



Facts About Single-Use Plastic Bags

AND WHY THEY MUST BE REGULATED

Prepared by Santa Barbara Channelkeeper, October 2011

Although single-use plastic bags are designed to be used for only moments, plastic lasts hundreds of years in the environment. Once discarded, the vast majority of plastic bags end up in landfills, rivers, storm drains and eventually, the beach and ocean, where they threaten wildlife and our tourism-based economy.

As neighbors to the Channel Islands National Marine Sanctuary - one of only 13 marine sanctuaries in the nation - municipalities along the coast of the Santa Barbara Channel have a special responsibility to keep trash out of our waterways. We need to reduce the prevalence of plastic bags to maintain a clean environment, protect marine life, enhance our recreation and tourism-based economy, and improve the quality of life for all residents.

Plastic bags litter our creeks, roadsides, beaches and ocean

- ◆ In California, 12 billion plastic grocery bags are distributed each year (400 per second!).¹ Because they are lightweight and easily dispersed by wind, many of these bags end up as litter in our creeks, on our beaches and roadsides, and in the ocean.
- ◆ Plastic bags are the second-most common type of litter collected on Coastal Clean-up Day in California.² At Ventura and Santa Barbara County beaches, over 8,500 plastic bags were removed at Coastal Clean-up Day events (a three-hour event on one day) in the past two years alone.³
- ◆ The City of Santa Barbara's Creeks Division reported that, of 268 creek sites they cleaned up during 2010, every single one was littered by plastic bags.⁴

Plastic bags have significant environmental impacts

- ◆ Plastic bags never fully biodegrade, but instead break down into tiny pieces through photodegradation. Recent scientific studies have shown definitively that plastics in the marine environment leach pollutants of concern into the water and also accumulate, transport and concentrate pollutants from the surrounding seawater. Various marine species can mistake plastic particles as food, and when ingested, their associated toxins enter the ocean food chain.^{5, 6, 7}
- ◆ Plastic bags threaten a variety of marine species, including whales,⁸ sea otters, pinnipeds, sea turtles,⁹ and sea birds through ingestion, choking, infection and/or entanglement.
- ◆ The typical plastic grocery bag is manufactured from polyethylene, a byproduct of petroleum and natural gas - nonrenewable resources.¹⁰

Plastic bags have economic costs

- ◆ Plastic marine debris has substantial economic impacts on coastal communities, documented in the millions of dollars spent in the form of clean-ups or lost in decreases in tourism.¹¹
- ◆ In California, 247 million pounds of plastic bags are landfilled each year.¹² California taxpayers spend approximately \$25 million annually to collect and landfill plastic bags.¹³
- ◆ Los Angeles County residents dispose of 45,000 tons of plastic bags each year.¹⁴ Landfills in LA County spend approximately \$300,000 a year per facility to clean up single-use plastic bags dispersed by wind.¹⁵
- ◆ A cost analysis commissioned by the City of San Francisco in 2004 showed that \$8.5 million was spent annually to deal with plastic bag litter - roughly 17 cents for every bag distributed in the city.¹⁶

- ◆ Plastic bags that make their way into the storm drain system impact the system's ability to effectively channel stormwater runoff. San Jose City staff estimate that it costs at least \$3 million annually to clean plastic bags from creeks and clogged storm drains.¹⁷
- ◆ Retailers currently embed 2-5 cents per plastic bag in the price of goods, costing an individual consumer up to \$30 per year.¹⁸

Recycling and education are ineffective

- ◆ Recycling is not a sufficient solution to curbing plastic bag pollution. Despite mandatory supermarket take-back programs implemented in 2006, less than 5% of plastic bags are recycled in California.¹⁹
- ◆ Recycling plastic bags is not cost-effective. The domestic market for plastic bags is extremely limited, especially in California, requiring recycling facilities to truck the bags over long distances, making recycling economically infeasible.²⁰ The majority of plastic bags that are recovered for recycling are sold to foreign markets such as China.^{21, 22}
- ◆ In Los Angeles County, over 90% of the bags collected for recycling ended up being shipped to a landfill rather than recycled due to contamination from food or pet waste and the tendency for bags to jam recycling machinery.²³ In San Jose, less than 4% of plastic bags are recycled, and work stoppages from jammed bags cost the City approximately \$1 million per year.²⁴
- ◆ Voluntary education programs to reduce plastic bag use have also not been effective. Of the eleven grocery stores who agreed to participate in Santa Barbara's "Where's Your Bag?" education campaign, only two have undertaken any of the measures they committed to. LA County's voluntary Single-Use Bag Reduction and Recycling Program failed to achieve its goal of reducing plastic bag use by 30% over a 2-year period. Given this failure, County leaders recently enacted a ban on plastic bags and a fee on paper bags.

Governments world-wide are regulating and reducing plastic bag use

- ◆ Over 80 national and local governments have taken action to reduce single-use bag use.²⁵
- ◆ To date, 14 local governments in California have enacted bans on plastic bags. Malibu, Manhattan Beach, Palo Alto, San Francisco and Fairfax have banned plastic bags. The counties of Los Angeles, Santa Clara, Santa Cruz and Marin and the cities of Calabasas, Long Beach, San Jose and Santa Monica have banned single-use plastic bags and enacted fees on paper bags. Several others, including the cities of Carpinteria, Los Angeles, Pasadena, Ojai and San Rafael are currently moving forward with similar measures. Plastic bag ordinances currently cover nearly 12 percent of the population of California.
- ◆ A year after San Francisco banned plastic bags at pharmacies and supermarkets, city businesses distributed 127 million fewer plastic bags and cut overall bag waste to the landfill by up to 10%.²⁶
- ◆ Nations throughout the world have also taken action to address plastic bag litter. In 2001, Taiwan placed a 3 cent fee on plastic bags and reduced consumption by 69%. Ireland began charging 20 cents per plastic bag in 2002, reducing consumption by 90% in the first year. Bangladesh banned plastic bags completely in 2002 because they were clogging drainage systems and exacerbating flooding.²⁷
- ◆ Despite repeated efforts by the plastic bag industry to sue cities who have banned plastic bags for failing to first conduct a full Environmental Impact Report (EIR), the California Supreme Court recently upheld the right of smaller cities to ban plastic bags without full EIRs.²⁸

Reusable bags are a simple and effective solution

- ◆ Paper bags are not the solution. While recycling rates for paper bags are higher than those for plastic bags,²⁹ the production of paper bags contributes to natural resource depletion, greenhouse gas emissions, and waterborne wastes from the pulp and paper making process.³⁰
- ◆ One reusable bag can eliminate the need for over 1,000 single-use bags in its lifetime.³¹ Reusable bags also emit fewer carbon dioxide emissions and require less energy in their production and manufacture than single-use bags and even plastic HDPE bags made from 50% recycled content.³²

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- ¹ Californians Against Waste. <http://www.cawrecycles.org/>
- ² Ocean Protection Council (2011). Plastic Debris in the California Marine Ecosystem.
- ³ California Coastal Clean-up Day Database (2009, 2010). Top Ten Debris Items Ventura and Santa Barbara Counties.
- ⁴ City of Santa Barbara Council Agenda Report, "Options for Reducing the Distribution of Single-Use Bags within the City of Santa Barbara." July 12, 2011.
- ⁵ California Coastal Commission (2006). "Eliminating Land-based Discharges of Marine Debris in California: A Plan of Action from The Plastic Debris Project.
- ⁶ Ocean Protection Council (2011). Plastic Debris in the California Marine Ecosystem.
- ⁷ Teuten, E.L. et al. (2009). Transport and Release of Chemicals from Plastics to the Environment and to Wildlife. *Philosophical Transactions of The Royal Society B: Biological Sciences* 364: 2027-2045.
- ⁸ H. Gomeri, M.D. Gomeri, T. Gomeri et al. (2006). Biological aspects of Cuviers's beaked whale (*Ziphius cavirostris*) recorded in the Croatian part of the Adriatic Sea, *European Journal of Wildlife Research*, 52, 182-187.
- ⁹ Mrosovsky et al. (2009). Leatherback turtles: The Menace of Plastic, *Marine Pollution Bulletin* 58: 287-289.
- ¹⁰ American Chemistry Council. Plastic FAQs. <http://plastics.americanchemistry.com/Plastics-FAQs>.
- ¹¹ Ocean Protection Council (2011). Plastic Debris in the California Marine Ecosystem.
- ¹² CalRecycle. "At-Store Recycling Program: Plastic Carryout Bags." 6 April 2011. <http://www.calrecycle.ca.gov/Plastics/AtStore/>.
- ¹³ Project Green Bag. "Myths Vs. Facts Regarding Single Use Bag Bans and Fees." <http://www.projectgreenbag.com/myths-vs-facts-regarding-single-use-bag-bans-and-fees/>.
- ¹⁴ Los Angeles County (2007). "An Overview of Carryout Bags in Los Angeles." Staff Report to the Los Angeles County Board of Supervisors.
- ¹⁵ Ibid.
- ¹⁶ City of San Francisco Department of the Environment (2004). Bag Cost Analysis.
- ¹⁷ Project Green Bag. Myths Vs. Facts Regarding Single Use Bag Bans and Fees.
- ¹⁸ Los Angeles County (2007).
- ¹⁹ CalRecycle (2009). At-Store Recycling Program: 2009 Statewide Recycling Rate for Plastic Carryout Bags.
- ²⁰ Los Angeles County (2007).
- ²¹ 2007 National Post-Consumer Recycled Plastic Bag and Film Report. Prepared by Moore Recycling Associates, Inc. of Sonoma, CA for the Plastics Division of the American Chemistry Council.
- ²² Testimony provided by Patty Moore of Moore Recycling Associates at City of Vancouver Planning Commission Meeting, 7 Oct 2008.
- ²³ Los Angeles County (2007).
- ²⁴ Project Green Bag. Myths Vs. Facts Regarding Single Use Bag Bans and Fees.
- ²⁵ Carolyn Sackariason, "Plastic Bag Fee Up for Passage," *Aspen Daily News Online*, September 13, 2011.
- ²⁶ Environment California (2011). Leading the Way Toward a Clean Ocean: Communities Around the World Take Action Against Single-Use Plastic Bags.
- ²⁷ Romer, J.R. The Evolution of San Francisco's Plastic-Bag Ban. *Golden Gate U. Env'tl. L.J.* 2007, 1 (2)(5): 439-468.
- ²⁸ Dolan, M. "Plastic bag bans upheld by California Supreme Court." *Los Angeles Times*. 15 July 2011. <<http://articles.latimes.com/2011/jul/15/local/la-me-0715-plastic-bags-20110715>>.
- ²⁹ US EPA (2005). Characterization of Municipal Solid Waste, Table 4; California Integrated Waste Management Board.
- ³⁰ Australian Department of the Environment and Heritage Plastic Shopping Bags – Analysis of Levies and Environmental Impacts Final Report, prepared by Nolan-ITU, December 2002, Page 33; US Energy Information Administration, US Department of Energy, "Energy-Related Carbon Emissions in the Paper Industry, 1994"; US EPA Toxic Release Inventory 2006 data for Paper Industry-NAICS Code 322.
- ³¹ Sustainability Victoria (2007). Comparison of existing life cycle analysis of shopping bag alternatives.
- ³² Environment Australia, Department of the Environment and Heritage (2002). Plastic Shopping Bags - Analysis of Levies and Environmental Impacts.



Our mission is to protect and restore the Santa Barbara Channel and its watersheds through science-based advocacy, education, field work and enforcement.

Channelkeeper has been a lead advocate for action to reduce disposable bag use on the South Coast since 2008.