

New Stormwater Permit Requirements: Motivating Cities to Take Action to Reduce Marine Debris



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California Coastal Cleanup Day



Coastal Cleanup Day 2015

Results and Accomplishments



- 68,353 volunteers
- 1,142,997 pounds of debris removed
- Over 2,300 miles of shoreline cleaned



Marine Debris Sources

- Storm water discharges
- Combined sewer overflows
- Beach visitors
- Ships and other vessels
- Solid waste disposal and landfills materials such as garbage and medical waste
- Offshore oil platforms
- Industrial activities
- Illegal dumping or littering

Marine Debris Sources

Approximately 20% from ocean-based sources:

- Commercial fishing vessels
- Cargo ships (discharge of containers and garbage)
- Pleasure cruise ships

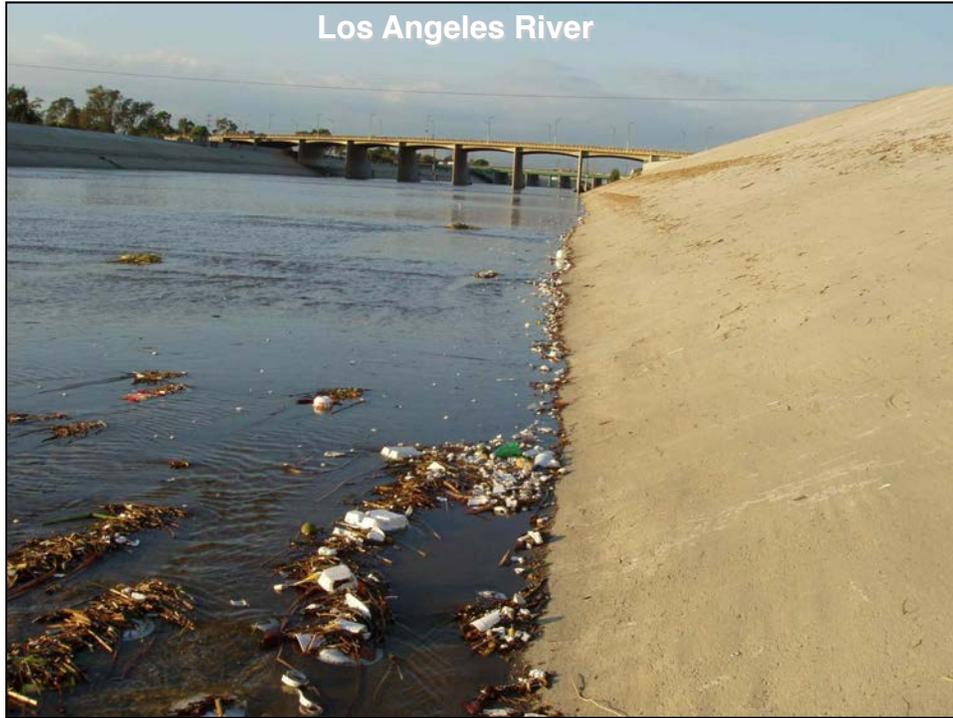


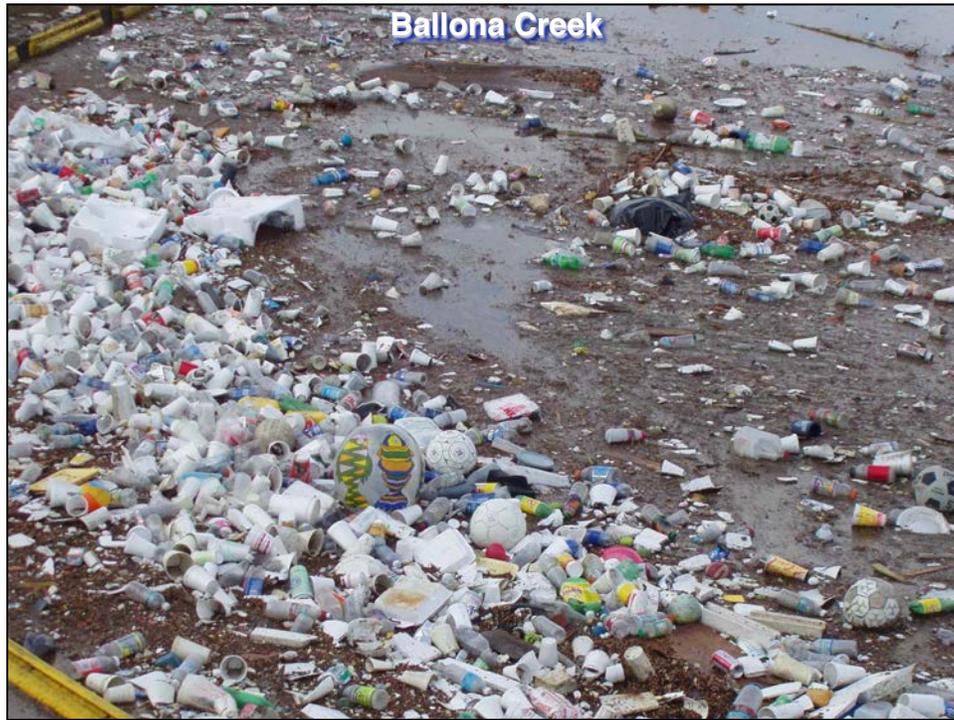
Marine Debris Sources

Approximately 80% from land-based sources:

- Litter (pedestrians, motorists, beach visitors)
- Industrial discharges (pellets and powders)
- Garbage management (containers, trucks, landfills)





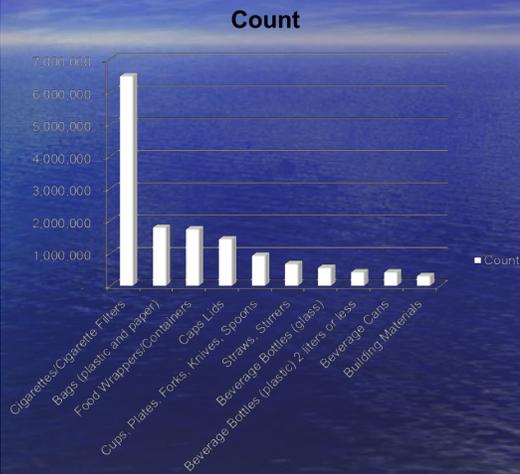


California Coastal Cleanup Day



CCD Data 1989-2012

Top Ten 1989-2012	Count	Percentage
Cigarettes/ Cigarette Filters	6,489,979	39.4%
Bags (plastic and paper)	1,801,430	10.9%
Food Wrappers/ Containers	1,743,634	10.6%
Caps and Lids	1,435,417	8.70%
Cups, Plates, Forks, Knives, Spoons	941,094	5.71%
Straws, Stirrers	684,445	4.15%
Beverage Bottles (glass)	564,135	3.42%
Beverage Bottles (plastic) 2 liters or less	428,286	2.60%
Beverage Cans	421,646	2.56%
Building Materials	308,618	1.87%

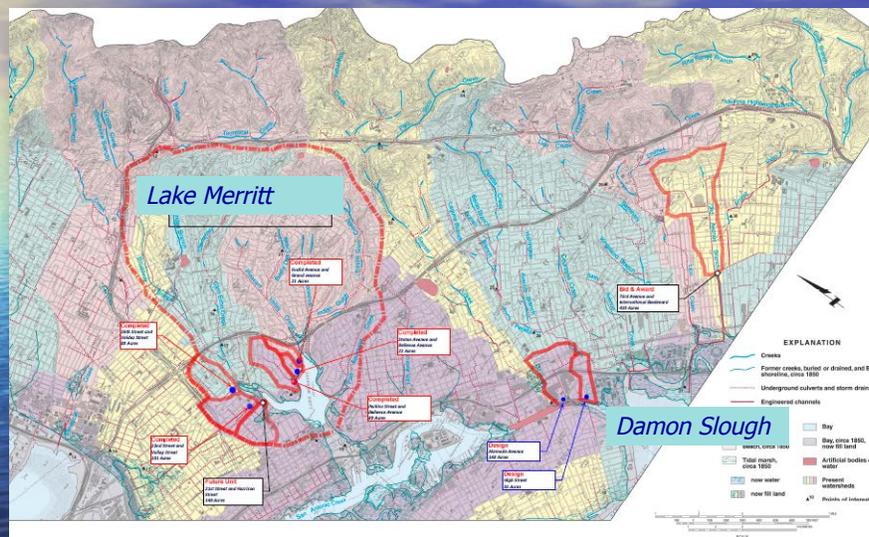


Stormwater Regulations

- 2001 – LA River TMDL for Trash Established
- 2003 – Lake Merritt (Oakland) 303(d) listing
- 2016 – Statewide Stormwater Permit for Trash issued



Lake Merritt Drainages



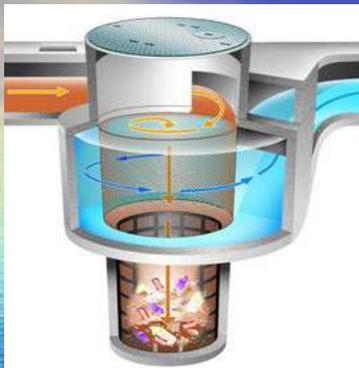
City of Oakland Programs to Improve Watershed Health Booms & Clean-Ups



- Captures 2,500 acres
- Data Since 2003 - Over 20,000 lbs trash/yr (formerly 50k)
- Higher collection rates in rainy season

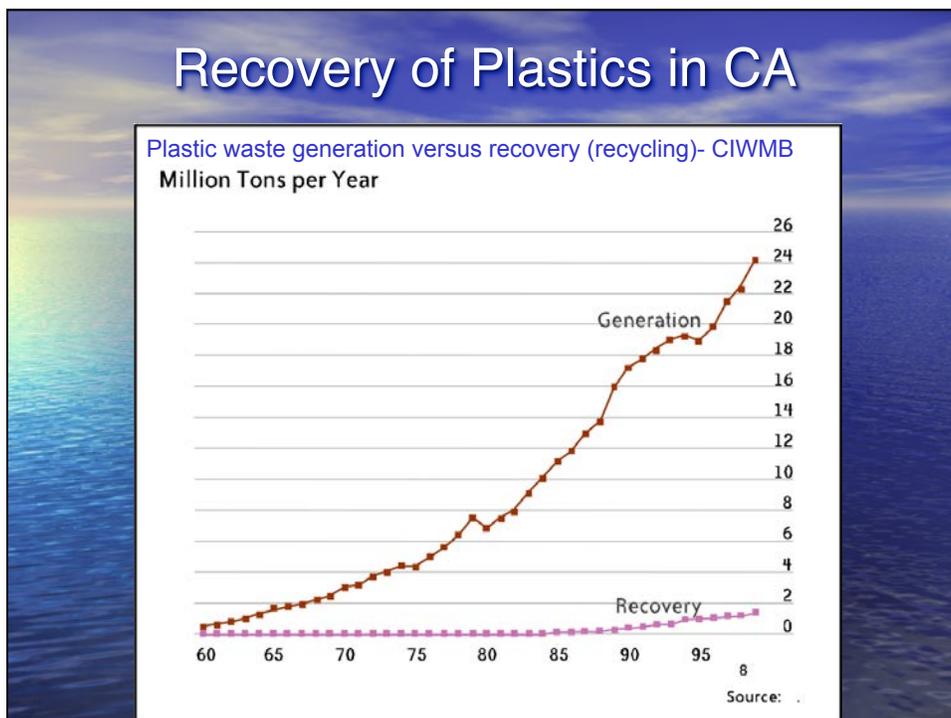


STORMWATER SEPARATORS



- Currently - 10 Continuous Deflective Separator (CDS)
- Two Gross Solids Linear Removal Device (GSRD)
- Total treatment area of 925 acres (8% Reduction)





Local Initiatives



Local Initiatives

- Plastic bag bans or fees since 2006/2007
- Smoke free beach initiatives being implemented in cities up and down coast since 2005
- Polystyrene bans since 2006
- Stormwater permit regulations and TMDLs in place and forcing the use of more effective trash collection devices in cities along with local policy innovation
- “Don’t Trash California” and “Erase the Waste” education campaigns

CCD Data Up Close

San Francisco Plastic Bag Ban:

2008: 2,212 plastic bags collected in San Francisco County
2012: 2,030 plastic bags collected in San Francisco County

2008: plastic bags account for 9.3% of all debris removed
2012: plastic bags account for 6.2% of all debris removed

Correcting for participation:

2008: 2,300 volunteers = .96 plastic bags/volunteer
2012: 3,229 volunteers = .63 plastic bags/volunteer

Plastic bag ban resulted in a 34% drop in plastic bag debris

CCD Data Up Close

Ban on Smoking on Los Angeles Beaches:

2009: 6,539 cigarette butts collected on main Santa Monica beach
2012: 1,316 cigarette butts collected on main Santa Monica beach

Correcting for participation:

2009: 382 volunteers = 17.12 cigarette butts/volunteer
2012: 189 volunteers = 6.96 cigarette butts/volunteer

Smoking ban resulted in a 59% drop in cigarette butt debris –
with no significant enforcement effort





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Photo Credit: 5 Gyres Institute