Floating Garbage Dump Threatens Marine Life

by Nikki Weaver, Discovery Center Director

Who among is not totally outraged by the all-too-frequent media accounts of yet another giant (or small) oil spill into our oceans? We fume at the apparent carelessness and indifference of the operators of huge petroleum tankers that ply the seas.

And yet….would you believe that the greatest contributor, by far, of marine pollution comes from litter originating on land? Sadly and unintentionally, it comes from our own hands via our careless management of the ubiquitous, durable, and ever-so-convenient PLASTIC.

The problem has rapidly accelerated in recent years to the point that there is now a vast expanse of debris – in effect the world's largest rubbish dump – being held in place by swirling underwater currents and estimated to be twice the size of the United States. The enormous stew of trash – which consists of 80% plastics and weighs some 3.5 million tons – is actually two linked areas, on either side of the islands of Hawaii, known as the Eastern and Western Pacific Garbage Patches. About one-fifth of the junk, which includes everything from footballs and kayaks, to Lego blocks and suitcases – has fallen from cargo ships or oil platforms. The rest comes from land. This infamous pile of trash has been growing, along with ocean debris worldwide, tenfold every decade since the 1950's.

The Great Pacific Garbage Patches are particularly dangerous for birds and marine life. Plastic debris kills more than a million seabirds every year as well as more than 100,000 marine mammals, including seals and otters, dolphins, whales and sea turtles who mistake clear plastic bags for edible jellyfish, one of their main food sources. One of the most devastating impacts of the floating garbage has been on the Laysan Albatross, a wild and rare creature not often seen by humans. The Albatross is a bird of legend that spends most of its life far out to sea, going ashore only to mate and raise chicks on remote Pacific islands. Albatrosses fly hundreds, sometimes thousands of miles in search of food for their chicks. They look for squid and fish eggs floating on the surface of the water. Unfortunately plastic floats on top of the water as well, and Laysan Albatrosses are particularly attracted to it. They eat it, mistaking it for food, then fly back to the nest and feed bottle caps, lighters, fishing lures and other pieces of plastic to their young. The chicks starve to death, with stomachs full of plastic. About 40% of the Albatross chicks born each year die because their bellies are full of bottle caps, toothbrushes and other plastics.

Finding a solution to this ever-growing problem is particularly challenging due, in part, to the advancement of modern-day manufacturing technologies. Modern plastics are so durable that they are decompose very slowly. Even after seabirds and other marine animals die from ingesting plastic and their bodies decompose, the original killer still remains, waiting to be consumed yet again by another hungry and unsuspecting victim.

So what steps can you take to help alleviate this disturbing situation? The long term solution is to reduce production of plastic products internationally and change our consumption habits. Buy foods that aren't wrapped in plastic and recycle all plastic containers that you must purchase. Data released by the EPA shows that somewhere between 500 billion and a trillion plastic bags are consumed worldwide each year.

Less than 1% of plastic bags are recycled. You can use canvas bags to carry groceries instead of plastic bags and recycle every plastic bag that you use! A person's average use of a plastic bag can be counted in minutes. Yet it may take hundreds of years before that bag decomposes. If we use cloth bags for carrying groceries we can save 6 bags per week. That's 24 bags/month or 288/bags per year, or 22,176 in an average lifetime. If just 1 out of 5 people in our country did this we would save 1,330,560,000,000 plastic bags over a lifetime.

Plastic shopping bags are manufactured from polyethylene, a thermoplastic made from petroleum. Reducing the use of plastic bags would result in considerable reduction of the use of oil for that purpose, a substantial benefit.

Internationally the U.S. is lagging in its efforts to reduce the consumption of plastics. Bangladesh has banned plastic bags. China has banned plastic bags. Rwanda banned plastic bags in 2005. Israel, Canada, Western India, Botswana, Kenya, Tanzania, S. Africa, Taiwan and Singapore have also banned or are moving toward banning the plastic bag. Ireland took the lead in Europe, taxing plastic bags in 2002 and have now reduced plastic bag consumption by 90%. In March 2007 San Francisco became the first US City to ban plastic bags. Oakland and Boston are considering a ban.

Enlightened action reducing the widespread-casual use of plastic packaging in our lives could have far-reaching and beneficial effects on our marine environment, especially the creatures that depend on the sea for their sustenance.