

MARINE DEBRIS

What is Marine Debris?

Marine debris is the solid human made rubbish that is discarded at sea or ends up in the sea after being disposed of on land. There are many ways that rubbish can enter the sea, including:

- dumping of garbage at sea by ships, fishing boats and pleasure craft.
- deliberate discarding and accidental loss of fishing nets at sea.
- litter left on beaches by picnickers.
- escape of litter from coastal rubbish dumps.
- drains and sewage systems that empty into the sea.

After many years of treating the sea as a rubbish dump we have only recently started to see the effects of our actions. One reason for this is that we are now using non-biodegradable products such as plastics.

Many countries, including Australia, have conducted different kinds of surveys to discover how much debris may be in the sea and where it could have originated. The “Clean up Australia” campaign has highlighted the problems we have with litter all over the country. Rubbish on beaches accounts for almost 15% of all litter collected. Since only a fraction of the rubbish in the sea ends up on beaches, imagine how much more there is out there that we don’t see.

What is the Problem?

Years ago, a beachcomber would pick up a myriad of shells, sponges, coral fragments and driftwood. The odd bottle was a surprising find. Now a stroll along a beach will often yield as much rubbish as natural flotsam and jetsam¹. The rubbish is ugly and often dangerous and is clearly not what we want to find on our favourite beach.

Some types of debris can be harmful (and costly) to vessels. Discarded or lost shipping containers and other large pieces of debris have been known to damage vessels at sea, while rope, fishing nets and line can foul propeller shafts or block water intakes. This can cause major damage, expensive repairs and loss of income while vessels are being repaired.

Of most concern, however, is the effect of debris on marine wildlife. The debris most likely to affect wildlife is plastic.

Plastic

Plastic has become an integral part of our everyday life. It has gradually replaced natural materials in the manufacture of many items in daily use. It generally takes fewer resources and less energy (and is therefore cheaper) to make something from plastic, than from some other materials such as paper and glass. Because plastic can take hundreds of years to break down and is often used to make disposable items, there is the potential for an enormous amount of plastic rubbish to exist in the environment. And it is increasing every day.

All surveys of marine debris around the world indicate that plastic is the main component. Of all the litter items recorded by “Clean Up Australia” in 1993, almost 50% was plastic. Because plastic floats it is carried around the sea by currents and wind and can pollute beaches in remote places, far from the disposal site.

Plastic marine debris causes the greatest amount of harm to marine wildlife. Turtles, whales and some sea birds ingest plastic that they mistake for food. This can eventually cause the death of the animal. Some sea birds have been found dead with up to 35 pieces of plastic in their stomachs. The toxic chemicals in plastic can also poison the animals.

Many animals, such as seabirds, turtles and seals become entangled in items such as discarded fishing net, strapping and “six pack” holders which slowly chokes them to death. It is estimated that 100,000 marine mammals and 700,000 sea birds die each year from encounters with plastic marine debris.

Marine Debris in the Northern Territory

Over the years the Keep Australia Beautiful Council has conducted a campaign called "Operation Cleansweep". Thirty sites, including 4 beach sites, around Darwin are cleaned twice weekly and the statistics that have been compiled show that paper and plastic are the two greatest sources of pollution on our beaches. Most of the pollution around Darwin comes from the land.

In contrast, surveys of other remote sites show that virtually all debris found on these beaches is fishing debris washed up from the sea.

There have been several cases of marine debris causing harm to wildlife in Northern Territory waters. In February 1994, 4 sea turtles were found entangled in plastic debris. Three of these were entangled in a trawl net found drifting in Darwin Harbour and another washed ashore tangled in a woven plastic bag. Some threads from the bag had cut into one flipper and others had been swallowed, forming a blockage at the base of the turtle's throat. The turtle was in a very bad condition and died soon after discovery.

More recently, nets washed up on to beaches near Gove had killed more than 20 young turtles. Several dugongs that inhabit coastal areas in the Northern Territory have also fallen victim to fishing nets.

These episodes show that marine debris has far reaching effects, and pose a further threat to the survival of already threatened species in extremely remote locations.

What Can We Do?

1. At Sea

It is illegal to dispose of any plastics anywhere in Australia's seas and waterways. This Australian law is based on the International Convention for Prevention of Pollution from Ships (known as MARPOL 73/78) and applies to all vessels including dinghies, yachts and fishing vessels. Fines of up to \$1 million for companies and \$200,000 for individuals may be imposed for illegally disposing of rubbish at sea. If you spend time at sea, you should be aware of two basic rules:

1. No plastic is to be thrown into the sea at all,
2. No rubbish is to be disposed of within 12 nautical miles from the nearest land.

Examples of plastic items often used at sea in the Northern Territory include:

- trawl nets, fishing nets and lines
- bait boxes and prawn trays
- synthetic rope and floats
- bait bags, strapping bands
- fibreglass and paints
- plastic sheeting and bags
- electric and electronic components
- "six pack" and shrink wrap can and bottle holders
- food wraps and disposable eating utensils

Do not dispose of any of these items in the sea

The easiest way to avoid a fine is to bring all your rubbish back with you.

Minimise the amount of rubbish that you end up with by planning what you take to sea. Take reusable plates, glasses, cups and utensils - this will also save you money. Compact or crush your rubbish so that it takes up less room on your vessel.

If you do some fishing, make sure your line is secure and in good condition. Store your fishing line in a dark place - sunlight makes it brittle. Retrieve broken or snagged lines.

Fishing vessels

If you are in the fishing industry you have a responsibility not to pollute the resource that provides your livelihood. Deliberate discarding of damaged nets is illegal and can cause the death of many marine animals (including fish). The law states that fishing vessels must make every effort to retrieve lost or damaged fishing gear.

If you accidentally lose fishing gear, report it to the 24 hour Maritime Rescue Coordination Centre in Canberra (06 247 5244). They will make sure other vessels can look out for it.

You can also contact the centre, or the new NT Pollution Hotline (1800 064 567), if you see another vessel polluting the sea. You should provide the following information:

- boat registration number or name
- date, time and location
- type of rubbish

If possible take a photograph and collect the rubbish. This will help for further investigation and possible prosecution of the polluter.

2. On Land

The Northern Territory *Litter Act* and local council bylaws prohibit the discarding of rubbish outside prescribed rubbish dumps. There are several ways that you can help keep the marine environment free of rubbish generated on the land:

- Don't litter. Rubbish left on the streets eventually makes its way down the drains and out to the sea. When picnicking on the beach remember that the rubbish you leave there will greet you the next time you visit, or may end up in the stomach of a turtle or sea bird.
- When you go camping, plan your trip knowing that you will need to take all your rubbish home with you. Don't use disposable items, take reusable plates, cups and utensils. Take the very least amount of packaging eg. Remove plastic shrink-wrap and "six pack" holders from cans before you go. Take a rubbish bag or container to hold your rubbish and use crushable items (eg. aluminium cans instead of bottles).
- If possible buy in bulk and avoid buying items with lots of packaging (especially plastic). Take your own bags to the supermarket.
- Participate in the annual Clean up Australia Day.

For more information, contact:

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ⁱ **Usage Note:** In maritime law, *flotsam* applies to wreckage or cargo left floating on the sea after a shipwreck. *Jetsam* applies to cargo or equipment thrown overboard from a ship in distress and either sunk or washed ashore. The common phrase *flotsam and jetsam* is now used loosely to describe any objects found floating or washed ashore.