
Plastic Bags and Bag Bans

Environmental Impacts of Plastic Bags

- Based on US EPA 2012 numbers, roughly 13 billion HDPE single-use plastic bags were generated annually in California.ⁱ Using the CalRecycle 2009 recycling rate of 3%ⁱⁱ, 390 million bags are recycled while 12.6 billion bags end up in the landfills (even after re-use) or are littered.
- A Los Angeles storm drain study found that 25% of trash (by weight) captured in storm drains was plastic bags.ⁱⁱⁱ
- A single-use HDPE plastic bag uses 50% more non-renewable energy, emits 40% more GHG emissions, has 40% greater impact on solid waste, and uses 30% more fresh water than a LLDPE film reusable bag that's been used at least 8 times.^{iv}
- Plastic products, including HDPE bags, do not biodegrade, but instead disintegrate into small pieces that attract surrounding toxins to contaminate the environment and our food chain.^v
- Volunteers at the annual International Coastal Cleanup have consistently reported that plastic bags are among the five most commonly found items.^{vi}
- Algalita research shows an overwhelming amount of plastic, including bags, in the stomach contents of albatross, marine mammals, sea turtles, fish and other marine wildlife.^{vii}
- The Ocean Conservancy recently deemed plastic bags as the #2 deadliest threat to sea turtles, birds, and marine mammals.^{viii} For not only can animals become entangled in them, but they can ingest them and die.

Local Plastic Bag Ban Results

- San Jose found a 76% reduction in creek and river litter, a 59% drop in park and roadside plastic bag litter, and a 69% reduction in plastic bag litter in storm drains..^{ix}
- In Los Angeles County, the bag ordinance reduced single-use plastic bag distribution by 94% at large stores and pharmacies, including a 25% reduction in paper bag usage.^x
- In Alameda County, the bag ordinance reduced bag purchases by 85% in less than two years. Stores bought 50-90% bags for distribution, and more than double the amount of customers brought in their own bags or didn't use a bag at all.^{xi}
- In San Francisco, there was an 18% reduction in plastic bag street litter from 2007 to 2009.^{xii}
- In San Mateo County, 162% more people brought their own bags, while 130% more carried out their purchases without a bag.^{xiii}
- In Mountain View, from July 2009 to July 2015, it was observed that shoppers using single-use plastic bags decreased from 66% to 11%, while shoppers that used reusable bags or no bags increased from 34% to 89%.^{xiv}
- In the City of Santa Barbara, two years of ban implementation resulted in eliminating almost 45 million single-use plastic shopping bags from covered stores—an estimated 95% of all plastic bags generated in the city. The report also shows that the vast majority of consumers have shifted to reusable bags or no bags, and that the policy has actually reduced paper bag consumption by as much as 42%.^{xv}

- Beach cleanups show that between 2009 and 2013, as more local bans in Santa Cruz/Monterey were adopted, the average number of plastic bags decreased from 65 per event to just 6.^{xvi}

Projected Benefits of a Statewide Bag Ban

- Based on an NRDC survey^{xvii} of marine debris prevention costs to local governments, and an LA County storm drain study^{xviii} of plastic bag composition (by weight), local governments are spending as much as \$107 million in taxpayer dollars to clean up plastic bags. This is a significant potential cost savings.
- Based on a 2013 [survey](#) conducted by Californians Against Waste, it is estimated that landfills spend an average of 22 cents per ton of annual capacity to pick up the 25% of trash attributed to plastic bags that are floating around their facilities and prevent them from escaping into the environment. This represents a potential statewide cost savings of \$6.6 million each year.
- Based on the experience in San Jose, a statewide ban would significantly reduce (by 60% or greater) plastic bags in streets, creeks, and neighborhoods, resulting in reduced cleanup costs and maintenance.
- Based on the experience in Alameda County and San Mateo County, there will be increased 'reusable bag' or 'no bag' habits by consumers.
- SB 270, the California statewide bag ban, is estimated to reduce single-use plastic bag distribution by more than 6.2 billion bags. Assuming that covered stores provide 80% of plastic bags generated (and using Boustead calculations as shown in table below),^{xix} this would result in estimated reductions of:
 - GHG emissions by over 166,000 tons
 - Fossil fuel use by over 62 million tons
 - Gross energy use by nearly 3.2 billion megajoules

Economic Savings for Consumers/Grocers^{xx}

- Grocer costs of providing single-use bags (plastic and paper) exceeded \$440 million in 2012.
- Local bans and consumer choice (increased use of reusables) have reduced total costs already by more than \$150 million.
- Statewide ban with charge model is expected to reduce total cost to less than \$85 million (though as much as \$54 million will now be paid directly by consumers rather than hidden in grocery prices.)
- Plastic bag industry's own fiscal analysis shows substantial reduction in bags and consumer cost savings:

From [Blue Sky \(bag industry financed\) revenue report](#):

Bag	Before	After
Disposable Plastic Bag	75%	0%
Disposable Paper Bag	3%	16%
Reusable Bag	5%	45%
No Bag	17%	40%

ⁱ U. S EPA Municipal Solid Waste Generation, Recycling, and Disposal in the United States: Facts and Figures for 2012; <http://www.epa.gov/osw/nonhaz/municipal/msw99.htm>

ⁱⁱ CalRecycle 2009 Statewide Recycling Rate for Plastic Carryout Bags; <http://calrecycle.ca.gov/plastics/atstore/AnnualRate/2009Rate.htm>

ⁱⁱⁱ An Overview of Carryout Bags in Los Angeles County Staff Report, August 2007, p.25; <http://ladpw.org/epd/pdf/PlasticBagReport.pdf>

^{iv} Keep California Beautiful. Life Cycle Assessment of Reusable and Single-use Plastic Bags in California. www.truereusablebags.com/pdf/lca_plastic_bags.pdf

^v “Long-Term Field Measurement of Sorption of Organic Contaminants to Five Types of Plastic Pellets: Implications for Plastic Marine Debris” Study, Environmental Science & Technology 2013 47 (3), 1646-1654; <http://www.algalita.org/plastic-debris-delivers-triple-toxic-whammy-ocean-study-shows/>

^{vi} Ocean Conservancy, International Coastal Cleanup report; <http://www.oceanconservancy.org/>

^{vii} Algalita Marine Research and Education; <http://www.algalita.org/the-problem/>

^{viii} The Ocean Conservancy, Report: Ocean Trash Impacts; <http://www.oceanconservancy.org/our-work/marine-debris/threat-rank-report.html>

^{ix} Memo to City Council Transportation and Environment Committee from Kerrie Romanov. November 20, 2012; http://www3.sanjoseca.gov/clerk/CommitteeAgenda/TE/20121203/TE20121203_d5.pdf

^x “Implementation of the County of Los Angeles plastic and paper carryout bag ordinance”; <http://ladpw.org/epd/aboutthebag/PDF/Bag%20Ban%20Status%20Nov%202012.pdf>

^{xi} StopWaste Successful Results from Bag Ordinance, September 10, 2014; <http://www.stopwaste.org/about/news/successful-results-bag-ordinance>

^{xii} The City of San Francisco, Streets Litter Re-audit, September 2009; <http://wayback.archive-it.org/2667/20140530014302/http://www.cawrecycles.org/files/SF2009LitterReportFINAL-Sep15-09.pdf>

^{xiii} San Mateo County Reusable Bag Ordinance Survey and Reporting Report; <http://www.cityofsanmateo.org/DocumentCenter/View/43366>

^{xiv} City of Mountain View, City Council Agenda and Notice, September 16, 2014, Item 6.1; <http://www.mountainview.gov/civicax/filebank/blobdload.aspx?BlobID=14077>

^{xv} Two-Year Review Of Single-Use Carryout Bag Ordinance, City of Santa Barbara Environmental Services Division, April 26, 2016; http://services.santabarbaraca.gov/CAP/MG131792/AS131796/AS131810/AS131816/AI135427/DO135428/DO_135428.pdf

^{xvi} Save Our Shores, Average Number of Items Collected Per Cleanup; <http://saveourshores.org/wp-content/uploads/2014/08/Plastic-Bags-2007-2013.pdf>

^{xvii} NRDC Report, Waste in Our Water: The Annual Cost to California Communities of Reducing Litter That Pollutes Our Waterways, August 2013; http://docs.nrdc.org/oceans/files/oce_13082701a.pdf

^{xviii} LA County Draft Environmental Impact Report, Ordinances to Ban Plastic Carryout Bags. June 2, 2010. Sapphos Environmental Inc. <http://dpw.lacounty.gov/epd/plasticbags/pdf/DEIR.pdf>, p. 2-1.

^{xix} Boustead Consulting & Associates, Life Cycle Assessment for Three Types of Grocery Bags Final Report; <https://www.heartland.org/sites/default/files/threetypeofgrocerybags.pdf>

^{xx} Californians Against Waste; <http://www.cawrecycles.org/>