

Print Page

Plastics: Convenient or deadly?

By Stuart Moody

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Just before Christmas, my wife and I visited her mother as she entered a nursing home. We were touched by the many demonstrations of affection and sympathy that arrived. Most of them came in plastic: Candies wrapped in mylar; cookie baskets wrapped in clear film; a chocolate box with plastic coating; amaryllis and poinsettias in polyethylene pots; lotion in plastic bottles. She was even given a scarf made of plastic fibers.

"We may not think about them often," says the American Chemistry Council, "But versatile plastics inspire countless innovations that help make life better, healthier and safer every day." In their view, plastics provide cheap, hygienic, lightweight, and convenient materials for our growing economy. But plastics are turning out to be anything but convenient. To get an idea of their real impact, consider the following.

- In 2005, the US produced 54 million tons of plastic. That year, American households sent half that amount to the landfill or incinerator. The average American threw away 184 pounds of plastic.
- Plastic waste is accumulating not only in our landfills, but also in our streets, parks, and waterways. According to the Regional Water Quality Control Board, plastic items constitute 51.5 percent of trash in San Francisco Bay Area creeks.
- Because plastic never biodegrades, the trash load keeps growing. This litter is not only an eyesore. In the North Pacific, an estimated 100,000 marine mammals die yearly from ingestion or entanglement in plastic debris. Each year, one million seabirds die this way.
- A 2001 trawl of surface waters in the northern Pacific recovered 6 pounds of plastic for every pound of zooplankton. A trawl this summer by the research vessel junk found 46:1.
- When plastic articles break into smaller pieces, they do not disappear. Their essential constituents (long-chain polymers) remain intact, resisting metabolism by any creature. Jellyfish and salps, the most efficient filter-feeding organisms in the ocean, have been found with plastic particles embedded in their tissues. Sailors on the junk caught fish with plastic particles visible in their flesh. These particles are moving up the food chain, straight to us.
- Plastic chemicals make their way invisibly into the environment as well. Phthalates, a class of chemical used to confer flexibility to plastics and to dissolve ingredients in cosmetics, are in the bloodstreams of most Americans, and in the tissues of deep-sea jellies. A study of a Singapore market found BPA, another common plastic chemical, in every sample of seafood examined.
- Chemicals such as BPA and certain phthalates have been correlated with increased risk of modern disorders such as asthma, cancer, diabetes, obesity, and reproductive failure.

Sadly, recycling cannot mitigate these impacts. When plastics are reprocessed, they only down-cycle, leaving unaddressed the deeper problems: Non-biodegradability, toxicity and the wastefulness embedded in a single-use society. More than recycling, we need reduction and re-use, and greener chemistry. Banning plastic bags is one small step; the next step will be to require producer take-back of the materials they make.

Stuart Moody is on the Executive Committee of Green Sangha, a group dedicated to restoring our sense of oneness through mindful practice and awakened action. Chapters meet monthly in Berkeley, San Anselmo and Santa Rosa. For more information, visit www.greensangha.org or attend a talk by Stuart on "Rethinking Plastics" Monday, Jan. 5, 7 p.m. in the Stony Point Room at the Ray Miller Community Center, 216 E. School St., Cotati, sponsored by Cotati Creek Critters.

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