



## Marine Debris

It is not just illegal dumping at sea or coastal littering that generates marine debris. Rubbish dropped in the street travels down stormwater drains to waterways and coastlines. Marine debris kills wildlife, reduces water quality and impacts on industry.

### The Problem

An average 462 pieces of rubbish were removed from coastal sites on Clean Up Australia Day in 2009 <sup>1</sup>.

Because rubbish is so mobile in the marine environment, it is difficult to isolate the source of marine debris. Items may have been dropped directly on the beach, blown from a nearby rubbish bin, washed onshore from the ocean or emerged from the local stormwater system.

It is estimated that 80% of marine debris originates from land-based littering. Ocean-based rubbish dumping occurs on board tourist, merchant and fishing vessels as well as from offshore oil and gas platforms <sup>2</sup>.

#### Common Marine Debris: The Plastic Problem

More than 70% of the rubbish entering the world's oceans is plastic.

Common items include ate those that symbolise the worst excesses of a throw-away economy: plastic bags, drink bottles and fast food containers. Plastic is especially mobile, and in every square kilometre of ocean it is estimated that there are over 119,000 pieces of plastic <sup>3</sup>.



#### Impacts of Marine Debris

Marine debris devastates marine ecosystems. Mammals and birds become entangled in plastic bags or mistake them for food and die during or following from ingestion. Plastic bags take 450 years to break up in sea water, with degradation compromising water quality <sup>4</sup>.

Hazardous materials such as used (sump) oil barrels are a threat to the marine food chain. Pollutants kill off marine organisms, removing the food source for other marine species <sup>5</sup>.

#### Ghost Fishing

Ironically, some fishermen undermine the marine ecosystem that their livelihoods depend upon by dumping fishing equipment at sea.

In Northern Australia, rangers have united with communities to remove 'ghost nets' that wash up upon remote coastlines containing the carcasses of drowned wildlife and/or trapping hatchling turtles.

Because they do not readily degrade, ghost nets continue to trap and kill marine life until they are removed from the ocean or beach <sup>6</sup>.

#### Did you know?

An estimated 6.5 million tonnes of rubbish enters the world's oceans each year <sup>7</sup>.

More than 3.5 billion people depend on the ocean for their primary source of food <sup>7</sup>.

20 million tonnes of marine animals and fish are caught as by-catch of fishing and thrown away each year <sup>7</sup>.

A "trash vortex" occurs in the North Pacific Ocean where ocean currents direct vast amounts of plastic. There is an estimated 6 kilograms of litter for every kilogram of plankton <sup>8</sup>.



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### The Solution

#### National and International Efforts to Reduce Marine Debris

Nations share responsibility for the health of marine ecosystems in territorial waters.

The United Nations Environment Programme Regional Seas Programme encourages nations to work together to reduce marine debris

You can participate in a marine debris monitoring study. Visit the Environment Protection and Heritage Council website at [www.ephc.gov.au](http://www.ephc.gov.au) for more information.

Or log rubbish found in your local waterway through the Clean Up Coastal Rubbish Report <http://www.cleanup.org.au/coastal/flashes.html>

#### How you can Help Reduce Marine Debris

##### At Home

Learn to Refuse, Reduce, Reuse and Recycle. If we can reduce our consumption of excess packaging and increase our recycling rates, we can reduce waste in the first place.

Say NO to plastic bags. Even if you put plastic bags in the bin, they can escape from landfill and become marine debris.

Pick up rubbish you encounter, particularly around stormwater drains.

Make sure your garbage bin is securely fastened.

Use benign cleaning products and never put oil or chemicals down the drain.

Bin your butts rather than dropping them in the street. Chemicals in cigarette butts pollute waterways and poison wildlife.

#### On the Water and at the Beach

Do not put your rubbish in overflowing bins at the beach.

Take recyclable materials home with you.

Don't take plastic packaging on boats.

Use biodegradable fishing equipment and bait bags. Always be sure to take hooks and equipment home with you.

Join a Clean Up Australia Day beach or waterways site.

Report any injured or dead marine animals to the environment authority in your State.

Think about the time it takes for commonly littered items to break down at sea.

| Time taken for objects to break down at sea (10) | Time          |
|--|---------------|
| Paper Bus Ticket                                 | 2-4 weeks     |
| Cotton Cloth                                     | 1-5 months    |
| Rope   | 3-14 months   |
| Woolen Cloth                                     | 1 year        |
| Painted Wood                                     | 13 years      |
| Tin Can  | 100 years     |
| Aluminum Can                                     | 200-500 years |
| Plastic Bottle                                   | 450 years     |

#### References

- 1 Clean Up Australia, "Rubbish Report 2009" <http://www.tourism.australia.com/en-au/markets/default.aspx>
2. Conservation Science Institute - [http://www.conservationinstitute.org/ocean\\_change/ocean\\_pollution/marinedebris.htm](http://www.conservationinstitute.org/ocean_change/ocean_pollution/marinedebris.htm)
3. Keep the sea plastic free brochure - [www.environment.gov.au](http://www.environment.gov.au)
4. Marine Conservation Society UK, "Plastic bags" [http://www.adoptabeach.org.uk/pages/page.php?cust\\_id=41](http://www.adoptabeach.org.uk/pages/page.php?cust_id=41)
5. Secretariat of the Pacific Community, "Think - Don't Throw! Keep our Ocean Clean" <http://www.spc.int/coastfish/fishing/posters/Think.pdf>
- 6 Carpentaria Ghost Nets Programme <http://www.ghostnets.com.au/>
7. Save the Sea, "Interesting ocean facts" [http://www.savethesea.org/STS%20ocean\\_facts.htm](http://www.savethesea.org/STS%20ocean_facts.htm)
8. Greenpeace International, "Trash vortex" <http://www.greenpeace.org/international/campaigns/oceans/pollution/trash-vortex/>
9. UNEP Regional Seas Programme <http://www.unep.org/regionalseas/>
10. International Maritime Organization, "Prevention of Pollution by Garbage from Ships" [http://www.imo.org/environment/mainframe.asp?topic\\_id=297](http://www.imo.org/environment/mainframe.asp?topic_id=297)