



# PLASTICS



*Is this a photograph of a coastal landfill or an uninhabited beach on an island in the middle of the Pacific Ocean?*

Beaches around the world are littered with plastic debris. Even the most remote islands, uninhabited by human beings, are becoming inundated with non-biodegradable plastics. Researchers from the Marine Science Department at the University of Hawaii analyzed plastic debris from nine remote locations throughout the Hawaiian Archipelago. Their findings are alarming.

The samples were sieved for pieces of plastic that were between 1mm and 15mm in size. Twenty-eight percent of the sample, by weight, was plant material, fragments from mollusk shells, or large grains of sand. Of the sample collected, 72 % was plastic!

The United Nations Environment Program estimates that there are 46,000 pieces of plastic litter in every square mile of ocean, and a swirling vortex of trash twice the size of Texas has spawned in the North Pacific.

Since stories have started surfacing more recently, many have wondered if the rumors are true. Are there really 'continents', or massive floating garbage patches residing in the Pacific? Apparently, the rumors are true, and these unsightly patches are reportedly killing marine life and releasing poisons that enter the human food chain, as well. Ocean currents have collected massive amounts of garbage into a sort of plastic "soup" where countless bits of discarded plastic float intertwined just beneath the surface. Indeed, the human race has really made its mark. The enormous Texas-sized plastic patch is estimated to weigh over 3 million tons.



Sadly, marine researcher Charles Moore at the Algalita Marina Research Foundation in Long Beach says there's no practical fix for the problem. He has been studying the massive patch for the past 10 years, and said the debris is to the point where it would be nearly impossible to extract. "Any attempt to remove that much plastic from the oceans - it boggles the mind," Moore said

from Hawaii, where his crew is docked. "There's just too much, and the ocean is just too big."

Plastic bags, once icons of customer convenience, cost more than 1.6 billion barrels of oil per year and leave the environment to foot the bill. Each year the world produces 500 billion bags, and they take up to 1,000 years to decompose. They take up space in landfills, litter our streets and parks, pollute the oceans and kill the wildlife that eat them.



Plastic resins are made from non-renewable natural resources that could be used for a variety of other applications or conserved. Most packaging plastics are made from the same natural gas used in homes to heat water and cook.

Forms of plastics point-source pollution are the careless dumping of plastics directly into the oceans and pre-production plastic pellets, used to create nearly all plastic products, which are carelessly handled in places where they are produced and transported. A large portion of plastics pollution is non-point source pollution. Plastic bags, plastic bottles,



*A Plastic Life*

**Recommended web sites for additional info on plastics.**

- ◆ [www.unep.org](http://www.unep.org)  
United Nations Environment Program
- ◆ [www.epa.gov](http://www.epa.gov)  
Environmental Protection Agency
- ◆ [Plasticbagfree.com](http://Plasticbagfree.com)  
(Modbury, South Devon-Great Britain's first plastic bag free town.)
- ◆ [www.google.com](http://www.google.com)  
(Search videos for plastics or plastic bags pollution)

cigarette butts, etc. make their way to our streams and oceans through wind and runoff.

Embracing the three Rs - reduce, reuse and recycle - would help tackle the problem; but many people aren't even sure what recycling options exist in their area. There are other challenges for plastic recycling too. Some plastics release toxic chemicals into the atmosphere, and are more expensive to recycle than to simply create a new product from petrochemicals.

Collecting plastic containers at curbside fosters the belief that, like aluminum and glass, the recovered material is converted into new containers. In fact, recovered plastic containers are not being made into containers again but into new secondary products such as textiles, parking lot bumpers, or plastic lumber – all unrecyclable products. This does not reduce the use of

virgin materials in plastic packaging. "Recycled" in this case merely means "collected".



While plastics offer advantages such as flexibility and light weight, it creates problems including: consumption of fossil resources; pollution; high energy use in manufacturing; accumulation of wasted plastic in the environment; and migration of polymers and additives into foods.



Eco-friendly legislation that targets the production and distribution of plastic bags has been introduced in Israel, San Francisco, Ireland and China.

Experts say the best way to mitigate the damage down the road is by buying fewer products that contain plastics or plastic packaging, recycling, lobbying for safer bio-degradable plastics, and purchasing reusable cloth grocery bags among other strategies.

Information taken from: Algalita Marine Research Foundation web site; [dailygalaxy.com](http://dailygalaxy.com); and [ecologycenter.org](http://ecologycenter.org). The Warren County Conservation District takes no credit for the photos in this article. They are all from web sites.