Our PLASTIC Nightmare

Introduced to the world 50 years ago as 'fantastic plastic', it now dominates our lives and is choking our oceans...

BY *Diane Godley*

PHOTOS: ALAMY

In May this year, Texan business tycoon and adventurer Victor Vescovo set a new world record for the deepest underwater dive. The ex-naval officer descended nearly 11 kilometres in a submersible to the deepest place on Earth — the Mariana Trench in the Pacific Ocean.

What he observed during the dive was a variety of deep-sea marine animals, such as arrowtooth eels, wriggly spoon worms, Mariana snailfish, super giant amphipods (shrimp-like creatures) and a bottom-dwelling sea cucumber, which he described as "completely translucent and had little eyes on its stalks."

Vescovo spent hours crisscrossing the bottom of the ocean collecting video evidence of the marine life that inhabit the deep, including what scientists believe are four new species. He also discovered deep sea geological formations and... rubbish. "It looked like a container of some sort, he says. "It was probably plastic. It was definitely man-made contamination and it was not small. Can there be one place on Earth that is so remote that it is not touched by contamination?" he challenged. The simple answer is no, there's not.

PLASTIC ISLANDS

One of the biggest sources of ocean plastic pollution comes from litter. According to the United Nations, plastic pollution has reached epidemic proportions. An estimated 100 million tonnes of plastic, the equivalent to 480,000 blue whales, is currently found in our oceans.

Australian organisation Clean Up has been supporting and encouraging the Australian community to clean up litter in the environment for the past 30 years and claims much of the waste we create is from plastic. In its 2018 National Rubbish Report, almost 17,000 ute loads of rubbish was picked up by volunteers around the country in just one day – Clean Up Australia Day. Plastic, mainly food packaging and single-use plastics, was a major source of the rubbish collected and included drink containers, caps and lids, chip and confectionery packets, plastic bags and straws.

Plastic is light, moisture resistant and mostly non-biodegradable, therefore will survive for hundreds of years in the environment. While the majority of rubbish sinks to the seabed after entering the ocean, buoyant pieces of plastics are transported by air and water currents over long distances. What doesn't wash up on our

Marine animals and sea birds mistake plastic for food with often deadly side-effects

shores is likely to amass into one of the world's five offshore plastic accumulation zones.

The Great Pacific Garbage Patch (GPGP), located halfway between Hawaii and California, is the largest of these garbage gyres (a rotating ring-like system of ocean currents). In 2015 and 2016, scientists from The Ocean Cleanup conducted several data collection missions in the GPGP using a fleet of 30 boats, 652 surface nets and aerial imagery. Their analysis found the patch, which measured a whopping 1.6 million square kilometres, three times the size of France, consisted of 1.8 trillion pieces of plastic and weighed approximately

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Ocean plastic pollution is predicted to outweigh fish by 2050 unless we take action

80,000 tonnes – the equivalent of 500 jumbo jets.

By comparing the results with historical data, the scientists found that plastic pollution within the GPGP had grown exponentially since measurements began in the 1970s. Once plastic enters these gyres, they remain there and are broken down from the effects of the sun, waves and marine life. And once plastics become microplastic size (approximately 0.05 – 0.5 cm), they are often mistaken for food by marine animals and birds.

On a holiday to Fraser Island in Queensland in 2013 with my family, we came across hundreds of mutton

PHOTOS: ALAMY

birds (shearwaters) littering the long sandy shores. We didn't know it at the time, but they had literally fallen out of the sky from hunger and exhaustion. A report the following year by Australia's national science research agency, CSIRO, stated that thousands of shearwaters had washed up dead or dying on southern Queensland beaches in 2013 because they had mistakenly eaten plastic.

These birds, which travel from Alaska every year to nesting grounds in Bass Strait in the south of the country, were found to have large amounts of plastic in their guts – providing neither the nutrients nor energy they needed to complete such a mammoth flight. "Ingestion of plastic debris has increased since the 1970s, particularly among birds that roam long distances like petrels and albatrosses, resulting in lethal and sub-lethal side effects," said Chris Wilcox, CSIRO Senior Research Scientist.

SMALL ACTS...

So, what can we do? Without big action, plastic in the ocean is predicted to outweigh fish by 2050 – surely not a legacy we want to be remembered for. Earlier this year, every country in the world, except the US, signed an international treaty to reduce their country's plastic pollution and restrict shipments of hard-to-recycle plastic waste going from wealthy countries, including the US, China and Australia, to countries in South East Asia.

While that's a crucial first step, we could all take more responsibility to reduce the amount of plastic flowing into our lives. Like US historian Howard Zinn once said: "Small acts, when multiplied by millions of people, can transform the world." R

A PLASTIC MEMOIR FROM THE AUTHOR

Our family was first introduced to plastic when I was around six years old. I remember my mother coming home with the fortnightly shopping. Removing the groceries from brown paper bags, she handed me a bottle of shampoo, telling me the bottle was made from this new material that didn't break.

With my little scientific brain working overtime, I took the shampoo bottle to the bathroom and put it to the test. Holding the bottle at shoulder height, I dropped it on the tiled floor.

"Wow!" I said. "It didn't break." But to be absolutely sure, I did it again. "Wow!" And again. Until... it broke. Try doing that with today's plastics.