

Culture Change

DROWNING IN AN OCEAN OF PLASTIC

By Stephen Leahy, Wired News, June 5, 2004

The United Nations has turned its attention to the oceans for World Environment Day, and one of the main evildoers is a familiar one - plastic.

Marine trash, mainly plastic, is killing more than a million seabirds and 100,000 mammals and sea turtles each year, said U.N. Secretary-General Kofi Annan in a statement.

Plastic bags, bottle tops and polystyrene foam coffee cups are often found in the stomachs of dead sea lions, dolphins, sea turtles and others. The implications have many at the conference concerned. Last April, Dutch scientists released a report on litter in the North Sea and found that fulmars, a type of seagull, had an average of 30 pieces of plastic in their stomachs.

In the sea, big pieces of plastic look like jellyfish or squid, while small pieces look like fish eggs, says Bill Macdonald, vice president of the [Algalita Marine Research Foundation](#), a Long Beach, California-based nonprofit environmental organization.

Macdonald, who is also an underwater filmmaker, said he has seen albatross parents fly huge distances to feed their young a deadly diet of plastic bottle caps, lighters and light sticks.

"The sheer volumes of plastic in oceans are staggering," he said. In recent years Algalita researchers have sampled a huge area in the middle of the North Pacific, and found six pounds of plastic for every pound of algae.

About 250 billion pounds of raw plastic pellets are produced annually worldwide and turned into a tremendous variety of products, from cars and computers to packaging and pens.

About 20 percent of the plastic in the oceans comes from ships or offshore platforms; the rest is blown or washed off the land, says Angela Corridore, a researcher with the U.S. Commission on Ocean Policy. Not only does plastic kill marine animals that eat it or get tangled in it and drown, but it also damages and degrades their habitat, says Corridore. "That's bad for fish and people. No one wants to go to a crappy-looking beach."

Plastic pellets are also magnets for toxic chemicals like DDT and PCBs, becoming, in effect, poison pills. Japanese researchers found that concentrations of these chemicals were as much as a million times

higher than in the water. Plastics themselves can leach endocrine-disrupting chemicals like biphenyl A.

Macdonald has come across "snow drifts" of spilled pellets outside plastic product manufacturing plants in Orange County. "It took about three minutes for some of these to wash into a nearby creek during a rain storm," he said.

Most plastics don't biodegrade. Unless removed, they'll remain in the sea for hundreds of years, breaking up into ever-smaller particles. Recently British scientists discovered that microscopic pieces of plastic can be found everywhere in the oceans, even inside plankton, the keystone of the marine food chain.

The scientists also noted that the amount of plastic particles in the oceans has at least tripled since the 1960s. The effect they have on the marine ecosystems is unknown.

Plastic pollution in the oceans is less of an issue to Ransom Myers, a leading fisheries scientist. Myers allows that there might be some unforeseen impact on ocean ecosystems. "Our ability to understand what's going on the oceans is phenomenally poor," he said. "The No. 1 threat to oceans right now is overfishing and habitat destruction by trawling."

In its preliminary report, the U.S. Commission on Ocean Policy said time is running out for America's coasts and oceans. Among its recommendations: establish a National Ocean Council within the White House, stop subsidy programs that encourage overfishing and double investment in ocean research.

Funding for the National Oceanic and Atmospheric Agency to monitor marine debris should also be restored, says Corridore.

Every year we're learning about something bad that's going on in the seas, says Macdonald. "It's just dawning on people that the oceans are in deep trouble."

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Bottle caps and other plastic objects are visible inside the decomposed carcass of this Laysan albatross on Kure Atoll, which lies in a remote and virtually uninhabited region of the North Pacific. The animal is a juvenile who was fed the objects by its parents who foraged them from thousands of miles of the north Pacific Ocean..

Source: Captain Charles Moore, Algalita Marine Research Foundation



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<http://www.algalita.org/pdf/plastic-in-the-environment.pdf>