

# 1999 International Coastal Cleanup



## RESULTS

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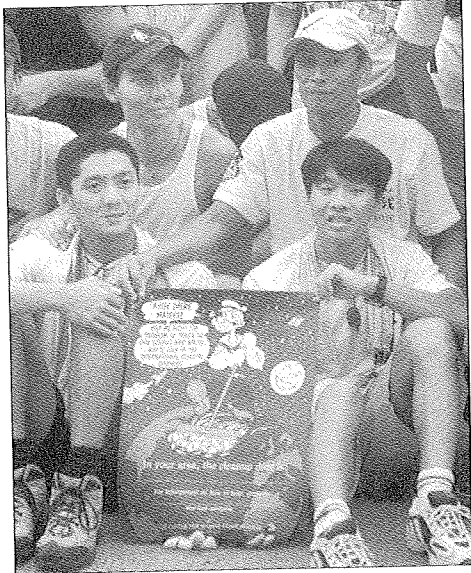
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Hong Kong

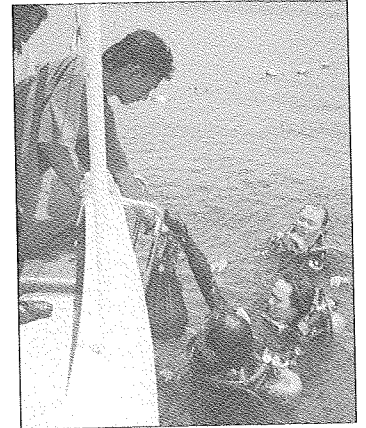


Norway

Volunteers in 77 countries participated in the 1999 International Coastal Cleanup.



Lithuania



Malaysia



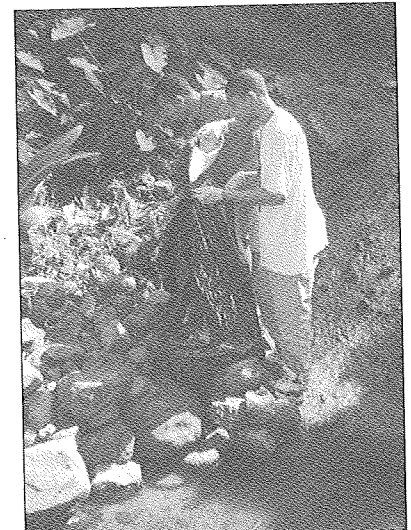
Papua New Guinea



Bahrain



Tonga



Dominica



# OVERVIEW

Every year the International Coastal Cleanup brings together people of all ages, genders, ethnicities, and languages in pursuit of one common goal—cleaning the Earth's oceans and waterways of marine debris.

The mission of the International Coastal Cleanup is

- To remove debris from the shorelines, waterways, and beaches of the world's lakes, rivers, and oceans;
- To collect valuable information on the amount and types of debris;
- To educate people on the issue of marine debris; and
- To use the information collected from the Cleanup to effect positive change—on all levels, from the individual to the international—to reduce marine debris and enhance marine conservation.

It is the world's largest volunteer cleanup effort on behalf of the marine environment. But the International Coastal Cleanup is not about trash. It's about the compelling need for clean oceans and waterways.

For many of the problems plaguing our oceans there is little or no role for the average citizen, short of urging his or her leaders to enact new laws or enforce existing ones. The International Coastal Cleanup is one example of citizens taking direct, immediate action to help restore the health of the oceans. The cleanup provides immediate results; their beaches are cleaner. Further, the data they collect is essential to the creation of the broader, longer-lasting solutions that business and government can supply. The International Coastal Cleanup demonstrates that ordinary citizens can make a difference.



Wisconsin

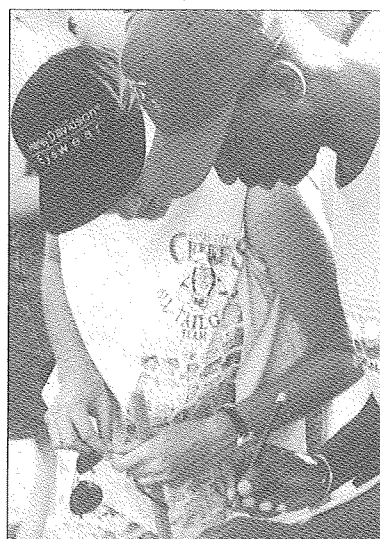


New Jersey

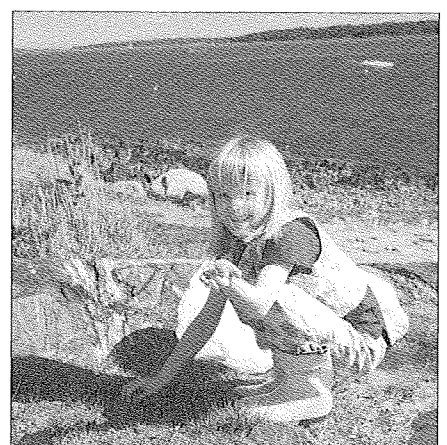


Mississippi

*In 1999, volunteers helped clean waterways in 49 U.S. states, plus the District of Columbia, Guam, American Samoa, Commonwealth of the Northern Mariana Islands, Puerto Rico, and the U.S. Virgin Islands.*



Guam



Maine

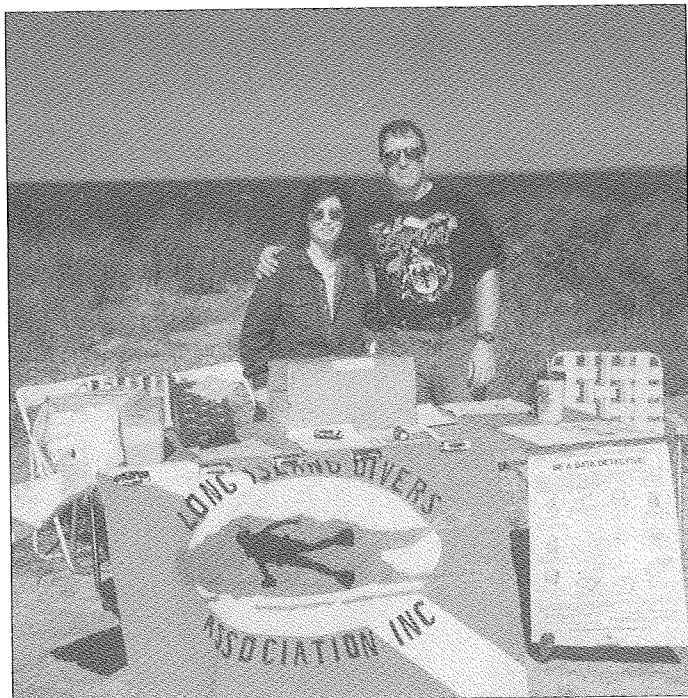
## Acknowledgments

The annual Cleanup would never achieve the success it does, year after year, if not for our volunteers who show up on cleanup day ready to work. Many of these volunteers come back every year, laboring behind the scenes and on the shorelines. To you, CMC offers special thanks, and recognizes the commitments you have made. Many other volunteers are new each year. To you CMC extends a welcome, and expresses the hope that you will continue to work for clean and safe water in your communities.

Among the hardest working participants every year are the country, state, and local coordinators. For some it's part of their job in state or local government. Others take it on in addition to demanding jobs and other commitments. Many have been doing it for ten years or longer. They begin their work months in advance, and usually continue the post-cleanup tasks until the New Year. CMC owes you all a tremendous debt of gratitude. Without you the Cleanup simply **would not** happen.

Dozens of Cleanup sponsors support cleanup efforts with both financial support and in-kind contributions. At the same time, hundreds of local organizations and sponsors organize and support cleanup activities in each location. Without your backing, year after year, the Cleanup would be nothing but a good idea. Thank you.

CMC cannot list every volunteer who participated in the 1999 Cleanup. We can, however, list the state and country coordinators (page 8) and the international and local sponsors (appendices 1 and 2). Please take a moment and review these names, and know that each name represents a commitment to clean oceans, and is a symbol of the good that can be accomplished when we work together for a common goal.



New York



Alaska



Crete



every year from entanglement in fishing line, net, and other debris.

Although the seas have been a dumping ground for human-made trash for centuries, only recently has debris become such a visible problem. One reason is that the composition of many goods has changed in the last fifty years. Metal and glass objects sank onto the ocean bottom, and natural fibers disintegrated. Because more and more consumer and industrial goods are made of long-lasting, lightweight plastics, their presence on our beaches and waterways is more noticeable. And, there are simply more of us creating more trash.

## The Problem of Marine Debris

**M**arine debris has been defined as “any manufactured or processed solid waste material that enters the marine environment from any source.” It can be as small as a bottle cap or as large as a lawn chair. It can be found in all the world’s oceans, and in waterways that lead to the ocean, such as rivers and streams and sewage pipes.

In addition to ruining the landscape, marine debris can be a human health and safety hazard. Broken glass and metal can injure beachgoers; syringes and other medical wastes can transmit disease; and rope and fishing line can wrap around boat propellers, disabling them. Rope and fishing line can also entangle divers and swimmers.

One of the most horrifying effects of marine debris is its injurious, often lethal impact on birds and marine mammals. Seabirds are known to eat everything from small pieces of foamed plastic to lighters and bottle caps. Plastic bags floating at the water’s surface are often mistaken for jellyfish by hungry sea turtles, and thousands of seals, sea turtles, whales, and birds die

## Sources of Debris

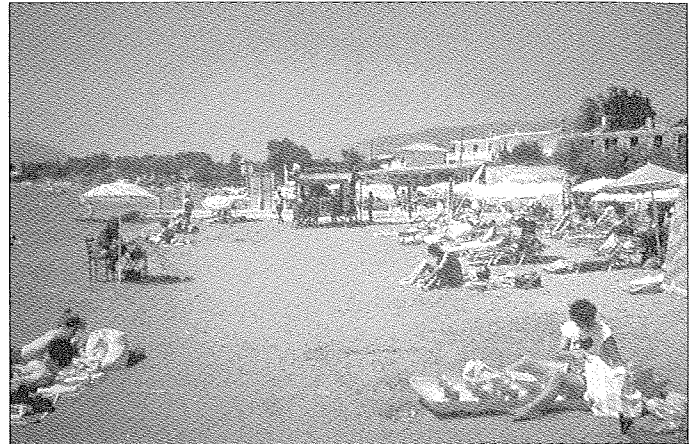
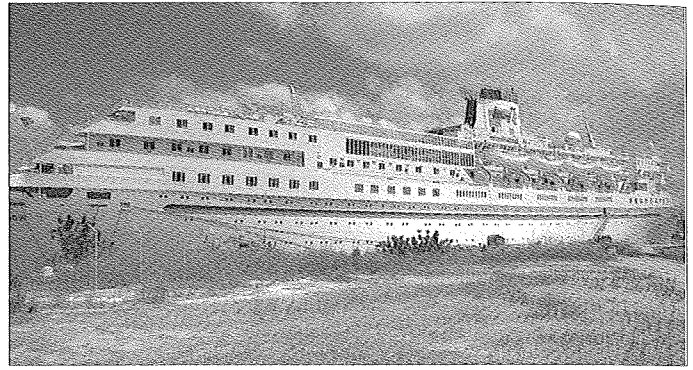
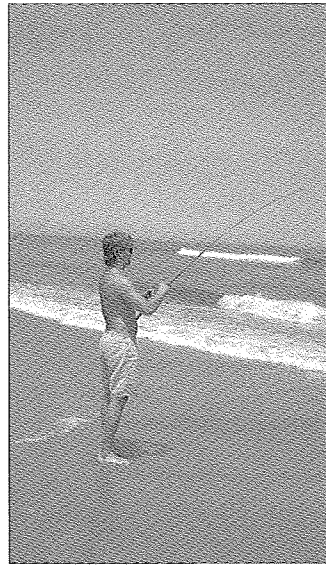
**I**f you asked the average person where most of the debris found at the Cleanup comes from, many would probably say from various commercial industries. While it’s true that maritime industries share some of the blame, the reality is both more complex and closer to home.

Marine debris is classified as either land- or ocean-based, depending on where it enters the water.

Ocean-based sources include commercial fishing vessels; recreational boats and cruise ships; merchant, military, and research vessels; and offshore petroleum platforms and associated supply vessels.

This debris can be introduced accidentally, as when fishing line or nets, or food wrappers and beverage cans are blown off the boat or break loose. Or the debris can be introduced intentionally, as when boaters, fishers, or ships’ crew members throw their trash overboard.





*Streetside litter, recreational fishing, pleasure boating, and beachgoers are some of the sources of marine debris.*

Some items are clearly identified with a particular ocean activity, such as fishing line or net, bottles embossed with cruise line logos, or pipe threat protectors or other items associated with offshore oil drilling. Other materials, however, such as beverage bottles, food wrappers or containers, resemble their counterparts that were discarded on land, and are not so clearly traced.

Dumping trash at sea has been prohibited in most of the world's oceans since 1988, when Annex V of the MARPOL treaty went into effect. MARPOL is an international agreement governing shipboard disposal of hazardous substances; Annex V regulates solid waste. Since then, data from the cleanup indicates that shipborne debris is declining.

Most marine debris does not originate at sea, however. Although we call it "marine" debris, most of the debris collected at the Cleanup originates on land.

Land-based debris blows, washes, or is discharged into the water from land areas. Sources include recreational beach-goers and fishers; materials manufacturers, processors and transporters; shore-based solid waste disposal and processing facilities; sewage treatment and combined sewer overflows; inappropriate or illegal dumping; and littering.

Antiquated sewer systems, common in older cities, introduce street trash and medical or sanitary items flushed down household toilets. Although public

wastewater treatment facilities are prohibited from discharging plastics into the marine environment, during periods of heavy rain the systems can become overloaded, and water is shunted away from the treatment tanks and directly into the nearest waterway. Typical debris from these discharges includes tampon applicators, condoms, and syringes. Some stormwater systems are designed to discharge directly into waterways without undergoing any screening or treatment. Anything discarded onto a city street, sidewalk, or lawn can potentially be carried down the nearest storm drain and into a creek, river, bay, and eventually, the ocean.

Both legal and illegal waste handling practices contribute to marine debris. The inadvertent release of debris from coastal landfills and garbage boats and the illegal dumping of domestic and industrial garbage into coastal and marine waters contribute to the marine debris problem.

And common but indiscriminate litter, whether dropped by beachgoers or by people hundreds of miles away, often finds its way to the nearest beach or waterway. Every piece of litter found during the ICC has a person's face (and hand) behind it. Food wrappers, beverage cans and bottles, straws, cigarette

butts, candy wrappers—all were discarded by someone, somewhere.

Factors such as ocean current patterns, climate and tides, and proximity to urban centers, industrial and recreational areas, and shipping lanes influence the type and amount of debris that is found along our beaches and waterways—including underwater areas.

## The International Coastal Cleanup

Since 1986, when the Center for Marine Conservation conducted its first cleanup along the Texas coast, the Cleanup has expanded to include lakes, rivers, and streams, as well as underwater sites around the world. Since 1986 nearly three million people in more than 100 countries have participated in the yearly event.

These volunteers do more than just collect trash. They keep track of what they find on data cards designed by the Center for Marine Conservation. These data cards list more than 80 types of debris cleanup volunteers are likely to encounter.

This data collecting is time-consuming and tedious on top of an already challenging chore, but it is an integral element of the Cleanup. The information yields a “snapshot” of specific sites and specific times. After the cleanup, the cards are returned to CMC for analysis and comparison with other sites and years. Some apparent trends may not hold up over time; other results are disturbingly consistent. In all, the data serve as signposts, pointing out progress and areas that need more work. From this analysis, conservationists, local government, and industry can create solutions to their particular debris problems.

For example, the 1998 cleanup in Barrington, Rhode Island yielded so many cigarette butts that a local high school student successfully petitioned town offi-

cial to designate a “smoker’s section” of the beach, complete with a bench, sand urn, and sign. The Rhode Island legislature has since enacted legislation enabling towns throughout the state to establish similarly equipped smoking areas on local beaches.

Data from the annual cleanups have also been used to enact international, national, and state legislation; foster public education campaigns targeting specific sources of debris, such as storm drains; change policy and procedures in certain marine industries, such as cruise lines and merchant ships; and helped local communities pinpoint their specific debris problems and create unique solutions.

Although the data have been used to reveal specific problems in specific areas, the numbers do not constitute a rigorous scientific database; too many factors vary from year to year and site to site. For example, turnout can be light or heavy, volunteers seasoned or new. Both can affect the amount or types of debris collected. Wind and water currents can shift, changing the volume and final resting place of water-borne debris. And sites cleaned year after year are generally less trash-laden than first-time cleanup locations. For these reasons, caution should be applied in comparing data from year to year and site to site.



Canada

Most cleanup volunteers do their work on shore, but every year several thousand dedicated divers remove tons of debris from under the water’s surface. With the help of the Professional Dive Instructors Association (PADI) the number of divers and sites cleaned grows every year. The Cleanup has also expanded inland over the years. Once concentrated on the coast, cleanups now take place in lakes, creeks, streams, rivers, and canals in such landlocked locales as Arizona, New Mexico, Colorado, Missouri and North Dakota in the United States, and countries such as Switzerland, Hungary, and the Czech Republic. Because much of the debris we find at the beach actually originates farther inland, cleaning debris from inshore areas will help reduce the amount of debris that ends up on the beach or the ocean.

## Coordinators

The International Coastal Cleanup would not be the successful event it is without our international, state, and local coordinators. They put in hundreds of hours every year, usually volunteer, to

create their local cleanups and ensure that the event goes smoothly, that volunteers are safe, and that they have fun and are rewarded for their efforts. In 1999 those outstanding individuals are:

### INTERNATIONAL COORDINATORS

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#### **Bahamas**

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**Wisconsin**

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**PADI Americas**

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## Highlights

As with all outdoor events, the weather played a major role in the 1999 Cleanup. Swells from Hurricane Dennis prevented kayakers and divers in New Brunswick, Canada from conducting their water cleanup. Undaunted, they joined the volunteers working on the beach. Typhoon York hit Hong Kong, and Hurricanes José and Lenny worked against Cleanup volunteers on Nevis by scattering debris and damaging the beaches.

Hurricanes Floyd and Irene affected cleanup plans in several U.S. states, including Florida, North Carolina, Virginia, and South Carolina. Nevertheless, Florida reported record turnout, with 37,000 volunteers, 2,000 more than in 1998. In North Carolina, several cleanups were canceled due to hurricane-related flooding and evacuations. Only 46 of the state's 100 counties were able to hold their cleanup on cleanup day, September 16. Despite the adverse conditions, 27 counties reported an increase in turnout from 1998, and 16 counties reported all-time highs for volunteers. North Carolina volunteers collected more trash per person in 1999 than in the previous nine years.

But chilly or damp weather didn't dampen the volunteers' spirits—they simply donned foul-weather gear—or improvised with trash bags—and kept right on cleaning.

The biggest reward for most cleanup volunteers is the satisfaction of a job well done for the environment. But most cleanup coordinators tried to show their appreciation to the volunteers, with everything from free t-shirts to post-cleanup barbecues and pizza parties to rewards for the most trash collected or the most unusual items found.

In Kirkfield Quarry, Canada, the Cleanup included an underwater pumpkin carving contest and treasure hunt, while at the Marina do Iate Clube do Espirito Santo in Brazil, organizers held a raffle for dive equipment at the cleanup's closing. One major sponsor, the Brita Products Company, distributed coupons to each U.S. volunteer, redeemable for a free water filtration pitcher, as a token of their appreciation for the volunteers' hard work.

In the U.S. state of Arizona, a ghost town and the Navajo Nation participated for the first time. About 50 of the 100 residents of the ghost town of Woodruff collected six tons of debris from the Little Colorado River, including six car engines and several car batteries. In Sanders, 22 Navajo residents removed several bags worth of trash from the Rio Puerco River. Both groups plan to help at the 2000 Cleanup as well.



*Residents of Sanders, Arizona, participated for the first time in the 1999 Cleanup.*

The New York (USA) cleanup included large numbers of schoolchildren from New York City, many of whom had never seen the ocean. Organizers pointed out the connections between street-side littering and ocean debris, and the value of recycling.

Other high points of the 1999 Cleanup:

- In Laughing Bird National Park in Belize, volunteers found no fishing line or foam food containers!
- At Trawangan Beach, Indonesia, volunteers found a golf ball, even though the nearest golf course is 12 miles from the beach. And volunteers in British Columbia, Canada, were surprised to find a coconut on their beach—demonstrating that debris does indeed travel!
- In Salina Bay, Malta, divers found a bucket containing a heavy chain and a family of four octopi. Rather than evict them, the divers left the bucket where it was.

- The “Raging Grannies” of Canada composed a song to commemorate their day’s activities, sung to the tune of Tchaikovsky’s “Waltz of the Flowers” (reprinted with permission on back cover).
- And in the Netherlands Antilles, divers were followed around the lagoon by a watchful barracuda. They noted that having such a “helper” certainly sped up their cleanup efforts!
- One young woman in Oregon, USA, found herself a fiancé. Her clever boyfriend stashed a marriage proposal in a bottle and hid it at her cleanup site. Veteran volunteers said it was the best piece of debris any of them had ever seen.
- Also in the USA, Indiana volunteers found the proverbial kitchen sink at Half Moon Beach; and at Lake Zurich, Illinois a volunteer found a promissory note for \$101,749.25.
- In Bahrain volunteers found a great deal of lumber on the beach, the result of illegal landfill practices.
- In Washington State, USA, volunteers discovered a diesel fuel spill in the Port of Bremerton marina, and contacted the Puget Sound Naval Shipyard Hazardous Response Unit to take care of the spill.
- Also in the USA, the door from a stolen car was found in Florida, with the VIN plate still attached; in Missouri, divers located a car that was declared a crime scene and roped off, terminating the cleanup in that location.
- One Norwegian volunteer noted, “there were a great many empty trash bins available at the beach. It was a pity people did not use them.”
- Finally, the plea of a fourth-grade volunteer in the Netherlands Antilles: “There was so much trash on the beach! There were many fishing nets. If you are a fisherman, you should be ashamed of yourself. I am tired of seeing trash on the beach. We are not respecting the sea.... If we, the children, can clean up, then you adults can do it too! So get up, stop drinking your beer and help clean!! People of St. Maarten: we need your help, please!!”

Unfortunately, not all of the stories bring smiles to our faces.

- At Inhaca Island at Port Torres, Mozambique, volunteers found 15 kgs of fishing line in a marine reserve—an area protected from harmful human activity.
- In Gili Air, Indonesia, a volunteer said that just three days after the cleanup the beach was dirty again.

*“There were a great many empty trash bins available at the beach. It was a pity people did not use them.”*



Brazil



# Results

(Note: for each section, international results will be discussed first, followed by U.S. results.)

In 1999 more than **774,000 people** in 77 countries participated in the cleanup. They covered more than **11,000 miles**, and picked up almost **8.5 million pounds of debris**, which consisted of more than **7.9 million items** (figures 1 and 2).

Of those volunteers, more than **11,000** were divers, who covered **1,000 miles** of underwater landscape to retrieve more than **201,000 pounds of debris** in 66 countries.

In the United States, where the Cleanup was created in the 1980s, 49 of the 50 U.S. states participated, along with the District of Columbia, American Samoa, Commonwealth of the Northern Marianas

Islands, Guam, Puerto Rico, and the U.S. Virgin Islands.

More than **164,000 U.S. volunteers** (including **3,400 divers** cleaning underwater sites) covered over **7,100 miles** of shoreline and underwater areas, removing **3.5 million pounds of debris**. In all, U.S. volunteers picked up **4,191,169 pieces of debris** (figures 3 and 4).

Around the world, the International Coastal Cleanup takes place during one three-hour period on the third Saturday of September every year. At the same time, each cleanup—local organized to suit local conditions—is an individual event. Geography, weather conditions, financial and material resources, and even public awareness of the problem—vary from one location to the next.

**Figure 1.**  
**International People, Pounds, and Miles**  
**1999 International Coastal Cleanup**

Country	Land			Underwater			Totals		
	People	Pounds	Miles	People	Pounds	Miles	People	Pounds	Miles
Argentina	1,442	10,771	21.43	250	693	5.57	1,692	11,464	27.00
Aruba	120	1,875	7.39	10	50	1.89	130	1,925	9.28
Australia	4	174	1.98	13	728	4.71	17	902	6.69
Austria	30	165	NR	30	75	NR	60	240	NR
Bahamas	10	2,000	0.25	18	2,000	0.25	28	3,000	50
Bahrain	55	12,380	0.62	—	—	—	55	12,380	0.62
Barbados	160	3,450	9.00	91	1,800	1.50	251	5,250	10.50
Belgium	25	2,420	NR	25	1,100	NR	50	3,520	NR
Belize	1,139	7,592	39.39	10	100	0.25	1,149	7,692	39.64
Bermuda	463	13,900	NR	NR	NR	NR	463	13,900	NR
Brazil	2,567	47,553	75.59	136	1,683	17.50	2,703	49,236	93.09
British Virgin Islands	61	1,152	1.20	—	—	—	61	1,152	1.20
Canada	3,408	65,079	125.04	1,340	6,945	6.13	4,748	72,024	131.17
Cayman Islands	25	300	0.50	51	43	1.00	76	343	1.50
Colombia	98	1,660	5.00	180	5,330	10.00	278	6,990	15.00
Costa Rica	105	462	11.00	15	198	2.00	120	660	13.00
Cyprus	4	90	NR	13	132	1.33	17	222	1.33
Czechoslovakia Republic	14	660	1.24	4	22	0.50	18	682	1.74
Dominica	1,087	30,240	61.70	—	—	—	1,087	30,240	61.70
Dominican Republic	196	1,288	220.50	70	141	1.74	266	1,429	222.24
Ecuador	2,389	1,518	18.30	—	—	—	2,389	1,518	18.30
Egypt	101	3,912	2.93	258	3,812	4.22	359	7,724	7.15
El Salvador	40	200	NR	150	600	5.00	190	800	5.00
Fiji	41	995	1.24	2	76	0.19	43	1,071	1.43
France	64	1,133	NR	64	516	NR	128	1,649	NR
French Polynesia	19	100	1.00	73	2,000	6.00	92	2,100	7.00
Germany	300	4,400	NR	284	4,378	NR	584	8,778	NR

Country	Land			Underwater			Totals		
	People	Pounds	Miles	People	Pounds	Miles	People	Pounds	Miles
Greece	758	6,642	20.08	27	2,752	0.62	785	9,394	20.70
Grenada	21	100	NR	26	80	NR	47	180	NR
Guatemala	365	10,000	4.34	35	NR	NR	400	10,000	4.34
Haiti	87	6,000	0.31	—	—	—	87	6,000	0.31
Hong Kong	439	31,123	3.50	—	—	—	439	31,123	3.50
Hungary	11	37	0.31	8	55	0.31	19	92	0.62
Iceland	42	60,000	30.00	26	30,000	4.00	68	90,000	34.00
Indonesia	223	584	3.12	39	255	1.99	262	839	5.11
Ireland	6	1,000	0.62	—	—	—	6	1,000	0.62
Israel	850	39,600	24.80	100	4,400	1.24	950	44,000	26.04
Italy	281	4,459	NR	281	2,026	NR	562	6,485	NR
Jamaica	897	18,002	13.51	50	80	0.25	947	18,082	13.76
Japan	4,948	34,264	20.08	317	7,718	0.50	5,265	41,982	20.58
Jordan	—	—	—	15	299	0.31	15	299	0.31
Kenya	5231	23,782	89.83	—	—	—	5,231	23,782	89.83
Kuwait	471	2,560	2.05	146	788	0.31	617	3,348	2.36
Lithuania	2248	8,092	12.09	—	—	—	2,248	8,092	12.09
Malaysia	15	400	0.50	65	888	0.87	80	1,288	1.37
Maldives	16	211	NR	16	211	0.00	32	422	NR
Malta	2	220	0.06	174	4,645	0.31	176	4,865	0.37
Mauritius	130	242	1.86	8	40	0.93	138	282	2.79
Mexico	1,782	61,368	72.08	95	527	12.15	1,877	61,895	84.23
Micronesia	492	8,394	12.20	72	662	0.52	564	9,056	12.72
Mozambique	15	44	0.62	10	33	0.62	25	77	1.24
Netherlands	340	4,840	NR	339	2,200	NR	679	7,040	NR
Netherlands Antilles	570	15,615	560.43	53	200	2.00	623	15,815	562.43
New Zealand	5	1,000	0.37	25	1,000	0.25	30	2,000	0.62
Norway	75	440	1.92	—	—	—	75	440	1.92
Panama	3,911	34,730	0.75	30	100	2.50	3,941	34,830	3.25
Papua New Guinea	3,290	485,283	41.23	67	1,573	6.52	3,357	486,856	47.75
Peru	8,000	20,000	310.00	50	2,000	0.74	8,050	22,000	310.74
Philippines	495,624	3,175,827	1,427.01	1,508	31,330	7.98	497,157	3,207,157	1,434.99
Poland	29	528	0.93	22	99	0.62	51	627	1.55
Portugal	6	75	NR	6	75	NR	12	150	NR
Saudi Arabia	25	576	1.09	70	1,320	0.96	95	1,896	2.05
Seychelles	5	NR	NR	50	110	0.47	55	110	0.47
South Africa	16,112	247,300	387.50	NR	NR	NR	16,112	247,300	387.50
Spain	86	1,313	NR	86	598	NR	172	1,911	NR
St. Kitts & Nevis	428	5,835	14.00	—	—	—	428	5,835	14.00
Sultanate of Oman	200	1,156	3.72	67	1,870	3.10	267	3,026	6.82
Switzerland	100	8,800	NR	156	10,094	NR	256	18,894	NR
Taiwan	6	NR	NR	251	1,009	1.73	257	1,009	1.73
Thailand	148	1,144	2.25	39	170	0.53	187	1,314	2.78
Tonga	406	22,317	10.31	NR	89	NR	406	22,406	10.31
Trinidad and Tobago	24	2,05	0.75	13	220	0.75	37	2,270	1.50
Turkey	35	1,607	3.72	7	29	0.31	42	1,636	4.03
United Arab Emirates	—	—	—	45	66	0.06	45	66	0.06
United Kingdom	2,009	32,573	91.29	94	435	15.89	2,103	33,008	107.18
United States	161,125	3,462,565	6,376.91	3,427	55,558	756.86	164,552	3,518,123	7,133.7
Venezuela	37,192	179,740	127.24	140	4,450	186.50	37,332	184,190	313.74
<b>Total</b>	<b>763,073</b>	<b>8,237,907</b>	<b>10,278.68</b>	<b>11,142</b>	<b>201,476</b>	<b>1,082.48</b>	<b>774,215</b>	<b>8,439,383</b>	<b>11,361.16</b>

Total Number of Countries: 77

NR – cleanup activity but results not reported

— no cleanup activity

**Figure 2.**  
**Total Number of Debris Items Collected**  
**During 1999 International Coastal Cleanups**

Debris Items	Total	Land	Underwater
<b>PLASTIC:</b>			
food bags/wrappers	643,425	628,819	14,606
salt bags	24,075	23,758	317
trash bags	145,030	142,472	2,558
other bags	169,597	166,290	3,307
plastic beverage bottles	214,573	203,446	11,127
bleach bottles	37,541	36,882	659
milk/water gallon jugs	50,008	48,708	1,300
oil/lube bottles	34,613	33,938	675
other plastic bottles	79,647	77,494	2,153
buckets	17,747	17,185	562
caps/lids	285,401	275,938	9,463
cigarette butts	1,052,373	992,754	59,619
cigarette lighters	35,673	34,651	1,022
cups/utensils	138,955	132,209	6,746
diapers	33,752	33,324	428
fishing line	51,022	48,368	2,654
fishing floats/lures	30,424	29,280	1,144
fishing nets	38,449	37,958	491
hard hats	9,244	9,179	65
light sticks	72,594	71,669	925
plastic pieces	488,947	472,500	16,447
pipe thread protectors	9,291	9,027	264
rope	126,148	124,174	1,974
long sheeting	8,779	8,538	241
short sheeting	23,632	23,213	419
six-pack holders	19,954	19,142	812
strapping bands	27,763	27,170	593
straws	209,781	203,465	6,316
syringes	10,169	8,905	1,264
tampon applicators	12,340	11,946	394
toys	44,957	44,133	824
vegetable sacks	23,004	22,686	318
write protection rings	10,221	9,952	269
other plastic	247,750	242,280	5,470
<b>FOAMED PLASTIC:</b>			
buoys	28,240	27,849	391
cups	97,424	93,787	3,637
egg cartons	14,017	13,809	208
fast food containers	66,423	64,685	1,738
meat trays	18,120	17,744	376
packaging material	78,930	76,784	2,146
foamed plastic pieces	400,199	393,168	7,031
plates	24,200	22,951	1,249
other foamed plastic	93,647	92,129	1,518



<b>Debris Items</b>	<b>Total</b>	<b>Land</b>	<b>Underwater</b>
<b>GLASS:</b>			
beverage bottles	214,061	196,191	17,870
food jars	26,367	25,060	1,307
other glass bottles/jars	45,532	43,741	1,791
fluorescent light tubes	7,900	7,726	174
light bulbs	12,868	12,656	212
glass pieces	323,526	313,301	10,225
other glass	44,465	42,059	2,406
<b>RUBBER:</b>			
balloons	40,674	37,526	3,148
condoms	11,442	11,136	306
gloves	20,678	20,324	354
tires	22,485	21,313	1,172
other rubber	71,429	69,618	1,811
<b>METAL:</b>			
bottle caps	170,387	164,025	6,362
aerosol cans	21,858	20,026	1,832
beverage cans	196,371	184,289	12,082
food cans	50,547	48,855	1,692
other cans	20,433	19,280	1,153
crab/lobster traps	17,566	17,404	162
55-gallon rusty drums	7,922	7,768	154
55-gallon new drums	1,634	1,561	73
metal pieces	171,627	168,440	3,187
pull tabs	31,056	28,748	2,308
wire	25,525	24,537	988
other metal	66,195	63,460	2,735
<b>PAPER:</b>			
bags	63,204	61,179	2,025
cardboard	48,997	47,653	1,344
cartons	50,511	49,250	1,261
paper cups	140,566	137,583	2,983
newspapers/magazines	50,865	49,575	1,290
paper pieces	333,810	322,807	11,003
paper plates	90,300	88,743	1,557
other paper	73,765	70,796	2,969
<b>WOOD:</b>			
crab/lobster traps	2,450	2,388	62
crates	3,069	2,947	122
lumber pieces	79,846	77,720	2,126
pallets	9,468	9,288	180
other wood	39,278	38,134	1,144
<b>CLOTH:</b>			
clothing/pieces	73,613	70,548	3,065
<b>GRAND TOTALS</b>	<b>7,930,369</b>	<b>7,652,014</b>	<b>278,355</b>

**Figure 3. U.S. People, Pounds, and Miles  
1999 International Coastal Cleanup**

Cleanup Territory	Land			Underwater			Total		
	People	Pounds	Miles	People	Pounds	Miles	People	Pounds	Miles
Alabama	3,144	55,013	203.55	13	450	0.40	3,157	55,463	203.95
Alaska	269	6,684	80.75	3	65	0.13	272	6,749	80.88
American Samoa	NR	NR	NR	NR	NR	NR	NR	NR	NR
Arizona	500	28,809	137.37	96	10,789	117.37	596	39,598	254.74
Arkansas	77	2,277	3.00	NR	NR	NR	77	2,277	3.00
California	46,070	706,958	687.75	240	4,347	28.25	46,310	711,305	716.00
Colorado	102	2,035	7.00	76	1,108	6.00	178	3,143	13.00
Com. N. Marinas Is.	67	1,060	1.50	29	500	0.50	96	1,560	2.00
Connecticut	583	6,505	23.12	15	175	0.12	598	6,680	23.24
Delaware	1,637	21,085	95.00	—	—	—	1,637	21,085	95.00
District of Columbia	75	5,900	3.50	—	—	—	75	5,900	3.50
Florida	37,451	752,065	1,826.55	76	1,715	4.00	37,527	753,780	1,830.55
Georgia	387	4,850	31.50	NR	NR	NR	387	4,850	31.50
Guam	1,465	11,334	8.50	279	2,395	3.75	1,744	13,729	12.25
Hawaii	2,603	215,780	7.50	104	818	5.95	2,707	216,598	13.45
Idaho	43	250	1.00	37	350	0.50	80	600	1.50
Illinois	1,181	5,885	46.00	225	1,904	12.25	1,406	7,789	58.25
Indiana	451	5,013	18.56	62	2,053	2.56	513	7,066	21.12
Kansas	96	300	0.75	—	—	—	96	300	0.75
Kentucky	25	250	0.25	15	100	0.50	40	350	0.75
Louisiana	2,452	184,800	96.00	—	—	—	2,452	184,800	96.00
Maine	1,679	13,770	242.15	188	1,155	25.50	1,867	14,925	267.65
Maryland	460	11,260	50.00	—	—	—	460	11,260	50.00
Massachusetts	4,004	67,267	165.00	—	—	—	4,004	67,267	165.00
Michigan	885	5,185	109.25	97	1,525	4.75	982	6,710	114.00
Minnesota	458	2,932	55.00	NR	NR	NR	458	2,932	55.00
Mississippi	2,569	1,500	76.80	NR	NR	NR	2,569	1,500	76.80
Missouri	520	NR	38.00	20	NR	1.00	540	NR	39.00
Montana	4	NR	NR	44	660	4.00	48	660	4.00
Nebraska	194	9,360	51.00	5	1,000	0.25	199	10,360	51.25
Nevada	181	1,030	2.00	71	527	2.00	252	1,557	4.00
New Hampshire	1,118	11,162	32.00	22	1,000	2.25	1,140	12,162	34.25
New Jersey	2,861	27,211	29.23	168	2,535	1.78	3,029	29,746	31.01
New Mexico	199	3,605	32.60	43	292	0.80	242	3,897	33.40
New York	9,232	260,659	278.68	226	7,436	109.38	9,458	268,095	388.06
North Carolina	8,166	337,718	872.15	—	—	—	8,166	337,718	872.15
North Dakota	20	300	20.00	4	20	1.00	24	320	21.00
Ohio	547	18,897	27.25	NR	NR	NR	547	18,897	27.25
Oklahoma	20	200	5.00	39	950	2.00	59	1,150	7.00
Oregon	5,288	42,723	214.00	—	—	—	5,288	42,723	214.00
Pennsylvania	266	2,430	13.00	4	60	1.00	270	2,490	14.00
Puerto Rico	3,297	40,000	30.00	—	—	—	3,297	40,000	30.00
Rhode Island	1,650	6,500	125.00	40	100	2.00	1,690	6,600	127.00
South Carolina	1,991	15,605	105.78	34	720	1.50	2,025	16,325	107.28
South Dakota	37	1,290	2.75	44	920	3.50	81	2,210	6.25
Tennessee	36	390	2.25	25	150	2.25	61	540	4.50
Texas	12,264	418,869	203.10	901	4,823	2.60	13,165	423,692	205.70
U.S. Virgin Islands	375	6,281	3.77	53	3,000	400.50	428	9,281	404.27
Utah	3	17	0.50	20	325	0.50	23	342	1.00
Vermont	NR	NR	NR	22	400	2.50	22	400	2.50
Virginia	2,807	115,511	225.25	NR	NR	NR	2,807	115,511	225.25
Washington	1,105	21,870	81.00	18	420	0.13	1,123	22,290	81.13
West Virginia	17	320	1.25	14	300	1.50	31	620	2.75
Wisconsin	192	1,800	3.75	43	171	1.64	235	1,971	5.39
Wyoming	2	50	0.25	12	300	0.25	14	350	0.50
<b>TOTAL</b>	<b>161,125</b>	<b>3,462,565</b>	<b>6,376.91</b>	<b>3,427</b>	<b>55,558</b>	<b>756.86</b>	<b>164,552</b>	<b>3,518,123</b>	<b>7,133.77</b>

NR - cleanup activity but results not reported

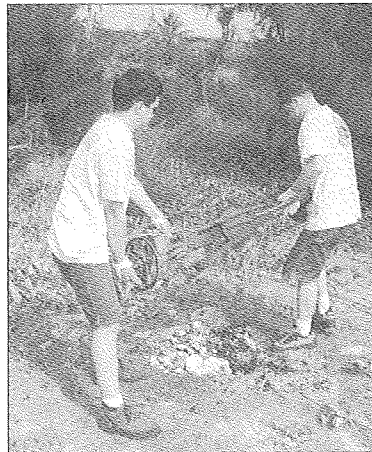
— no cleanup activity

*peculiar listing  
from data cards*

## One-Stop Shopping

One of the more interesting features at each Cleanup is the variety of items that volunteers find at the beach. Every year, Cleanup coordinators submit a list of the most unusual items found at their cleanups. While some of the items are amusing, others are sobering and almost frightening. And all of these items were either carelessly or purposefully discarded at the beach, on a boat, or on the street. The following is just a handful of 1999's more unusual finds:

- **Let's Talk Auto Shop:** 1953 DeSoto, 1988 Cadillac, Corvair, truck, Yamaha motorcycle. In addition, volunteers found enough batteries, engines, and other parts to repair and maintain hundreds of vehicles.
- **Multi-media Superstore:** VCR and videotapes, TVs, cellular phones, computers and computer accessories, pagers, clock radios, a walkie-talkie, and to power them all, an assortment of batteries.
- **We're Missing the Point:** a "Keep Your Beach Clean" bag, an "Adopt a Beach" cleanup bag, an ICC poster and last year's cleanup bag, a letter about litter on the beach, and an empty recycling container.
- **The Great Outdoors:** bicycles, lawnmowers, lawn chairs, wetsuits and various pieces of dive gear.
- **Home Matters:** air conditioners and components, beds, bed parts and bedding, brooms, cabinets, candles, Christmas decorations, carpet remnants, coffee pots, a complete dining room table, a dishwasher, door knobs, fences, fire extinguishers, freezer, garage door, garbage disposals, garden hoses, grills, coat hangers, irons, a kitchen sink, ladders, lamps, light bulbs, microwaves, mops, an outhouse, oven, portable toilets, rakes, rat traps, refrigerators and parts, satellite TV dish, shelving, shovels, sofas, stoves, suitcases, tables, tiles, toi-



Guam

lets and parts, water heaters, windows and window treatments, and wreaths.

- **The Medicine Chest:** blood and IV bags, cast, catheters, inhalers, insulin bottles, oxygen masks, a respirator and masks, specimen cup, syringes, a tracheotomy tube, urine samples, and a walker.
- **Just Say "No":** cocaine and cocaine paraphernalia, heroin container, marijuana and paraphernalia, narcotics, rolling papers, and a vial of "crystal meth."
- **Excuse Me for Getting Personal:** artificial breast, bra (purple), brace, condoms, deodorant, diapers, diaphragms, false teeth, lipstick, an orthodontic device, pregnancy test kits, razors, retainers, sanitary napkins, tampons and applicators, toothbrushes, toothpaste, and assorted wigs.
- **Firing Line:** bullets, a gun, gun holster, shell casings, knives, an M-10 bayonet, rifle barrel, spear gun, and tear gas shell.
- **Disposable Income:** 1.5 carat diamond ring, 14k gold ring, 1815 coin, airline ticket, check for \$23, personal checkbook, company checkbook, silver and amber necklace, graduation ring, and a promissory note for \$101,769.25

**These items underscore a serious global attitude problem. We are a throwaway society. The term "post-consumer waste" can be applied to just about anything that money can buy. This onslaught of debris is costly, wasteful, and harmful to us and to our environment. More than that, it is an indictment of our culture and citizenry. We can do better.**

**Figure 4.**  
**Total Number of Debris Items Collected During**  
**1999 United States Coastal Cleanups**

<b>Debris Items</b>	<b>Total</b>	<b>Land</b>	<b>Underwater</b>
<b>PLASTIC:</b>			
food bags/wrappers	227,434	219,040	8,394
salt bags	3,014	2,940	74
trash bags	47,426	46,107	1,319
other bags	60,636	58,815	1,821
plastic beverage bottles	121,304	117,115	4,189
bleach bottles	13,977	13,720	257
milk/water gallon jugs	17,586	17,147	439
oil/lube bottles	11,806	11,540	266
other plastic bottles	37,592	36,435	1,157
buckets	8,413	8,132	281
caps/lids	207,451	199,406	8,045
cigarette butts	812,153	757,538	54,615
cigarette lighters	17,635	17,006	629
cups/utensils	74,907	71,776	3,131
diapers	6,646	6,419	227
fishing line	26,962	25,334	1,628
fishing floats/lures	13,535	12,640	895
fishing nets	7,191	7,024	167
hard hats	1,023	1,010	13
light sticks	9,883	9,656	227
plastic pieces	271,859	257,269	14,590
pipe thread protectors	4,167	4,024	143
rope	59,642	58,860	782
long sheeting	3,568	3,434	134
short sheeting	6,673	6,483	190
six-pack holders	14,004	13,347	657
strapping bands	16,104	15,706	398
straws	130,375	125,332	5,043
syringes	3,135	2,944	191
tampon applicators	8,545	8,191	354
toys	18,639	18,090	549
vegetable sacks	6,283	6,132	151
write protection rings	6,821	6,565	256
other plastic	91,611	87,990	3,621
<b>FOAMED PLASTIC:</b>			
buoys	13,609	13,384	225
cups	84,652	81,809	2,843
egg cartons	3,503	3,413	90
fast food containers	26,880	25,762	1,118
meat trays	8,688	8,469	219
packaging material	48,329	47,174	1,155
foamed plastic pieces	214,960	209,470	5,490
plates	17,997	16,995	1,002
other foamed plastic	42,506	41,313	1,193



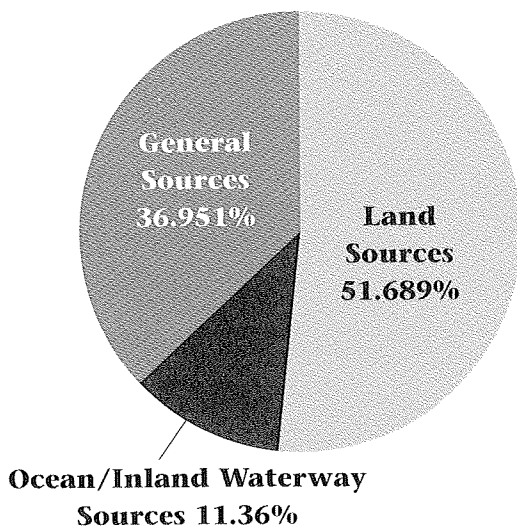
<b>Debris Items</b>	<b>Total</b>	<b>Land</b>	<b>Underwater</b>
<b>GLASS:</b>			
beverage bottles	140,085	133,574	6,511
food jars	10,897	10,399	498
other glass bottles/jars	19,698	18,834	864
fluorescent light tubes	1,792	1,774	18
light bulbs	4,894	4,808	86
glass pieces	159,875	152,334	7,541
other glass	20,731	19,213	1,518
<b>RUBBER:</b>			
balloons	32,028	29,024	3,004
condoms	5,844	5,640	204
gloves	14,069	13,820	249
tires	9,172	8,723	449
other rubber	31,089	30,091	998
<b>METAL:</b>			
bottle caps	101,006	96,428	4,578
aerosol cans	9,640	9,098	542
beverage cans	146,467	138,714	7,753
food cans	12,449	11,673	776
other cans	7,507	7,086	421
crab/lobster traps	2,719	2,658	61
55-gallon rusty drums	2,481	2,413	68
55-gallon new drums	395	389	6
metal pieces	38,197	36,112	2,085
pull tabs	22,085	20,462	1,623
wire	14,338	13,741	597
other metal	39,222	37,417	1,805
<b>PAPER:</b>			
bags	33,117	31,632	1,485
cardboard	24,846	23,854	992
cartons	18,293	17,495	798
paper cups	34,958	33,427	1,531
newspapers/magazines	22,075	21,254	821
paper pieces	182,993	173,845	9,148
paper plates	13,363	12,300	1,063
other paper	45,133	42,401	2,732
<b>WOOD:</b>			
crab/lobster Traps	1,752	1,722	30
crates	1,790	1,741	49
lumber pieces	60,754	59,290	1,464
pallets	4,195	4,103	92
other wood	27,157	26,304	853
<b>CLOTH:</b>			
clothing/pieces	44,939	43,100	1,839
<b>GRAND TOTALS</b>	<b>4,191,169</b>	<b>3,997,849</b>	<b>193,320</b>

# Sources of Debris

## What We Found

Just over half of the debris collected (51.7%) was attributed to land-based sources, such as beachgoers, storm or sewer drains, or illegal dumping. Only 11.4% could be attributed to ocean-based activities, such as fishing, boating, or oil/gas drilling. And a large percentage of the debris (36.9%) could not be directly attributed to either source, and is likely a combination of the two sources (figure 5). The chart shows the total for both land and underwater cleanups. Interestingly, the underwater cleanups showed more land-based debris (63.6%) and less water-based debris (6.8%) than the land-only cleanups. (Land-only and underwater-only charts appear in Appendix 3.)

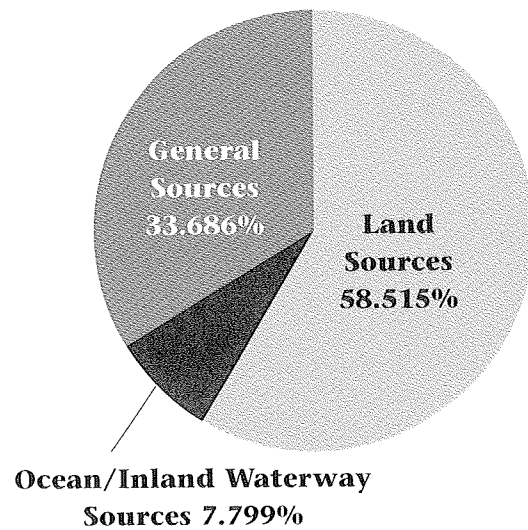
**Figure 5. Percent Debris Source International**



In the United States the breakdown is similar. More than half of the debris collected (58.5%) was attributed to land-based sources. Only 7.8% could be attributed to ocean-based activities, while 33.7%, could not be directly attributed to either source, and is again a likely combination of the two sources (figure 6). The U.S. underwater-only breakdown shows a slightly higher percentage of land-based debris (64.1%) than the shore-based cleanups (58.2%).

But these differences are too small to be significant. The real story is that, in both land and underwater cleanups, most the trash is land-based, and consists of the same items in about the same proportions.

**Figure 6. Percent Debris Source United States**



The percentages have been fairly stable over the years, but as noted earlier, the percentage of debris that can be attributed to ocean sources has shown an apparent decrease in recent years. This change may be due to the implementation 12 years ago of Annex V of the MARPOL Treaty (see above); it is also a result of the massive public education efforts that have taken place over the last decade. Several industries, including plastics manufacturers, cargo shipping lines, and cruise lines, have altered company processes and policies, and undertaken employee training programs to reduce their contributions to the marine debris problem.

## What it Means

The 1999 data shows that the major cause of marine debris is the improper disposal of common, everyday trash. Despite anti-littering laws in many countries we still prefer the street to the waste can. Improved waste collection and treatment facilities will help, especially in coastal areas, as will continued progress in recycling. Not only do more municipalities need to implement recycling programs and facilities, but new markets must be found for recycled goods, and more types of materials need to be recyclable.

In the United States, the plastics and beverage industry have done a good job in recycling PET and HDPE plastic (coded 1 or 2 on consumer goods such as milk jugs and soft drink bottles), but there are seven different types of plastic, and more should be able to be recycled.

# The Dirty Dozen

## What We Found

The 12 leading types of debris are remarkably consistent from year to year. These 12 items account for about two-thirds of all debris collected every year. The 1999 Cleanup was no exception, with Dirty

Dozen items making up 58.15% of all debris found (64.8% in the U.S.) Each of the items in the Dirty Dozen is a consumer good, tossed or dropped from someone's hand—not one is a direct contribution from industry.

The 1999 lists are as follows:

<b>1999 ICC INTERNATIONAL DIRTY DOZEN*</b>		
<b>Debris Item</b>	<b>Total number reported</b>	<b>Percentage of total collected</b>
1. cigarette butts	1,052,373	13.27%
2. food bags/wrappers (plastic)	643,425	8.11%
3. plastic pieces	488,947	6.17%
4. foamed plastic pieces	400,199	5.05%
5. paper pieces	333,810	4.21%
6. glass pieces	323,526	4.08%
7. caps, lids (plastic)	285,401	3.60%
8. other plastic items	247,750	3.12%
9. beverage bottles (plastic)	214,573	2.71%
10. beverage bottles (glass)	214,061	2.70%
11. straws	209,781	2.65%
12. beverage cans	196,371	2.48%
<b>Dirty Dozen Totals</b>	<b>4,610,217</b>	<b>58.15%</b>
13. other metal pieces	171,627	2.16%
14. bottle caps (metal)	170,387	2.15%
15. other plastic bags	169,597	2.14%
16. trash bags (plastic)	145,030	1.83%
17. cups (paper)	140,566	1.77%
18. cups, utensils (plastic)	138,955	1.75%
19. rope	126,148	1.59%
20. cups (foamed plastic)	97,424	1.23%
<b>Top 20 Totals</b>	<b>5,769,951</b>	<b>72.77%</b>

### 1999 ICC U.S. DIRTY DOZEN

Debris Items	Total number reported	Percentage of total collected
1. cigarette butts	812,153	19.38%
2. plastic pieces	271,859	6.49%
3. food bags/wrappers (plastic)	227,434	5.43%
4. foamed plastic pieces	214,960	5.13%
5. caps, lids (plastic)	207,451	4.95%
6. paper pieces	182,993	4.37%
7. glass pieces	159,875	3.81%
8. beverage cans	146,467	3.49%
9. beverage bottles (glass)	140,085	3.34%
10. straws	130,375	3.11%
11. beverage bottles (plastic)	121,304	2.89%
12. bottle caps (metal)	101,006	2.41%
<b>Dirty Dozen Totals</b>	<b>2,715,962</b>	<b>64.80%</b>
13. other plastic items	91,611	2.19%
14. cups (foamed plastic)	84,652	2.02%
15. cups, utensils (plastic)	74,907	1.79%
16. lumber pieces	60,754	1.45%
17. other plastic bags	60,636	1.45%
18. rope	59,642	1.42%
19. packaging material (foamed plastic)	48,329	1.15%
20. trash bags (plastic)	47,426	1.13%
<b>Top 20 Totals</b>	<b>3,243,919</b>	<b>77.40%</b>

At the top of the lists, as they have been since 1990, are cigarette butts. Many smokers are unaware that cigarette butts do not decompose, but can persist in the environment for up to seven years after they were discarded. Cigarette filters are not made of degradable, natural fibers, but manufactured polymers.

#### **What it Means**

The 1999 percentage of cigarette butts to total debris collected (13.27%) is a decline from recent years (15.5% in 1998; 19.1% in 1997). This may be due to increased anti-littering campaigns in many countries coupled with the placement of more cigarette receptacles in urban and coastal areas. It could also be a reflection



of the fact that more beaches are being cleaned on a regular basis, and previous years' data may have included trash that had been on the beach for several years.

The U.S. percentage of cigarette butts to total debris (19.38%) is lower than the 1998 and 1997 figures of 23.27% and 22.5%, but it is higher than in 1996, 1995, and 1994 (13.14%, 14.72%, and 18.58%, respectively). It is significantly higher than the worldwide figure, which may be explained by the

larger quantities of other types of debris in other countries, which would lower the impact of cigarette butts.



Cleanup volunteers are noting a disturbing new trend with smoking-related debris. More and more are reporting plastic cigar tips, no doubt a carryover of the habit of dropping cigarette butts on the ground, thinking they will disappear. But plastic cigar tips will likely persist in the environment even longer than cigarette butts, due to their size and composition.

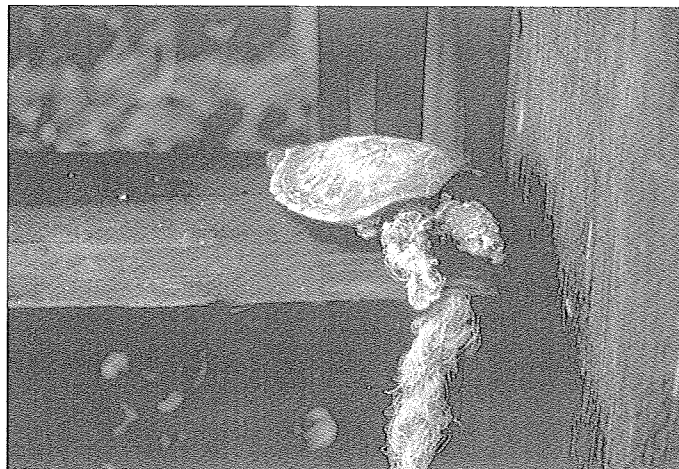
Since 1990 the following nine items have appeared consistently in the Dirty Dozen: cigarette butts, plastic pieces, foamed plastic pieces, paper pieces, plastic caps and lids, glass pieces, glass beverage bottles, plastic straws, and beverage cans. Most of these items are the disposable packaging and packaging remnants.

Clearly, the major contributors to marine debris are not industries such as commercial fishers or cargo ships or oil rigs. They are you and I, our neighbors and friends, our families.

In many countries, especially in the developing world, reducing marine debris depends on improved municipal and rural trash collection and disposal. Many countries also do not have adequate waste management laws or policies. Island nations, especially those popular with tourists, have the double burden of managing their citizens' waste as well as visitors'—not to mention trash that washes ashore from neighboring countries. Clearly, the solution will require regional and international cooperation, and financial and technical assistance where necessary.

Most communities in the United States have adequate household and street-side waste collection facilities. And many communities have serviceable to state-of-the-art recycling programs. In the U.S. at least, the key to reducing the Dirty Dozen lies less with improved waste treatment than it does with improved waste handling by consumers. Picnickers and beachgoers must be more diligent in disposing of their trash properly. Pedestrians and drivers must be more careful about tossing their food wrappers, empty soda and water bottles, and candy and cigarette wrappers onto the street or out the car window.

If we can stop the improper disposal of the 12 most commonly found debris items—the Dirty Dozen—the world's beaches and waterways would be up to 60% cleaner. And our volunteers wouldn't have had to lift a finger.



## The Dangers of Debris

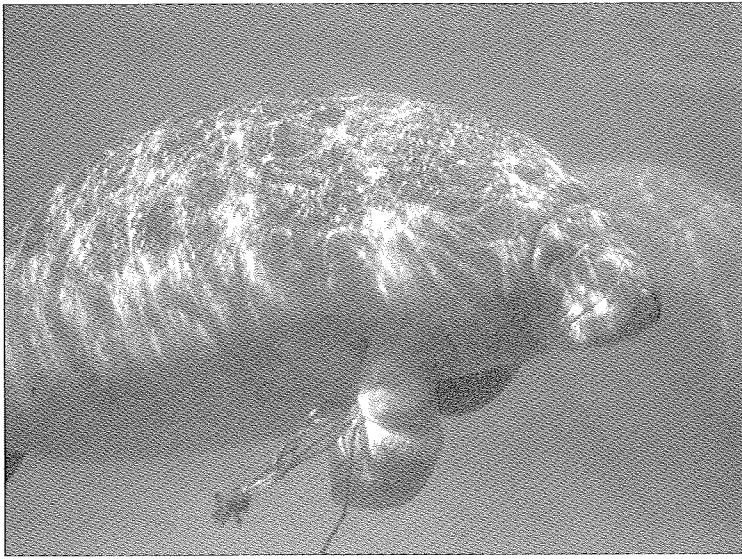
As noted above, the impact of marine debris on marine wildlife is its most visible and heartbreaking.

Every year cleanup volunteers report finding dead animals snarled in fishing gear and other debris. Equally grim are the debris-related mutilations, as when a strong loop of metal or plastic gets caught around a young animal's limb or neck. As the animal grows, the foreign material gouges the flesh, slowly causing mutilation, amputation, or strangulation.

Ingestion of debris—swallowing debris in the mistaken belief it is food—is another serious problem for marine wildlife. According to the 1998 U.S. Marine Mammal Commission report, at least 111 of the world's 312 species of seabirds have been reported to swallow floating pieces of plastic, and six of the world's seven species of sea turtles mistake water-borne plastic, especially plastic bags and balloons, for food. Such encounters are often fatal. Foreign objects in the stomach and digestive tract can lead to false feelings of satiation, and the animal will stop eating and starve itself to death; debris can also tear stomach walls and intestines, or block digestion altogether.

### **What We Found**

In 1999, Cleanup volunteers found 324 entangled animals, 284 in the United States (figures 7 and 8). For convenience in analyzing the numbers, we often refer to "this year's entanglements" compared to "last year's" or "previous years." It is important to remember, however, especially where the animals entanglements are concerned, that the Cleanup takes place in just a few hours, one day out of the year, and does



plastic bags, and 40,674 balloons. They found 488,947 plastic pieces (as from lighters, cups, plates, utensils, toys), 400,199 foamed plastic pieces (as from cups, plates, fast food trays and containers, coolers), 323,526 glass pieces (as from bottles and jars), 170,387 bottle caps, 31,056 pull tabs, and 171,627 metal pieces (remnants of cans, sheet metal, trays, buckets). Any one of these items could have ended up in a seabird or sea turtle's stomach. These and the larger items found at the Cleanup could also have been swallowed by dolphins or even whales. The 40,000 balloons pose a special problem. Research at the University of Miami (USA) suggests that sea turtles may actively seek out pieces of latex balloon, perhaps confusing them with jellyfish.

not cover every coastline, lakeshore, or river bank. In 1999, Cleanup volunteers found 324 entangled animals **in just one day in selected locations**. It is simply impossible to calculate the number of animals hurt or killed by marine debris every year around the world. It is safe to say, however, that the number reported is but a small fraction of the actual incidents.

Of the 324 reported cases, fishing line was responsible for 120, or 37%. The U.S. percentage is similar, with 110 of the 284 incidents, or 38%, attributed to fishing line. Worldwide and in the United States the 1999 percentage is consistent with previous years', in which fishing line accounted for more than a third of all entanglements reported. Fishing line is designed to resist an animal's thrashings, which has unfortunate consequences for entangled animals.

Fishing net and lost fish traps also entangle and trap animals. The phenomenon is so common that the term "ghost fishing" was coined to describe the effect of fishing gear lost at sea that continues to catch fish and other marine life for years, catch that will never be retrieved. Ghost fishing contributes to the problem of declining fish populations and other marine wildlife around the world.

Cleanup volunteers also found 1,052,373 cigarette butts, 643,425 food or storage bags, 169,597 "other"

### ***What It Means***

In 1999 volunteers collected nearly 90,000 pieces of fishing line and net (34,000 in the United States). They also collected over 30,000 fishing floats and lures (13,000 U.S.). Much of this debris could be eliminated if fishers understood the effect their equipment has on the marine environment. Fishing line, traps, and nets accounted for 51% (48% U.S.) of the entanglements documented in the 1999 Cleanup.

Although fishing gear is not the only item that can entangle and kill animals, reducing the amount of lost and unwanted nets, traps, and fishing line will prevent almost half of the animal entanglements reported at the cleanup each year.



As noted above, the smaller, non-descript, and often untraceable bits of debris are no less hazardous for their size or "ordinary-ness." Preventing the discard of plastic bags, balloons, and small pieces of trash is just as important as preventing the disposal of fishing nets and oil

drums. Indeed, preventing the small debris may do more to prevent wildlife deaths than just about anything else we do.

The 1999 figure of 324 entangled animals is the highest number recorded since the Cleanup began. In 1998 152 entangled animals were found; in 1997 the figure was 312; in 1996 it was 220.

**Figure 7.**  
**Total Debris Involved in Animal Entanglements (International)**  
**1999 International Coastal Cleanup**

Debris Form	Invertebrates	Fish	Amphibians	Birds	Reptiles	Mammals	Total
balloon (inc. ribbon & string)		4		4			<b>8</b>
fishing line (inc. hooks & lures)	15	48	1	48	4	4	<b>120</b>
Bottles		1					<b>1</b>
crab\lobster traps	1	1					<b>2</b>
fishing nets\rope	24	10		12			<b>46</b>
plastic bags	5	12		3	3	2	<b>25</b>
plastic sheetings	4	1		2			<b>7</b>
nylon rope	7	15		17	3	12	<b>54</b>
six-pack holders	1	10		7			<b>18</b>
strapping bands				1			<b>1</b>
ribbon\string	2	6		11		1	<b>20</b>
wire		1	1	6			<b>8</b>
miscellaneous		12			1	1	<b>14</b>
<b>TOTAL</b>	<b>59</b>	<b>121</b>	<b>2</b>	<b>111</b>	<b>11</b>	<b>20</b>	<b>324</b>

**Figure 8.**  
**Total Debris Involved in Animal Entanglements (U.S. only)**  
**1999 International Coastal Cleanup**

Debris Form	Invertebrates	Fish	Amphibians	Birds	Reptiles	Mammals	Total
balloon (inc. ribbon & string)		3		4			<b>7</b>
fishing line with hook/lure	10	47	1	48	3	1	<b>110</b>
crab/lobster traps	1	1					<b>2</b>
fishing nets/rope	11	4		8			<b>23</b>
plastic bags	5	12		3	3	2	<b>25</b>
plastic sheetings	3	1		2	3	2	<b>6</b>
rope	6	15		17	3	12	<b>53</b>
six-pack holders	1	9		6			<b>16</b>
strapping bands				1			<b>1</b>
ribbon\string	2	6		11		1	<b>20</b>
wire		1	1	6			<b>8</b>
miscellaneous		12				1	<b>13</b>
<b>TOTAL</b>	<b>39</b>	<b>111</b>	<b>2</b>	<b>106</b>	<b>9</b>	<b>17</b>	<b>284</b>

Every aspect of the International Coastal Cleanup is geared toward one broad goal: Improving the quality of the world's water. Reducing, and one day eliminating, marine debris is one means of reaching that goal.

Americans have been cleaning their beaches and waterways at the Cleanup every year since 1986. In that time they have removed nearly 32 millions pounds of trash and either recycled it or disposed of it properly.

Next year, and the year after that, no doubt, Cleanup volunteers will again spend a Saturday morning picking up another 3 or 4 million pounds of trash. Clearly, the International Coastal Cleanup is helping to beautify our recreation areas, and eliminate potentially deadly hazards to marine life.

But, effective as it is, the Cleanup is not the solution to marine debris. The solution lies in preventing trash from becoming litter and marine debris. The solution is public education—people need to understand the long-term effects of their careless (or sometimes deliberate) treatment of their trash. The solution is improved solid waste management—antiquated sewer and storm drains cannot handle the volume of water and trash they receive every day, and more of our public areas need safe, convenient, trash receptacles. The solution is an expanded recycling indus-

try—the more of our everyday items that can be easily recycled in the household trash or at the marina or fishing pier, the lower the potential that these items will end up as debris and possibly harming a marine animal or another person.

The improvements that have been made in combating marine debris are well documented. The maritime industries have made improvements in their waste handling facilities and procedures. More and more citizens are demanding more and better waste receptacles and public beaches and parks. But as the Cleanup data loudly demonstrates, much, much more needs to be done.

The Center for Marine Conservation conducts a number of programs designed to take the lessons of the Cleanup and create long-lasting solutions to the problem of marine debris.

The following activities are direct outgrowths of the International Coastal Cleanup, and each tackles marine debris from a slightly different angle. Collectively, they educate neighborhoods about watershed drainage patterns; create conditions that yield reliable monitoring data; and involve communities in developing and refining their own solutions.

### Storm Drain Stenciling

Managed by CMC and funded by the U.S. Environmental Protection Agency, *Million Points of Blight* is an education campaign designed to alert the general public about nonpoint source pollution and the direct connection between land activities, storm drains, and local water quality. Many people don't realize that the storm drains in their neighborhoods are direct links to nearby bodies of water, and that stormwater runoff containing street litter, household and automotive chemicals, and other pollutants rarely receives the benefit of treatment before it discharges into streams and rivers, and ultimately, the ocean. Million Points of Blight volunteers stencil storm drains with clean water messages such as "Don't Dump! Protect Your Water."

CMC sends interested groups a storm drain stenciling kit complete with a fact sheet about nonpoint source



*People need to understand the long-term effects of their careless (or sometimes deliberate) treatment of trash.*





Participants in CMC's campaign have stenciled more than 330,000 storm drains.

pollution, its impacts, and what citizens can do to prevent it. The kit also contains instructions for managing a stenciling project and a data card for recording the number of storm drains stenciled and the types of pollutants found around each. To date, participants in CMC's campaign have stenciled more than 330,000 storm drains.

## Scientifically Rigorous Data Collection

Data from the International Coastal Cleanup have been used to inform legislative hearings, shape U.S. government programs and research, support public education campaigns, and ultimately spur changes in federal and state law and industry practice. These statistics, however, lack the degree of rigor that comes only from controlled conditions—conditions that are impossible to enforce at once-a-year events at varying sites, with varying participants.

CMC's National Marine Debris Monitoring Program (NMDMP), supported by the U.S. Environmental Protection Agency, answers the need for scientifically sound data. Once a month for five years, specially trained volunteers collect and record debris at 180

sites along the coast. At the conclusion of the five-year study, CMC will conduct statistical analyses to determine whether marine debris is significantly diminishing in response to current laws and education efforts. The results of the study will also be used to help identify the major sources of the debris.

## Local Solutions

Using data from the Cleanup, CMC is helping coastal communities around the country develop specific strategies to help keep their waste out of the water. With support from the American Plastics Council, Coca-Cola, Brunswick, Philip Morris, and Royal Caribbean Cruises, CMC's Model Communities program operates on the principle that a problem that originates at the local level must be solved at the local level. Model Communities projects currently focus on four types of activities: recreational boating, fishing, shoreside commercial activities, and littering.

### **Recreational Boating and Marina Operations**

Through its "Good Mate" boating program, CMC is developing educational and training materials for marina staff and recreational boaters to increase awareness of the potential impacts of everyday boating activities. Good Mate was developed and tested in collaboration with the Pinellas County Departments of Solid Waste and Environmental Management in Florida. It has since been expanded into the Caribbean—with projects in Puerto Rico, the U.S. Virgin Islands, and Bermuda.

### **Recreational and Commercial Fishers**

CMC partnered with the University of Hawaii Sea Grant to develop its "Marine Bounty" program, which seeks to reduce the amount of derelict fishing gear in Hawaiian waters. Fishers and other boaters who spot derelict gear while at sea report its location to Hawaii Sea Grant, which then removes the gear from the water. Citizens who report derelict gear are rewarded with "thank you" prizes from local sponsors.

### **Shoreside Activities**

The lack of adequate waste disposal facilities, at a popular beach in Piñones, Puerto Rico led community leaders and Model Community partners to conduct an intensive, "one-on-one" education and recycling campaign. Recyclable trash is now separated and taken to a recycling center. The program has



*Business owners in Piñones, Puerto Rico, display new recycling posters.*

expanded from Piñones to include other communities surrounding the San Juan Bay Estuary.

### **Urban and Coastal Littering**

ICC data consistently reveals cigarette butts as the top debris item recovered from beaches and waterways. Because this litter is so prevalent, two Model Communities projects focus on cigarette litter. In Ocean City, New Jersey organizers are working to encourage beach users to use the trashcans and several newly installed cigarette receptacles. (Organizers also discovered that other litter on the boardwalk was actually due to the design of the trash cans, not careless beachgoers. Open trash cans have been replaced with domed-lid cans, to thwart the seagulls that pick through—and spill—the trash.) In Baton Rouge, Louisiana, project partners developed informational materials explaining the environmental impacts of cigarette litter. The materials are being distributed at festivals and public meeting places, with additional plans to distribute them at college football tailgate parties and local hotels.

CMC has also produced an educational video for schoolchildren on ways to keep trash off the streets and out of the ocean. Called "Think Twice," the video discourages people from tossing litter onto streets, sidewalks, and other areas where they are like-

ly to be washed into storm drains. The video and accompanying educators' guide will be available to schools and community and civic groups in January 2001.

## **Other Programs**

Many of our Cleanup partner organizations also conduct programs designed to prevent waste from becoming marine debris. We encourage readers interested in learning about these programs to contact the cleanup coordinator in your state.

Several corporate and industry leaders, including several of the international sponsors of the International Coastal Cleanup, also conduct programs to reduce the occurrence of marine debris. Please visit their websites for more information.

### **U.S. Environmental Protection Agency:**

[www.epa.gov/owow/oceans/debris/index](http://www.epa.gov/owow/oceans/debris/index);  
[www.epa.gov/owow/info/PubList](http://www.epa.gov/owow/info/PubList);  
[www.epa.gov/ost/beaches](http://www.epa.gov/ost/beaches);  
[www.epa.gov/epaoswer/osw/index/htm](http://www.epa.gov/epaoswer/osw/index/htm)

### **SeaWorld/Busch Gardens:**

[www.seaworld.org](http://www.seaworld.org) **or**  
[www.buschgardens.org](http://www.buschgardens.org)

### **AT&T Foundation:**

[www.att.com/foundation](http://www.att.com/foundation)

### **National Soft Drink Association:**

[www.nstda.org](http://www.nstda.org)

### **ITW Hi-Cone:**

[www.ringleader.com](http://www.ringleader.com)

### **PADI Project Aware:**

[www.projectaware.org](http://www.projectaware.org)

### **Dow Chemical Company:**

[www.dow.com](http://www.dow.com)

### **The Coca-Cola Company:**

[www.thecoca-colacompany.com](http://www.thecoca-colacompany.com)

## **Appendix 1**

# **International Sponsors of the 1999 International Coastal Cleanup**

### **BENEFACTORS**

AT&T  
The Brita Products Company  
The Brunswick Public Foundation  
Royal Caribbean International and Celebrity Cruises  
See's Candies, Inc.  
U.S. Environmental Protection Agency

### **PATRONS**

American Plastics Council  
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ITW Hi-Cone  
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Tenneco Packaging

### **SPONSORS**

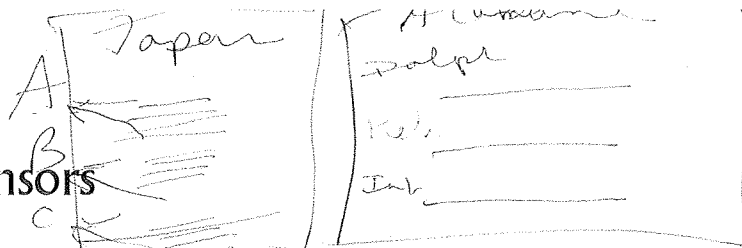
ARCO Foundation  
BellSouth  
Browning-Ferris Industries  
Chevron Corporation  
Coastal Living Magazine  
Dive Equipment and Marketing Association  
Hawley Family Foundation  
National Soft Drink Association  
P.A.D.I. Foundation  
P.A.D.I. Project A.W.A.R.E. Foundation  
The Proctor & Gamble Fund  
Publix Supermarkets Charities  
Rockwell Fund, Inc.

### **ASSOCIATES**

Ruth McClean Bowman Bowers Foundation  
Holland and Knight Foundation  
Folke H. Peterson Charitable Foundation  
Precision Environmental Laboratory  
Trull Foundation  
West Marine Products, Inc.

## Appendix 2

# Country and State Sponsors



### COUNTRY SPONSORS

#### **Argentina**

Rolleri-Rovira-Vega & Asoc  
Telefonica  
Advance  
Procter & Gamble  
Benetton (Cia de Tierras Sud Argentino SA)  
Gigot  
ESSO  
Isenbeck  
Provincia Seguros  
Bimbo  
Cabrales  
McDonald's  
Sadia  
Cerveceria Quilmes  
Pehuamar

#### **Barbados**

Alamac Trading  
Barbados Union of Fisherfolk  
Organization  
Caribbean Youth Environment Network  
Barbados Truckers Association  
Wadadah  
Nico's Wine Bar  
Moore Paragon  
Club Rockley Barbados  
Cave Shepherd  
Hanschell Inniss  
Club Barbados  
Williams Industries Incorporated  
Leverage Incorporated  
David Lashley and Partners  
Abundant Life  
Arawak Cement Plant  
International Insurance Management Ltd.  
Leo Club East  
Casuarina Beach Club  
Almond Beach Club  
CERMES  
MJ Distributors Ltd.

#### **Belize**

Bank of Nova Scotia  
Crystal Water (Bowen & Bowen Ltd.)  
Batty Brothers Bus Services Ltd.  
Hofius Limited  
Rosado's Bakery  
Belize Bank Ltd.  
Kee's Bakery  
Maria Chang & Sons Co. Ltd.  
Belize Waste Control Ltd.  
Augusto Quan Ltd.  
Benny's Home Center  
Rotary Club of Corozal  
Belize City Council  
LOVE FM  
Belize Tourism Board

#### **Bermuda**

Ace World  
The Bank of N.T. Butterfield & Son Ltd.  
The Bermuda Boy Scouts Association  
The Bermuda Monetary Authority  
The Bermuda Stock Exchange

CedarBridge Academy  
Centre Solutions  
The Explorers Club  
The Family Learning Centre  
The Hamilton Lioness Club  
The Hamilton Lions Club  
The Island Press PaperHouse  
Kitson & Company Limited  
Logic Communications Limited  
Oil Management Services Limited  
Select Sites Group  
TeleBermuda International Limited

#### **British Virgin Islands**

TICO Wines & Spirits  
AMS Financial Services

#### **Canada**

Canada Trust Friends of the Environment  
Foundation  
Vancouver Aquarium Marine Science  
Centre  
CMC  
Stolt Sea Farm Inc  
Canada Enterprises Stevedoring and  
Terminals Ltd.  
ACAP Saint John  
Market Square  
Lantic Sugar  
Province of New Brunswick  
City of Saint John  
Connors Bros  
Friends of the Environment Foundation  
Eastern Charlotte Waterways  
Saint John Port Authority  
Canadian Coast Guard  
Melanson's Waste Management  
ALERT  
Fundy Region Solid Waste Commission  
Tim Horton's West  
Braxco  
GE Barbours Ltd.  
Mispes Recreation Committee Inc.  
Irving Oil  
Ship & Shore Cartage Ltd.  
Hon. Elsie Wayne MP  
Saint John Recycling

#### **Dominica**

Dominica Coconut Products  
Agriculture Industrial Bank  
Island Car Rentals  
H.H.V. Whitchurch & Co. Ltd  
Harris Paints Dominica  
O.D. Brisbane & Sons. Ltd  
Tropical Star Newspaper  
Kairi F.M. (RADIO)  
Depex Colour LAB  
Jolly's Pharmacy  
Dominica Brewery & Beverages  
Dominica Electricity & Company  
Dominica Water & Sewerage Company  
Kentucky Fried Chicken  
Josephine Gabriel & Co Ltd  
A.C. Shillingford & Co Ltd  
Malcolm Stevens & Sons  
Barclays Bank

Grand Bazaar  
Courts Dominica Ltd

#### **Europe**

LTU International Airways  
Ministry of Tourism, Rep. of Maldives  
Tourism office of Estanlit, Spain  
LTU International Airways  
Ministry of Tourism, Rep of Maldives  
Tourism Office of Estanlit, Spain  
Various Hotels and Resorts, Rep. of  
Maldives

#### **Haiti**

A&B Hardware  
Service de Peche (MARNDR)  
Scouts de Williamson  
Culligan  
Ecole Nationale de Luly  
Scouts de Vignier  
Haiti-Packaging  
Ecole Nationale de Saintard  
Kowoperativ Fanm Akaye  
Haytian Tractor  
Associations des Pecheurs de Luly, Conte,  
Mitan  
Corail Base  
Nabatco  
Ecole Evangelique Baptiste  
Pepsi  
Shell Haiti  
Centre de Formation de Luly  
Tropic SA  
ASSET/Winrock International  
UNESCO/CSI  
Ecole Armee du Salut de Luly  
Ecole Etzer Vilaire de Saintard  
Ecole Reformee de Saintard  
Thierry Chilosi  
Camellien Audain  
Gaspard Louisaint

#### **Hong Kong**

Marine Parks Division, Agriculture and  
Fisheries Department, Hong Kong  
government  
Regional Services Division, Hong Kong  
government  
The Hong Kong Marine Conservation  
Society  
King George V School

#### **Jamaica**

Canada / Jamaica Green Fund Project

#### **Japan**

Ana Hotels Workers Union  
Circle K Japan Co., Ltd.  
Esso  
Kanagawa Beach Cleaning Foundation  
Sapporo Brewery Ltd.  
Sankus and Associates  
The Beverage Industry Environment  
Beautification Association  
Dunlop Home Products Ltd.  
Kirin Brewery Co., Ltd.  
Kobe Sales Head Office



Kinki Coca-Cola Bottling Co., Ltd.  
Sanyo Electric Co., Ltd.  
Coop Kobe  
Mycal Agency Co., Ltd., Sendai Branch  
Sendai Coca-Cola Bottling Co., Ltd.  
Toyo Tire & Rubber Co., Ltd. (Toyo  
Environmental Protection Fund)

#### **Kenya**

Friends of Fort Jesus  
Wema Centre Street children  
Wildlife Club Members  
Curio Dealers  
Hotel staff from North and Southcoast  
Beach Operators  
Boy Scouts  
Rotaract club  
Bamburi Cement staff  
Street children  
Kenya Wildlife Service  
Changamwe youth Solidarity  
Environmental Conservationists of the  
present  
Likoni School for the Blind  
Keen Kleeners  
Municipal Council of Mombasa  
Nyali Baptist Church

#### **Kuwait**

McDonald's  
American International School

#### **Lithuania**

Shool Club "Baltijos akis" (The Baltic Eye)  
Joint stock company "Smiltynes Ferry"  
Klaipeda municipality  
Palanga municipality  
Joint stock company "Spec transport"  
Radio station "LaLuna"

#### **Mexico**

The Ritz-Carlton Cancun  
SEMARNAP  
H. Ayuntamiento Benito Juarez Direccion  
de Ecologia  
Fonatur  
L. Carrillo y Asociados  
Copicat  
TEKNOGRAPHICS  
100% natural restaurantes  
World Famoso Grupo Anderson's  
Electropura  
Aerocaribe  
Vive Cancun Vive Cuba  
Pixelpress  
Xcaret  
Xel-Ha  
CITMA  
Instituto de Oceanologia

#### **Papua New Guinea**

Arnott's Biscuits  
Brian Bell  
British High Commission  
Bank of Hawaii  
Coca Cola  
Deloitte Touche Tohmatsu  
Eda-Ranu  
Department of Education  
Finance Pac  
Harbours  
Independent Group  
Kwik Print  
Office of Lady Carol Kou

Merrill Lynch  
Motu Koitabu Council  
NAUFM  
JC-KRTA Consulting Group Ltd  
Orogen Minerals Limited  
National Gaming Control Board  
PriceWaterhouseCoopers  
Royal Papua Yacht Club  
Papua New Guinea Defence Force  
Conservation International  
PNGFM  
POSF  
The Order of St. John, Papua New Guinea  
United Nation  
PNG Coastal Clean Up Association Inc

#### **Saudi Arabia**

Red Sea Divers

#### **South Africa**

Toyota South Africa  
Sappi LTD  
East Rand Plastics  
Richards Bay Materials  
Pick 'n Pay

#### **Tonga**

Peace Corps Partnership Program  
Vava'u Youth Congress

#### **Venezuela**

Venezuelan National Guard  
Coast Guard

#### **U.S. STATE SPONSORS**

##### **Alabama**

The Forum  
Mobil Oil  
Alabama Power Company  
Degussa-Hals  
Exxon Company USA  
Mitsubishi Polysilicon  
Alabama Coastal Foundation  
ADECA Coastal Programs  
Alabama Dept. of Environmental  
Management  
Baldwin County Commission  
Browning Ferris Industries  
City of Mobile  
Compass Marketing, Inc.  
Kimberly-Clark Corporation  
Shell Chemical

##### **Alaska**

The Alaska SeaLife Center  
The Alaska Fly Fishers Association  
Windsong Lodge/Resurrection Road  
House  
Kenai Fjords Tours  
Seward Parks and Recreation  
Renowna Charters  
Allen Marine Tours  
Major Marine Tours

##### **Delaware**

Alliance to Conquer Tobacco in our  
Neighborhoods  
American Lung Association of Maryland  
Assateague Coastal Trust  
Assateague Island National Seashore-MPS  
Assateague Mobile Sportfishermen's  
Association

Browning Ferris Industries  
Center for Marine Conservation  
Chamber of Commerce of Chincoteague  
Island  
Chincoteague National Wildlife Refuge-US  
Fish and Wildlife Service  
Chincoteague Volunteer Fire Department  
County of Accomack  
Cat Country 97.5 & 105.9 FM  
Delmarva Broadcasting Company  
Delaware Chapter-Surfrider Foundation  
Delaware Department of Natural Resources  
and Environmental Control  
Dorchester County Highway Administration  
Maryland Dept. of Natural Resources  
Nanticoke Watershed Alliance  
Nassawango Creek Stewardship  
Committee-The Nature Conservancy  
Ocean City Dune Patrol  
Playtex Family Products  
Pocomoke River Canoe Company  
Salisbury Zoo  
Soroptimist International of Talbot  
County  
The Nature Conservancy of Maryland  
The Nature Conservancy of New Jersey,  
Delaware Bayshores Office  
Town of Chincoteague  
US Coast Guard Group Eastern Shore  
Virginia Dept. of Conservation and  
Recreation  
Wallops Flight Facility  
West Marine-Kent Island/Easton

##### **District of Columbia**

American Plastics Council  
International Council of Cruise Lines  
Conrad Associates  
Splash Dive Center  
Night Club 9:30

##### **Guam**

Coca Cola Beverage Company  
Foremost Crystal Clear Drinking Water  
Duty Free Shoppers  
Enron Development  
CreativaTees Inc.  
American Printing  
IT&E  
Pacific Daily News  
Underwater World

##### **Illinois**

ITW-HiCone  
Chicago White Sox  
Chicago Park District  
Active Endeavors  
Friends of the Parks  
ITW Foundation

##### **Maryland**

Alliance to Conquer Tobacco in our  
Neighborhoods  
American Lung Association of Maryland  
Assateague Coastal Trust  
Assateague Island National Seashore-NPS  
Assateague Mobile Sportfishermen's  
Association  
Browning Ferris Industries  
Chamber of Commerce of Chincoteague  
Island  
Chincoteague NWF -USF & WS  
Chincoteague Volunteer Fire Department

County of Accomack  
Cat Country 97.5 & 105.9 FM  
Delaware Chapter-Surfrider Foundation  
Delaware Department of Natural Resources  
and Environmental Control  
Dorchester County Highway Administration  
MD-DNR  
Nanticoke Watershed Alliance  
Nassawango Creek Stewardship  
Committee-The Nature Conservancy  
Ocean City Dune Patrol  
Playtex Family Products  
Pocomoke River Canoe Company  
Salisbury Zoo  
Soroptimist International of Talbot  
County  
The Nature Conservancy of MD  
The Nature Conservancy of NJ  
Delaware Bayshores Office  
Town of Chincoteague  
USCG Group Eastern Shore  
Virginia Department of Conservation and  
Recreation  
Wallops Flight Facility  
West Marine-Kent Island/Easton  
CONNECTIV

### **Massachusetts**

Massachusetts Coastal Zone Management  
Executive Office of Environmental Affairs  
National Oceanic and Atmospheric  
Administration  
Urban Harbors Institute at the University  
of Massachusetts, Boston  
BankBoston  
MBTA  
Tronex Healthcare Industries  
Quest Diagnostics  
Microflex  
Museum of Fine Arts - Boston  
New England Aquarium  
Cape Cod Chips  
Brigham's Ice Cream  
Metropolitan District Commission  
Massachusetts Dept. of Environmental  
Management

### **Michigan**

Alpha Gamma Phi of Hope College  
Alpha Phi Omega of Grand Valley State  
University  
Alpha Phi Omega of Hope College  
AT&T Pioneers  
Bank One  
Bob Mathers  
Boyne Automotive Club  
Boyne Avenue Green House  
Boyne City Rotary Club  
BP gas station  
Charlevoix Rehabilitation  
Country Now and Then  
Emmet Conservation District  
Environmental Issues Group of  
Hope College  
Environmental Stewardship Coalition of  
Calvin College  
Ettermans Supermarket  
Ex-Par  
Focus  
Friends of the Jordan River Watershed  
Friskies Orchards  
Great Lakes Marina  
H.O.W.  
Jan's Hair Fashions

Johans Bakery  
K-Mart  
L.C. and Margaret Walker Foundation  
Lake Michigan Federation  
Ludington Daily News  
Michigan Dept. of Environmental  
Quality  
Muskegon Conservation District  
North Coast, U.S.A.  
Northern Quarterly Waste Disposal  
Service  
Northwestern Savings Bank and Trust  
Old Kent Bank  
P.A.D.I.  
Par T Pac  
Pepsi Cola  
Pippins Restaurant  
Republic Bank  
Spirit of the Woods Conservation Club  
Super Stop Grocery  
Swiss Hideaway Canoe Livery  
United States Coast Guard  
Vista Volunteers  
Volunteer Center of the Tri Cities  
West Michigan Dive Center

### **Minnesota**

Innerspace Scuba Center  
Alakef Coffee Roasters Inc.  
Lakehead Pipeline  
Duluth Seaway Port Authority  
WLSSD  
Lake Superior Paper Industries  
Duluth Engineering and Manufacturing  
Company  
Lake Superior Warehousing Company, Inc.  
Clean Water Action  
Bernick's Pepsi  
Lake Superior Magazine  
Minnesota Sea Grant  
Bullseye Silkscreen  
Lincoln Park School  
Minnesota Power

### **Mississippi**

Mississippi Dept. of Marine Resources  
Chevron Pascagoula Refinery  
Outback Steakhouse  
Gulf Islands National Seashore  
Keep America Beautiful of Pascagoula  
National Marine Fisheries Service  
Earth Shores Foundation  
Hancock County Chamber of Commerce  
Mississippi-Alabama Sea Grant  
Consortium  
Collins & Associates of Biloxi  
Office of Congressman Gene Taylor  
Office of the Mississippi Secretary of State  
Gulf Islands Conservancy  
Cellular South  
Mississippi State University's Coastal  
Research & Extension Center in Biloxi  
Mississippi State University's Extension  
Service in Hancock County

### **Missouri**

NEETR  
Clay County Parks  
Smithville Kiwanis  
Toyota (Kansas City Regional Office)

### **Montana**

PADI Project AWARE

### **New Hampshire**

Waste Management  
Seacoast Coca-Cola  
Frisbee Memorial Hospital  
Carcord Hospital  
Portsmouth Regional Hospital  
Demoula's Market Basket  
Durham Market Place  
Shaw's Supermarkets

### **New Jersey**

Fantasy Island Amusement Park, Beach  
Haven

### **New York**

American Littoral Society  
ALS members Judy & Josh Weston  
Automated Data Processing Foundation  
(ADP)  
Brita  
Chase Manhattan Foundation  
City Parks Foundation  
Consolidated Edison  
Friends of Gateway/Neighborhood Open  
Space Coalition  
Keyspan  
New York City Dept. of Environmental  
Protection  
NYC Environment Fund/The Hudson  
River Foundation  
New York State Dept. of Environmental  
Conservation  
Accabonac Protection Committee  
Akwesasne Task Force on the  
Environment  
American Legion  
U.S. Coast Guard Auxiliary  
Appalachian Mountain Club, New Jersey  
Chapter  
Aquarium of Niagara  
Astoria Residents Reclaiming Our World  
Atlantic Divers  
Atlantic Steamer Fire Company  
ATT Pioneers  
B.O.C.E.S.  
Bayswater Civic Association  
Bell Atlantic Telephone Pioneers  
Blue Water Divers/Riverside Park Fund  
Boy Scouts of America  
Bridge Marina  
Brueggers Bagels  
Buffalo Aqua Club  
Buffalo Parks Department  
Caffe Aurora  
Canadaigua Sailboards  
Canarsie Pier Fishing Association  
Centre Island Association  
Chase Manhattan Bank  
Chase Pitkin Home and Garden  
Chenango Co Environmental Mgt.  
Council-Rogers Env.  
Christeen Oyster Sloop Preservation Corp.  
Church of the Holy Trinity  
City of Cortland  
Coalition of Lake Shore Taxpayers  
Coalition to Save Hempstead Harbor  
Community Board 1  
Concerned Citizens of Manorhaven  
Concerned Citizens of Montauk  
Cornell Cooperative Extension  
Cortland Co. Soil & Water Conservation  
District  
Croton Conservation Advisor

Duncan Doughnuts, W. Haverstraw  
 East Hampton High School  
 East Woods School  
 Eastern Suffolk BOCES Skills USA-VICA  
 Eckerd's Drug Store, Cortland  
 Educators for Gateway  
 Electrical Testing Labs  
 Elegante Restaurant & Pizzeria  
 Fair Haven Beach State Park  
 Fire Island National Seashore  
 Fire Island Year Round Assoc  
 Fire Island Year Round Residents Assoc.  
 Friends of Thatcher State Park  
 Fort Hamilton High School  
 Frank M. Flower & Sons Oyster Company  
 Friends of Gateway  
 Friends of Spuyten Duyvil  
 Friends of Sterling Nature Center  
 Friends of Sterling Nature Center  
 Friends of the Bay  
 Frontier Middle School Student Council B.F.I.  
 Gantry Plaza State Park  
 Gateway National Recreation Area  
 George Rogers  
 Girl Scout of America  
 Green Party  
 Hair Designs by Colleen  
 Hands Across The Bay  
 Heron Pointe Condominium  
 High School for Environmental Studies  
 Hilton Big M  
 Hilton DPW  
 Hilton Fire Department  
 Hither Hills State Park  
 Hogansburg Fire Department  
 Hogansburg Village Bakery  
 Hommocks School  
 Hunters Point Community Coalition  
 Husdon Valley Promotions  
 J & A Concessions, Montauk  
 James Madison High School  
 JKS Printing  
 Joe Rutigliano  
 Jones Beach State Park  
 Kedley, Harris Beach & Wilcox, LLP  
 Key Club Oswego High School  
 KIC - Keep Islip Clean  
 Lindenhurst Youth Center  
 Lisa Gaudio  
 Locust Valley Middle H.S.  
 Long Island Diver's Association  
 Long Island Shore and Beach Preservation  
 Assoc.  
 Main Mail Green Grocer  
 Manhasset Bay Protection Committee  
 Marshlands Conservance, Rye  
 Med-Port of Rockaway Beach Civ  
 Association  
 Media Play  
 Mohawk Council of Akwesasne on  
 Conservation  
 Montauk Chamber of Commerce  
 Montauk Point State Park  
 Montaul Surfcaster Association  
 Morman/Latter Day Saints  
 Mormon Church  
 Nassau BOCES Outdoor & Environmental  
 Education  
 Nassau Department of Recreation & Parks  
 Natural Resources Protective Association  
 New Rochelle League for the  
 Environment  
 New York City Dept of Parks & Recreation  
 New York City Outward Bound Center

New York Urban League  
 No Limit Scuba  
 Noah's Ark  
 North Hollow Property Owners  
 Association  
 North Shore Audubon Sociey  
 North Shore Beach Property Owners  
 Association  
 NY Katipunan Lion Club  
 Nyack College Food Service  
 NYS Office of Parks, Recreation & Historic  
 Preservation  
 Ocean Horizon  
 On the Bottom Dive Club  
 Oswego City School District  
 Oswego Classroom Teacher's Assoc.  
 Oswego County Landfill  
 Partnership for Parks, NYC  
 Pelham School District  
 Pizza Hut  
 Pleasant Plains/Princes Bay/Richmond  
 Valley  
 Port Washington Business Improvement  
 District  
 Poughkeepsie Recreation Dept.  
 Poughkeepsie River Dist. Business Assoc.  
 Prince's Bay Boatmen's Association  
 Project Challenge of Long Island  
 Prospect Park Alliance  
 Queens College Center for Environmental  
 Education  
 Quest Elementary School, Brockport  
 REC Divers, Canandaigua  
 Residents Association of Lake Sapphire  
 Riverside Park Fund  
 Robert Moses State Park  
 Rochester Gas & Electric Corp  
 Rockaway Action Committee  
 Rockaway Beach Civic Association  
 Rye Nature Center  
 Sandy Beach Property Owners Association  
 Schenectady Co. Environmental Advisory  
 Council  
 Scuba Newwork  
 Seatuck Environmental Association  
 Seward Park High School  
 Shoprite, West Haverstraw  
 Siegle Family  
 Sierra Club  
 Singles for Charities  
 Sodus Rotary Club  
 Sodus Town Hall  
 Sound Beach Property Owners Association  
 Spoons Carting & Rubbish Removal  
 St. Mary's Children & Family Services  
 St. Regis Mohawk Tribe on the  
 Environment  
 Stang Rubbish Removal  
 Stanley Isaacs Center  
 Suffolk County Marine Environmental  
 Learning  
 Superior Removal, Newfield  
 Tabernacle Christen Academy  
 The Beach Club  
 The Scuba Sports Club  
 Town of Babylon  
 Town of Oyster Bay  
 U.S. Army  
 Union Springs United Leo Club  
 Unitarian Universalist Congregation of  
 Central  
 United Federation of Teachers  
 United States Coast Guard - Southampton  
 Urban Park Rangers, NYC

Village of Homer  
 West End Neighbors  
 West School  
 Western Finger Lakes S.W.M. Authority

### **North Carolina**

Alcoa Foundation  
 Ansell Edmont Industrial  
 BellSouth  
 Carolina Power & Light  
 Coleman Company  
 CSL Inc  
 Duke Power  
 First Citizens Bank  
 FGI Advertising & Design  
 Foothills Equestrian Nature Center Inc.  
 Fountain Powerboats  
 Glass Packaging Institute  
 Glaxo Wellcome  
 Glen Raven Mills  
 Grady-White Boats  
 Hanover Clocks & Banners  
 IBM  
 The Landmark Project  
 Mallinckrodt  
 MindSpring Enterprises  
 NC Beer & Wine Wholesalers Assn.  
 NC Soft Drink Association  
 Nantahala Outdoor Center  
 NAPCOR  
 North Carolina Power  
 PCS Phosphate  
 Parrish Realty  
 RJ Reynolds Tobacco Company  
 Surfrider Foundation  
 Tar Heel Tobacco  
 Tennessee Valley Authority  
 US Power Squadrons, District 27  
 WGHF Fox 8  
 WITN - TV 7  
 WLOS - TV 13  
 WPTF - 680 AM  
 WSOC - TV 9  
 WWAY - TV 3

### **North Dakota**

Scuba One, Inc.

### **Oregon**

Jantzen  
 Oregon Coast Aquarium  
 Portland General Electric  
 Shilo Inns  
 Spirit Mountain  
 The Standard

### **Puerto Rico**

Pepsi Cola, Inc  
 Glad bags  
 McDonald's  
 Playtex  
 Tres monjitas  
 Cosmos 94  
 Girl Scout (troop 221)  
 Bristol Myers Squibb Lab  
 Caribbean Business  
 Hotel Colegial, RUM Mayaguez  
 Holiday Inn, Mayaguez  
 Mayaguez Resort and Casino  
 Parador  
 Palmas de Lucia, Yabacoa  
 Villa Cofresi, Rincón  
 El Faro, Aguadilla  
 Perichis, Joyuda Beach and Highway Inn,  
 Cabo Rojo

Fajardo Inn, el conquistador, Fajardo  
Copamarina, Guánica  
Buen Cafe, Arecibo  
Posada Porlamar, Lajas  
Conserva El Encanto (Keep America  
Beautiful-PR Chapter)  
Industry and Commerce for Recycling  
(ICPRO)  
Embellece nuestra isla (Clean up the  
world-PR chapter)  
Lige Ecologica de Rincon  
University of Puerto Rico-Mayaguez  
Campus  
Agricultural Extension Service UPRM  
4H clubs, Americorps  
Persbiterian College, Mayaguez  
Department of Education  
Solid Waste Authority (ADS)  
Dept. of Natural and Environmental  
Resources (DNER)  
Tourism Company  
Tourism and Hotel Association of PR

**Rhode Island**

Rhode Island Dept. of Environmental  
Management

**South Carolina**

Amoco Chemicals, Co., Cooper River Plant,  
Wando

Amoco Fabrics & Fibers, Seneca and  
Spartanburg  
Amoco Performance Products, Greenville  
and Rock Hill  
Ben & Jerry's Charleston  
Brita Water Filtration Systems  
Carolina Power & Light Company  
Duke Power  
NOAA Coastal Services Center  
The Post and Courier  
Santee Cooper  
Sonoco Products, Inc.  
Marine Terminals of SC, Inc.  
SC Governor's Task Force on Litter  
City Marina Company  
The South Carolina Aquarium  
The Boathouse at Breach Inlet  
CEnterArchy Restaurant Management  
Company  
Coburg Dairy, Inc.  
Del Webb's Sun City Hilton Head  
South Carolina Ports Authority  
Springs Industries, Inc.  
Westvaco Corp.

**Virginia**

Virginia Dept. of Environmental  
Quality (Litter Prevention and  
Recycling Grant)  
Longwood College in Farmville, Virginia

Virginia Dept. of Conservation &  
Recreation  
National Park Service  
Virginia State Parks  
Soil & Water Conservation Districts  
Citizens and Organizations across the  
state

**Washington**

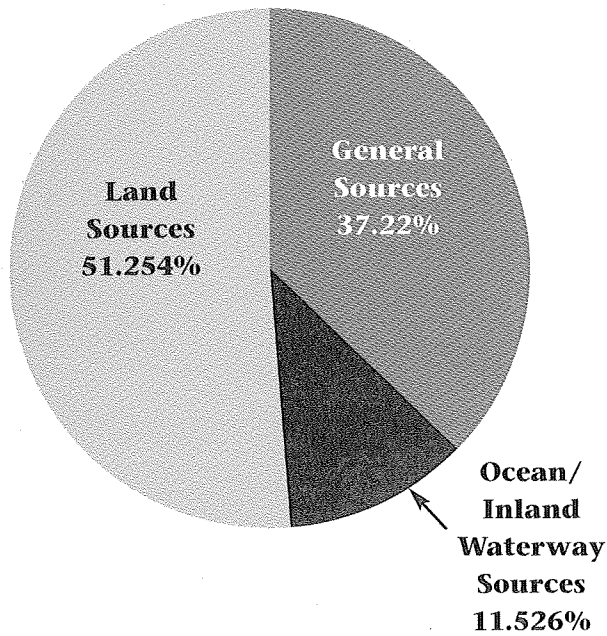
Pacific Northwest 4 Wheel Drive  
Association  
Washington State Parks and Recreation  
Commission  
Department of Ecology

**Wisconsin**

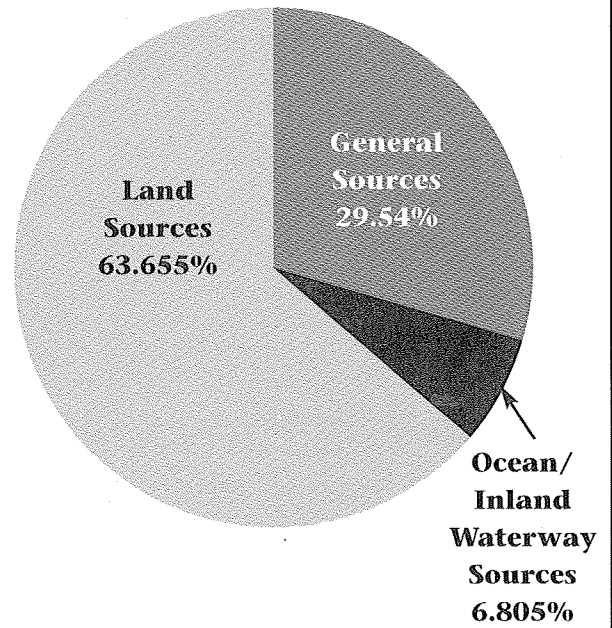
Wal Mart  
Miller Brewing Company  
Wisconsin State Senator Herb Kohl  
IKON Office Solutions  
Cypress Medical  
Target and The Chancery Restaurant  
Kolter Creative  
Medicao Mart  
ProSafety  
Karl's Rental  
Wisconsin Lake Schooner Education  
Association  
Milwaukee Urban Ecology Center  
Keep Greater Milwaukee Beautiful

Sources of Debris and Dirty Dozen—Land and Underwater Only

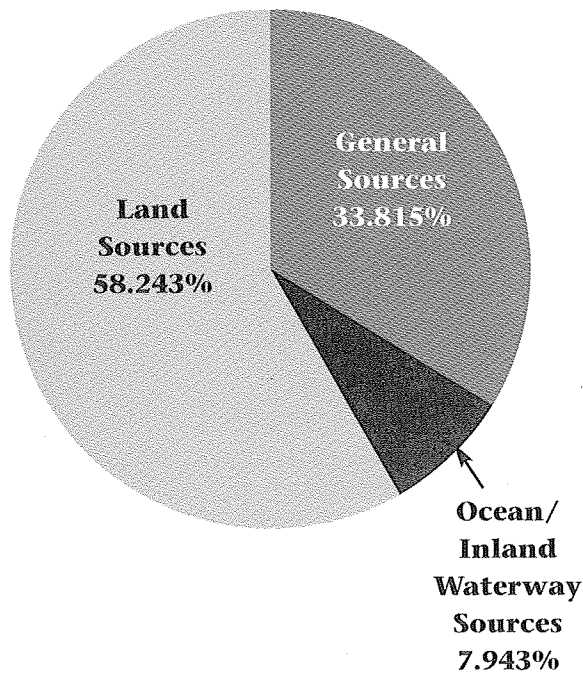
**Figure 9.**  
Sources of Debris from Land Cleanups  
International



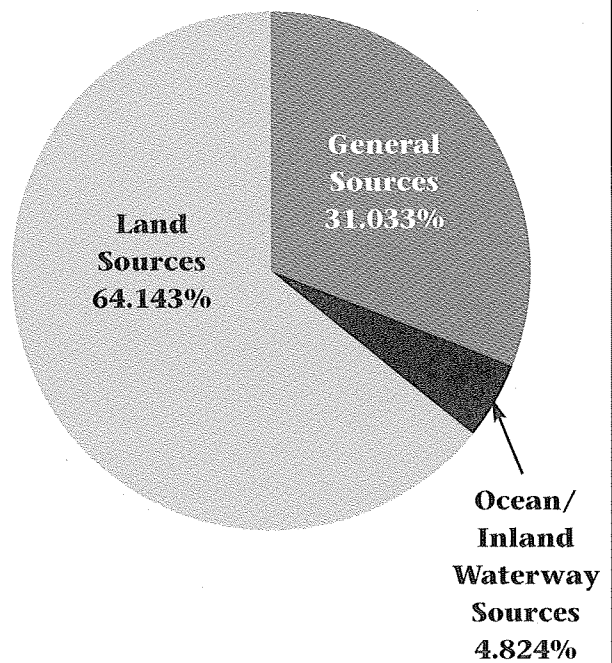
**Figure 10.**  
Sources of Debris from Underwater Cleanups  
International



**Figure 11.**  
Sources of Debris from Land Cleanups  
United States



**Figure 12.**  
Sources of Debris from Underwater Cleanups  
United States





### 1999 International Dirty Dozen - Land Only

<b>Debris Items</b>	<b>Total number reported</b>	<b>Percentage of total collected</b>
1. cigarette butts	992,754	12.97 %
2. food bags/wrappers (plastic)	628,819	8.22 %
3. plastic pieces	472,500	6.17 %
4. foamed plastic pieces	393,168	5.14 %
5. paper pieces	322,807	4.22 %
6. glass pieces	313,301	4.09 %
7. caps, lids (plastic)	275,938	3.61 %
8. other plastic items	242,280	3.17 %
9. straws	203,465	2.66 %
10. beverage bottles (plastic)	203,446	2.66 %
11. beverage bottles (glass)	196,191	2.56 %
12. beverage cans	184,289	2.41 %
<b>Dirty Dozen Totals</b>	<b>4,428,958</b>	<b>57.88 %</b>
13. other metal pieces	168,440	2.20 %
14. other plastic bags	166,290	2.17 %
15. bottle caps (metal)	164,025	2.14 %
16. trash bags (plastic)	142,472	1.86 %
17. cups (paper)	137,583	1.80 %
18. cups, utensils (plastic)	132,209	1.73 %
19. rope	124,174	1.62 %
20. cups (foamed plastic)	93,787	1.23 %
<b>Top 20 Totals</b>	<b>5,557,938</b>	<b>72.63 %</b>

### 1999 International Dirty Dozen - Underwater Only

<b>Debris Items</b>	<b>Total number reported</b>	<b>Percentage of total collected</b>
1. cigarette butts	59,619	21.42 %
2. beverage bottles (glass)	17,870	6.42 %
3. plastic pieces	16,447	5.91 %
4. food bags/wrappers (plastic)	14,606	5.25 %
5. beverage cans	12,082	4.34 %
6. beverage bottles (plastic)	11,127	4.00 %
7. paper pieces	11,003	3.95 %
8. glass pieces	10,225	3.67 %
9. caps, lids (plastic)	9,463	3.40 %
10. foamed plastic pieces	7,031	2.53 %
11. cups, utensils (plastic)	6,746	2.42 %
12. bottle caps (metal)	6,362	2.29 %
<b>Dirty Dozen Totals</b>	<b>182,581</b>	<b>65.60 %</b>
13. straws	6,316	2.27 %
14. other plastic items	5,470	1.97 %
15. cups (foamed plastic)	3,637	1.31 %
16. other plastic bags	3,307	1.19 %
17. other metal pieces	3,187	1.14 %
18. balloons	3,148	1.13 %
19. clothing/pieces	3,065	1.10 %
20. cups (paper)	2,983	1.07 %
<b>Top 20 Totals</b>	<b>213,694</b>	<b>76.78 %</b>

### 1999 U.S. Dirty Dozen - Land Only

<b>Debris Items</b>	<b>Total number reported</b>	<b>Percentage of total collected</b>
1. cigarette butts	757,538	18.95 %
2. plastic pieces	257,269	6.44 %
3. food bags/wrappers (plastic)	219,040	5.48 %
4. foamed plastic pieces	290,470	5.24 %
5. caps, lids (plastic)	199,406	4.99 %
6. paper pieces	173,845	4.35 %
7. glass pieces	152,334	3.81 %
8. beverage cans	138,714	3.47 %
9. beverage bottles (glass)	133,574	3.34 %
10. straws	125,332	3.13 %
11. beverage bottles (plastic)	117,115	2.93 %
12. bottle caps (metal)	96,428	2.41 %
<b>Dirty Dozen Totals</b>	<b>2,580,065</b>	<b>64.54 %</b>
13. other plastic items	87,990	2.20 %
14. cups (foamed plastic)	81,809	2.05 %
15. cups, utensils (plastic)	71,776	1.80 %
16. lumber pieces	59,290	1.48 %
17. rope	58,860	1.47 %
18. other plastic bags	58,815	1.47 %
19. packaging material (foamed)	47,174	1.18 %
20. trash bags (plastic)	46,107	1.15 %
<b>Top 20 Totals</b>	<b>3,091,886</b>	<b>77.34 %</b>

### 1999 U.S. Dirty Dozen - Underwater Only

<b>Debris Items</b>	<b>Total number reported</b>	<b>Percentage of total collected</b>
1. cigarette butts	54,615	28.25 %
2. plastic pieces	14,590	7.55 %
3. paper pieces	9,148	4.73 %
4. food bags/wrappers (plastic)	8,394	4.34 %
5. caps, lids (plastic)	8,045	4.16 %
6. beverage cans	7,753	4.01 %
7. glass pieces	7,541	3.90 %
8. beverage bottles (glass)	6,511	3.37 %
9. foamed plastic pieces	5,490	2.84 %
10. straws	5,043	2.61 %
11. bottle caps (metal)	4,578	2.37 %
12. beverage bottles (plastic)	4,189	2.17 %
<b>Dirty Dozen Totals</b>	<b>135,897</b>	<b>70.30 %</b>
13. other plastic items	3,621	1.87 %
14. cups, utensils (plastic)	3,131	1.62 %
15. balloons	3,004	1.55 %
16. cups (foamed plastic)	2,843	1.47 %
17. other paper items	2,732	1.41 %
18. other metal pieces	2,085	1.08 %
19. clothing/pieces	1,839	.95 %
20. other plastic bags	1,821	.94 %
<b>Top 20 Totals</b>	<b>156,973</b>	<b>81.19 %</b>

# APPENDIX 4. International Raw Data Summary

Debris	Argentina	Australia	Austria	Bahrain	Barbados	Belgium	Belize	Bermuda	Brazil	British V.I.	Canada	Cayman Is.	Colombia
<b>PLASTIC</b>													
Food bags/wrappers	3,125	285	25	227	735	22	2,012	172	263	153	3,697	26	4
Plastic salt bags	80	0	0	29	0	0	122	0	2	0	34	0	0
Trash bags	2,866	4	20	111	132	35	748	40	6	19	768	11	6
Other bags	370	13	11	283	292	1	1,582	65	67	86	1,420	9	0
Beverage, soda	3,263	36	77	422	424	87	1,028	244	209	134	1,220	100	22
Bleach, cleaner	320	5	0	48	33	1	394	4	0	10	246	7	1
Milk/water gallon jugs	18	1	5	141	19	27	489	13	20	87	312	13	0
Oil, lube	304	0	6	104	50	12	506	0	16	20	316	5	3
Other plastic bottles	976	18	6	148	124	56	718	35	1	54	519	37	12
Buckets	131	3	0	26	16	4	183	13	45	10	247	2	2
Caps, lids	3,915	15	0	99	639	1	1,555	141	50	197	2,703	69	0
Cigarette butts	10,534	319	100	4	245	122	384	293	32	18	13,134	96	0
Cigarette lighters	219	10	1	15	19	3	169	15	6	1	226	1	0
Cups, utensils	990	16	16	58	738	2	1,330	82	497	231	1,016	43	8
Diapers	376	0	0	0	26	2	418	1	0	14	70	0	0
Fishing line	129	45	2	9	8	1	85	23	2	77	287	2	0
Fishing lures, floats	63	36	0	27	8	1	58	3	0	1	173	0	0
Plastic fishing nets	75	2	0	39	50	3	21	13	6	13	219	5	6
Hard hats	17	0	0	6	0	0	18	0	0	0	10	2	0
Plastic light sticks	50	0	0	1	12	0	187	4	2	14	26	2	8
Plastic pieces	4,385	23	46	148	492	42	1,555	647	0	290	5,452	85	3
Pipe thread protector	42	0	0	8	1	1	125	0	1	2	78	0	0
Plastic rope	715	34	0	301	410	0	186	59	4	93	2,764	18	0
Sheeting longer than 2 ft	119	1	0	19	0	0	18	1	14	0	143	2	0
Sheeting 2 ft or shorter	49	0	0	13	0	0	18	19	125	0	158	1	5
Six-pack holders	530	0	0	0	0	0	86	0	10	2	382	0	4
Strapping bands	220	18	0	8	44	0	54	4	13	10	430	2	0
Straws	1,830	5	2	5	610	0	1,591	124	0	61	1,697	33	0
Syringes	40	3	0	0	2	0	162	2	1	0	44	3	0
Tampon applicators	241	0	0	1	13	2	34	1	0	8	441	0	0
Toys	163	8	2	3	4	3	302	2	7	0	315	9	0
Vegetable sacks	7	5	0	64	2	0	141	0	2	0	83	0	0
"Write protection" rings	107	0	0	2	1	0	19	0	1	0	65	2	0
Other plastic	739	20	0	58	154	5	1,157	59	140	29	1,891	5	1,853
<b>FOAMED PLASTIC</b>													
Foamed plastic buoys	103	0	0	69	5	0	128	2	0	7	522	3	0
Cups	158	58	10	32	219	0	568	46	163	29	1,407	27	0
Egg cartons	112	0	0	6	5	0	87	1	0	24	41	7	0
Fast food containers	185	29	0	17	153	0	439	28	43	53	504	5	0
Meat trays	370	2	0	10	3	0	142	0	0	8	237	3	2
Packaging material	197	78	0	101	89	2	208	18	132	5	819	36	0
Foamed plastic pieces	2,044	2	8	581	264	0	1,237	222	132	83	5,871	96	0
Styrofoam plates	76	3	0	6	155	0	504	10	14	25	225	20	0
Other foamed plastic	177	40	0	49	149	1	394	35	10	10	1,020	4	12

Debris	Argentina	Australia	Austria	Bahrain	Barbados	Belgium	Belize	Bermuda	Brazil	British V.I.	Canada	Cayman Is.	Colombia
<b>GLASS</b>													
Beverage bottles	1,001	175	61	140	389	70	611	1,681	169	280	2,253	60	135
Food jars	188	1	5	17	12	0	153	13	20	11	253	2	29
Other glass bottles/jars	345	2	0	26	66	0	275	33	4	26	427	22	3
Fluorescent light tubes	27	0	0	5	7	0	40	0	0	0	9	2	0
Light bulbs	164	0	0	28	7	0	97	0	2	4	50	5	0
Glass pieces	2,886	50	50	45	477	0	855	943	90	158	4,458	12	59
Other glass	273	12	0	3	2	0	47	19	9	1	368	4	1,694
<b>RUBBER</b>													
Balloons	74	0	0	2	6	0	290	5	0	1	337	0	0
Condoms	639	0	0	1	42	8	200	0	7	6	167	0	0
Gloves	285	1	0	9	5	0	312	1	4	11	305	0	0
Tires	298	5	0	32	7	6	139	35	23	13	201	0	0
Other rubber	496	11	0	95	73	3	324	33	19	28	757	23	27
<b>METAL</b>													
Bottle caps	1,084	39	0	33	206	0	1,028	229	57	33	1,818	19	0
Aerosol cans	416	0	0	16	50	3	244	19	22	5	129	5	1
Beverage cans	1,377	60	68	193	95	97	506	288	525	180	1,484	49	26
Food cans	243	6	26	6	71	4	269	1	111	15	222	1	17
Other cans	363	0	0	35	5	0	70	21	22	0	151	0	2
Metal crab/lobster traps	43	3	0	1	0	1	40	0	0	0	36	0	0
55 gallon drum - rusty	234	0	0	7	0	1	58	7	1	26	102	0	0
55 gallon drum - new	45	0	0	1	0	0	2	0	0	0	16	0	0
Metal pieces	711	4	13	11	35	2	208	67	27	25	1,433	2	0
Pull tabs	576	3	0	10	1	0	16	64	60	3	283	0	0
Wire	442	2	0	11	28	0	103	16	2	9	698	0	0
Other metal	255	80	0	17	53	3	271	83	12	15	1,477	15	1,243
<b>PAPER</b>													
Paper bags	519	30	0	18	44	4	383	34	13	35	604	5	0
Cardboard	936	11	0	1	20	0	295	18	133	15	795	5	0
Cartons	991	24	0	101	71	3	303	19	3	33	549	4	0
Paper cups	326	2	0	8	20	6	316	41	10	102	1,074	5	0
Newspapers/magazines	602	14	22	0	66	3	156	4	39	21	909	2	0
Paper pieces	3,340	56	27	7	62	0	614	228	326	83	3,578	32	13
Paper plates	141	0	0	2	28	0	198	14	12	78	185	12	0
Other paper	469	47	0	13	1	0	174	19	91	64	984	3	170
<b>WOOD</b>													
Wood crab/lobster traps	8	0	0	5	0	0	50	0	0	0	14	0	0
Crates	160	0	0	28	5	1	102	0	0	0	37	1	0
Pallets	269	0	0	23	0	4	154	0	0	5	48	0	0
Other wood	178	1	0	44	73	1	256	28	10	14	444	0	61
Lumber pieces	1,915	5	0	871	67	200	561	58	12	110	828	1	0
<b>CLOTH</b>													
Clothing/pieces	671	38	7	87	145	1	712	45	51	50	1,361	9	92
<b>Total by Countries</b>	<b>63,420</b>	<b>1,819</b>	<b>616</b>	<b>5,250</b>	<b>8,584</b>	<b>857</b>	<b>31,594</b>	<b>6,507</b>	<b>3,922</b>	<b>3,338</b>	<b>80,076</b>	<b>1,091</b>	<b>5,523</b>

# APPENDIX 4. International Raw Data Summary (continued)

Debris	Costa Rica	Cyprus	Czech Repub.	Dominica	Dominican Repub.	Ecuador	Egypt	Fiji	France	Germany	Greece	Hong Kong
<b>PLASTIC</b>												
Food bags/wrappers	417	50	0	2,645	144	4,163	191	1,472	209	190	1,498	466
Plastic salt bags	10	4	0	88	55	268	0	40	2	76	0	0
Trash bags	210	8	0	508	72	3,471	55	59	576	104	2,120	63
Other bags	123	58	0	1,012	125	1,853	75	42	16	84	259	217
Beverage, soda	263	33	5	2,420	149	3,140	338	332	238	435	2,147	217
Bleach, cleaner	125	0	0	601	59	1,031	16	46	38	113	108	118
Milk/water gallon jugs	45	16	0	987	58	1,836	54	0	62	68	1,516	68
Oil, lube	163	0	0	1,402	56	2,368	36	3	14	27	77	32
Other plastic bottles	168	111	30	711	149	1,719	76	98	28	68	571	274
Buckets	22	27	0	102	7	336	1	9	7	14	14	19
Caps, lids	452	6	150	697	334	2,658	6	179	3	393	1,646	170
Cigarette butts	21	500	60	8,048	147	3,324	260	43	1,566	1,570	3,081	21
Cigarette lighters	3	0	2	202	24	212	18	3	187	48	269	47
Cups, utensils	74	14	0	830	350	7,556	34	13	240	573	2,533	24
Diapers	24	2	0	252	20	372	0	22	14	2	6	3
Fishing line	23	5	0	112	16	808	27	44	568	8	181	44
Fishing lures, floats	1	1	0	140	37	173	11	3	0	10	47	78
Plastic fishing nets	0	0	0	15	19	596	4	0	1	2	62	43
Hard hat	0	0	0	10	5	163	0	2	0	15	0	7s
Plastic light sticks	0	0	0	10	21	65	0	0	0	0	120	4
Plastic pieces	308	0	0	1,454	267	3,279	30	298	0	102	130	1,059
Pipe thread protector	1	1	0	18	1	71	5	10	0	4	4	2
Plastic rope	238	3	0	27	70	2,510	2	40	8	18	193	95
Sheeting longer than 2 ft	0	2	0	23	4	447	0	4	3	28	1	21
Sheeting 2 ft or shorter	0	0	0	65	10	163	0	4	0	59	2	27
Six-pack holders	21	0	0	52	121	660	0	4	0	0	2	5
Strapping bands	6	2	0	40	19	119	0	38	0	0	26	101
Straws	41	10	0	745	99	2,462	0	227	0	1,141	817	113
Syringes	6	0	0	2	33	119	0	3	2,041	5	13	17
Tampon applicators	1	0	15	5	19	307	0	15	15	2	6	1
Toys	36	0	0	305	30	268	0	22	38	27	117	37
Vegetable sacks	7	15	0	20	4	496	0	7	10	0	15	7
"Write protection" rings	3	0	0	16	15	286	0	2	0	4	1,177	9
Other plastic	90	3	0	1,228	123	3,368	0	293	10	24	64	85
<b>FOAMED PLASTIC</b>												
Foamed plastic buoys	7	1	0	84	23	680	5	5	2	1	0	35
Cups	4	3	65	889	222	1,136	0	12	105	94	327	20
Egg cartons	0	0	0	201	21	159	10	3	10	0	2	2
Fast food containers	0	10	12	354	149	719	0	20	0	79	118	27
Meat trays	22	0	0	204	46	172	0	18	0	0	10	34
Packaging material	23	0	0	324	58	191	45	64	103	93	630	70
Foamed plastic pieces	56	0	0	564	164	1,101	20	51	28	202	420	574
Styrofoam plates	5	1	0	209	205	617	0	6	43	30	64	9
Other foamed plastic	4	0	5	657	39	348	106	215	2	37	20	487



Debris	Costa Rica	Cyprus	Czech Repub.	Dominica	Dominican Repub.	Ecuador	Egypt	Fiji	France	Germany	Greece	Hong Kong
<b>GLASS</b>												
Beverage bottles	24	26	30	345	476	1,718	293	64	54	9,355	1,136	157
Food jars	3	0	7	301	92	298	13	13	0	182	16	29
Other glass bottles/jars	21	17	20	600	303	764	10	19	0	94	131	137
Fluorescent light tubes	0	0	0	16	0	28	0	0	5	0	0	5
Light bulbs	1	0	0	5	49	141	45	20	17	2	77	28
Glass pieces	8	0	0	1,295	534	2,322	20	5,830	0	1,373	3,384	719
Other glass	11	0	0	708	20	204	4	0	1	44	307	14
<b>RUBBER</b>												
Balloons	0	0	0	40	4	141	5	2	190	0	12	15
Condoms	1	2	0	350	20	71	0	8	50	9	10	5
Gloves	0	1	0	402	6	177	8	12	0	3	94	26
Tires	0	0	1	225	20	176	10	10	12	14	93	11
Other rubber	56	2	0	551	41	357	3	119	0	2	602	37
<b>METAL</b>												
Bottle caps	42	0	50	1,790	106	992	100	91	100	376	115	67
Aerosol cans	11	0	0	380	21	205	48	43	28	1,267	102	5
Beverage cans	90	1	73	756	69	624	132	83	322	510	1,581	65
Food cans	80	11	30	753	22	304	30	111	30	296	699	15
Other cans	3	0	0	307	40	294	0	46	0	278	256	9
Metal crab/lobster traps	0	0	0	23	7	51	0	0	0	1	0	4
55 gallon drum - rusty	0	0	0	10	1	216	1	0	1	1	31	8
55 gallon drum - new	0	0	0	12	0	32	0	0	0	2	0	0
Metal pieces	7	0	6	950	144	395	16	144	102	25	86	37
Pull tabs	0	0	0	13	139	418	0	8	53	1,001	733	46
Wire	1	0	0	343	57	209	2	81	12	26	63	74
Other metal	12	2	0	875	23	141	23	303	8	31	446	99
<b>PAPER</b>												
Paper bags	5	6	4	364	29	501	96	4	0	0	358	4
Cardboard	30	0	0	404	61	562	24	40	5	35	84	6
Cartons	1	5	3	207	105	461	76	6	121	27	322	27
Paper cups	0	1	90	204	91	694	10	3	113	96	60	9
Newspapers/magazines	3	6	0	92	44	1,313	75	20	5	19	293	12
Paper pieces	14	12	200	692	139	2,619	220	0	52	1,000	282	99
Paper plates	0	0	0	410	30	641	0	0	53	0	68	8
Other paper	43	7	5	251	20	352	15	32	0	9	854	14
<b>WOOD</b>												
Wood crab/lobster traps	0	0	0	14	5	117	0	0	2	0	0	1
Crates	0	0	0	15	47	238	0	0	5	2	86	0
Pallets	3	0	0	201	183	2,528	0	2	10	6	17	10
Other wood	6	1	0	650	13	1,257	1	84	13	27	668	146
Lumber pieces	21	0	0	221	307	5,385	3	78	12	10	336	386
<b>CLOTH</b>												
Clothing/pieces	17	5	38	2,514	157	911	56	140	98	38	161	118
<b>Total by Countries</b>	<b>3,537</b>	<b>991</b>	<b>901</b>	<b>45,567</b>	<b>7,014</b>	<b>83,647</b>	<b>2,764</b>	<b>11,187</b>	<b>7,661</b>	<b>21,911</b>	<b>33,976</b>	<b>7,204</b>

# APPENDIX 4. International Raw Data Summary (continued)

Debris	Hungary	Indonesia	Ireland	Italy	Jamaica	Japan	Jordan	Kenya	Kuwait	Lithuania	Malaysia	Maldives	Malta
<b>PLASTIC</b>													
Food bags/wrappers	20	51	60	35	2,326	7,665	5	2,542	708	2,229	547	0	5
Plastic salt bags	0	0	0	2	93	25	0	630	37	0	1	0	0
Trash bags	0	0	0	85	1,319	1,674	0	851	129	646	126	0	2
Other bags	0	4	25	15	1,419	4,617	0	2,183	148	1,286	109	4	14
Beverage, soda	58	324	35	1,776	4,866	4,772	91	2,141	389	2,248	411	47	37
Bleach, cleaner	2	0	0	17	759	644	0	702	41	101	31	6	0
Milk/water gallon jugs	0	27	5	399	619	336	0	875	65	426	53	2	13
Oil, lube	3	17	1	90	648	106	0	942	43	94	35	10	3
Other plastic bottles	4	3	20	104	1,636	1,139	0	1,673	312	206	92	71	8
Buckets	0	2	2	8	385	166	0	575	53	74	12	2	3
Caps, lids	0	12	20	10	2,843	10,460	106	2,018	728	1,189	216	0	13
Cigarette butts	0	33	0	51	392	84,601	0	1,915	3,383	3,206	1,050	121	800
Cigarette lighters	12	1	1	0	306	2,137	0	667	129	0	90	1	0
Cups, utensils	0	12	30	126	1,387	1,223	1,520	861	372	525	53	6	25
Diapers	0	0	0	5	347	73	2	250	40	11	25	0	0
Fishing line	5	43	0	56	236	426	10	824	31	24	29	6	2
Fishing lures, floats	0	8	0	30	157	588	0	790	13	75	44	3	0
Plastic fishing nets	1	5	1	9	117	289	1	639	46	31	40	0	1
Hard hats	0	0	0	4	25	15	0	132	15	16	0	0	0
Plastic light sticks	0	0	0	9	308	50	0	758	50	383	5	0	0
Plastic pieces	0	0	0	0	1,694	60,598	0	1,655	192	892	223	0	23
Pipe thread protector	1	0	0	6	102	13	0	113	26	12	4	0	0
Plastic rope	0	12	5	320	410	3,869	0	1,744	64	421	470	0	2
Sheeting longer than 2 ft	0	2	10	26	30	1,314	0	115	5	0	2	0	0
Sheeting 2 ft or shorter	0	2	10	0	52	11,837	0	180	3	495	4	0	0
Six-pack holders	0	0	1	0	59	45	0	71	13	0	6	0	1
Strapping bands	0	0	0	2	134	624	0	324	44	0	23	0	3
Straws	0	12	15	0	1,229	3,350	0	1,469	1,896	232	330	0	12
Syringes	0	0	1	38	70	98	0	218	49	2	0	0	0
Tampon applicators	0	0	5	8	84	40	0	54	86	0	0	0	0
Toys	3	0	1	2	344	898	0	479	122	93	37	0	0
Vegetable sacks	0	4	0	22	48	85	0	463	39	77	3	0	0
Write protection rings	0	0	0	0	17	1	0	178	9	0	8	0	0
Other plastic	2	1	15	30	1,229	26,149	0	1,566	231	547	40	0	0
<b>FOAMED PLASTIC</b>													
Foamed plastic buoys	0	1	0	31	109	85	0	1,276	111	20	85	0	0
Cups	3	0	0	100	969	517	0	701	347	149	64	3	15
Egg cartons	0	0	0	19	88	109	0	148	58	44	13	1	0
Fast food containers	4	20	4	1	584	1,554	0	871	208	5	139	0	34
Meat trays	0	3	4	9	200	2,006	0	81	25	69	6	0	11
Packaging material	10	6	2	8	378	256	0	1,196	131	19	185	9	5
Foamed plastic pieces	0	0	2	15	974	33,391	0	1,257	669	282	319	0	27
Styrofoam plates	2	0	0	126	545	176	0	416	68	217	11	1	8
Other foamed plastic	0	27	0	3	619	573	0	902	395	291	67	4	8

Debris	Hungary	Indonesia	Ireland	Italy	Jamaica	Japan	Jordan	Kenya	Kuwait	Lithuania	Malaysia	Maldives	Malta
<b>GLASS</b>													
Beverage bottles	13	23	30	1,791	1,197	3,076	15	1,211	291	862	224	4	6
Food jars	0	2	15	7	204	404	0	526	38	0	28	21	10
Other glass bottles/jars	0	8	15	114	395	456	0	631	87	812	41	4	8
Fluorescent light tubes	0	0	0	12	71	28	0	220	11	1	14	1	0
Light bulbs	0	4	0	1	66	138	0	303	38	54	33	2	10
Glass pieces	0	0	2	2	846	5,216	0	723	469	997	187	0	18
Other glass	0	7	0	6	214	727	0	272	120	951	38	4	0
<b>RUBBER</b>													
Balloons	0	0	1	12	80	89	0	462	43	169	41	0	0
Condoms	0	0	10	2	168	27	0	570	2	0	21	0	0
Gloves	2	0	0	7	105	61	0	294	146	223	15	7	0
Tires	7	5	2	109	342	81	1	638	99	38	17	1	12
Other rubber	0	6	2	13	973	2,349	0	2,753	129	318	125	0	5
<b>METAL</b>													
Bottle caps	0	2	0	11	838	1,629	0	1,255	430	1,765	75	2	12
Aerosol cans	3	12	6	3	245	619	0	282	38	78	52	8	2
Beverage cans	45	27	75	98	412	8,306	121	921	83	493	440	0	20
Food cans	4	0	0	141	205	516	0	279	80	277	82	0	0
Other cans	0	0	0	2	115	297	4	341	44	205	33	0	0
Metal crab/lobster traps	0	0	0	7	68	0	4	88	14	0	0	0	0
55 gallon drum - rusty	0	0	0	19	154	9	0	379	25	0	10	0	5
55 gallon drum - new	0	0	0	7	25	8	0	58	2	0	0	0	0
Metal pieces	0	4	2	2	424	1,585	0	279	72	11	64	0	18
Pull tabs	0	30	1	23	66	1,975	0	93	45	107	25	11	0
Wire	8	2	2	5	191	651	0	413	63	151	62	0	1
Other metal	14	1	2	10	203	3,029	18	201	87	246	70	0	8
<b>PAPER</b>													
Paper bags	5	0	0	2	580	281	0	1,128	148	90	109	0	0
Cardboard	0	18	0	9	344	343	2	505	67	565	53	0	3
Cartons	0	72	0	14	748	818	0	593	132	544	42	0	1
Paper cups	0	18	0	11	742	566	0	332	231	327	57	0	0
Newspapers/magazines	77	0	0	29	228	341	0	791	124	672	81	0	0
Paper pieces	0	2	1	0	702	4,551	0	1,284	231	1,551	132	0	0
Paper plates	0	0	0	39	285	170	0	341	37	182	16	0	8
Other paper	0	0	0	7	621	1,519	0	355	114	809	32	0	0
<b>WOOD</b>													
Wood crab/lobster traps	0	0	0	47	57	21	0	225	45	0	0	0	0
Crates	0	0	0	40	26	25	0	96	21	51	5	0	0
Pallets	0	0	3	2	93	7	0	538	54	350	24	0	0
Other wood	2	5	2	4	223	3,716	0	1,142	395	427	46	0	3
Lumber pieces	0	5	3	37	601	2,517	0	609	567	329	102	8	0
<b>CLOTH</b>													
Clothing/pieces	2	8	30	4	755	887	0	1,161	192	102	6	18	
<b>Total by Countries</b>	<b>312</b>	<b>893</b>	<b>479</b>	<b>6,244</b>	<b>43,768</b>	<b>315,633</b>	<b>1,900</b>	<b>59,827</b>	<b>16,337</b>	<b>30,306</b>	<b>7,506</b>	<b>376</b>	<b>1,243</b>

# APPENDIX 4. International Raw Data Summary (continued)

Debris	Mexico	Micronesia	Mozambique	Netherlands	Netherlands Antilles	New Zealand	Norway	Panama	Papua New Guinea	Philippines
<b>PLASTIC</b>										
Food bags/wrappers	3,812	857	30	34	508	94	397	1	48,578	318,363
Plastic salt bags	433	143	0	0	11	0	0	0	128	18,411
Trash bags	2,108	514	0	13	178	4	75	1	2,703	72,748
Other bags	1,100	645	0	5	240	8	102	1	23,776	63,565
Beverage, soda	3,211	293	10	79	766	265	23	0	12,248	38,130
Bleach, cleaner	338	188	0	8	39	1	4	0	0	16,638
Milk/water gallon jugs	887	50	0	0	147	7	6	0	2m259	19,332
Oil, lube	614	176	5	0	59	2	2	0	448	13,427
Other plastic bottles	1,039	454	5	0	225	46	21	0	0	27,004
Buckets	193	88	0	46	69	9	12	0	160	5,916
Caps, lids	3,562	129	100	0	709	103	221	0	8,910	28,720
Cigarette butts	11,872	307	50	14	160	35	1,547	0	0	82,480
Cigarette lighters	227	44	0	3	62	4	3	0	0	12,158
Cups, utensils	7,541	734	0	41	830	62	69	1	496	29,700
Diapers	826	155	0	0	23	17	5	0	1,072	21,518
Fishing line	312	51	3	10	253	40	56	0	0	18,517
Fishing lures, floats	120	50	2	0	17	7	1	0	0	13,893
Plastic fishing nets	132	28	2	1	46	1	15	1	0	28,321
Hard hats	77	9	0	1	4	0	0	0	0	7,632
Plastic light sticks	638	40	0	0	57	2	0	0	0	59,686
Plastic pieces	2,041	538	0	2	1,684	106	496	0	1,135	123,877
Pipe thread protector	63	29	0	35	24	0	5	0	0	4,198
Plastic rope	685	104	1	1	535	301	625	0	195	47,833
Sheeting longer than 2 ft	86	7	0	19	27	3	5	0	0	2,274
Sheeting 2 ft or shorter	230	19	0	5	20	5	7	0	0	3,227
Six-pack holders	1,415	93	0	5	40	16	1	0	0	2,037
Strapping bands	198	47	0	0	46	10	48	0	82	8,429
Straws	1,785	16	5	0	489	137	96	0	0	55,509
Syringes	65	7	0	0	9	2	0	0	0	3,840
Tampon applicators	985	3	0	0	4	0	1	0	0	1,344
Toys	167	102	0	14	34	9	26	0	0	21,888
Vegetable sacks	194	32	6	0	6	2	6	0	0	14,193
Write protection rings	159	6	0	0	5	0	4	0	0	1,270
Other plastic	876	195	0	15	341	62	88	1	4,282	108,172
<b>FOAMED PLASTIC</b>										
Foamed plastic buoys	108	68	0	0	47	3	2	0	1,360	2,037
Cups	1,552	687	0	8	281	23	10	0	612	13
Egg cartons	96	98	0	5	51	1	0	0	0	8,884
Fast food containers	516	104	3	10	215	53	4	0	3,274	28,673
Meat trays	371	48	4	0	90	3	1	0	0	5,121
Packaging material	432	59	10	5	167	11	29	0	973	22,533
Foamed plastic pieces	2,801	349	0	0	836	8	169	0	5,577	123,887
Styrofoam plates	934	234	0	4	111	11	12	0	384	19
Other foamed plastic	264	104	0	0	117	6	23	0	2,133	41,359

Debris	Mexico	Micronesia	Mozambique	Netherlands	Netherlands Antilles	New Zealand	Norway	Panama	Papua New Guinea	Philippines
<b>GLASS</b>										
Beverage bottles	3,202	251	20	62	1,568	591	7	8	120	34,669
Food jars	665	224	1	3	283	19	0	0	24	10,869
Other glass bottles/jars	1,473	141	0	36	254	36	4	8	24	17,252
Fluorescent light tubes	31	7	0	8	117	5	2	0	0	5,263
Light bulbs	100	29	0	0	23	0	2	0	0	6,221
Glass pieces	2,316	425	2	38	1,026	130	35	0	320	123,887
Other glass	81	47	0	26	112	5	13	0	48	16,740
<b>RUBBER</b>										
Balloons	154	42	6	0	49	2	8	0	0	6,173
Condoms	124	46	0	0	48	0	1	0	0	2,810
Gloves	184	4	0	0	67	5	2	0	0	3,689
Tires	141	127	1	64	193	34	1	150	2	9,634
Other rubber	320	234	0	20	758	25	15	0	306	27,438
<b>METAL</b>										
Bottle caps	5,947	161	36	0	410	103	78	0	64	46,677
Aerosol cans	150	91	0	155	119	4	2	0	24	6,421
Beverage cans	1,281	783	0	43	1,062	180	13	10	2,189	20,937
Food cans	701	417	0	10	108	37	5	10	11,549	19,412
Other cans	126	87	0	309	132	15	5	10	0	8,828
Metal crab/lobster traps	32	3	0	9	22	2	0	0	0	14,278
55 gallon drum - rusty	138	36	0	1	26	0	1	0	0	3,589
55 gallon drum - new	58	2	0	50	2	0	0	0	0	822
Metal pieces	551	342	0	25	684	86	20	0	0	123,793
Pull tabs	1,338	4	0	0	21	19	12	0	0	1,534
Wire	455	88	0	2	126	107	15	0	0	6,099
Other metal	303	206	0	11	442	58	54	0	620	15,246
<b>PAPER</b>										
Paper bags	1,150	88	0	13	103	55	16	0	560	22,038
Cardboard	587	27	6	0	78	1	14	0	341	17,061
Cartons	982	68	0	5	74	1	42	0	0	24,122
Paper cups	820	331	0	8	188	0	6	0	67	97,983
Newspapers/magazines	679	42	3	0	54	0	6	0	0	21,313
Paper pieces	2,258	180	0	17	359	0	260	0	560	123,839
Paper plates	660	119	0	0	88	18	0	0	0	72,505
Other paper	786	33	0	0	90	2	79	0	0	20,198
<b>WOOD</b>										
Wood crab/lobster traps	40	5	0	0	9	0	0	0	0	0
Grates	85	49	0	0	20	0	0	0	0	0
Pallets	484	12	0	15	67	2	4	0	0	0
Other wood	473	160	0	37	630	16	38	0	0	10
Lumber pieces	1,320	159	7	26	444	26	45	26	0	13
<b>CLOTH</b>										
Clothing/pieces	532	791	1	47	628	79	41	56	479	14,082
<b>Total by Countries</b>	<b>85,792</b>	<b>13,855</b>	<b>319</b>	<b>1,423</b>	<b>20,066</b>	<b>3,142</b>	<b>5,063</b>	<b>284</b>	<b>138,172</b>	<b>2,479,618</b>



# APPENDIX 4. International Raw Data Summary (continued)

Debris	Poland	Portugal	Republic of Mauritius	Saudi Arabia	Seychelles	South Africa	Spain	St. Kitts & Nevis	Switzerland	Taiwan	Thailand	Tonga
<b>PLASTIC</b>												
Food bags/wrappers	103	8	26	1,393	0	70	37	88	45	219	680	1,438
Plastic salt bags	0	0	0	88	0	2	0	1	1	0	10	230
Trash bags	0	0	0	999	0	22	30	75	125	91	13	1,042
Other bags	0	0	23	380	3	59	59	23	23	23	295	674
Beverage, soda	97	0	47	942	7	22	183	311	398	136	172	693
Bleach, cleaner	2	0	0	124	0	0	0	94	0	21	4	318
Milk/water gallon jugs	2	26	0	274	0	1	0	69	3	26	39	387
Oil, lube	0	0	5	127	0	2	0	86	58	8	7	256
Other plastic bottles	0	0	20	127	0	10	11	100	74	6	365	554
Buckets	0	2	1	9	0	8	2	40	10	12	1	213
Caps, lids	12	0	0	180	0	37	0	210	6	14	131	656
Cigarette butts	91	0	0	6	0	86	0	46	1,794	13	1,001	1,174
Cigarette lighters	4	2	1	33	0	6	8	21	15	20	83	276
Cups, utensils	5	0	20	98	1	7	44	87	76	30	73	405
Diapers	0	0	0	38	0	0	3	10	1	4	0	1,043
Fishing line	0	3	31	32	15	17	9	7	6	55	97	178
Fishing lures, floats	0	8	0	24	0	1	0	1	4	41	50	73
Plastic fishing nets	0	2	8	5	0	1	0	60	2	78	58	115
Hard hats	2	0	0	2	0	0	0	0	2	25	0	3
Plastic light sticks	1	2	0	33	0	0	0	0	110	0	11	42
Plastic pieces	30	0	0	17	7	90	2	390	14	27	197	458
Pipe thread protector	2	0	0	2	0	0	0	4	0	29	10	68
Plastic rope	4	0	12	68	0	43	2	172	4	71	196	295
Sheeting longer than 2 ft	3	0	0	1	0	0	0	4	2	6	0	416
Sheeting 2 ft or shorter	7	0	0	8	0	0	0	0	4	12	1	89
Six-pack holders	0	0	0	5	0	6	0	0	40	12	0	199
Strapping bands	0	0	0	2	0	10	0	24	2	49	5	243
Straws	0	0	0	203	5	10	0	32	4	9	373	552
Syringes	0	0	0	1	0	0	0	1	16	0	1	101
Tampon applicators	0	0	0	0	0	0	4	0	24	0	7	16
Toys	7	0	8	14	0	3	0	9	22	12	24	272
Vegetable sacks	4	0	5	53	0	0	0	1	16	4	15	551
Write protection rings	0	0	0	0	0	0	0	0	0	0	3	31
Other plastic	12	2	3	44	0	23	22	71	40	4	87	574
<b>FOAMED PLASTIC</b>												
Foamed plastic buoys	0	0	0	58	0	0	0	39	5	7	11	87
Cups	21	0	28	377	0	16	0	44	33	31	44	498
Egg cartons	1	0	0	36	0	0	0	1	5	0	0	162
Fast food containers	11	0	11	133	0	18	0	10	0	34	74	22
Meat trays	24	0	0	4	0	5	0	5	8	15	3	18
Packaging material	0	0	9	139	0	7	0	47	46	64	32	213
Foamed plastic pieces	6	0	0	42	0	73	8	73	76	79	46	318
Styrofoam plates	0	0	15	115	0	12	0	13	4	23	5	488
Other foamed plastic	0	0	0	0	0	40	0	62	10	1	10	286

Debris	Poland	Portugal	Republic of Mauritius	Saudi Arabia	Seychelles	South Africa	Spain	St. Kitts & Nevis	Switzerland	Taiwan	Thailand	Tonga
<b>GLASS</b>												
Beverage bottles	44	116	41	1,163	15	13	147	143	918	46	289	846
Food jars	7	0	0	233	6	4	0	11	7	9	7	156
Other glass bottles/jars	3	0	12	113	0	21	0	20	25	21	32	415
Fluorescent light tubes	0	0	0	7	0	0	0	3	0	0	3	155
Light bulbs	1	0	0	9	0	1	0	6	8	5	17	141
Glass pieces	49	0	21	0	0	117	0	5	182	34	142	762
Other glass	0	0	0	3	0	9	0	1	102	0	99	362
<b>RUBBER</b>												
Balloons	0	0	0	0	0	0	0	23	10	0	1	156
Condoms	2	0	16	0	1	0	0	6	1	0	12	120
Gloves	3	0	8	22	0	7	0	1	6	12	7	66
Tires	5	0	6	1	0	1	2	10	42	6	12	183
Other rubber	0	0	0	10	0	9	1	60	2	8	210	309
<b>METAL</b>												
Bottle caps	36	38	6	221	0	11	0	60	54	7	272	681
Aerosol cans	7	0	3	102	0	0	2	3	343	8	3	335
Beverage cans	13	0	59	586	0	20	222	29	150	102	55	1,255
Food cans	8	0	0	110	0	0	0	13	9	28	14	699
Other cans	23	4	2	23	0	3	5	3	0	2	17	384
Metal crab/lobster traps	0	0	0	0	0	0	0	1	0	25	50	27
55 gallon drum - rusty	0	0	0	0	1	4	0	2	26	14	0	286
55 gallon drum - new	0	0	0	0	0	0	0	0	16	2	0	77
Metal pieces	18	0	12	17	4	20	0	44	268	31	49	527
Pull tabs	1	0	0	19	0	2	14	3	62	2	85	49
Wire	7	0	17	25	0	3	1	4	28	18	34	410
Other metal	2	7	7	2	1	8	0	43	106	2	51	400
<b>PAPER</b>												
Paper bags	82	0	28	120	0	9	0	11	40	17	3	307
Cardboard	32	0	0	11	0	0	0	5	0	8	25	462
Cartons	21	0	2	124	0	4	0	5	2	0	12	273
Paper cups	39	0	31	82	0	2	0	3	30	25	10	416
Newspapers/magazines	41	0	13	47	0	11	0	0	59	2	12	392
Paper pieces	105	0	0	0	0	18	58	35	193	4	318	398
Paper plates	0	0	22	43	0	1	0	25	25	6	10	367
Other paper	0	0	0	0	0	8	31	14	15	0	5	251
<b>WOOD</b>												
Wood crab/lobster traps	0	0	0	0	0	0	0	7	0	3	0	23
Crates	1	0	0	1	0	0	0	5	4	19	0	103
Pallets	0	0	1	4	0	4	0	3	21	1	0	116
Other wood	19	0	15	0	0	36	0	155	5	13	107	464
Lumber pieces	5	0	7	60	0	40	0	41	10	15	77	565
<b>CLOTH</b>												
Clothing/pieces	17	8	22	32	12	2	16	42	37	36	60	852
<b>Total by Countries</b>	<b>1,042</b>	<b>227</b>	<b>624</b>	<b>9,436</b>	<b>78</b>	<b>1,095</b>	<b>923</b>	<b>3,176</b>	<b>5,934</b>	<b>1,842</b>	<b>6,334</b>	<b>29,517</b>

# APPENDIX 4. International Raw Data Summary (continued)

Debris	Turkey	United Arab Emirates	United Kingdom	United States	Venezuela	TOTAL
<b>PLASTIC</b>						
Food bags/wrappers	282	471	68	227,434	5	643,425
Plastic salt bags	5	0	0	3,014	0	24,075
Trash bags	16	0	0	47,426	3	145,030
Other bags	69	0	0	60,636	1	169,597
Beverage, soda	912	69	76	121,304	1	214,573
Bleach, cleaner	153	1	3	13,977	1	214,573
Milk/water gallon jugs	213	11	2	17,586	6	50,008
Oil, tube	10	1	0	11,806	2	34,613
Other plastic bottles	13	0	0	37,592	6	79,647
Buckets	14	6	1	8,413	0	17,747
Caps, lids	454	61	34	207,451	8	285,401
Cigarette butts	57	11	0	812,153	2	1,052,373
Cigarette lighters	24	0	0	17,635	0	35,673
Cups, utensils	231	84	0	74,907	5	138,955
Diapers	14	0	0	6,646	0	33,752
Fishing line	26	10	116	26,962	8	51,022
Fishing lures, floats	18	0	0	13,535	0	30,424
Plastic fishing nets	6	1	0	7,191	1	38,449
Hard hats	0	1	0	1,023	0	9,244
Plastic light sticks	0	0	0	9,883	0	72,594
Plastic pieces	152	0	431	271,859	22	488,947
Pipe thread protector	3	0	0	4,167	0	9,291
Plastic rope	103	35	113	59,642	3	126,148
Sheeting longer than 2 ft	2	0	2	3,568	0	8,779
Sheeting 2 ft or shorter	24	0	0	6,673	0	23,632
Six-pack holders	0	0	0	14,004	6	19,954
Strapping bands	139	0	17	16,104	0	27,763
Straws	3	16	4	130,375	0	209,781
Syringes	18	1	0	3,135	0	10,169
Tampon applicators	3	0	0	8,545	0	12,340
Toys	26	2	2	18,639	0	44,957
Vegetable sacks	2	1	3	6,283	1	23,004
Write protection rings	0	0	0	6,821	0	10,221
Other plastic	12	2	3	91,611	1	247,750
<b>FOAMED PLASTIC</b>						
Foamed plastic buoys	11	1	0	13,609	0	28,240
Cups	14	0	15	84,652	3	97,424
Egg cartons	3	0	0	3,503	0	14,017
Fast food containers	9	0	1	26,880	0	66,423
Meat trays	13	2	0	8,688	0	18,120
Packaging material	159	103	72	48,329	0	78,930
Foamed plastic pieces	127	0	108	214,960	0	400,199
Styrofoam plates	19	0	0	17,997	3	24,200
Other foamed plastic	13	0	3	42,506	0	93,647

Debris	Turkey	United Arab Emirates	United Kingdom	United States	Venezuela	TOTAL
<b>GLASS</b>						
Beverage bottles	152	69	11	140,085	19	214,061
Food jars	29	0	0	10,897	0	26,367
Other glass bottles/jars	25	0	0	19,698	3	45,532
Fluorescent light tubes	5	0	0	1,792	0	7,900
Light bulbs	20	0	0	4,894	0	12,868
Glass pieces	91	0	30	159,875	11	323,526
Other glass	0	0	2	20,731	0	44,465
<b>RUBBER</b>						
Balloons	0	0	1	32,028	0	40,674
Condoms	14	1	0	5,844	0	11,442
Gloves	3	0	1	14,069	0	20,678
Tires	6	1	2	9,172	6	22,485
Other rubber	52	7	224	31,089	0	71,429
<b>METAL</b>						
Bottle caps	55	67	3	101,006	0	170,387
Aerosol cans	76	0	1	9,640	1	21,858
Beverage cans	146	97	260	146,467	17	196,371
Food cans	5	0	6	12,449	0	50,547
Other cans	1	1	0	7,507	3	20,433
Metal crab/lobster traps	0	0	7	2,719	0	17,566
55 gallon drum - rusty	8	3	0	2,481	0	7,922
55 gallon drum - new	0	0	0	395	0	1,634
Metal pieces	28	2	0	38,197	0	171,627
Pull tabs	0	3	0	22,085	0	31,056
Wire	3	11	0	14,338	6	25,525
Other metal	2	9	17	39,222	0	66,195
<b>PAPER</b>						
Paper bags	10	20	0	33,117	14	63,204
Cardboard	12	0	2	24,846	0	48,997
Cartons	35	11	1	18,293	8	50,511
Paper cups	2	0	0	34,958	0	140,566
Newspapers/magazines	53	0	0	22,075	0	50,865
Paper pieces	65	1	0	182,993	0	333,810
Paper plates	0	0	0	13,363	0	90,300
Other paper	22	0	4	45,133	0	73,765
<b>WOOD</b>						
Wood crab/lobster traps	0	0	0	1,752	0	2,450
Crates	0	1	0	1,790	0	3,069
Pallets	4	1	0	4,195	0	9,468
Other wood	1	0	1	27,157	0	39,278
Lumber pieces	18	23	0	60,754	0	79,846
<b>CLOTH</b>						
Clothing/pieces	15	2	76	44,939	8	73,613
<b>Total by Countries</b>	<b>4,330</b>	<b>1,220</b>	<b>1,723</b>	<b>4,191,169</b>	<b>184</b>	<b>7,930,369</b>

## Beach Clean-up Song

*(Tune: Waltz of the Flowers)*

By Alison Acker, "Victoria Raging Grannies"

*We've got plastic  
And elastic.  
Food containers  
And Remainders.  
Bits of lumber  
Without number  
And more condoms than we'd really rather count.*

*Six pack holders  
Cardboard folders.  
Bits of models  
Cans and bottles.  
Rubber gloves and  
Rubber tires  
And peculiar things with far too many wires.*

*Fishing nets and  
Fishing lures.  
Stuff that oughta  
Be in Sewers.  
Bottle cappers,  
Bags and wrappers  
And some stuff we never want to think about—thank you*

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