

Ecological impact of marine litter

Impact on wildlife

- Entanglement in fishing lines, can holders, etc.
- Ingestion of marine litter
- Transportation/introduction of alien species attached to litter
- Toxic chemicals of marine litter



Japanese Society for Preservation of Birds
(<http://www.jspb.org/>)

Impact on fisheries

- Obstruction of fisheries through gear entanglement
- Extra work and cost required to remove litter from fishing nets
- Ghost fishing



Yukihiko OTSUKA ©
(<http://zad92731.blog41.fc2.com/>)

Economic and social impact of marine litter

Impact on tourism

- Reduction of tourists and consequent loss of income due to degraded tourism value
- High cost of collection and disposal of marine litter

Impact on maritime transportation

- Entanglement in screws (propellers) and clogging of water intakes

Impact on health

- Injuries on beaches
- Medical waste

4. What Can People/Tourists Do to Reduce Marine Litter?

We recommend promoting and practicing the 3Rs every day: Reduce, Reuse, and Recycle; The principle of reducing waste, reusing products, and recycling resources is often called the “3Rs.”

- “Reducing” means making careful choices with the idea of not generating waste.
- “Reusing” involves the repeated use of items or parts of items.
- “Recycling” means the use of the waste itself as a resource.

Waste minimization can be achieved efficiently through the 3Rs—primarily *reducing* followed by *reusing* and then *recycling*.

In addition, tourists should pay attention to the following points when visiting tourist spots:

In coastal recreational activities (camping, barbecuing, bathing, etc.)

- Do not leave litter on the beach.
- Try not to bring items that could become litter, such as disposable plates, cups and plastic bottles. Bring reusable items.
- Bring your own rubbish bags for storing litter.
- If you are a smoker, bring your own portable ashtray.
- Take your litter home if there are no rubbish bins.
- Dispose of litter in accordance with local regulations.
- Do not use rubbish bins that are full or nearly full: rubbish may spill out of the bin.
- Secure your belongings to prevent them from being blown away by the wind.
- Voluntarily pick up litter on the beach or in the sea. Picking up even one piece of litter will make a difference if we all do it!
- Participate in beach cleanup activities.

In marine recreational activities (cruising, fishing, diving, etc.)

- Do not throw litter overboard.
- Take your litter onshore or home if there are no rubbish bins on the boat.
- Secure your belongings to prevent them from being blown away from the boat.
- Use environmentally friendly fishing products such as biodegradable fishing lines.
- Remove packaging material on shore to eliminate potential marine litter onboard.

Case Study: Eco bag

Plastic bags distributed in stores and supermarkets are very convenient. However, they become marine litter when discarded. To reduce this type of litter, bringing a reusable eco-friendly bag (eco bag) is helpful.

In inland recreational activities (sightseeing, climbing, etc)

- Do not throw litter into rivers and storm water drains.
- Take your litter home or to a hotel if there are no rubbish bins.
- Bring your own rubbish bag for storing litter.
- Try not to bring items that could become litter, such as plastic bottles.
- Dispose of litter in accordance with local regulations.

5. What Can Tour Operators Do to Reduce Marine Litter?

As described above, tourists visiting marine and coastal areas are major contributors to marine litter, and their influence on the marine and coastal environment continues to grow with the expected increase in tourism. Tour operators play an important role in preventing or minimizing the negative impact of tourists on the environment. Some activities that tour operators can employ to reduce marine litter are as follows:

Minimize of waste generation

- Avoid producing, selling, or providing items that are potential waste (e.g. use reusable caps, plates, forks, knives, and chopsticks instead of disposable items).
- Reuse or recycle waste by providing rubbish bins for classified litter at tourist attractions.

Case Study: Eco hotel

Some hotels have changed their services for guests in order to minimize the impact on the environment. Banning disposable toothbrushes and razors from guest rooms, using non-disposable dishes, and newspaper recycling programs are some examples of reducing waste generation.

Case Study: Carry-along garbage bag for tourist (Take-home garbage)

Some travel agencies distribute carry-along garbage bags to tourists and ask them to bring the garbage home in order to reduce waste generation at tourist spots. The carry-along garbage bags are made from plant-based materials that easily decompose.

<Rausu City, Hokkaido Prefecture, Japan> <Oze City, Nagano Prefecture, Japan>

Education of tourists

- Enhance the awareness of tourists about marine litter by providing education programs (e.g. short lectures, handing out brochures, displaying posters or signs, or organizing beach-cleanup activities). These activities can be conducted in cooperation with other tour operators and local businesses such as restaurants and shops.

Case Study: Eco-tourism

Eco-tourism is a form of tourism in natural areas that conserves the environment and improves the well-being of the local people. Through eco-tourism, tourists learn not only the good aspects of the environment but also the negative impact on the environment. Such experiences will ensure a good understanding of the environment for both tourists and local people.

Cooperation with local governments

- Strictly follow local government waste-management practices in tour operations.
- If a local waste-management system is insufficient, request that the local government strengthen the system (e.g. increase the number of rubbish bins, regular collection of rubbish, and employment of a recycling system).

Case Study: Smoke free beaches
Cigarettes and cigarette filters are major marine litter around the world. To reduce waste, some bathing beaches ban smoking.

<Kotobiki-hama Beach, Kyoto Prefecture, Japan>

<Kanagawa Prefecture, Japan>

Case Study: Admission
Some beaches and tourist spots charge admission fees for the sites. The fee is used for management and cleanup of the area in cooperation with local authorities. The sites are kept clean, and tourists will visit such beautiful sites again.

Case Study: Local deposit system for garbage (Garbage pickup site)

The cost of solid waste disposal is a serious issue for tourist spots. Local people must cover the cost of waste disposal for the tourists, and in a small town, the financial burden for local people can be substantial. So, in some areas, tourists pay a deposit to have their garbage treated by either buying a garbage bag or paying fees when they discard garbage.

<Hachijyo-jima Island, Tokyo, Japan>

<Nagatoro City, Saitama Prefecture, Japan>