CLEANUP RESULTS

THE MARINE DEBRIS INDEX

The International Coastal Cleanup is **THE WORLD'S LARGEST VOLUNTEER EFFORT ON BEHALF OF OCEAN HEALTH**. During the 2009 Cleanup, 498,818 volunteers were united in spirit on a single day across many time zones. In 108 countries and locations around the world, as well as in 45 US states and the District of Columbia, **THESE DEDICATED OCEAN CHAMPIONS PICKED UP 7,446,130 POUNDS OF DEBRIS AND RECORDED 10,239,538 INDIVIDUAL PIECES OF TRASH**, including cigarette butts, food wrappers, cans, and bottles.

PARTICIPATING COUNTRIES AND LOCATIONS

Argentina
Aruba
Australia
Austria
Bahamas
Bahrain
Bangladesh
Barbados
Belgium
Belize
Brazil
British Virgin Islands
Cambodia
Canada
Cape Verde
Cayman Islands
Chile
China
Colombia
Cook Islands
Costa Rica
Croatia
Cyprus
Denmark
Dominican Republic
East Timor
Ecuador
Egypt
El Salvador
Estonia
Fiji
Finland
France
Germany
Ghana
Gibraltar
Greece
Grenada
Guam
Guatemala
Honduras
Hong Kong
Hungary
India
Indonesia
Iran
Ireland
Israel
Italy
Jamaica
Japan
Jordan
Kenya
Libya
Lithuania
Luxembourg
Malaysia
Maldives
Malta
Marshall Islands
Mauritius
Mexico
Namibia
Netherlands
Netherlands Antilles
New Zealand
Nicaragua
Northern Mariana Islands
Norway
Palau
Panama
Papua New Guinea
Paraguay
Peru
Philippines
Poland
Portugal
Puerto Rico
Republic of Korea
Russia
Samoa
Saudi Arabia
Singapore
Slovakia
Slovenia
South Africa
Spain
Sri Lanka
St. Kitts and Nevis
St. Vincent and the Grenadines
Sweden
Switzerland
Taiwan
Tanzania
Thailand
Togo
Tonga
Trinidad and Tobago
Turkey
Ukraine
United Arab Emirates
United Kingdom
United States
US Virgin Islands
Uruguay
Vanuatu
Venezuela
Vietnam

LEFT: SCHOOLCHILDREN IN MOMBASA TEAM UP TO CLEAR A LOCAL BEACH OF TRASH.

The Cleanup: History and Logistics

The International Coastal Cleanup got its start with one woman's effort to clean up marine debris on a local beach. Linda Maraniss, a former employee of Ocean Conservancy (then known as the Center for Environmental Education), was appalled by the amount of trash she saw while walking along the shores of South Padre Island, Texas. She felt compelled to clean up what she found, and she also wanted to know which trash items were the most prevalent.

From that first Cleanup in 1986, the event has been a collaborative effort. Linda and her colleague Kathryn O'Hara worked together on a data card so people could catalogue the trash as they picked it up. Joining forces with the Texas General Land Office, they rallied volunteers. The results: In a mere two hours, 2,800 Texans picked up 124 tons of trash from 122 miles of coastline. As Maraniss says, "Trash travels; it's an international problem. If you're going to succeed with beach cleanups, you need the cooperation of citizens, government, and industry." In the course of nearly a quarter of a century, interest has surged and the Cleanup has become a major international movement to clean shorelines and waterways, collect data, and raise awareness about marine debris.

ABOVE: VOLUNTEERS RECORD EVERY ITEM THEY FIND ON STANDARDIZED DATA CARDS.

The hands-on International Coastal Cleanup brings together like-minded people across the world to address one of the greatest pollution problems of our time, involving local residents along with employees of local businesses and governments, all of whom have a stake in finding solutions. Marine debris, which consists of "any persistent, manufactured or processed solid material discarded, disposed of, or abandoned in the marine and coastal environment,"[31] starts as a local issue, but requires global solutions because it often travels far beyond its origins, crossing political and geographical boundaries.

The Cleanup generally takes place on the third Saturday in September (though events may be scheduled throughout September and October to accommodate holidays, religious observances, or extreme weather). Throughout the year, a network of volunteer Cleanup coordinators identifies sites to be cleaned within their country, state, or territory, and recruits sponsors as well as volunteers for the day of the event. More people sign on each year (a million helping hands picked up debris in 2009), drawn not only by the serious and compelling impacts of this major pollution problem, but also by the fact that almost anyone, at any age or any stage of life, can easily participate and make a difference.

Volunteers including friends, neighbors, students, and co-workers fan out across shorelines picking up marine litter. Because lakes, rivers, and streams, along with the wind, can carry litter to the sea, Cleanups occur not just at the ocean, but inland as well, and take place in landlocked states and countries like Nevada and Luxembourg.

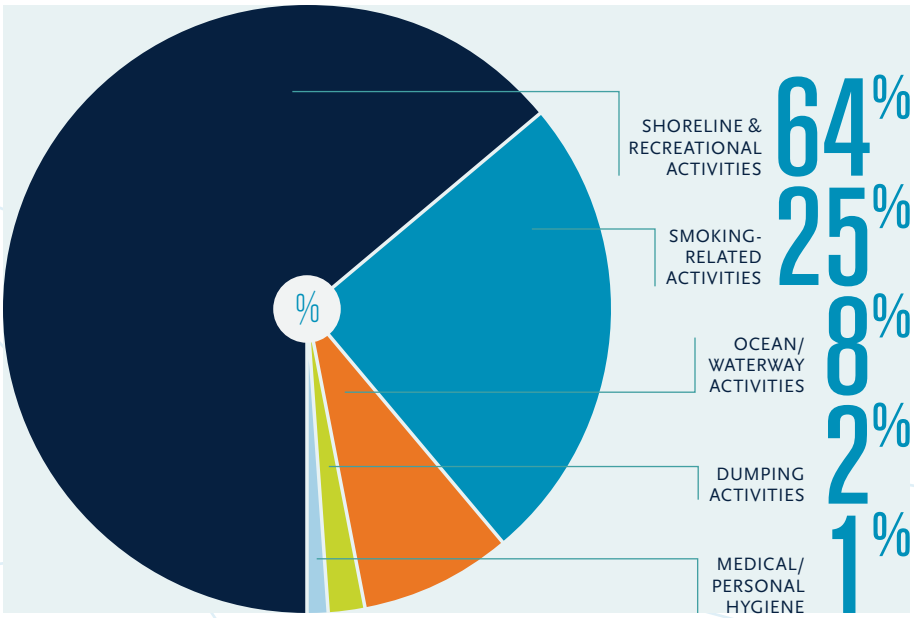
The Data: A Tool for Better Decision-making

Volunteers don't just clean up; they tally every item they find on Ocean Conservancy's standardized data cards. This accounting of items picked up in just a few hours on one day provides a global snapshot of the marine debris problem. The item-by-item, location-by-location data have a long history of raising awareness about this global problem and informing policies and programs to address it.

To give a few examples, in 1987 Ocean Conservancy (then called the Center for Environmental Education) produced the report *Plastics in the Ocean: More Than a Litter Problem*, which was one of the first studies to identify plastics as a significant marine debris hazard. Information cited in the report helped spur the US Congress to enforce restrictions against dumping of garbage at sea by adopting Annex V of the International Convention for the Prevention of Pollution from Ships, also known as MARPOL 73/78 Annex V.

Corresponding national legislation, called the Marine Plastic Pollution Research and Control Act of 1987, restricted the dumping of garbage from boats, including a complete ban on dumping of plastics at sea, and helped control land-based sources of marine debris, such as storm water systems and combined sewer systems. In 2004, the US Commission on Ocean Policy report[32] cited the International Coastal Cleanup data as significant in characterizing the types, amounts, and sources of marine debris collected along the beaches and waterways in the US and its territories. The data from the International Coastal Cleanup also helped inform the passage of the 2006 Marine Debris Research, Reduction, and Prevention Act. In Washington, DC, where Cleanup data documented that single-use bags comprise a large component of local marine debris, the Anacostia River Cleanup and Protection Act of 2009 implemented a five-cent fee on disposable paper or plastic bags provided by retailers; anecdotal information reported in the press suggests that consumption of the bags dropped fifty percent almost immediately. And California used the data when developing a comprehensive state plan to address all aspects of marine debris.[6]

2009 WORLDWIDE SOURCES OF MARINE DEBRIS



TOTAL DEBRIS ITEMS COLLECTED WORLDWIDE

10,239,538

SOURCE: OCEAN CONSERVANCY/INTERNATIONAL COASTAL CLEANUP 2009

MARINE DEBRIS starts as a local issue, but requires global solutions because it **OFTEN TRAVELS FAR BEYOND ITS ORIGINS,** crossing political and geographical boundaries.

Data collection

Volunteers record what they find on standardized data cards that list the most common marine debris items, and allow volunteers to record unusual finds as well. In 2009, "weird finds" included go-karts, a gumball machine, plastic vampire teeth, and a swimsuit-wearing mannequin. From bottle caps to major appliances, debris items are catalogued in categories according to sources (see page 40 for definitions). Coordinators ensure that the data reach Ocean Conservancy, which compiles and analyzes the information. A new online data entry system streamlines the process and minimizes transcription errors.

60 PERCENT of all debris items found in 2009 were **"DISPOSABLE."**

DURING THE 2009 CLEANUP, VOLUNTEERS FOUND

58,881
BOTTLES OF OIL/LUBE

REPRESENTING OIL CHANGES FOR NEARLY

12,000
CARS

The resulting Marine Debris Index helps identify the sources of marine debris so that solutions can be put in place. For example, the data show that 60 percent of all debris items found in 2009 were "disposable," including 512,517 cups, plates, forks, knives, and spoons—enough for a picnic for over 100,000 people. Focusing prevention efforts on reducing and properly disposing of these items has great potential for reducing debris in our ocean and waterways.

For the complete Marine Debris Index and methodology, including state-by-state and country-by-country breakdowns, please see pages 41 through 53; to view additional information, visit www.oceanconservancy.org.

In 2009, hard-to-reach locations were covered by 1,986 boaters who collected 52,133 pounds of debris. And because marine debris doesn't stop at the waterline, 14,116 scuba divers (organized by the Project AWARE Foundation) plunged into the water to retrieve 320,437 pounds more. The Cleanup took place at 6,430 sites around the world.

Sources of Marine Debris

Identifying where marine debris originates is key to developing solutions. Ocean Conservancy identifies five categories of marine debris sources to better understand where the trash reaching our ocean starts out.

- **SHORELINE & RECREATIONAL ACTIVITIES.** The majority of marine debris comes from land-based activities like eating fast food and discarding the wrappers, beach trips and picnics, sports and recreation, and festivals. Litter travels into the ocean from streets, parking lots, and storm drains.
- **OCEAN/WATERWAY ACTIVITIES.** People engaged in recreational fishing and boating, commercial fishing, cargo/military/cruise ship operations, and offshore industries such as oil drilling contribute to marine debris.
- **SMOKING-RELATED ACTIVITIES.** Careless disposal of cigarette filters, cigar tips, lighters, and tobacco product packaging is common on both land and sea.
- **DUMPING ACTIVITIES.** Legal and illegal dumping of domestic and industrial garbage, construction materials, and large household appliances puts large quantities of harmful items into the sea.
- **MEDICAL/PERSONAL HYGIENE.** Items ranging from tampons and disposable diapers to syringes enter the water most often through sewer systems.

ABOVE: AT PAMPULHA LAKE IN BELO HORIZONTE, A BOATER FERRIES DEBRIS COLLECTED DURING THE CLEANUP; VOLUNTEERS IN BOATS CAN OFTEN REACH AREAS INACCESSIBLE BY THOSE ON FOOT.

SOURCES OF MARINE DEBRIS BY REGION

SOURCE	AFRICA	NORTH AMERICA	CENTRAL AMERICA	SOUTH AMERICA	CARIBBEAN	SOUTH-EAST ASIA	WESTERN ASIA	EUROPE	OCEANIA
SHORELINE & RECREATIONAL ACTIVITIES	76.1%	55.2%	84.9%	69.7%	82.6%	72.4%	60.5%	60.4%	75.2%
OCEAN/WATERWAY ACTIVITIES	12.7%	5.0%	4.8%	12.0%	6.6%	12.7%	9.7%	24.9%	5.2%
SMOKING-RELATED ACTIVITIES	8.4%	37.2%	8.0%	15.4%	7.7%	11.2%	27.7%	11.1%	19.7%
DUMPING ACTIVITIES	1.8%	1.9%	1.1%	2.0%	1.8%	1.6%	1.5%	2.8%	1.8%
MEDICAL/PERSONAL HYGIENE	1.0%	0.7%	1.2%	1.0%	1.3%	2.0%	0.6%	0.8%	1.1%

SOURCE: OCEAN CONSERVANCY/ INTERNATIONAL COASTAL CLEANUP 2009

In addition, regional trends tracked by source can help local planners identify and manage specific marine debris items. As the chart above shows, in 2009 Central America had the largest percentage of debris from Shoreline and Recreational Activities (84.9 percent). Europe had the largest percentage of items from Ocean/Waterway Activities, nearly a quarter of all their debris items. The United Kingdom removed nearly 18,000 fishing nets during the Cleanup, while North America had the highest percentage of debris from Smoking-related Activities, with 37 percent of debris items coming from this category. Percentages of debris from both Dumping Activities and Medical/Personal Hygiene were fairly consistent throughout the world. One item collected in large numbers in a particular region can point decision-makers towards specific solutions, as in Nicaragua where volunteers found over 70,000 plastic bottles during the 2009 Cleanup—an average of 11 plastic bottles per volunteer. To put the Nicaragua statistic in perspective, only the United States picked up more bottles as a country, and the much larger US has 28 times more volunteers cleaning its shores.

On the list of top ten items found worldwide, cigarettes and cigarette filters were the most prevalent debris items found during the Cleanup, accounting for nearly twice the number of any other debris item; volunteers removed more than 2.2 million from beaches and inland waterways. Plastic bags placed second (1.1 million), accounting for one out of every ten items removed and tallied, followed by food wrappers/containers (943,233). In addition, 73 percent of the top ten debris items came from Shoreline and Recreational Activities, and 27 percent from Smoking-related Activities. Nine out of the top ten debris items are disposable.

ABOVE: CIGARETTES, PLASTIC BAGS, AND FOOD WRAPPERS/CONTAINERS TOP THE LIST, BUT VOLUNTEERS FIND EVERY KIND OF MAN-MADE ITEM IMAGINABLE.

TOP TEN MARINE DEBRIS ITEMS

RANK	DEBRIS ITEM	NUMBER OF DEBRIS ITEMS	PERCENTAGE OF TOTAL DEBRIS ITEMS
1	CIGARETTES/CIGARETTE FILTERS	2,189,252	21%
2	BAGS (PLASTIC)	1,126,774	11%
3	FOOD WRAPPERS/CONTAINERS	943,233	9%
4	CAPS, LIDS	912,246	9%
5	BEVERAGE BOTTLES (PLASTIC)	883,737	9%
6	CUPS, PLATES, FORKS, KNIVES, SPOONS	512,517	5%
7	BEVERAGE BOTTLES (GLASS)	459,531	4%
8	BEVERAGE CANS	457,631	4%
9	STRAWS, STIRRERS	412,940	4%
10	BAGS (PAPER)	331,476	3%
	TOP TEN TOTAL DEBRIS ITEMS	**8,229,337**	**80%**
	TOTAL DEBRIS ITEMS WORLDWIDE	**10,239,538**	**100%**

SOURCE: OCEAN CONSERVANCY/INTERNATIONAL COASTAL CLEANUP 2009

Nearly **380,000 VOLUNTEERS WORKED ALONG THE OCEAN'S COASTS,** while more than **120,000 PEOPLE PARTICIPATED INLAND.**

2009 WORLDWIDE DEBRIS ITEM TOTALS

DEBRIS ITEMS/SOURCES	COUNTS
SHORELINE & RECREATIONAL ACTIVITIES	
BAGS (PAPER)	331,476
BAGS (PLASTIC)	1,126,774
BALLOONS	82,902
BEVERAGE BOTTLES (PLASTIC)	883,737
BEVERAGE BOTTLES (GLASS)	459,531
BEVERAGE CANS	457,631
CAPS/LIDS	912,246
CLOTHING/SHOES	242,928
CUPS/PLATES/FORKS/KNIVES/SPOONS	512,517
FOOD WRAPPERS/CONTAINERS	943,233
PULL TABS	92,970
6-PACK HOLDERS	43,257
SHOTGUN SHELLS/WADDING	37,609
STRAWS, STIRRERS	412,940
TOYS	101,543
SUBTOTAL	**6,641,294**

DEBRIS ITEMS/SOURCES	COUNTS
OCEAN/WATERWAY ACTIVITIES	
BAIT CONTAINERS/PACKAGING	47,361
BLEACH/CLEANER BOTTLES	55,814
BUOYS/FLOATS	56,276
CRAB/LOBSTER/FISH TRAPS	15,463
CRATES	12,807
FISHING LINE	88,794
FISHING LURES/LIGHT STICKS	33,711
FISHING NETS	46,189
LIGHT BULBS/TUBES	26,721
OIL/LUBE BOTTLES	58,881
PALLETS	9,376
PLASTIC SHEETING/TARPS	86,729
ROPE	201,739
STRAPPING BANDS	43,682
SUBTOTAL	**783,543**

DEBRIS ITEMS/SOURCES	COUNTS
SMOKING-RELATED ACTIVITIES	
CIGARETTES/CIGARETTE FILTERS	2,189,252
CIGARETTE LIGHTERS	59,884
CIGAR TIPS	133,418
TOBACCO PACKAGING/WRAPPERS	129,234
SUBTOTAL	**2,511,788**

DEBRIS ITEMS/SOURCES	COUNTS
DUMPING ACTIVITIES	
APPLIANCES (REFRIGERATORS, WASHERS, ETC.)	11,112
BATTERIES	29,598
BUILDING MATERIALS	111,134
CARS/CAR PARTS	23,459
55-GALLON DRUMS	3,634
TIRES	19,126
SUBTOTAL	**198,063**

DEBRIS ITEMS/SOURCES	COUNTS
MEDICAL/PERSONAL HYGIENE	
CONDOMS	26,617
DIAPERS	38,550
SYRINGES	15,076
TAMPONS/TAMPON APPLICATORS	24,607
SUBTOTAL	**104,850**

TOTAL DEBRIS ITEMS COLLECTED WORLDWIDE **10,239,538**

SOURCE: OCEAN CONSERVANCY/INTERNATIONAL COASTAL CLEANUP 2009

AVERAGE AMOUNT OF TRASH PICKED UP PER PERSON:

15

POUNDS

The Inland Connection

Blown by the wind or carried on lakes, rivers, and streams, trash from far inland can travel to the ocean, so Cleanups take place both inland and along the ocean's coasts. During the 2009 Cleanup, 75 percent of all debris items were collected from coastal areas, and 25 percent were collected from inland waterways. Nearly 380,000 volunteers worked along the ocean's coasts, while more than 120,000 people participated inland. The average amount of trash picked up per person was 15 pounds. Nearly every item found in the top ten coastal Cleanups was also found in the top ten inland Cleanups, showing that the most prevalent items are common to each. Cigarettes and cigarette filters were the number one item found during both, with 1.5 million removed during coastal Cleanups and over 620,000 picked up inland.

Volunteer Participation

Slightly more than half the participants in 2009 came from outside the United States, where the Philippines, Canada, and India had the greatest turnouts. The Philippines nearly doubled their numbers from 2008. Five countries joined the effort for the first time: Cambodia, Cape Verde, Namibia, Samoa, and Togo. The countries with the most Cleanup sites were the United States (2,669), Canada (1,337), and the United Kingdom (418).

In the United States, 218,779 volunteers collected 4,253,650 pounds of trash along an estimated 9,151 miles of shoreline. They covered 45 states and the District of Columbia. The states with the most individual Cleanup sites were California (612), Florida (360), and New York (269). California reached an all-time high of 82,365 volunteers, 38 percent of the US total. Georgia was second with 23,668 volunteers (nearly 11 percent of the US total), followed closely by Florida with 22,703 volunteers (10 percent). The top ten states accounted for nearly 84 percent of US volunteers.

ABOVE: MOMS AND KIDS, CO-WORKERS, NEIGHBORS, AND FRIENDS SIGN UP TOGETHER TO SHARE THE CLEANUP EXPERIENCE WITH LIKE-MINDED PEOPLE THE WORLD OVER.

TOP TEN PARTICIPATING COUNTRIES & LOCATIONS

RANK	COUNTRY OR LOCATION	NUMBER OF VOLUNTEERS
1	UNITED STATES	218,779
2	PHILIPPINES	74,493
3	CANADA	37,147
4	INDIA	18,284
5	PUERTO RICO	14,705
6	JAPAN	13,867
7	BRAZIL	13,664
8	DOMINICAN REPUBLIC	11,636
9	SOUTH AFRICA	7,832
10	MEXICO	6,772
	108 COUNTRIES & LOCATIONS	**498,818**

SOURCE: OCEAN CONSERVANCY/INTERNATIONAL COASTAL CLEANUP 2009

TOP TEN PARTICIPATING US STATES

RANK	US STATE	NUMBER OF VOLUNTEERS
1	CALIFORNIA	82,365
2	GEORGIA	23,668
3	FLORIDA	22,703
4	NORTH CAROLINA	18,433
5	NEW YORK	10,425
6	TEXAS	9,374
7	VIRGINIA	5,641
8	ALABAMA	3,473
9	SOUTH CAROLINA	3,472
10	MISSISSIPPI	3,205
	45 US STATES AND DISTRICT OF COLUMBIA	**218,779**

SOURCE: OCEAN CONSERVANCY/INTERNATIONAL COASTAL CLEANUP 2009

COASTAL VS. INLAND SOURCES OF MARINE DEBRIS

SOURCE	NUMBER OF COASTAL DEBRIS ITEMS	NUMBER OF INLAND DEBRIS ITEMS	TOTAL NUMBER OF DEBRIS ITEMS
SHORELINE & RECREATIONAL ACTIVITIES	5,023,636	1,617,658	6,641,294
OCEAN/WATERWAY ACTIVITIES	1,792,801	718,987	2,511,788
SMOKING-RELATED ACTIVITIES	653,646	129,897	783,543
DUMPING ACTIVITIES	139,043	59,020	198,063
MEDICAL/PERSONAL HYGIENE	83,032	21,818	104,850
TOTALS	**7,692,158**	**2,547,380**	**10,239,538**

SOURCE: OCEAN CONSERVANCY/ INTERNATIONAL COASTAL CLEANUP 2009

Threats to Human Health

Nearly 200,000 items tallied during the Cleanup pose a direct public health threat. Debris from Dumping Activities (appliances, batteries, cars/car parts, and 55-gallon chemical drums) can release toxic compounds into the water, while items from the Medical/Personal Hygiene category (condoms, disposable diapers, syringes, and tampons/tampon applicators) may convey bacteria and other contaminants. Volunteers found 15,076 syringes worldwide during the 2009 Cleanup.

Dangers to Wildlife

As they pick up litter, volunteers also note wildlife they find entangled in debris. In 2009, they found 336 marine birds and animals entangled in debris. 120 were alive and released, and 216 entangled birds and animals were found dead, including a seal in California discovered entangled in fishing line. Birds were the number-one victim, accounting for 41 percent of dead marine life found. Fishing line and lost or derelict fishing nets were the two most prevalent types of entangling debris (62 percent).

Wildlife doesn't just become entangled in debris; birds, animals, and fish often ingest items they encounter in their ocean homes. They eat bottle caps, cigarette butts and lighters, fishing line, and a host of other objects. Ocean Conservancy surveyed the literature to identify the items known to choke or entangle wildlife.

WORLDWIDE DEBRIS ITEMS FROM DUMPING ACTIVITIES

198,063

WORLDWIDE DEBRIS ITEMS FROM MEDICAL/PERSONAL HYGIENE

104,850

DEBRIS ITEMS KNOWN TO BE DANGEROUS TO WILDLIFE

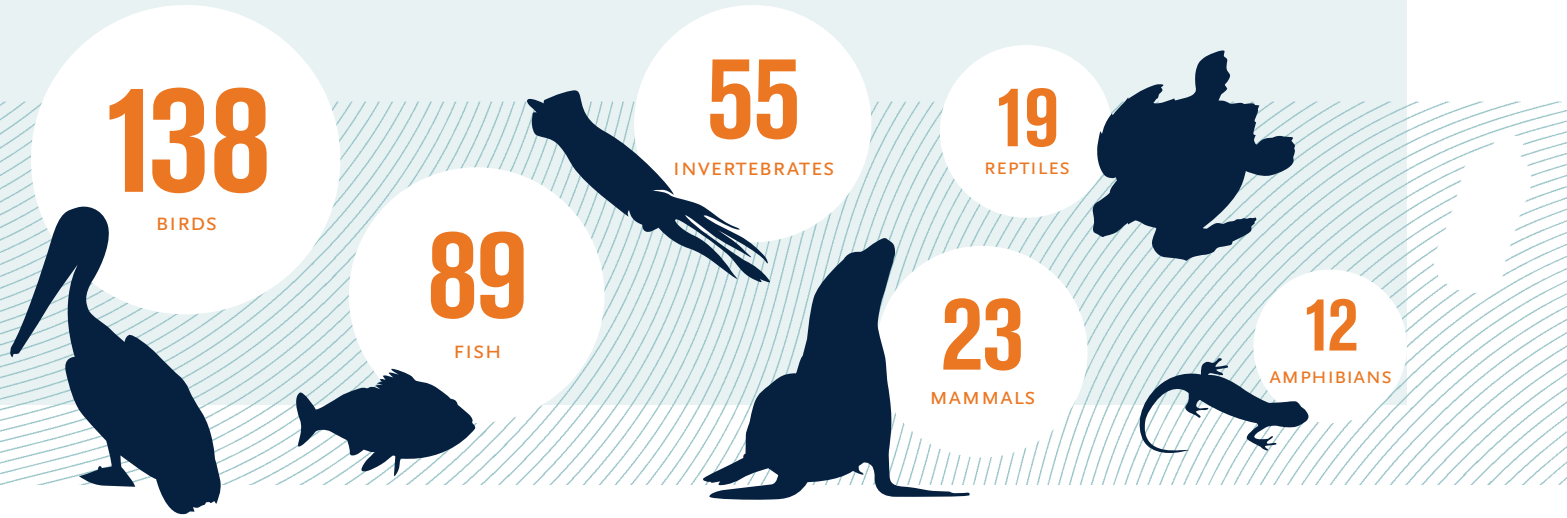
BAGS (PAPER)	CRAB/LOBSTER/FISH TRAPS
BAGS (PLASTIC)	FISHING LINE
BALLOONS	FISHING LURES/LIGHT STICKS
CAPS, LIDS	FISHING NETS
CLOTHING, SHOES	PLASTIC SHEETING/TARPS
FOOD WRAPPERS/CONTAINERS	ROPE
PULL TABS	STRAPPING BANDS
6-PACK HOLDERS	CIGARETTES/CIGARETTE FILTERS
STRAWS, STIRRERS	CIGARETTE LIGHTERS
BUOYS/FLOATS	CIGAR TIPS

SOURCE: OCEAN CONSERVANCY


THAILAND

MARINE WILDLIFE FOUND ENTANGLED IN MARINE DEBRIS

WILDLIFE	BEVERAGE BOTTLES	BEVERAGE CANS	CRAB, LOBSTER, & FISH TRAPS	FISHING HOOKS	FISHING LINE	FISHING NETS	PLASTIC BAGS	RIBBON/ STRINGS	ROPE	6-PACK HOLDERS	WIRES	TOTAL
AMPHIBIANS	1	0	0	0	3	1	6	0	0	1	0	**12**
BIRDS	2	0	0	5	45	53	19	5	5	1	3	**138**
FISH	5	1	2	1	48	11	11	2	5	1	2	**89**
INVERTEBRATES	6	2	1	1	14	12	6	7	6	0	0	**55**
MAMMALS	0	0	0	3	6	1	6	1	5	1	0	**23**
REPTILES	0	0	0	0	10	4	1	1	2	0	1	**19**
TOTAL DEBRIS ITEMS	**14**	**3**	**3**	**10**	**126**	**82**	**49**	**16**	**23**	**4**	**6**	**336**



TRASH TRAVELS

THE TRUTH—AND THE CONSEQUENCES

The hardest truth about the state of our marine environment is that **WE'VE TRASHED OUR OCEAN**, the source of much of the food, water, and oxygen we need to survive. No matter where we live, the ocean is our life-support system, providing all these essentials for us on a daily basis. **MARINE DEBRIS IS NOW CONSIDERED ONE OF THE MOST PERVASIVE POLLUTION PROBLEMS PLAGUING OUR OCEAN AND WATERWAYS**, and our growing population is generating more of it than ever before.[4,8,9]