CF # 11-1531

5GYRES

UNDERSTANDING
PLASTIC POLLUTION
THROUGH EXPLORATION, EDUCATION AND ACTION

5 GYRES INSTITUTE

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From: Marcus Eriksen, PHD
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To: City of Los Angeles

Dear Mayor Villagaigosa and City Council Members:

I'm writing to express my support for the ordinance to ban of single-use plastic shopping bags. Our organization, The 5 Gyres Institute has now sailed over 25,000 nautical miles to all major subtropical oceanic gyres in the world, including The North Pacific Gyre. On the surface of the ocean, the two most common types of plastic are Polyethylene and Polypropylene. Plastic bags are made of High Density Polyethylene (HDPE), and are an unnecessary contributor to plastic pollution in the world's oceans. Industry will often argue that 'you don't find plastic bags in the gyres' but this is a red herring. Plastic does not biodegrade, but rather, it photo-degrades which means the chains that hold the hydrocarbon molecules together break, leaving micro-fragments of plastic that do not biodegrade in a meaningful time. The problem of these plastic fragments are twofold—plastic, because it's made of a fat, that is, oil, absorbs carcinogenic and endocrine disrupting chemicals present in the ocean. Plastic is so efficient at absorbing these chemicals that an ocean born piece of plastic has been shown by Hideshige Takada at Tokyo Agricultural College in Japan, one of the world's leading researchers on the relationship between plastic and chemicals, to possess a million times higher concentration of pollutants than the ambient sea water around it. New research, that's not released to the public yet, but will demonstrate in a highly respected peer reviewed journal that HDPE is the worst type of plastic for chemical concentration in the marine environment. According to a July 2011 publication by Scripps Institute of Oceanography, 9% of base food chain fish (which represent 50% of the biomass in fish in the ocean) have been shown to ingest these plastics. Larger fish eat these fish and we eat larger fish. This is a clear and present human health danger.

And the problem is growing-- Scripps is about to publish a peer reviewed paper that demonstrates that spatial density of plastics in the North Pacific has grown by two orders of magnitude since the first samples were taken over a decade ago. That's a massive increase and proves, unequivocally, that mitigation initiatives have failed, miserably. Often industry will say, 'we need more recycling.' Well, recycling doesn't work and it shifts the pollution burden on to taxpayers. According the latest report by the EPA, recycling rates for HDPE, the stuff that plastic bags are made of, is going ***down***. But the recovery numbers are incredibly low to begin with. In 2009, the recovery rate was 6.1% and in 2010, it was 4.3%. But I ask you, what society accepts a four or six percent efficacy in any system? What's even more nefarious is that those rates reflect, *all* HDPE, not just bags. The 5 Gyres Institute estimates that plastic bag recycling is about 1%, nationally, though no reports by the EPA which compiles data from the American Chemistry Council exist for plastic bag recycling.

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According The Ocean Conservancy's 2010 annual report, 10% of the total amount of trash removed from beaches during their International Coastal Cleanup was plastic bags. With this ordinance, we have the chance to remove 10% of beach trash before it goes into the ocean.

Industry also uses scare tactics to attempt to ensure their bottom line. The American Chemistry Council funded a study meant to show that reusable bags can be contaminated by food and can contribute to food born illness. They issued a press release about the dangers of reusable bags causing a media frenzy. What's interesting is the reports actual content: NO bacteria of any kind shown to be harmful to humans was present in their sample set, yet this didn't prevent them from issuing the press release. Consumer Reports officially debunked the study stating, "A person eating an average bag of salad greens gets more exposure to these bacteria than if they had licked the insides of the dirtiest bag from this study," says Michael Hansen, senior staff scientist at Consumers Union.

Let's preserve the legacy of California and our municipalities whose economies depend on the sanctity of our oceans by getting rid of these wasteful, unnecessary items. The City of Angeles does not deserve the devil that is the plight of plastic pollution.

Thank You

Marcus Eriksen, PHD
Executive Director
The 5 Gyres Institute

EPA report:

http://www.epa.gov/osw/nonhaz/municipal/pubs/msw_2010_data_tables.pdf

Scripps:

http://scrippsnews.ucsd.edu/Releases/?releaseID=1174

Ocean Conservancy:

http://act.oceanconservancy.org/pdf/Marine_Debris_2011_Report_OC.pdf

Consumer Report:

http://news.consumerreports.org/safety/2010/07/can-reusable-grocery-bags-make-you-sick-or-is-that-just-baloney.html