

science & environment

Toys and toxins—ocean terrors of the 90s

by Wayne Groszko

On January 10, 1992, somewhere near the middle of the North Pacific Ocean, twelve shipping containers washed off the deck of a ship in a storm. One of those containers broke open and released approximately 29,000 plastic toys. The toys had been manufactured in China and were on their way to Tacoma, Washington when they went for a sudden swim.

Two months later, plastic toys began washing up on beaches near Sitka, Alaska. According to a recent article in the journal *EOS Transactions*, a total of 400 little red beavers, green frogs, blue turtles and yellow ducks were reported found at various locations.

The article went on to explain how the timing and location of the arrival of the plastic toys provided data to assist in the understanding of the currents in the Pacific Ocean. Using the time and location of the spill, and where the toys landed, computer models of ocean currents were adjusted to match the data.

This is not the first time that a shipping spill has been used to measure ocean currents. Several years earlier, 61,280 Nike shoes were spilled

from a ship in another location in the North Pacific. About 1,600 of these shoes have since been found along the Alaskan coast. Information from those findings was also compared with computer models of the currents.

The *EOS* article discusses only the scientific value of the data provided by such spills. It does not address larger questions such as why spills occur, how many there may be in a year and what possible impacts they may have on the ocean environment. It is likely that nobody even knows the full extent to which material is spilled or purposefully dumped into the ocean each year.

Spills of all kinds of objects into the ocean are commonplace. In 1993, several beaches on the Brittany coast of France had to be closed because of firecracker starters which had washed ashore. Each of these explosive devices is powerful enough to rip off a hand. A nearby region had already been subjected to bags of pesticides washing up on shore, and was anticipating a tide of disposable diapers which had washed off a ship and were headed for France. In a more serious case, a container of isocyanate washed off a ship in the North Sea and subsequently landed on a beach

in England. Isocyanate is a highly toxic substance, and the local area had to be evacuated until the container was recovered.

On a beach in the Persian Gulf, researchers found high numbers of small plastic pellets which had washed up as a result of the shipment of bags of these pellets from a factory in Saudi Arabia. In some places, 2,000

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of these plastic beads, each about 3 mm long, could be found in a single square metre. This could cause problems for shore birds which may eat them. The pellets are non-toxic to eat, but they fill the stomach without providing any nutrition, which can result in malnutrition and starvation.

The number of spills into the

ocean - and the way they are treated more as a scientific curiosity than a problem - points out that the interaction of humans with the ocean is very different than our interaction with the land.

If plastic toys fell out of an airplane over Canada, our first concern would not be figuring out what scientific information this tells us about the aerodynamics of plastic toys. Our first concern would be whether any humans had been hurt, and the next would probably be to figure out why it happened, so as to avoid it happening again. The ocean is a different story, because other species live there and not us. Only when things wash up on the beach do we pay any sig-


nificant attention.

On a related note, this year's Killam Lectures are entitled "Living with the Oceans". There will be three lectures, Thursday, October 6, October 13, October 20. Each lecture will be in the Cohn Auditorium of the Dalhousie Arts Centre at 8:00 p.m.. Admission is free.

If you are interested in discussing environmental issues, contact the Eco-Action Working Group of the NSPIRG (494-6662, or nspirg@ac.dal.ca).

Eos Transactions, Volume 75, Number 37, September 13, 1994, page 425. "Rash of Diapers to Wash Ashore". *Calgary Herald*, December 28, 1993, page A14.

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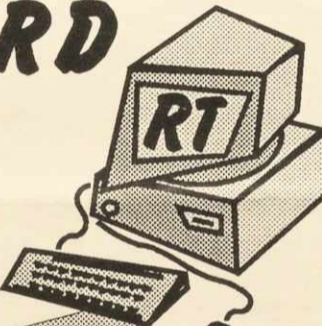
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