

**Friends of Long Marine Lab**  
**Ocean Conservation Action Statement #3**  
**November 2008: Plastic Bags**

*In our third Ocean Conservation Action Statement the Friends of Long Marine Lab are calling on the City of Santa Cruz to join the growing number of cities around the world to ban the plastic bag.*

*In 2003, the United States Environmental Protection Agency released data showing that between 500 billion and a trillion plastic bags were being used each year worldwide. The United States alone was using 86 billion bags each year and sadly only recycling two percent. Since that report, countries like Bangladesh, Rwanda, Israel, Taiwan, Canada, and Singapore have either banned or are moving toward banning plastic bags. Here in the United States, San Francisco was the first city to ban non-biodegradable plastic bags, followed by New York City, which passed a bill requiring large stores and retail chains to collect and recycle plastic bags. Malibu and Los Angeles are working toward joining this movement to ban plastic bags around the world.*

*The economics behind this effort are startling. It costs \$4,000 to process and recycle one ton of plastic bags (which in itself makes an unattractive solution) yet the sad reality is that less than two percent of all bags make it to recycling centers with most ending up in landfills, or worse, free in the environment. Plastic bags are made from polyethylene, a product made from oil--and considering the rise in the cost of oil, any opportunity to conserve oil makes national and global good sense. With China's recent ban on free plastic bags it is predicted they will save 37 million barrels of oil each year. And finally, the cost of cleanup is too high to estimate as plastic bags are everywhere--blowing from one street to another, and from one country to another.*

*How do plastic bags affect our oceans? They are now found throughout all the world's seas. Ocean-going vessels dump more than eight million pounds of plastic each year. Plastic bags serve as death traps as marine birds and animals become entangled in them. And unlike paper, these bags degrade into smaller and smaller pieces that break down slowly, quickly becoming part of the food chain. Nearly 200 different species of sea life including whales, dolphins, turtles, and seals die every year due to plastic bags--usually because they are confused with food. Millions of sea birds are starving to death because their stomachs are filled with plastic. And as a petroleum-based product, these bags leach toxic chemicals that pollute our soils with runoff going into our watersheds and oceans.*

*What's the solution? We could require stores to establish recycling programs and charge a per-bag fee to help pay for it. Perhaps the better choice is an outright ban on plastic bags, locally and globally. As a community that is recognized for our environmental awareness, why don't we join other progressive cities, counties, and nations and ban plastic bags? No more bags produced, oil wasted, or beaches and seas polluted!*

*Let's all get in the habit of bringing our own bags, it's not a paper or plastic choice, it's the do-the-right-thing choice. Plus, consider all the groovy bags out there from which to choose. Make a statement, do the right thing for our ocean's future and for our future.*

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**Friends of Long Marine Lab**  
**Ocean Conservation Action Statement #2**  
**March 2008: Plastic Water Bottles**

*In our second Ocean Conservation Action Statement the Friends of Long Marine Lab would like to address the growing concern over plastic water bottles. Research shows that not only are plastic bottles bad for the environment (especially the ocean), but that they may present a health risk to the public as well. In this short editorial we cannot present all the information available but we will highlight some key concerns and offer some alternatives.*

*It seems you can't go anywhere without seeing someone with a water bottle in hand. Most claim to be "Mountain Fresh," "imported from Fiji," or from the Alps or anyplace other than our local municipal water source. Last year Americans consumed eight billion gallons of bottled water, up 10 percent from the year before. This booming business concern is certainly trying to do the right thing by keeping us all hydrated--and in a healthy way. We can't deny that it often appears to taste better than what comes out of the faucet and it sure is convenient. Yet many people are beginning to question whether or not it's really the best choice for themselves and for the environment.*

*In regards to the environmental impact, we know that globally 18 million barrels of oil and up to 130 billion gallons of fresh water are used just to make the plastic bottles we put the water in. Another 41 billion gallons of water is then used to fill the bottles. Just making the bottles to hold the water produced more than 2.5 million tons of CO<sub>2</sub>. Add in shipping and those plastic bottles in the U.S. alone produced more than 8.4 million tons of CO<sub>2</sub>, that's equivalent to 2.2 million cars on the road. And worst of all, while all these bottles are recyclable, only 14 percent actually make it to a recycling center. In the U.S. over 93 billion plastic bottles end up in landfills each year.*

*As to those exotic water sources, 40 percent of bottled water is actually filtered tap water marked up 8,000 times in cost. That's \$8 /gallon (over twice the present price of gasoline) versus 1/10 cent/gallon for Santa Cruz city water. In addition, standards for our tap water are more stringent than that for bottled water. In a recent study by the Natural Resources Defense Council, 1,000 bottles of bottled water were tested from 100 different brands. While stating that most bottled water is safe, they found one third of them had contamination beyond allowable limits of bacteria, arsenic, or chemical compounds including carcinogens. Of greatest significance however was the finding that two brands were contaminated with phthalates. Phthalates are chemicals that are endocrine*

*disrupters, that is they affect the normal function of hormones in our body. A last point in regards to our own safety, evidence is growing to suggest that when water bottles are exposed to warming temperatures, such as sitting in closed car, over time they begin to leach chemicals into the water.*

*So what can we do? Many of us switched to bottled water for the convenience and others because of the uncertainty of their local water safety; how do we reconcile these two needs with the data telling us to do otherwise?*

*Think locally:* First off begin investigating your local water source. When we phoned our local provider we were told that they could provide us with a water standard rating for the water being pumped at any given time. Have your water tested at your home. For more information call toll free the EPA's Safe Drinking Water hotline at 800-426-4791.

*Still not convinced:* Consider one of many water filters available from stand-alone units to sink attachments to complete home filtration systems.

*Canteen me:* Carry your plain or filtered tap water in a reusable stainless steel or lined container. Check out SIGG, Klean Kanteen and New Wave Enviro.

*Can't live without:* If you must buy plastic water bottles than look for brands with NSF certification, keep it cool and RECYCLE!

*As the "Friends" board of directors of an ocean science institution--why do we care? Out in the Pacific scientist have discovered not one, but two masses of garbage each about the size of the state of Texas. How this congregation forms is another subject, but what is important is the fact that the majority of the waste found at these sites is plastics. Water bottles are the tip of the plastic waste iceberg but we as consumers are in a position to make a change, both for the ocean's health and our own.*

*We challenge others companies and organizations to do like the Seymour Marine Discovery Center and Long Marine Lab have, and give up the plastic water bottle!*

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**Friends of Long Marine Lab**  
**Ocean Conservation Action Statement #1**  
November 2007: Polystyrene Use

*The Friends of Long Marine Lab board of directors recently decided to actively "walk the talk" regarding ocean science and conservation. At their fall retreat, the board agreed to spend the next year taking action on their beliefs, and publicly leading by example. The first manifestation of that is as follows:*

*Polystyrene foam (Styrofoam) is a common environmental pollutant as well as a non-biodegradable substance that is commonly used as food service ware by food vendors. It is notorious as a pollutant that breaks down into smaller, non-biodegradable pieces that are*

*ingested by marine life and other wildlife thus harming or killing them. There continues to be no meaningful recycling of polystyrene foam food service ware.*

*Biodegradable or compostable food service ware is an affordable, safe, more ecologically sound alternative. Substituting this service ware made from renewable resources such as paper, cornstarch, and sugarcane is an effective way to reduce the negative impacts of throwaway food service.*

*The Friends of Long Marine Lab will not use polystyrene in any of their events and activities as they support the marine science and conservation work of Long Marine Lab and its public education program, the Seymour Center. They encourage others throughout our city and county to follow this example.*

*One company that offers replacement products can be found on the web at [www.ecoproducts.com](http://www.ecoproducts.com). A local vendor is Ledyard Company located on 17<sup>th</sup> Avenue. Please visit our website for additional ways that you can get involved with ocean conservation and education: <http://seymourcenter.ucsc.edu>.*

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ACTION STATEMENTS DURING 2008.**