

2001 International Coastal Cleanup

International Results



Advocates for Wild, Healthy Oceans



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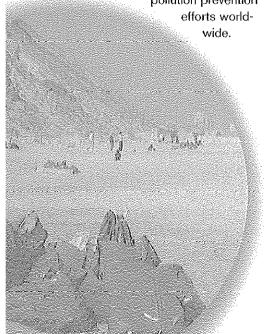


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A he Ocean Conservancy (formerly the Center for Marine Conservation) has been working since 1972 to ensure that our oceans provide a healthy environment for an abundant and diverse population of marine animals. The International Coastal Cleanup™ (ICC) is the Conservancy's flagship program dealing with marine debris. The ICC's mission is to remove debris from the shorelines, waterways, and beaches of the world's lakes. rivers, and oceans above and below the water; to collect valuable information on the amount and sources of debris: to heighten public awareness of the everyday activities and behaviors that result in litter and debris; to educate the public on the environmental and human health impacts of debris as well as inappropriate solid waste disposal practices that result in debris; and to use the information collected from the Cleanup to effect positive

change and to promote water pollution prevention efforts world-



The ICC is the oldest and largest one-day volunteer effort on behalf of the marine environment of its kind. Hundreds of thousands of people from all over the world remove trash and litter from their local beaches and waters while recording important information on one of the most pervasive and persistent pollution issues impacting the environment-marine debris. While the ICC provides only a glimpse -one day's worth-of the debris issue plaguing the world's shorelines, waterways and oceans everyday, it is an example of citizens taking direct action to restore the health of the oceans. The ultimate goal, however, is to eliminate the need for such cleanups by deterring people and industries from polluting our waters in the first place.

Acknowledgments

The ICC would not be successful without our volunteers. Our deepest gratitude and sincerest thanks goes to the hundreds of thousands of enthusiastic individuals who make the ICC grow and become an international phenomenon every year. We thank those volunteers who return to the Cleanup year after year, and we welcome aboard those who were first-time participants. Thank you for a job well done!

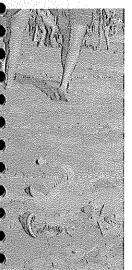
Cleanups don't simply 'happen.' It takes months of detailed preparations and hard work for everything to run smoothly on cleanup day. The Cleanup would be impossible without our ICC coordinators spending an immeasurable about of time preparing for the Cleanup—lining up sponsors, volunteers, publicity, and thank-you

gifts—and organizing the marine debris data. Coordinators begin their work months in advance, and usually continue the post-cleanup tasks until the New Year. These amazing men and women expend extra energy to assure a successful and entertaining Cleanup for everyone involved. Thank you for your hard work, dedication, and willingness to volunteer your time to this important cause. (A list of the 2001 ICC coordinators can be found on page 14.)

Special thanks also go to all of our sponsors for their financial support and in-kind donations. Your generosity with supplies, food, beverages, services, and other gifts kept our volunteers motivated and energized for their task. We appreciate your contributions and your commitment to a cleaner marine environment. International sponsors of the 2001 Cleanup are listed on page 22.

The Problem of Marine Debris

Scientists generally define marine debris as any manufactured or processed solid waste material (typically inert) that enters the marine environment from any source.1 Debris is more than an unsightly inconvenience for beach-bound vacationers or pleasure boaters; it's one of the world's most pervasive pollution problems affecting our oceans and inland waterways. Any manufactured material can become marine debris. Cigarette butts, fishing line, fast food packaging, diapers, tampon applicators, six-pack holders, bottles, cans, syringes, and tires-the litany of litter is as varied as the products available in the global



One fact is clear: marine debris ultimately comes from people, not places.

September 11, 2002

The Cleanup has faced many challenges in its 16 years, but nothing could have prepared coordinators for September 11, 2001 when terrorists attacked the United States. The world was still reeling from the attacks while Cleanup coordinators debated whether to continue their cleanups, most of which were scheduled for just four days later. While some local cleanups had to be canceled, The Ocean Conservancy did not cancel the ICC and encouraged individual cleanup coordinators to hold or cancel their cleanups at their discretion. Many cleanups continued as planned in a show of



patriotism and solidarity. Remarkably, most coordinators were eager to continue with the Cleanup, deciding that it could serve as a much-needed diversion to the anxiety the attacks caused. Many volunteers and coordinators expressed their appreciation for the Cleanup event in helping them cope with the aftermath of September 11.

Prior to September 11, event organizers predicted that more than one million people would participate in the 2001 ICC. Though the tragic events of September 11 may have affected the level of volunteer participation in many states and territories, 2001 still marked a growth in the number of countries (77) who participated in the ICC.

marketplace. But it all shares a common origin; at a critical decision point, someone, somewhere, mishandled it, either thoughtlessly or deliberately.

In its most benign form, trash detracts from the aesthetic beauty of a waterfront landscape. But marine debris can also be a human health and safety hazard. Floating fishing line, rope, and plastic bags can wrap around and damage boat propellers. Hospital needles, syringes, and drug vials lying on shorelines can carry disease, and broken glass and other sharp objects lie in wait for an innocent bare foot. Debris can also cause habitat destruction by affecting the water quality of aquatic habitats as well as causing physical damage. Submerged debris can cover coral reefs and smother sea grasses and other bottom-dwelling species.

Marine debris is particularly dan-

gerous and often lethal to marine wildlife. Many species eat trash that they have confused for food. Fishing lines, abandoned fishing nets, rope and six-pack holders can entangle wildlife, maiming and even killing them.

Marine debris will continue to pose an environmental threat to this planet, unless a significant change in human behavior develops related to solid waste management and material use. We know what to do; we just have to do it.

Sources of Debris

Simply stated, the source of all debris is human activity. People produce waste, and if waste is not handled appropriately it will, in all likelihood, become debris. Once in water, debris can land thousands of miles from its origin through ocean current patterns, climate and tides. Although most items removed from our waters and

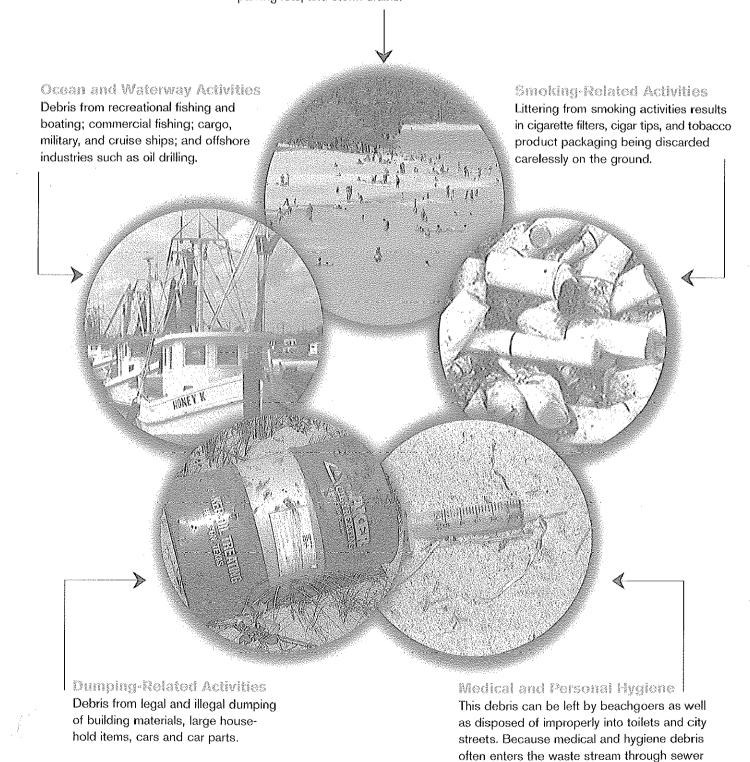
beaches cannot reliably be traced back to their source, one fact is clear: marine debris ultimately comes from people, not places.

Determining where debris originates is no easy task, since trash and litter can travel long distances before washing up on our shorelines or sinking to the ocean bottom. One of the ICC's goals is to trace pollution to its source, identify the activities causing the pollution and work to prevent it from occurring. Many of these activities occur on land and reach the ocean by beach going activities, being blown into the water, or carried by creeks, rivers, and storm drains to the shore. Other debris comes from water activities, including vessels (from small sailboats to large container ships), offshore drilling rigs and platforms, and fishing piers.

Activities That Produce Debris

Recreational and Shoreline Activities

Debris from beachgoers, picnics, sports and games, festivals, as well as litter washed from streets, parking lots, and storm drains.



@ | 2001 International Coastal Cleanup

systems, its presence on the beach can indicate the presence of other, unseen pollutants.

Laws and Legislation

When confronted with the harmful effects of marine debris in our waterways, most people's first reaction is, "There ought to be a law against this!" In fact, such laws do exist, After years of irresponsible dumping practices, there are now laws regulating at-sea and shore-side dumping, Unfortunately, the widespread nature of marine debris, its inability to recognize territorial borders, and the difficulties in identifying debris sources have made effective laws difficult to draft and even harder to enforce. However, individuals still play a significant role in enforcing these laws.

International Convention for the Prevention of Pollution from Ships (MARPOL 73/78)

Thirty years ago, ships were a huge source of debris; in 1975, the National Academy of Sciences estimated that ships dumped 14 billion pounds of garbage into the ocean. In the international arena, the International Convention for the Prevention of Pollution from Ships (MARPOL 73/78) provides a comprehensive approach to dealing with ocean dumping by creating international guidelines to prevent pollution from ships. There are six annexes associated with MARPOL: Annex I-Discharge of oil; Annex II-Control of hazardous liquids; Annex III-Transport of hazardous materials in a packaged form; Annex IV-Discharge of sewage; Annex V-Disposal of plastics and garbage; and Annex VI-Air pollution. Annex V of MARPOL prohibits ocean dumping of all ship-generated plastics and regulates the dumping of other garbage. It is of particular importance to the maritime community (shippers, oil platforms, fishers, recreational boaters and cruise lines) as it prohibits the disposal of plastic

at sea and regulates the disposal of other types of garbage at sea. Under Annex V of the Convention, garbage includes all kinds of food, domestic and operational waste-excluding fresh fish-generated during the normal operation of the vessel and liable to be disposed of continuously or periodically. This annex also requires ports and terminals to provide garbage reception facilities for boats. As of March 2002, 107 countries have ratified Annex V controlling the disposal of plastics and garbage into the oceans.

Cartagena Convention

Another example of international law governing marine debris is the 1987 Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region, Known as the Cartagena Convention, this is the only legally binding environmental treaty for the wider Caribbean. The Convention and its Protocols constitute a legal commitment by the participating governments to protect, develop, and manage their common waters individually or jointly. The Cartagena Convention was adopted in Cartagena, Colombia on March 24, 1983, and entered into force on October 11, 1986, as the legal instrument for the implementation of the Caribbean Action Plan. Ratified by 20 countries, the Convention governs the entire region comprised of the marine environments of the Gulf of Mexico, the Caribbean Sea, and areas of the Atlantic Ocean. The Convention requires the adoption of measures at preventing, reducing and controlling pollution of the following areas: pollution from ships, pollution caused by dumping, pollution from seabed activities, airborne pollution, and pollution from land-based sources and activities.

The History of the International Coastal Cleanup

The first Cleanup began 16 years ago in Texas. Concerned about the pollution problems on area beaches, over 2.800 Texas residents removed 124 tons of trash from 122 miles of coast in what became The Ocean Conservancy's first beach cleanup. Since then, The Ocean Conservancy and its international, national, and state partners have turned the event into a global effort. In 1989, the national cleanup became an international event when Canada and Mexico joined. In 1990 the cleanup had expanded beyond the borders of North America to include Japan, and by 1992, 33 countries were involved, with cleanups held around the world on the coastline of every major body of water on the planet. As of 2001, worldwide more



Since 1995, 89,634 divers have collected 1.3 million pieces of debris, weighing over 1.7 million pounds...

than 4.7 million volunteers from 118 countries have cleaned 114, 025 miles of shoreline, picking up 92.6 million pieces of debris weighing over 78.7 million pounds. The growth of the Cleanup over the past 16 years is a testament to the global nature of the marine debris problem, and the expansion to inland areas along streams, rivers, lakes and other watershed areas reflects the growing realization that a significant amount of the debris in coastal areas originates upland.

The cleanup volunteers spend three hours on the third Saturday of September (although the date varies depending on local conditions and other programming) combing beaches



Volunteers removed debris from 12,227 miles of shoreline and waterways. That is equivalent to circling

the Earth 1.5 times!



for litter. Year after year, participants express their surprise and displeasure at the discarded clothing, junked appliances, and other unusual items they find on the beach.

Some adventurous volunteers dive for debris underwater. Much of the trash they find has probably been on the ocean floor or river bottom for many years. Since 1995, when the underwater cleanup data was recorded and analyzed separately from shore cleanups, 89,634 divers have collected 1.3 million pieces of debris, weighing over 1.7 million pounds from 3,327 miles of underwater habitat.

One of the ICC's goals is to trace pollution to its source and work to prevent it from occurring. To this end, ICC volunteers record debris information on standardized data cards developed and provided by The Ocean Conservancy. In 2001, The Ocean Conservancy revised the cleanup data card to include 42 specific debris items and groupings related to five debris-producing activities and sources. The new data card records specific debris items indicative of the activities and sources producing the debris. Information is grouped by the behavior associated with its presence: recreational and beach-going activities, smokingrelated activities, ocean and waterway activities, activities associated with legal or illegal dumping, and activities resulting from improper disposal or handling of medical or personal hygiene materials. Data compiled from beach cleanups are used to identify the activities that produce the debris found in our waterways. The result is a unique global database of information collected at every cleanup around the world.

Data collection is one aspect that makes the Cleanup effective. The Ocean Conservancy compiles, analyzes, and tracks the data cards year-by-year and site-to-site, identifying the activities and general sources of the debris in a region, state, or country. Data cards from shoreline cleanups and underwater cleanups are compiled separately to ascertain whether and how debris differs above and below the water line. This valuable information is an effective tool for educating the public, business, industry, and government officials about the problem of marine debris. Cleanup data reports have influenced public policy on waste management, prompted legislation, and convinced individuals, organizations, and communities to examine their waste handling practices.

The 2001

Cleanup Results

Participation

Prior to September 11, event organizers predicted that more than one million people would participate in the 2001 ICC. Although September's tragedies affected participation levels, the ICC continued to grow, reaching more areas and removing more debris than ever before. Officially held on September 15, 2001, the 16th annual Cleanup attracted 755,221 volunteers in 77 countries and 54 U.S. states and territories. Volunteers participated from all across the globe, from Australia to Aruba, Canada to Cyprus, Egypt to

El Salvador, Hong Kong to Hungary, Madagascar to Malaysia, Palestine to Papua New Guinea, and Thailand to Turkey. The 2001 ICC results show a decline in participation of over 90,000 volunteers worldwide, compared to the 2000 cleanup. Cleanup cancellations and postponements due to September 11 are believed to have caused the decline. Still, cleanup crews across the globe traversed 12,224 miles of coastline and waterways, collecting more than 6.8 million pieces of debris, weighing almost 12.58 million pounds. Underwater



cleanups were also successful; 9,317 divers in 60 countries retrieved 71,373 pieces of underwater debris, weighing 226,398 pounds, from 356.9 miles of underwater habitat. All together, over 4,218 different land and underwater sites from around the world were cleared of debris.

International - People, Pounds, and Wiles

		LAN()		U	NDERWATI	an .		TOTAL	
Country	People	Pounds	Miles	People	Pounds	Miles	People	Pounds	Miles
Argentina	1,827	13,773,4	7.6	12	18.7	0.6	1,839	13,792.1	8,2
Aruba		0,0	0.0	120	13,500.0	2.0	120	13,500.0	2.0
Australia	43	402.3	2.1	109	937.2	2.8	152	1,339.5	4.8
Bahamas	412	7,202.0	2.0	0	0.0	0.0	412	7,202.0	2.0
Belize	655	2,637.0	14.3	0	0.0	0.0	655	2,637.0	14.3
Brazil	6,719	65,275.1	45.8	107	1,641.0	4.5	6,826	66,916.1	50.3
British Virgin Islands	228	1,574.0	6.6	0	0.0	0.0	228	1.574.0	6.6
Barbados	80	1,560.0	3.0	77	680,0	8,0	157	2,240.0	3.8
Canada	5,313	51,382.3	237.9	. 181	11,971.5	9.0	5,494	63,353.7	246.9
Cayman Islands	117	2,430.0	5.9	73	125,0	0.1	190	2,555.0	6.
Colombia	374	14,100.0	25.6	230	8,600.0	8.2	604	22,700.0	33.9
Cook Islands	2,500	0.0	149.0	0	0.0	0.0	2,500	0.0	149.0
Costa Rica	23	1,984.0	8.7	0 .	0.0	0.0	23	1,984.0	8.7
Cyprus	345	0.0	0,0	84	625.0	10.2	429	625,0	10.2
Czechoslovakia	0	0.0	0,0	89	1,970.0	8.1	89	1,970.0	8.1
Dominica	313	12,300.0	11.9	9	310.0	0.0	322	12,610.0	11.9
Dominican Republic	123	584.0	2.9	20	50.0	0.0	143	634.0	2.9
Ecuador	2,150	13,636.0	21.4	0	0.0	2,0	2,150	13,636.0	23.4
Egypt	- 382	21,549.0	14.6	402	11,297.0	10.7	784	32,846.0	25,3
El Salvador	30	400.0	5.0	140	1,600.0	15.0	170	2,000.0	20.0
Fiji Island	96	4,460.0	5.0	25	312.0	3.8	121	4,772.0	8.8
Gabon	528	148,869.0	1,562.8	0	0.0	0.0	528	148,869.0	1,562.8
Greece	338	2,662.0	5.7	173	5,000.0	10.9	511	7.662.0	16.6

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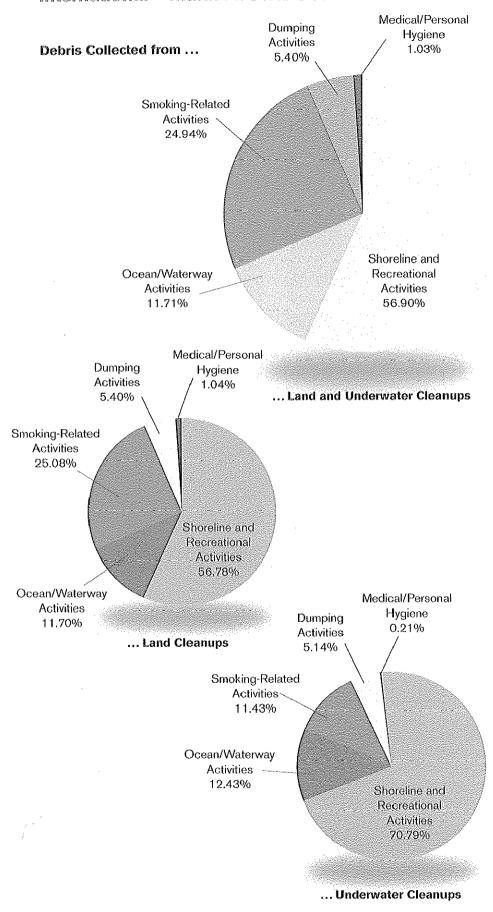
International - People, Pounds, and Wiles

		LAND		U	NDERWATE	Ę		TOTAL	
Country	People	Pounds	Miles	People	Pounds	Miles	People	Pounds [Villes
Country									
Grenada	253	7,340.0	6.4	42	210.0	0.2	295	7,550.0	6.6
Guyana	84	1,050.0	0.8	0	0.0	0.0	84	1,050.0	8.0
Honduras	214	6,300.0	1.5	2	200.0	0.5	216	6,500.0	2.0
Hong Kong	1,653	52,106.0	52.3	719	13,009.0	0.8	2,372	65,115.0	53.1
Hungary	0	0.0	0.0	. 11	1,735.0	1.0	11	1,735.0	1.0
Indonesia	130	1,965.0	3.9	105	499.0	3.9	235	2,464.0	7.8
Israel	1,480	44,876.0	23.3	68	1,569.0	2.3	1,548	46,445.0	25.5
Jamaica	23	969.0	17.3	0	0.0	0.0	23	969.0	17.3
Japan	14,224	104,937.5	37.9	385	4,420.0	0.0	14,609	109,357,5	37.9
Jordan	0	0.0	0.0	20	161.0	0.5	20	161.0	0.5
Kenya	1,409	11,424.8	91.1	62	232.0	6.5	1,471	11,656.8	97.6 3.2
Kuwait	0	0.0	0.0	127	689.0	3.2	127	689.0	
Latvia	0	0.0	0.0	33	199.0	2.0	33	199.0	2.0
Madagascar	47	467.0	5.0	. 0	0.0	0.0	47	467.0	5.0
Malaysia	208	2,796.0	4.0	158	1,052.0	2.4	366	3,848.0	6.4
Malta	0	0.0	0.0	72	1,105.0	4.4	72	1,105.0	4.4
Marshall Islands	300	3,000.0	0.0	6	25.0	0.3	306	3,025.0	0.3 8.6
Mauritius	5	221.0	0.6	188	17,272.0	8.0	193	17,493.0 27,977.0	29.1
Mexico	1,392	27,007.0	24.8	. 34	970.0	4.3	1,426		0.2
Micronesia	22	1,000.0	0.1	0	0.0	0.1	22	1,000.0	16.5
Netherlands Antilles	939	6,050.0	16.5	. 0	0.0	0.0	939	6,050.0	14.6
New Zealand	. 48	722.1	10.6	62	1,525.0	4.0	110	2,247.1 2,426,260.0	42.8
Nigeria	7,273	2,414,019.0	42.8	78	12,241.0	0.0	7,351	1,000.0	2.0
Norway	60	1,000.0	2.0	0	0.0	0.0	60	2,431.0	7.0
Oman-Sultanate Of	0	0.0	0.0	217	2,431.0	7.0	217	18.0	0.2
Palestine	. 0	0.0	0.0	44	18.0	0.2	25	800.0	1.5
Panama	0	0.0	0.0	25	800.0	1.5	13,449	549,751.0	138.7
Papua New Guinea	13,449	549,751.0	138.7	0	0.0	0.0		281,762.0	26.9
Peru	5,197	281,541.0	26.9	30	221.0	0.0	5,227 528,703	4,901,641.8	1,505.2
Philippines	527,429		1,480.0	1,274	14,131.0	25.2	526,703 49	314.0	6.0
Poland	. 0	0.0	0.0	49	314.0	6.0	12	44.0	0.5
Portugal	0	0.0	0.0	12	44.0	0.5	192	6,211.0	2.3
Saudi Arabia	0	0.0	0.0	192	6,211.0	2.3	66	692.2	6.2
Seychelles	0	0.0	0.0	66	692.2	6.2	1,208	8,511.0	6.2
Singapore	1,177	8,481.0	6.2	31	30.0	0.0	1,200	1,768.0	1.0
Slovakia	0	0.0	0.0	11	1,768.0	1,0	52	2,652.0	4.0
South Africa	0	0.0	0.0	52	2,652.0	4.0	799	18,050.0	15.4
South Korea	735	6,503.0	14.5	64	11,547.0	0.9 1.0	95	1,388.0	5,0
Sri Lanka	86	1,158.0	4.0	9	230.0	1.5	170	3,155.5	11.0
St Kitts & Nevis	159	3,105.0	9.5	11	50.5	0.1	4		0.1
St Lucia	0	0.0	0.0	4	37.0	0.0	16		0.0
St Vincent/Grenadines	16	110.0	0.0	0	0.0	0.0	64		1.7
Sweden	25	141.0	8.0	39	1,011.0	0.9	78		0.6
Taiwan	16	250.0	0.2	62	1,120.0 221.0	0.8	12		0.8
Tanzania	0	0.0		12	2,597.0	1.0	194		2.6
Thailand	43	119.0		151	0.0	0.0	10		2.0
Trinidad and Tobago	10	108.0		0	551.2	1.2	44		1,2
Turkey	0	0.0		44	300.0	1.5	244	- 	12.0
Turks & Caicos	236	3,476.8		8	4,259.0	2.7	536		5.7
United Arab Emirates	450	1,145.0		86		46.1	2,246		140.1
United Kingdom	2,076	18,546.7		170	5,131.0	111.4	142,778		7,704.4
United States	140,112	3,533,598.6		2,666	54,260.8 20.0	0.5	333		4.6
Venezuela	328	7,935.0		5	0.0	0.0	2,000		0.0
Vietnam	2,000	0.0	0.0	0	0.0	0.0	2,000		
Total	745,904	12,357,510.3	11,867.4	9,317	226,398.1	356.9	755,221	12,583,908.4	12,224.4

International - Total Number of Debris Items Collected

debris items	LAND	UNDERWATER	TOTAL
HORELINE & RECREATIONAL ACTIVITIES			
bags / food wrappers	922,984	10,872	933,856
balloons	54,825	296	55,121
beverage bottles (plastic) 2 liters	443,656	5,103	448,759
beverage bottles (glass)	275,493	9,637	285,130
beverage cans	345,337	9,720	355,057
caps / lids	537,885	3,547	541,432
clothing / cloth	100,786	1,941	102,727
cups / plates / forks / knives / spoons	435,620	3,781	439,401
diapers	25,074	289	25,363
fast-food containers	220,317	2,328	222,645
six-pack holders	30,642	839	31,481
pull tabs	47,427	324	47,751
shotgun shells/wadding	21,142		21,302
straws / stirrers	21,142	1,191	226,903
2	Control attraction of the Association and Association (Association)		a contraction in the contraction of the contraction
toys	160,232	304	160,536
CEAN / WATERWAY ACTIVITIES			
bait containers / packing	36,414	472	36,886
bleach / cleaner bottles	63,858	404	64,262
buoys / floats	36,773	328	37,101
crab/lobster/fish traps	9,227	1,027	10,254
crates	74,740	58	74,798
fishing line	50,001		51,340
fishing lures	14,530	722	15,252
fishing nets	181,479	674	182,153
light bulbs / tubes	12,202	82	12,284
oil/lube bottles	42,465	434	42,899
pallets	69,182	855	70,037
plastic sheeting / tarps	61,576	1.018	62,594
rope	111,439	1,261	112,700
strapping bands	29,476	168	29,644
MOKING-RELATED ACTIVITIES			
cigarettes / cigarette filters	1,521,345	6,492	1,527,837
cigarette lighters	39,377	318	39,695
cigar tips	71,219	330	71,549
tobacco packaging / wrappers	67,982	991	68,973
UMPING ACTIVITIES			
	. mr.	0.0	1010
appliances (refrigerator, washers, etc.) batteries	1,751 87,093	62 969	1,813 88,062
cars/car parts	65,285	aran managan managan makan makan managan managan managan managan managan managan managan managan managan managa	
construction materials		203	65,488
55-gallon drums	87,074 2,323	886	87,960
tires	122,724	1.519	2,340
	142,724	1,518	124,242
IEDICAL / PERSONAL HYGIENE			
syringes	16,774	27	16,801
condoms	36,295	55	36,350
tampon / tampon applicators	17,118	67	17,185
		·	
OTALS	6,776,854	71,109	6,847,963

International - Marine Debris Sources



Sources of Marine Debris

What We Found ...

In the 77 countries that participated in the Cleanup, 56.9% of the debris found can be attributed to shoreline and recreational activities such as beach-picnickers and general littering. Smoking-related activities counted for 24.9% of the debris found during the Cleanup. The percentage of debris attributed to ocean/waterway activities, such as recreational boating and commercial fishing, was comparatively low at 11.7%. (See graphs this page). Worldwide, 6.3 million individual debris items were found. For a complete list of debris items collected during the 2001 cleanups, please refer to table on page 11. Debris items collected by country are presented on page 25.

Removing debris from underwater areas is crucial in order to better understand the impact of debris on the marine/aquatic world. Often debris is seen as 'out of sight out of mind' with underwater cleanups; however, volunteers demonstrate the fact that what people are finding on the land is also being found underwater. During the 2001 ICC, 70.79% of the debris collected by divers underwater was attributable to shoreline and recreational activities, 11.43% to activities related to smoking, and 12.93% of the debris collected was attributable to ocean/waterway activities. (See graph this page.)

What it Means ...

The majority of the debris found during the 2001 ICC was caused by recreational and shoreline activities such as: going to the beach, picnics, sports and games, festivals, as well as litter washed from streets, parking lots, and storm drains. Discarding our trash into proper receptacles, whether at the beach, on a boat, or on a city street, may be the single most effective change we can make in the effort to eliminate marine debris. For their part, municipalities can make sure to provide

adequate public trash receptacles. Improvements in recycling of goods and materials would keep even more debris off of our beaches and out of our waterways.

Beach cleanups aren't truly effective tools against pollution prevention if they don't go hand-in-hand with public education, resulting in changes in behaviors that cause marine debris. Remember: behind every piece of trash is a human face.

The "Top Ten"

The most frequently found items have been reported since the beginning of the ICC. The "Top Ten" list represents the 10 most abundant items and groupings found by volunteers. The "Top Ten" list provides a quick reference to the most common forms of debris and identifies items and activities that can be targeted for effective public education and outreach campaigns.

What We Found ...

Worldwide, the 2001 "Top Ten" list comprises 75.39% of all the debris collected. (Table this page) The three most abundant items collected were cigarettes/cigarette filters, (1,527,837 pieces at 22.31%). Bags/food wrappers (933,856 pieces at 13.64%) were second, and caps and lids (541,432 pieces at 7.91%)were third. It should be noted that in 2000 these



ARE YOU THIRSTY?

Volunteers picked up enough drinking containers to provide a family of four with a case of soda or water a day for the next 124 years.

three items totaled only 26.48% of all the debris collected, whereas in 2001 these same debris items accounted for 43.86% of all collected debris. Cigarette filters have been the top debris item for the past 12 years, and this year volunteers found enough Cigarettes to equal 76,391 packs. Of the "Top Ten" items found, 66.91% of the Top Ten Total is attributable to shore-

line and recreational activities, and 29.59% are attributable to smoking related activities, and 3.50% of the debris was attributable to ocean and waterway activities.

In 2001, underwater cleanups represented only 1.03% of all the debris collected during the ICC. However, they provide an excellent indicator of continued on page 18

International-Top Ten Items

Land and Underwater Cleanups

Debris Items	Total Number	Percent Total
1. cigarettes/cigarette filters	1,527,837	22.31 %
2. bags/food wrappers	933,856	13.64 %
3. caps, lids	541,432	7.91 %
4. beverage bottles (plastic) 2 liters or less	448,759	6.55.%
5. cups, plates, forks, knives, spoons	439,401	6,42 %
6. beverage cans	355,057	5.18:%
7. beverage bottles (glass)	285,130	4.16 %
8. straws, stirrers	226,903	3.31 %
9. fast-food containers	222,645	3.25 %
10. fishing nets	182,153	2.66 %
Top Ten Totals	5,163,173	75.39 %

Land Cleanups

Debris Items	Total Number	Percent Total
1. cigarettes/cigarette filters	1,521,345	22,45 %
2. bags/food wrappers	922,984	13.62 %
3. caps, lids	537,885	7.94 %
4. beverage bottles (plastic) 2 liters or less	443,656	6.55 %
5. cups, plates, forks, knives, spoons	435,620	6,43 %
6. beverage cans	345,337	5.1 %
7. beverage bottles (glass)	275,493	4.07 %
8. straws, stirrers	225,712	3,33 %
9. fast-food containers	220,317	3.25 %
10. fishing nets	181,479	2.68 %
Top Ten Totals	5,109,828	75.42 %

Underwater Cleanups

Debris Items	Total Number	Percent Total
1. bags/food wrappers	10,872	15.29 %
2. beverage cans	9,720	13.67 %
3. beverage bottles (glass)	9,637	13,55 %
4. cigarettes/cigarette filters	6,492	9.13 %
5. beverage bottles (plastic) 2 liters or less	5,103	7.18 %
6. cups, plates, forks, knives, spoons	3,781	5.32 %
7. caps, lids	3,547	4.99 %
8. fast-food containers	2,328	3,27 %
9. clothing, cloth	1,941	2.73 %
10. tires	1,518	2.13 %
Top Ten Totals	54,939	77.26 %

International Coordinators

Argentina

Daniel Rolleri, ReCrear

Bahamas

Lynn Gape, Bahamas National Trust

Rosalyn Pinder, Grand Bahama Island Tourism Board

Erica Gates, Kayak Nature Tours

Barbados

Madge Dalrymple, Ministry of Tourism

Belize

Hilberto Riverol, The Scout Association of Belize

Brazil

Salvatore Siciliano, Museu Nacional/UFRJ

British Virgin Islands

Jasmine Bannis, Conservation & Fisheries Department, Ministry of Natural Resources & Labor

Mervin Hastings, Conservation & Fisheries Department, Ministry of Natural Resources & Labor



"THE WHEELS ON THE CAR GO 'ROUND AND 'ROUND"

Volunteers found enough tires (124,242) to outfit 31,060 cars.

Canada

Tara Taylor, Vancouver Aquarium Marine Science Centre

Natalie Kopytko, Vancouver Aquarium Marine Science Centre

Kathy Vucic, Keep Hamilton Clean Committee

Gay Wittrien, Atlantic Coastal Action Program (ACAP Saint John)

Cayman Islands

Carolyn Lawe Smith, Cayman Islands Tourism Association

Colombia

Luis Fernando Sanchez-Rubio, Universidad de San Buenaventura

Cyprus

Andreas Demetropoulos, Cyprus Wildlife Society

Dominica

Terry Raymond, Dominica Conservation Association

Dominican Republic

Patricia Lamelas, CEBSE, Inc.

Ecuador

Narcisa Cardenas Araujo, Programa de Maneja de Recursos Costeros

Cap. Herman Moreano, Programa de Maneja de Recursos Costeros

Eovo

Sylvie Mounir, Ghazala Hotels - Sharm El Sheikh

Gabon

Serge Akagah, ONG Les Amis du Pangolin

Greece

Dimitris C. Mitsatsos / Constantinos Triantafillou, HELMEPA/ HELMEPA JUNIOR

Grenada

Joseph Antoine, Friends of the Earth Grenada

Hong Kong

Frazer McGilvray, IMA Hong Kong

ndonesia

Hani Taufik, Yayasan JARI

SF30

Ronen Alkalay, Marine and Coastal Division Ministry of the Environment

Jamaica

Shae-Tongee Stewart, W.E.C.A.N. Youth Club

Japan

Yoshiko Ohkura, Coordinator for International Relations, Japan Environmental Action Network (J.E.A.N.)

Yumi Kikuchi, Co-Director, Japan Environmental Action Network (J.E.A.N.)

Edo Heinrich-Sanchez, Okinawa International Clean Beach Club & Okinawa O.C.E.A.N.

Kenny Ehman, Okinawa International Clean Beach Club & Okinawa O.C.E.A.N.

Kenya

Dr. Rene Haller, Baobab Trust

Laivia

Peter Bormanis, Keep Latvia Tidy Foundation

Wadagascar

Kathryn Tanner, Association SOAVEZO, Institute Halieutique et Sciences Marines

Walavsia

Jesse Šiew, The Body Shop West Malaysia



Malta

Sarah Muscat, Marine Life Care Group (MALTA)

Mexico

Sean Weseloh McKeane, Center for Coastal Studies

Yael Bali, Ecocaribe A.C.

Kenia Castaneda Nevarez, Intercultural Center for the Study of Deserts and Oceans (CEDO, Inc.)

Micronesia

Katrina Adams, Kosrae Village Resort

Ahser Edward, Sea Grant, Com. Col. of Micronesia

Netherlands Antilles

Imre Esser / Corine Gerharts, Sea Turtle Conservation Bonaire (STCB)

Elsje Bosch-Wilson, St. Maarten, National Heritage Foundation

Norway

Alec Riedel, International School of Stavanger

Panama

Miguel Zimmerman, Asociacion Nacional para la Conservacion de la Naturaleza (ANCON)

Papua New Guinea

Edward Kibikibi Jr., PNG Coastal Clean Up Association, Inc.

Peru

Martha Aldana Duran, VIDA, Instituto para la Proteccion del Medio Ambiente

Philippines

Nyumpha Olegario, International Marinelife Alliance

Geronimo Reyes, International Marinelife Alliance

Portugal

Thomas Dellinger, Universidade da Madeira

Saudi Arabia

Khalid Al Bassri, National Commission for Wildlife, Conservation and Development

Singapore

N.Sivasothi, Raffles Museum of Biodiversity Research, The National University of Singapore

South Korea

Jae-Shuck (Jay) Song, Korea Maritime Institute

St. Kitts & Nevis

Bryan Farrell (St. Kitts), Ministry of Health and Environment, Dept. of Environment

Joan Robinson (Nevis), Nevis Historical Conservation Society

Turks and Caicos Islands

Michelle Fulford-Gardiner, TCl Coastal Cleanup Organization

United Arab Emirates

Ahmed Bin Byat, Emirates Diving Association

Ibrahim Al-Zubi, Emirates Diving Association

United Kinadom

Karen Riley, Marine Conservation Society

Amy Hinks, Marine Conservation Society

Venezuela

Zoyla Martinez, FUDENA

PROFESSIONAL ASSOCIATION OF DIVING INSTRUCTORS (PADI)

Mali Asia Pacific

Neil Gladwin Henrik Nimb

PAOLEurope AG Project A.W.A.R.E.

Beatrice Schafroth Andy Oswald

PACE MACONING LOS.

Suzanne Pleydell Domino Le Metayer

PADI Japan

Tatsuya Kitsukawa

PADI Nordic

Immi Wallin (Finland & Estonia) Hans Olsson (Sweden)

PAOI Norway

Jan Moller Busch

2001 Highlights - International

ore than 755,200 volunteers made the 2001 International Coastal Cleanup a huge success. Many television crews and newspapers publicized and reported on the local cleanups. Volunteers put in hours of hard work, but thanks to local sponsors, many cleanups were able to offer their exhausted crews free lunches, T-shirts, and prizes. Several cleanups actually ended with large celebrations including picnics, cookouts, raffles, contests, and even formal evening ceremonies. Volunteers in Thailand enjoyed a lunch buffet: volunteers in Dubai. United Arab Emirates were serenaded with bagpipe music from the Dubai Police Musical Band. Some countries took the message of the cleanup a bit further towards educating the public. In Brazil, for example, while the cleanup occurred volunteers put on a children's play "The Hindu Priest and the Heron," in which animals thanked the volunteers and the children for participating in the ICC event.

Here are a few more highlights from the 2001 Cleanup.

Oh What a Beautiful Worning?

Coordinators across much of the world reported that their cleanups were graced with clear skies and beautiful weather. Some areas were not so lucky. Braving windy conditions and strong storm surges, divers in Australia gathered together to clean Kemp Beach. With visibility

less than 19 inches, volunteers were able to collect 20 bags of garbage including a tire and a plastic horse with one leg. In the Gulf of Mexico, Tropical Storm Gabriella forced the canceling or postponement of many cleanups in the U.S. and several Caribbean Countries. Poor weather didn't stop all cleanup efforts. In Mississippi, USA a group of 37 Ocean Springs high school students rented a wooden schooner and sailed to Horn Island to pick up marine debris, despite a small craft advisory and tropical storm Gabriella.

ICC Impact and influence

People often wonder just what influence or impact ICC information has or how the data is used. There is a long history of ICC information being used for legislation and for education. In Nigeria, data from the ICC was used in many important ways. First it was used to back a public campaign to stop the blockage of storm and sewage drains by debris and waste. The other important impact was disclosure that the ocean was being used to dump firearms by the military authorities in Nigeria. From this information, efforts were heightened to pressure the government in Nigeria to ratify MARPOL 73/78.

Cleaning Up Can Be a Dangerous Job

Every once in a while cleanup volunteers find themselves in a potentially dangerous situation. Volunteers who were cleaning Saltburn Beach in the United Kingdom were warned to be on the lookout for World War I bombs after three bombs were found on the beach within a month of the cleanup. Fortunately, volunteers did not encounter any bombs, but one volunteer did discover a rifle grenade. Due to the discovery of the explosive devices, police have asked volunteers and beachgoers not to approach any suspicious looking objects and to report anything unusual immediately. In another potentially dangerous situation, volunteers in California, USA uncovered a canister of phosphorous that was marked 'flammable,' that was half-buried in a tidal marsh. The container also had a warning label affixed: "If found, contact police or military." The Orange County Sheriff's bomb squad swooped in and 140 people were evacuated.

Reduce, Rouse, Recycle

The ICC is always a great opportunity to put into practice the ideas of "Reduce, Reuse, and Recycle." In an effort to do so, cleanup organizers on the Island of Nevis (St. Kitts & Nevis, West Indies) in the Eastern Caribbean decided to forgo the use of plastic garbage bags and instead were able to use donated flour, sugar, and feed sacks to collect the refuse.

hat's Make it Official

Some cleanups involved elected officials, country representatives, and foreign dignitaries. In Papua New Guinea (PNG) the Prime Minister, Hon. Mekere Morauta, and Foreign Dignitaries, including American Ambassador to PNG, Ms. Susan Jacobs, and Japanese Ambassador, His Excellency Tashui Tanka, participated in the 2001 Cleanup. During the cleanup, this special party were taken on a tour of the nation's coastline on a PNG Defense Force Chopper.



Cicanuo Rewards?

Valuables and treasures, keepsakes and money, a little bit of everything is found during the cleanup. In New Brunswick, Canada, volunteers were excited to find a \$50 bill among their collected debris.

Giving Others a liciping Hand

Volunteers in Cartagena, Colombia had an interesting encounter with a very large moray eel. Divers found the eel trapped inside a discarded tube from which it could not free itself. Several of the divers were able to help free the fish, with excellent help from the moray itself. Once free, the eel slipped out to sea.

First Timers

2001 brought many countries and volunteers to the ICC for the first time. In an excellent turnout for Korea's first participation in the ICC, 799 volunteers cleaned 22 coastal areas of the Korean peninsula. In Madagascar, 47 volunteers were able to participate in the ICC, making 2001 the first year the country has participated. In Indonesia, members of the Surabaya International School SCUBA club (middle and high school levels) participated in the 2001 ICC for the first time. Parents were nervous to let their children travel four hours from the City of Surabaya, to Pasir Putih, East Java, for the weekend, following the September terrorist attack in America. However, a small, dedicated group was still able to participate.

Can That Be True?

Often things occur during Cleanup events that just don't seem possible, or defy a reasonable explanation. Cleanup volunteers in Utila Bay Island, Honduras witnessed a unique site as a fellow volunteer participated in the cleanup on horseback. In Michigan, a car was reported stolen the week before the Cleanup. During a PADI cleanup, divers in Grand Rapids hauled a car out of the water, notified police, and later discovered that they had recovered the stolen automobile.

Undervator Cleanus

Twenty-four volunteers with Asia Divers at Puerto Galera on Oriental Mindoro of the Philippines participated in a two-day land and underwater cleanup. Fighting a dangerously strong current and a very busy boat channel, divers managed to return with mesh bags completely stuffed with debris.

In Their Own Words

Sometimes the ICC's importance and message comes clearest from the volunteers.

- During the 2001 ICC Cleanup, in Penang, Malaysia, the chief minister Tan Sri Dr Koh Tsu Koon said that the city of Penang has declared war on garbage: "We don't want to be known as a garbage culture, but as one that is anti-garbage."
- "We're doing this in part to clean the waterways, but also to raise awareness of how important it is to maintain these areas and not to pollute them. Many people don't realize how many everyday things they do pollute waterways." – Forest Frasier, local organizer in Alameda County, California, USA
- "The aim of the clean-up and any publicity is to help raise awareness of the needless and irresponsible dumping of debris that is still happening in many areas and to encourage local communities to care for their fragile aquatic sites." - Sara Bowe, Marine Reserve Ranger, St. Abbs, Berwickshire, United Kingdom.

A Wossage Not Forgotion

Sometimes volunteers come away from their ICC experience with a little bit more than expected. Students from Frank Hurt Secondary near Mud Bay in British Columbia, Canada found among the cigarettes and other trash a very special bottle and message. The bottle contained the ashes of a deceased father and a note from the son who loved him. The note asked whoever found the bottle to take the ashes and spread them where they were discovered so the father could be at home once again. Life-long lover of the water and beachcomber, Tommy Lauge Christiansen, who was born in Denmark 1943, and died in 2001 in White Rock, Canada, was finally put to rest in Mud Bay in Western Canada by the volunteers who found his remains. The son who wrote the note was contacted by the students, and said, "He is in the home he loved. He was found as a piece of litter by volunteers doing what he tried to do. At this moment he is probably grateful, and laughing a little at the irony."

continued from page13

the conditions of life under the water. The top seven debris items remain the same between land and underwater areas, but the distribution of items among these top spots is quite different between land and underwater (Table on page 13). Bags and food wrappers (10,872 pieces at 15.29%) and beverage containers, both cans (9,720 underwater items at 13.67% and bottles (9.637 underwater items at 13.55%) and were the top three debris items found in underwater areas, followed by cigarettes and cigarette filters (6,492 underwater items at 9.13%). Underwater cleanups also had two items on its Top Ten list that did not appear among the Top Ten for land cleanups: clothing and cloth (1,941 individual items, representing 2.73% of the debris found), and tires (1,518 items, representing 2.13% of the debris collected) straws and stirrers, and fishing nets were the two items found on the Top Ten for land that were not among the Top Ten for underwater cleanups. For underwater cleanups, 85.42% of the debris items appearing on the Top Ten list can be attributed to shoreline and recreational activities, 11.82% related to smoking activities, and 2.76% can be associated with dumping activities.

What it Means ...

What appears on the Top Ten list provides an indicator of the types of



behaviors and activities that are contributing to the marine debris problem. Since 1990, cigarette filters, beverage bottles, cans, caps and lids, and straws have remained in this upper echelon of debris items. Most of these items are whole or remnants of waste from prepackaged food or beverage products—what we throw away after we have consumed or used the product.

The message seems clear: the only way to control marine debris is to stop littering. The impact of such a simple behavior would be profound. If people could prevent just these 10 items from becoming marine debris, our beaches and oceans would become 82% cleaner! Education and behavioral changes are the key to reducing debris pollution. Promoting the installation of adequate waste disposal facilities or the increase in waste removal may encourage people to alter their attitude towards littering.

The Dangers of Debris

Aquatic debris can have a devastating and often lethal effect on aquatic and marine wildlife. Many forms of marine and aquatic debris pose threats to wildlife.

Entanglement

Debris that entangles a living creature can hamper its mobility, prevent it from eating, or suffocate it. Some types of debris can inflict lethal cuts and wounds. Monofilament line. fishing nets, six-pack holders, and strapping bands are some of the more harmful culprits related to entanglements. Birds, for example, often become entangled in trash they have selected for nesting. According to a 1996 study by D.W. Laist and the most recent U.S. Marine Mammal Commission report in 1998, 136 marine species were reported in entanglement incidents, including six species of sea turtles, 51 species of seabirds, and 32 species of marine mammals,2,3 Debris that has wrapped around limbs and fins can cause circulation loss and amputation, especially as the animal grows. Animals slowed down by trailing debris are more vulnerable to predators. Heavy large plastic sheets and other large debris smother or trap sand-dwelling animals and drown those that must rise to the surface to breathe.

International – Entangled Animals

Debris Category	Amphibians	Birds	Fish	Invertebrates	Mammals	Reptiles	Total	Percent
		4.0	3			12 50 00 01 10 01	5	4,00%
balloon ribbon/string		23	22	-11		3.	59	47.20%
fishing line with hook/lure crab/lobster traps		1.	3				4	3.20%
fishing nets/rope		14	18	8	1	2	30	24.00%
plastic sheeting		1		1			2	1.60%
rope	1	1	2	3	3	1	11	8,80%
six-pack holders		3	3				6	4.80%
wire		1	1	2			4	3.20%
miscellaneous	1	3		100000000000000000000000000000000000000			4	3.20%
Total	2	35	52	25	4	7	125	
Percent	1.60%	28.00%	41.60%	20.00%	3.20%	5.60%		

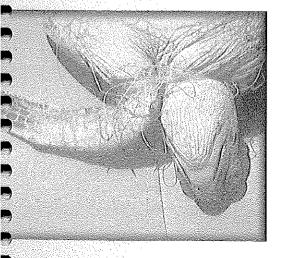
Ingestion

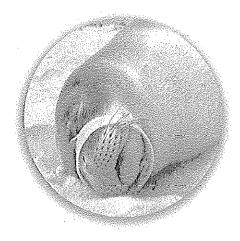
Ingested, debris can lead to strangulation or digestive problems. In 1998, the U.S. Marine Mammal Commission reported 177 ingestion incidents, affecting six species of sea turtles, 111 of the world's 312 species of seabirds, and 26 species of marine mammals. Sea turtles confuse floating plastic bags with jellyfish, one of their favorite treats. Seabirds, too, are vulnerable to the unintentional ingestion of debris because of their indiscriminant eating habits. Many animals cannot regurgitate an item once it has been swallowed, and it often becomes lodged in their throats and digestive tracts. Debris that will not pass out of the stomach gives a false sense of fullness, causing some animals to stop eating and slowly starve to death.

What We Found ...

The amount of trash collected during Cleanups gives us an idea of the hazards wildlife face daily with marine debris. Each year volunteers find animals entangled in pieces of trash. The 2001 ICC was no exception.

ICC data revealed that worldwide, volunteers found 125 animals entangled in some form of debris (Table on page 18). Most of the victims were fish—our volunteers found 52 of them—while birds (35 reported) were the second most frequently found entangled animal, and invertebrates (25 reported) were third. Fishing line





caused 59 entanglements, nets/rope were second with 30 entanglements, and rope was third, causing 11 entanglements. Volunteers also found animals entangled in plastic bags, plastic sheeting, wire, crab or lobster traps, and strapping bands.

What it Means ...

While the number of reported animal entanglements was lower in 2001 compared to the numbers reported in 2000, this does not necessarily reflect a decrease in the total number of entangled animals. Four of the top five forms of entangling debris in 2000 remained in the top five in 2001. While the actual number of incidents reported is lower, the overall trends remain the same, indicating that marine debris is still a major problem for wildlife. This lower occurrence of animal entanglements may also be due to the reduction in overall participation and the canceling of activities at many cleanup sites throughout the nation. Hence, not as many animals were encountered as there may have been. Further, the number of entangled animals reported during the ICC represents just one day's worth of information. We will never know how many animals suffer and die every year on the open sea, never to be recorded as a casualty of debris.

The amount of trash collected during the cleanup gives us an idea of the hazards marine wildlife face daily. The picture could have been much worse. During the 2001 ICC, more than 1.53 million cigarette filters, 933,856 bags

and food wrappers, 112,700 pieces of rope, 51,340 pieces of fishing line, 182,153 pieces of fishing nets, 55,121 balloons, 62,594 pieces of plastic sheeting or tarps, and 31,481 six-pack holders could have been ingested by or entangled unsuspecting animals. Remember, each piece of debris that enters the ocean or waterway has the potential to harm wildlife.

Peculiar Items

Even after 16 years of the ICC there remains an abundance of interesting and peculiar items found during the cleanup that are not normally found on the ICC data card. Worldwide, 3,476 interesting and/or peculiar items were found and recorded by volunteers during the 2001 ICC. To get a better sense of what kinds of weird and unusual items were being found on the nation's beaches, we compiled a list of these oddities, and grouped them into several categories, including household, personal, automotive as well as recreational items and valuables, etc.

Peculiar Item Categories Category Count ovi)(e)ss(e)(iv/o 45 Boats Separation and Administration Computer/Electronics/Music 124 40(0)(1)(1)(1)(1)(1) Household 905 Microfoss/Adjuster Miscellaneous 894 etaloralub/andre Oils/Tar 8 differential Recreational 429 and respond (to) Valuables 19 siV/statetetata/Austral/Hittetata

Total

3,476

Peculiar Items Found "Down by the Sea"

uring the 2001 International Coastal Cleanup, volunteers recorded finding 3,475 items that they thought were rather "peculiar." And we agree. We can't help but ask ourselves, "What are these things doing on our beaches and shorelines?" The list of "peculiar items" brings to mind a shopping spree. Let's browse some of imaginary businesses supplied with peculiar items available on our shores.

Used Auto Parts (automotive)

- Antique model truck
- Brake drum
- Car mats
- Car transmission
- · Car fan belt
- Car seat
- Car (whole)
- Car axles (4)
- Car radiator
- License plate
- Muffler
- Tire jack
- Jumper cable
- Headlights (2)
- Fuzzy dice



Hair & Accessories (Personal)

- Barrettes/scrunchies (15)
- Curlers (6)
- Fake fingernails (8)
- Hair net
- Hair pieces/weaves (10)
- Hair brush
- Combs (14)
- Curling iron
- Deodorants (6)
- Fingernail clippers (4)
- Mascara (3)
- Perfume (3)

Building Supplies (construction/nails/ pallets/lumber. tools/hardware)

- Aluminum fence.
- Barn door with strap hinge
- Chainsaw
- Construction barricade light
- Flight of stairs
- Hammer

- Hacksaw blades
- Hatchet
- Manhole cover
- Measuring tape
- Paint sprayer
- Pliers
- Razor wire
- Respirator mask
- Wheelbarrow
- Wire cutters
- 5-gallon paint pail
- 40 pounds of joint compound

Household

The Bedroom:

- Air mattress
- Air conditioner/fan
- Bedspread/quilt/ comforter/blanket
- Bed/boxspring/mattress
- Pillows (7)
- Shoe rack
- Wooden headboard and bed frame

The Nursery:

- Baby Crib
- Baby gate
- Baby stroller
- Play Pen
- Baby bottles (7)
- Baby pacifiers (30)

The Living Room:

- Chair frame and legs
- Couches (9)
- Couch/chair cushions/ pillows (7)
- Recliner
- Aquarium
- Artificial Christmas tree & ornaments

The Kitchen:

- Bag of rice
- Can opener
- Full gallon of milk
- Toaster oven
- Stove
- Water fountain

The Laundry Room:

- Washer and dryer
- Vacuum cleaner and attachments
- Ironing board
- Vertical blinds
- Sewing machine

The Bathroom:

- Bathtub
- Septic tank deodorant
- Shower curtain, rod, and drain
- Toilet
- Toilet brush
- Towel rack

The Garage:

- · Electric water heater
- Garage door with opener
- Mailbox
- Screen door
- Lawn mower
- Gas grill

Boats & Supplies

- Anchor
- Boat propeller
- Boat trailer
- Boat sink Hatch cover
- Safe boating book
- · Flare gun with flares
- Sailboat
- · Part of an oar

Comp-U-Beach (computers & supplies)

- Circuit board
- Hard drives (2)
- Computer chip
- Computer monitor
- Keyboard
- Palm pilot

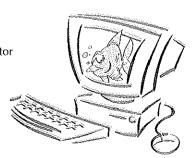
Sounds Of The Sea (music/electronics)

- 1980s boombox
- 21" TV
- 8-track tapes (4)
- Answering machine
- Beeper
- Cassette tapes
- CD player
- CDs (13)
- VHS tapes
- Walkman



Seaside Pharmacy (medical/drugs)

- Asthma inhaler
- Diabetic testing strips
- First aid supplies
- Urine drug test kit
- Hemorrhoid cream
- Glucose test
- IV bag with tubing
- IV bag with cords
- Oxygen tank
- Surgical instrument Urine sample
- Viagra pills
- Artificial teeth Birth control pills
- Human teeth
- Dental bridge
- Dental retainer Eye patch



Conclusion

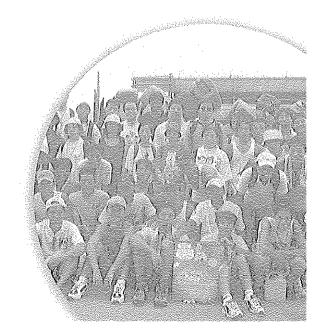
Since 1986, more than 4.7 million people in 118 countries and 55 U.S. states and territories have cumulatively collected more than 92.6 million pieces of debris, weighing in at almost 78.7 million pounds from over 117,200 miles of shoreline. During the 2001 Cleanup alone, over 4,200 different sites around the world and every major body of water were cleaned up during the event.

Despite these efforts, the problem of marine pollution is still a pervasive global issue. The Cleanup only accounts for collected debris on one specific day—millions of pounds of trash litter our beaches throughout the year, threatening wildlife and polluting the water. The Ocean Conservancy realized that it is no longer good enough to simply document the material forms of the debris collected; consequently, we now work to identify the sources and halt the activities responsible for pollution to stop litter and waste from becoming marine debris.

While laws and legislation can provide ways to

stem the flow of garbage into our oceans, they alone are not sufficient. As we mentioned earlier, marine pollution comes from people, not places. Therefore, educating the public on the significance that one plastic bag or a discarded wad of fishing line can have on the marine environment is vital to curbing behavior that fosters debris. Cities must also control their solid waste management facilities in an environmentally sound manner.

While our data shows that we are making some progress in the reduction of the amount of debris found each year, there is no end to the problem of marine debris in the immediate future. The Ocean Conservancy continues to share the lessons learned from the Cleanup to educate and enlighten the public, stakeholders, and policymakers. Marine debris is one of the most solvable pollution issues facing our planet. The 2001 ICC report is just one building block in The Ocean Conservancy's efforts to try and create long-lasting solutions to the problem of marine debris.



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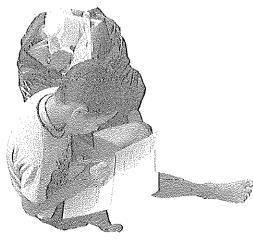
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International Raw Data Summary (Argentina - Dominican Republic)

Debris Item	Argentina	Australia	Bahamas	Barbados	Belize	Brazi
SHORELINE & RECREATIONAL ACTIVITIES						
bags/food wrappers	6,221	· 151	451	560	2,689	19,68
balloons	478	0	39	0	50	25
beverage bottles (plastic) 2 liters or less	6,859	47	752	318	1,398	11,77
beverage bottles (glass)	1,223	355	744	108	563	2,32
beverage cans	891	78	1,551	10	351	1,23
caps/lids	4,730	127	529	330	2,835	18,16
clothing/cloth	859	16	261	52	568	1,23
cups, plates/forks/knives/spoons	654	48	1,367	134	2,508	12,50
diapers	623	2	35	0	332	62
fast-food containers	774	51	273	28	578	15
six-pack holders	3,007	10	30	2	19	10
pull tabs	0	64	10	2	114	38
shotgun shells/wadding	82	0	29	0	11	00
straws/stirrers	1,672	58	221	20	1,244	26,42
toys	583	8	17	0	1,244	1,11
wys.	000	U	1/	v	07	1,11
OCEAN / WATERWAY ACTIVITIES						
bait containers/packaging	145	93	15	66	EOE	10
bleach/cleaner bottles	457	93 5	36		525	10
	288	<u> </u>		42	136	1,40
buoys/floats	A CONTRACTOR OF THE PROPERTY O		16	10	173	45
crab/lobster/fish traps	103	3		6	12	12
crates	257	0	21	16	= 14	
fishing line	135	353	32	46	42	46
fishing lures	208	161	8	12	5	41
fishing nets	101	10	25	104	21	33
light bulbs/tubes	159	0	28	16	27	38
oil/lube bottles	348		221	00	276	38
pallets	253		37	6	138	3,0
plastic sheeting/tarps	627	00	214	114	104	3,45
rope	829	47	103	466	79	1,03
strapping bands	187	12	22	114	36	
MOKING - RELATED ACTIVITIES						-
cigarettes/cigarette filters	7,222	207	45	28	186	30,82
cigarette lighters	338	5	7	18	39	75
cigar tips	226	62	3	2	112	
tobacco packaging/wrappers	654	48	25	30	. 44	
UMPING ACTIVITIES	· · · · · · · · · · · · · · · · · · ·					
appliances (refrigerators, washers, etc.)	13	0	4	0	26	
batteries	. 61	1	11	0	. 18	
cars/car parts	113	3	30	2	40	
construction materials	379	92	80	46	127	2,56
55-gal. drums	146	3	. 1	0	0	15
tires	117	3	16	2	157	17
IEDICAL / PERSONAL HYGIENE						
syringes	88	0	2	90	21	45
condoms	244	0	26	2	76	1,08
tampons/tampon applicators	369	0	9	4	13	11
otals	42,723	2,135	7,347	2,806	15,794	143,72

Brazil	British V.I.	Canada	Cayman Islands	Colombia	Costa Rica	Cyprus	Dominica	Dominican Republic
19,685	559	20,944	441	2,804	462	887	4,560	32
252	0	792	30	2	0	43	433	0
11,773	2,188	3,013	555	42	196	302	5,091	28
2,322	818	10,862	250	1,318	43	89	3,711	35
1,234	1,032	3,054	386	975	73	63	3,728	15
18,163	1,143	7,352	540	14	262	426	4,175	0
1,238	172	2,381	119	72	34	54	2,586	9
12,500	692	5,418	337	2	75	154	2,334	22
626	37	173	10	13	8	18	2,898	23
150	222	3,730	292	758	19	9	3,310	62
100	14	495	4	1	9	10	899	33
382	16	795	26	0	0	0	1,683	0
0	2	272	0	0	0	6	0	0
26,426	347	4,279	189	10	36	760	3,040	1
1,117	10	763	15	0	13	98	1,251	13
100	2	660	3	0	0	0	1,550	0
1,402	88	314	22	2	22	3	2,848	14
457	56	856	5	5	1	3	1,116	7
129	2	125	1	2	0	1	552	5
65	10	83	17	5	0	371	1,206	0
464	11	642	41	16	7	23	3,422	30
413	0	112	35	0	1	5	1,362	0
336	25	218	6	1	3	53	1,790	4
382	15	111	16	5	1	31	1,202	4
381	92	395	31	77	12	2	2,720	21
3,017	3	78	1	151	1 .	1	398	3
3,459	271	2,987	8	587	18	8	2,835	0
1,033	192	5,352	25	2	88	234	2,602	6
	41	1,007	24	7	3	2	656	11
30,827	79	42,297	246	11	93	5,979	373	20
756	57	566	34	9	10	3	263	5
0	0	5,423	55	3	0	0	20	0
0	22	2,641	60	0	16	16	493	20
0		78	1	1	0	0	86	1
2	10	101	0	17	2	3	235	13
0	53	837	4	0	0	1	349	5
2,563	52	3,536	4	215	0	5	314	0
151	3	30	3	0	0	0	83	0
171	17 .	189	. 2	48	0	36	362	8
457	9	190	13	1	2	15	885	0
1,082	13	267	35	0	0	14	743	10
112	. 14	388	15	3	0	3	485	0
143,727	8,390	133,806	3,901	7,179	1,510	9,731	68,649	460

International Raw Data Summary (Ecuador - Madagascar)

Debris Item	Ecuador	Egypt	Gabon	Greece	Grenada	Guyana	Но
HORELINE & RECREATIONAL ACTIVITIES						ALL AND	
bags/food wrappers	4,202	3,293	10,572	2,095	3,219	273	
balloons	459	0,200	148	7	153	1	
barroons beverage bottles (plastic) 2 liters or less	9,400	6,506	6,628	3,148	2,182	715	
beverage bottles (glass)	5,707	1,081	2,499	391	1,252	106	
beverage cans	2,932	580	2,468	676	1,150	8	
caps/lids	10,723	806	5,914	900	1,111	494	
clothing/cloth	1,921	175	3,549	144	545	98	
cups/plates/forks/knives/spoons	3,297	915	5,804	664	1,567	115	
diapers	1,461	130	1,041	20	167	0	
fast-food containers	2,711	323	1,834	518	1,487	19	
six-pack holders	8,796	020	477	23	48	1	
	0,790	0	169	509	92	0	
pull tabs				6	15	1	
shotgun shells/wadding	197	1,035	0 0 47	494	922	27	
straws/stirrers	6,084	1,646	247		922	3	
oys	752	8	80	85	97	3	
CEAN / WATERWAY ACTIVITIES						Of Standaryman,	
bait containers/packaging	308	39	3,272	14	1,252	0	
bleach/cleaner bottles	1,482	9	4,144	27	1,344	166	
buoys/floats	1,152	32	2,740	2	88	50	
crab/lobster/fish traps	360	. 11	177	3	35	0	
crates	363	6	348	10	91	0	
fishing line	414	129	391	48	143	23	
fishing lures	164	0	407	6	43	6	
fishing nets	1,087	33	1,830	21	91	145	
light bulbs/tubes	302	12	493	31	30	74	2545A
oil/lube bottles	1,912	8	3,150	52	298	164	<u> </u>
pallets	865	2	19	5	29	0	377
plastic sheeting/tarps	832	30	1,259	186	418	9	
F. 44.7	3,008		228	49	286	221	
rope	3,008	75	127	22	115	21	14 (4) (4)
strapping bands	343	. 0	127	. 22	IIU	21	
MOKING - RELATED ACTIVITIES						Value of the Control	
cigarettes/cigarette filters	9,965	15,048	5,869	2,511	847	116	
cigarette lighters	276	159	4,730	181	125	25	
cigar tips	228	0	0	156	225	0	
tobacco packaging/wrappers	1,955	1,274	0	740	267	0	
						O PERSONAL PROPERTY AND ADMINISTRATION OF THE PERSONAL PROPERTY AN	
IMPING ACTIVITIES appliances (refrigerators, washers, etc.)	16	3	0	15	5	0	
	85	0	0	53	101	0	
batteries	126	4	0	42	115	1	
cars/car parts		146		132	111		
construction materials	1,151 61	3	1,281 305	3	30	12	
55-gal. drums				392		0	
tires	116	34	138	392	89	O	
EDICAL / PERSONAL HYGIENE		XXXXIII - XXXIII - X				nt April announce	
syringes	202	1	3,377	12	29	2	
condoms	224	0	2,556	22	128	1	
tampons/tampon applicators	149	3	888	2	42	2	
•		· · · · ·	<u></u>			makenda ki ara j	
otals	85,788	33,559	79,159	14,417	20,384	2,899	

Hong Kong	Hungary	Indonesia	Jamaica	Japan	Jordan	Kenya	Kuwait	Madagasca
3,245	366	479	251	44,356	27	9,954	164	140
47	58	0	0	203	0	592	0	0
3,505	561	144	361	20,660	11	4,267	118	139
1,441	159	63	49	10,858	3	1,953	118	2
1,092	32	52	47	25,918	22	1,928	298	0
5,125	19	11	74	18,484	38	1,915	252	0
821	29	91	18	3,001	2	8,802	58	210
2,471	27	11	161	3,406	63	410	111	0
10	0	0	1	229	8	710	3	0
1,122	80	10	76	14,971	232	992	53	0
200	2	2	0	82	0	139	0	0
. 296	0	0	0	1,448	0	59	65	0
108	0	0	0	51	0	106	10	0
992	0	38	181	3,503	0	1,231	69	0
282	18	5	2	1,606	0	948	5	0
						•		
161	0	2	0	473	0	402	29	0
142	4	0	0	1,981	Ō	418	2	0
314	0	142	0	2,994	0	871	14	0
64	0	0	0	324	7	149	2	0
137	0	0		82	0	93	<u>-</u>	0
271	70	59	0	817	0	293	41	84
32	2	1	0	395	0	103	39	0
322	0	60	0	589	0	375	5	0
263	0	15	0	409	0	92	5	. 0
97	0	5	0	235	0	383	8	0
631	0	0	0	18	Q	39	0	0
688	19	6	0	0	0	2,035	11	0
551	0	141	0	6,566	1	1,513	55	0
178	0	0	0	1,302	3	337	28	Q
4,166	3,776	112	2	70,541	0	4,034	558	O
610	40	6	0	4,396	0	489	15	0
137	2	0	0	260	0	274	155	0
328	6	33	0	3,384	0	482	35	0
34	23	1	0	69	0	3	1	0
124	24	14	0	280	0	1,756	2	0
112	22	1	0	98	0	53	3	0
451	21	3	0	9,623	0	559	49	0
20	3	3	0	72	0	17	0	0
34	4	3	0	305	1	172	3	0
131	0	3	Ō	156	0	171	2	0
26	11	0	0	64	0	282	0	0
4	21	0	0	63	0	54	0	0
30,785	5,399	1,516	1,223	254,272	418	49,455	2,390	575

International Raw Data Summary (Malaysia - Seychelles)

Debris Item	Malaysia	Malta	Mauritius	Mexico	Micronesia	Netherl Antill
SHORELINE & RECREATIONAL ACTIVITIES						
bags/food wrappers	483	93	87	5,989	91	89
balloons	28	11	5	202	1	· · · · · · · · · · · · · · · · · · ·
beverage bottles (plastic) 2 liters or less	479	38	170	5,174	16	13,62
beverage bottles (glass)	291	9	89	7,238	36	1,63
beverage cans	255	9	58	1,933	341	1,21
caps/lids	274	1	110	8,303	1	1,68
clothing/cloth	87	7	40	1,145	47	52
cups/plates/forks/knives/spoons	151	62	74	2,874	18	1,52
diapers	5	0	4	542	2	(
fast-food containers	208	3	43	835	0	7:
six-pack holders	1	1	13	765	37	8
pull tabs	24	0	7	363	0	11
shotgun shells/wadding	3	0	0	161	0	
straws/stirrers	287	0	11	1,317	6 -	1,20
toys	140	2	18	155	0	38
CEAN / WATERWAY ACTIVITIES						
bait containers/packaging	44	0	0	168	1	14
bleach/cleaner bottles	45	5	13	478	8	2
buoys/floats	23	0	17	128	1	1
crab/lobster/fish traps	0	0	24	151	1	
crates	2	1	3	62	j	
fishing line	61	2	27	116	36	29
fishing lures	10	0	2	68	1	-
fishing nets	37	0	0	225	2	1
light bulbs/tubes	40	0	2	100	0	
oil/lube bottles	43	00	12	476	35	26
pallets	4	2	0	242	0	
plastic sheeting/tarps	189	7	0	275	18	54
rope	161	3	20	779	5	9
strapping bands	54	0	0	104	0	1.
					Problem (1	
MOKING - RELATED ACTIVITIES						
cigarettes/cigarette filters	597	0	24	2,544	14	8:
cigarette lighters	136	1	3	183	1.	1
cigar tips	80	0	0	447	1	
tobacco packaging/wrappers	63	2	0	628	34	1
UMPING ACTIVITIES						res - North St. March
appliances (refrigerators, washers, etc.)	3	0	0	0	0	
batteries	77	0	2	41	146	14
cars/car parts	11	3	<u> </u>	98	4	35
construction materials	33	10	10	324	21	52
55-gal. drums	1	0	0	38	3	
tires	7	3	20	69	0	5
EDICAL / PERSONAL HYGIENE				- 3	:	
syringes	. 7	0	4	40	1	
condoms	6	0	10	53	1	
tampons/tampon applicators	7	0	0	149	1	
						:
otals	4,457	275	923	44,982	932	29,07

Netherlands Antilles	New Zealand	Nigeria	Norway	Papua New Guinea	Peru	Philippines	Saudi Arabia	Seychelles
891	1,152	107,010	555	146,342	40,459	36	547	2
24	0	0	25	2,147	1,350	0	15	0
13,627	80	0	75	78,000	47,401	58	633	2
1,632	590	810	23	5,799	5,200	41	434	9
1,210	260	22,407	29	60,225	1,416	13	984	1
1,689	247	44,631	234	63,789	4,580	2	205	0
528	31	9,708	35	4,167	4,520	1	101	0
1,528	21	124,310	100	26,032	28,475	5 .	451	1
30	3	0	4	5,918	1,870	1	67	0
726	17	73,961	51	31,734	2,201	0	278	0
86	2	0	5	656	0	0	75	0
118	27	0	17	1,750	0	0	93	0
13	4	0	14	0	0	0	0	0
1,205	29	0	221	87	7,425	29	158	0
381	2	109,572	30	1,257	6,799	0	61	0
551	-	100,072		,,===.		A CANAGE AND A CAN		v
142	2	0	5	6,816	18	0	2	0
255	0	10	16	30,902	4,637	0	8	0
118	0	0	9	3,937	2,387	0	11	0
64	0	1,985	4	14	114	0	56	0
65	1	67,119	5	315	1,181	0	21	1
290	5	7,945	172	0	763	6	41	10
290	1	7,940	3	0	600	0	7	0
116	0	159,806	40	1	889	1		
45	0		The state of the s	1,004	412	2	9	0
		1,592	2			1	3	0
269	0	0 01 000	3	8,306	10,072		9	0
47	0	61,332	0	6	292	0	32	0
545	14	0	97	0	1,822	0	2	2
973	12	10,388	803	48	2,389	18	58	0
143	5	0	65	1,333	0	1	13	0
835	481	6,709	1,345	0	3,827	22	186	0
125	3	15	1,343	9	1,697	4	13	0
72	10	3,616	126	0	50	0	19	0
100	25	1,853	30	2	2,708	3	47	0
3.		1,000						v
1	0	0	3	18	16	0	1	0
142	1	78,350	2	785	138	3	17	0
358	15	50,570	6	10	1,717	0	49	0
524	35	15,203	14	424	50	0	68	0
0	5	0	1	22	311	0	2	0
56	6	111,965	1	31	2,013	0	23	0
51	0	6,103	2	99	2,181	0	0	0
27	0	20,885	0	351	1,110	0	3	0
1:	10	0	3	2,880	447	1	19	0
29,075	3,096	1,097,855	4,184	485,216	193,537	248	4,821	28

International Raw Data Summary (Singapore - Venezuela)

Debris Item	Singapore	South Africa	South Korea	Sri Lanka	St. Vincent/ Grenadines	St. Kitts & Nevis	G 3
SHORELINE & RECREATIONAL ACTIVITIES							
bags/food wrappers	14,112	108	1,059	74	79	503	
balloons	85	7	23	0	0	19	
beverage bottles (plastic) 2 liters or less	5,657	141	889	132	21	811	
beverage bottles (glass)	912	111	690	59	35	380	
beverage cans	585	115	924	43	15	248	
caps/lids	2,135	145	1,016	58	11	500	
clothing/cloth	765	26	272	5	4	201	
cups/plates/forks/knives/spoons	2,097	55	527	28	17	488	
diapers	65	9	14	0	0	19	
fast-food containers	1,941	67	441	15	1	90	
six-pack holders	12	20	7	0	0	2	
pull tabs	346	78	50	0	0	6	
shotgun shells/wadding	0	1	258	3	0	3	
straws/°stirrers	7,818	74	172	70	4	63	Hij. St.
toys	328	40	86	0	0	8	
	7-7						
OCEAN / WATERWAY ACTIVITIES						;	
bait containers/packaging	0	7	342	31	0	19	
bleach/cleaner bottles	270	13	112	6	5	68	
buoys/floats	91	0	283	70	0	33	
crab/lobster/fish traps	78	0	129	2	0	6	[64]
crates	37	4	28	0	0	19	
fishing line	160	23	136	23	3	55	13.75
fishing lures	185	0	92	0	0	1	
fishing nets	155	2	151	18	0	49	
light bulbs/tubes	127	11	36	47	1	9	
oil/lube bottles	171	6	89	61	11	139	
pallets	118	7	16	4	0	5	
plastic sheeting/tarps	959	15	432	15	0	23	
rope	739	2	532	28	11	93	
strapping bands	425	8	33	8	2	34	
on opping some							
SMOKING - RELATED ACTIVITIES		j.					
cigarettes/cigarette filters	8,924	152	1,830	168	1	53	
cigarette lighters	409	34	112	2	0	1	
cigar tips	0	67	48	0	0	10	
tobacco packaging/wrappers	0	68	103	0	4	17	
DUMPING ACTIVITIES	40	10	48	0	0		
appliances (refrigerators, washers, etc.)	13 56	10 12	48 20	76	3	14	
batteries			19	1	0	10	
cars/car parts	29	18	110	0	10	27	****
construction materials	200	10		0	Charles and the same of the sa	96	
55-gal. drums	20	0	7		0	10	
tires	91	76	39	9	1	38	
MEDICAL / PERSONAL HYGIENE				^.	The state of the s		
syringes	21	24	10	21	0	2	
condoms	74	13	1	0	0	15	
tampons/tampon applicators	13	15	1	0	0	4	
Totals	50,223	1,594	11,187	1,077	239	4,191	

St. Lucia	Tanzania	Thailand	Turks & Caicos Islands	United Arab Emirates	United Kingdom	United States	Venezuela	Total
6	11	0	636	1,948	24,454	443,259	788	933,856
0	0	0	12	0	1,202	46,177	1	55,121
12	7	8	1,415	1,330	11,815	189,591	270	448,759
18	3	5	4,463	238	1,766	205,772	354	285,130
2	13	0	3,682	1,208	5,248	202,983	206	355,057
0	30	0	501	163	18,545	306,428	1,342	541,432
1	6	4	178	100	1,868	50,836	159	102,727
6	6	9	642	597	9,194	196,018	348	439,401
1	0	Ö	4	4	584	7,565	74	25,363
0	3	2	240	13	1,564	73,477	50	222,645
0	0	Ō	108	0	369	14,919	0	31,481
0	0	0	45	3	0	39,094	0	47,751
0	0	0	2	0	1,085	17,824	0	21,302
0	12	0	49	10	1,976	151,660	483	226,903
0	0	0	8	85	1,135	32,510	53	160,536
y	v		Ü		1,100	02,010	00	100,000
0	0	0	39	270	14	19,855	0	36,886
0	0	0	139	2	1,245	10,842	73	64,262
0	0	0	35	1	1,020	17,457	85	37,101
0	0	3	19	0	23	5,463	44	10,254
0	0	0	34	2	58	2,640	0	74,798
0	0	13	94	3	5,463	27,828	18	51,340
0	0	ō	0	0	146	10,593	0	15,252
0	0	17	48	0	7,003	6,281	48	182,153
0	0	0	4	6	129	4,980	9	12,284
0	0	0	141	71	491	11,582	16	42,899
0	0	0	9	0	34	2,190	0	70,037
0	0	0	36	150	0	41,268	0	62,594
0	0	3	158	283	13,711	57,591	140	112,700
. 0	0	0	31	0	2,420	20,367	0	29,644
	~		٠.		-,		Ž.	
0	37	13	234	40	8,210	1,286,116	317	1,527,837
0	2	2	11	1	883	22,856	21	39,695
. 0	0	0	2	1,860	5	57,792	1	71,549
0	6	0 :	80	303	1,312	48,786	226	68,973
0	0	0	7	0	64	1,234	0	1,813
. 0	6	15	6	0	0	5,241	0	88,062
. 0	0	0	48	0	225	10,217	48	65,488
0	15	0 .	73	70	34	49,579	95	87,960
0	0	0	3	0	77	890	13	2,340
0	0	0	5	0	164	7,196	10	124,242
	0	0	2	0	92	2,245	37	16,801
	<u> </u>	3	27	0	602	7,339	4	36,350
0	0	0 .	3	0	696	10,261	31	17,185
46	157	97	13,273	8,761	124,926	3,726,802	5,364	6,847,963

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1 (Goe, James M. & Rogers, Donald B., eds., Marine Debris: Somess, Impacts and Solutions. New York: Springer Verlag, 1997.

-2 Taist, D.W. 1990 Entranglement of marine life transame debus including a comprehensive list of species with entenglement and ingestion records. Pages 99-1899 in J.M. Coe and D.R. Rogers, eds., Marine Debus, Sources, Impacts, and Solutions. New York Springer Verlag.

³ Marine Mammal Commission, (1998) Annual Report to Congress (1997) Washington, D.C., Pages: (174-)176.



The Ocean Conservancy

Advocates for Wild, Healthy Oceans

1725 DeSales Street, NW Suite 600 Washington, DC 20036 www.oceanconservancy.org