



*What did **you** leave behind?*

Plastic has become a major part of our lives, but we don't always dispose of it properly. We've all let it get away – whether it's something blown into our waterways, washed into our drains, dropped in the street, or left behind at the park or the beach.



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Just because you can't see it, doesn't mean it isn't there



You might think it makes no difference, but all of this plastic accumulates and eventually makes its way into our oceans. It is estimated that up to **25 million** items enter the ocean each day. Once there, plastic pollution collects in the circular currents of the ocean gyres and major eddies (such as the East Australian Current). The North Pacific Gyre, or North Pacific Garbage Patch, is the best known, but the same problem is happening here as well.



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Be involved



This is not just a problem that is happening somewhere else. It is here, in our backyard. **South West Tasmania** is one of the planet's most stunning World Heritage Areas, with some of the most remote beaches on the globe. But despite that isolation across land and sea, our wilderness beaches are choking with rubbish.

Fishermen and volunteers undertake the annual **South West Marine Debris Cleanup**. For over a decade, they've been collecting and documenting the rubbish they've collected. In 2011, 4 fishing boats with 23 volunteers collected over **18,357 items** – totalling **3.5 tonnes** – in one week.

93% of this was plastic.



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There are also plastic problems to our east, in the **Tasman Sea**. The Bookend Trust sent Tasmanian students to work on **Lord Howe Island**, another World Heritage Area, with seabird researcher Dr Jennifer Lavers (2011 Tasmanian *Young Tall Poppy Scientist of the Year*) and Ian Hutton (Lord Howe Island Museum).

The students assisted Dr Lavers with her monitoring of seabird adults and chicks within the colonies, dissection of dead birds, studies of plastic debris along the shoreline, and weeding and ecological restoration of habitats on the island.



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As well as being unsightly, plastic pollution poses extreme physical and chemical risks to marine species, and the communities that depend on them. Foraging seabirds collect floating material from the ocean surface without realising that more and more of it is inedible, and then feed their chicks which fill up and die from plastic ingestion.



Nearly 100% of nesting shearwater birds on Lord Howe Island now contain some plastic in their stomachs from the Tasman Sea. Among them was a sad world record for volume: a dead chick containing **276 large pieces** of plastic in its stomach. That's the same as if you ate 12kg of plastic in a meal...



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The problems with plastic don't stop there. Plastic **photo-degrades** rather than bio-degrades. That means that it doesn't break down: instead it simply breaks apart into smaller pieces of the same material.

Beach sand in places such as Lord Howe Island is now partially composed of plastic. In the ocean, plastic molecules outnumber plankton more than **6 to 1** and are consumed into the food chain.

These floating plastics accumulate and concentrate toxic chemicals such as polychlorinated biphenols (PCBs) and heavy metals at much higher rates than seawater. Mercury has now been found in some seabirds significantly exceeding toxic levels. The UN Environment Program has described marine plastics as a **new toxic time bomb** requiring urgent attention.



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What can you do?

This problem has only recently been recognised and solutions are being sought. But everyone can help by simply **reducing** the amount of plastic that you use and **properly disposing** of what you do use.

Spread this message to others in the community and in positions that can make a difference. You can also contact us (www.bookendtrust.com) for more information, including talks and documentary material, on the work described here.



Thanks are due to countless volunteers, the Winifred Violet Scott Charitable Trust and the following sponsors:

And supporters of the South West Marine Debris Cleanup:



Photos: Niall Doran, Ninna Millikin, Jennifer Lavers, Ian Hutton, Kevin Doran, Vicki Colville, Chris Jordan, and the web. Lynchpin is the ocean-specific project of the Bookend Trust.