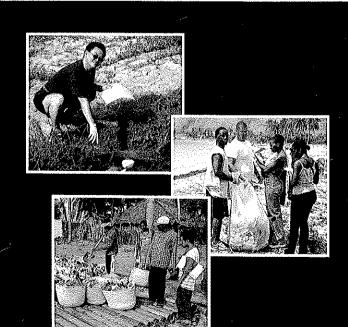


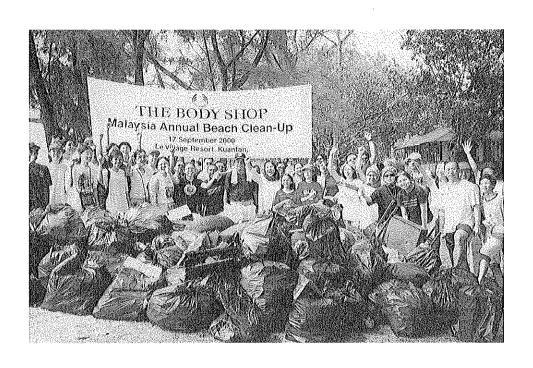
# 2000 International Coastal Cleanup

International Results





Formerly the Center for Marine Conservation



# 2000 International Coastal Cleanup International Results

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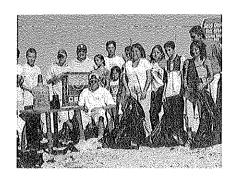
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# Contents—International Results







# Overview

Acknowledgments
The Problem of Marine Debris
Sources of Debris
The International Coastal Cleanup $\ldots$ $\ell$
he 2000 Cleanup
Results &
Sources of Debris
Coordinators
People, Pounds and Miles
Total Number of Items Collected
Highlights
Sources of Debris
The Dirty Dozen
The Dangers of Debris
Beyond the Cleanup
Storm Drain Stenciling
National Marine Debris Monitoring Program
Local Solutions
ppendices
International Sponsors
Raw Data Summary

# **Overview**

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 began in 1986 as an effort by an Ocean Conservancy employee to retrieve unpleasant debris from the Texas coast. Today, hundreds of thousands of people from all over the world remove trash and litter from their local beaches and waters while recording important data on what they find.

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.

The International Coastal
Cleanup is the largest marine pollution cleanup effort currently in existence. The event heightens public awareness about the vast problem of marine debris, but more importantly, it unites citizens from across the United States and many other nations in an attempt to do something about pollution in their communities. 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.



2000 ICC



# Acknowledgments

Our deepest gratitude and sincerest thanks goes to the hundreds of thousands of enthusiastic individuals who make the International Coastal Cleanup a success every year. Armed with trash bags and data cards, and adorned in everything from gloves to scuba gear, rain jackets to sunscreen. our volunteers go forth on land and in water to retrieve the litter and trash their neighbors have left behind. We salute those volunteers who return to the Cleanup year after year, and your commitment to a cleaner and healthier ocean. For those volunteers who were first-time participants, we extend a heart-felt "thank you" for a job well done.

The International Coastal Cleanup simply would not happen without our country coordinators who spend an immeasurable about of time preparing for the Cleanuplining up sponsors, volunteers, publicity, and thank-you gifts- and organizing the marine debris data. So many of you go the extra mile to assure a successful and entertaining Cleanup for everyone involved. Thank you for your hard work, your willingness to volunteer your time, and for your dedication to this important cause. (A list of the 2000 international coordinators can be found on page 9.)

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. Sponsors of the International Coastal Cleanup program are listed on page 2; country and local sponsors are listed beginning on page 29.

# The Problem of **Marine Debris**

Our oceans, lakes, and rivers are an economic livelihood and a recreational escape for people across the globe. Yet, in spite of their importance in our everyday lives, our oceans and waterways are threatened daily by an influx of marine debris,

Marine debris is the term for any manufactured item that ends up as trash in our oceans or waterways. 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 the lakes, rivers, and streams that lead to the ocean. Whatever its size, shape, or composition, trash poses a significant threat to beachgoers, coastal communities, and especially marine ecosystems.

At its most benign, trash detracts from the aesthetic beauty of a waterfront landscape. But marine debris is also a human health and safety hazard. Floating fishing line, rope, and



Fishing line around boat propeller.

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.

Marine debris is particularly dangerous and often lethal to marine wildlife. Floating plastic bags deceive sea turtles into thinking they are delectable jellyfish. Seagulls and other shore birds mistakenly swallow cigarette filters instead of food. Fishing lines, abandoned fishing nets, rope and plastic six-pack rings all are known to entangle marine animals, maiming and even killing them.

Marine debris won't disappear by itself. In fact, it will probably get worse. As the human population grows, so will our trash, increasing the probability that it will ultimately end up in our oceans and waterways, In addition, technology continues to make more and more of our goods stronger, more durable and lighter in weight, which means that the debris lasts longer and travels farther.

# Sources of Debris

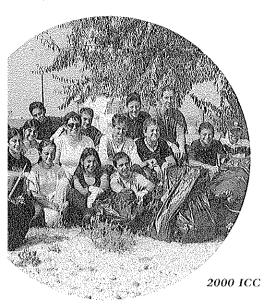
Simply stated, the source of all debris is human activity. People produce waste, and if waste is not handled appropriately it will, in all likelihood, become marine debris. Areas closest in proximity to large cities of course have greater pollution problems. But once in water, debris can travel, and depending on ocean current patterns. climate and tides can land thousands of miles from its origin.

The Ocean Conservancy classifies debris as either land-based or oceanbased. It can be difficult to pinpoint the origin of many items to one source. If no definitive source can be determined, then items are attributed to general sources.

Ocean-based sources of debris typically include commercial fishing vessels; recreational boats and cruise ships; merchant, military, and research vessels; and offshore petroleum platforms and their associated supply vessels. Debris may be introduced accidentally-such as when a fishing line snaps or boater's hat blows off of his or her head—or it could result from illegal and thoughtless dumping practices.

The at-sea disposal of solid waste has been prohibited in most of the world's waters since 1988, when Annex V of the MARPOL Treaty went into effect. MARPOL is an international agreement governing the shipboard disposal of hazardous materials; Annex V covers solid

# International Results



waste. Although some countries have not ratified Annex V, cleanup data in recent years indicates that debris from ocean sources is declining.

Land-based debris enters the water from a source on land, such as recreational beachgoers 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.

Even trash that originates miles from the coast can travel by sewage pipe, storm drain, or other waterway into the ocean. When public wastewater treatment facilities back up during periods of heavy rain, for example, the wastewater is diverted into the nearest natural waterway, dumping tampon applicators, condoms, and other waste into the ocean, Likewise, some storm water systems discharge directly into waterways, not into water treatment facilities. Thus, litter discarded on city streets, sidewalks and yards will likely be carried into the ocean via a storm drain.

# The International Coastal Cleanup

Fifteen years ago, about 2,800 residents in the state of Texas, USA, removed 124 tons of trash from 122 miles of coast, during The Ocean Conservancy's first beach cleanup. Similar efforts in other communities multiplied, and by 1988 the Cleanup had become a national event, with cleanups in every coastal state.

Cleanups in Canada and Mexico made the 1989 cleanup an international event, and participation by other countries has increased every year. To date, people in more than 100 countries have rid their shorelines, oceans, rivers, lakes, and other waterways of tons of marine debris.

The cleanup volunteers spend

three hours, usually on the third Saturday of September (although the date varies depending on local conditions), combing their beaches for shiny food wrappers, discarded cigarette filters, deflated balloons, and other pieces of litter. Year after year, participants express their surprise at the discarded clothing, junked appliances, and other unusual items they find on the beach.

Some adventurous volunteers dive for debris under the water as well. Much of the debris they find has probably been on the ocean floor or river bottom for many years. Often barnacles, oysters, starfish, sea coral and other marine or aquatic life have adopted this forgotten debris as part of their habitat. Divers have the added challenge of decid-



2000 ICC

# ing whether removing the debris is worth destroying these improvised homes.

Volunteers in the International Coastal Cleanup record every piece of trash they collect on detailed, standardized data cards provided by The Ocean Conservancy. The data card lists 81 items volunteers are likely to encounter on beaches and waterways.

Recording each piece of debris found during the Cleanup is a tedious, but necessary, job for the volunteers if we are to better comprehend what types of debris are found along our beaches and waterways and create lasting solutions to the problem.

The data cards are compiled, analyzed, and tracked year by year, revealing possible patterns in marine debris in a region 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 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.

# **New Improved Data Card**

rom the first cleanup in 1986, The Ocean Conservancy knew that it was not enough simply to clean the beaches. To have any kind of lasting impact the Cleanup would also need to provide hard data on the types and quantities of the debris.

The first data cards contained 34 possible items volunteers might find, based on the kinds of debris found in the Gulf of Mexico. As the Cleanup



expanded to other regions, new items were added to the card as volunteers recorded them in the "Other" category. Cigarette butts are the most famous example. By 1990 the list of items topped out at 81, categorized by what the debris was made of (wood, plastic, foamed plastic, rubber, metal, glass, paper, or cloth).

The Ocean Conservancy will be changing the data card in

2001 to reflect what we have learned in 16 years of collecting data on marine debris. The Ocean Conservancy's database currently contains over 70 million pieces of data from more than 100 countries; the types and quantities of debris, as well as its impact on coastal communities and marine wildlife, are well documented.

It is now time for the Cleanup to focus on the activities, sources, and behaviors producing the debris.

Thus, the 2001 data card will contain fewer items—those debris items found consistently and in the greatest quantities and locations—and will be categorized by the activity or source likely to have produced it: beach/shoreline and recreational activities, ocean/waterway activities, smoking related activities, dumping activities, and sewer waste.

Determining the source of the debris has always been integral to Cleanup data analyses, but the original data card could not provide enough information from which to draw many firm conclusions.

The Ocean Conservancy spent nearly two years developing the new data card, in consultation with Cleanup coordinators, volunteers, and the Cleanup Advisory Council. We believe the new card will reveal even more about where marine debris comes from, and will lead to better, permanent solutions for controlling our wayward trash.

# The 2000 Cleanup

# Results

Turnout for the 2000 International Coastal Cleanup reached 844,867 individuals in seventy-three countries. These volunteers covered over 20,700 miles on shore and underwater. Together, they picked up 10,700,498 pieces of debris weighing over 13.5 million pounds! (See chart page 12)

Among the volunteers were 14,309 divers who retrieved 226,912 pounds of trash from underwater, covering a combined area of about 1,629 miles. They removed 132,608 pieces of debris from below the water's surface.

# Sources of Debris

# **WHAT WE FOUND**

Most (54.29%) of the debris found during the 2000 Cleanup was attrib-

uted to land-based sources such as beach-picnickers, inappropriate or illegal dumping, and general littering (see large pie chart page 18). This margin has remained fairly consistent from year to year. The percentage of debris attributed to ocean-based sources, such as recreational boats and commercial fishing, was comparatively low at 12.56%. Almost one third (33.15%) of the debris could not be specifically attributed to either land-or ocean-based sources and could have come from either source.

Interestingly, the underwater-only breakdown shows a higher percentage of land-based debris (65.54%) than the land-only cleanup (54.15%) (see small pie charts page 18). The percentage of ocean-based debris found on land was slightly higher than the ocean-based debris found underwater.

"A great picnic" followed our cleanup— all trash went in the place it's suppose to go—the trash can, not the water!"

— Claudine Farquhar, coordinator for the cleanup in Bala, Ontario, Canada

# **WHAT IT MEANS**

If people around the world could eliminate land-based sources of pollution only, our beaches and shorelines would be 60% cleaner-without anyone having to pick up a single piece of beach trash. Discarding our trash only 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, update old sewer systems, and enforce anti-dumping laws. Improvements in recycling of goods and materials would keep even more debris off of our beaches and out of our waterways.

(text continues page 19)



2000 ICC

# International Coordinators

ur thanks and praise go to the ICC coordinators whose time and energy made the 2000 cleanup a funand safe event for everyone.

The international coordinators for the 2000 Cleanup are:

# Argentina

Daniel Rolleri, Geographic Society of Patagonia & Antarctica

Bahamas – Nassau

Lynn Gape, Bahamas National Trust

# Barbados

Madge Dalrymple, Ministry of Tourism

# Belize

Hilberto Riverol, The Scout Association of Belize

# Benin

Dr. Roger Djiman, Benin Center for Technology & Science Research (CBRST)

### Bermuda

Lennox Boodram, Keep Bermuda Beautiful

# Brazil

Salvatore Siciliano, Museu Nacional/UFRI

# British Virgin Islands

Orville Phillip, Conservation & Fisheries Department, Ministry of Natural Resources & Labor

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# Canada

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

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# Croatia

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# Cyprus

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# Dominica

Terry Raymond, Dominica Conservation Association

# Dominican Republic

Patricia Lamelas, CEBSE, Inc.

### Ecuador

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Guillermo Santa Maria, Programa de Maneja de Recursos Costeros

Cap. Miguel Mosquera B., Asociacion de Guias de Galapagos

Sergio Bazan, Asociacion de Guias de Galapagos

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### Gahon

Serge Akagah, ONG Les Amis du Pangolin

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Ypatia Mitsatsou-Aravantinou. HELMEPA/HELMEPA JUNIOR

### Grenada

Joseph Antoine, Friends of the Earth Grenada

Stacyann Moses, Friends of the Larth Grenada

# Haiti

Jean Wiener, Fondation pour la Protection de la Biodiversité Marine (FoProBiM)

# Hong Kong

Frazer McGilvray, IMA Hong Kong

### Indonesia

Hani Taufik, Yayasan JARI

# Israel

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# Jamaica

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

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

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

Edo Heinrich-Sanchez, Okinawa International Clean Beach Club

Kenny Ehman, Okinawa International Clean Beach Club

### Kenva

Dr. Rene Haller, Baobab Trust

### Kiribati

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### Kuwait

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# Latvia

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# Malaysia

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### Malia

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Marcela Morales Martinez, Secretaria de Ecologia

Kerri McDaniel Rivera, The Bay and Beach Cleanup Group

Yael Bali, Planeta Limpio A.C.

Kenia Castañeda Nevárez, Intercultural Center for the Study of Deserts and Oceans

Jose Ruiz Silva, Sria. de Ecologia del Gobierno del Estado de Yucatan

Luis Armando Ruiz Sosa, Sria. de Ecologia del Gobierno del Estado de Yucatan

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Katrina Adams, Kosrae Village Resort

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

# **Netherlands Antilles**

Imre Esser, Sea Turtle Conservation Bonaire

Corine Gerharts, Sea Turtle Conservation Bonaire

George Jonkhout, Reef Care Curação

David Kooistra, Saba Marine Park

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

### New Zealand

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# Nigeria

Prince Ene Baba-owoh, Clean-Up Nigeria

# Norway

Alec Riedel, International School of Stavanger

# Panama

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# South Africa

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# St. Kitts & Nevis

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# St. Lucia

Charmaine Nathaniel, St. Lucia National Trust

# Thailand

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# Tonga

Jennifer Dudley, Tonga National Youth Congress

# Turkey

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# Turks and Caicos Islands

Michelle Fulford, TCI Coastal Cleanup Organization

# **United Arab Emirates**

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# United Kingdom

Samantha Pollard, Marine Conservation Society

Greg Brina, Marine Conservation Society

Amy Hinks, Marine Conservation Society

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# PROFESSIONAL ASSOCIATION OF DIVER INSTRUCTORS (PADI)

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# **PADI Europe**

Thomas Sobotta

Pascale Cerovolo

### PADI International

Suzanne Pleydell

Erika Hoffman

# PADI Japan

Tatsuya Kitsukawa

# **PADI Norway**

Trond Skaare

# PADI Sweden

Immi Wallin

Hans Olsson

# In Wemoriam

t is with shock and regret that we note the tragic and untimely passing on May 1, 2001 of Eudora Ene Owoh of Nigeria.

Eudora, or Didi, as she was fondly called by all who knew her, was a tireless and energetic supporter of the International Coastal Cleanup. Since 1997, she relentlessly promoted the ideals of the Cleanup throughout Nigeria and appealed to politicians, cabinet members and state governors to join the cause. She donated her own money to ensure the success of both the 1999 and 2000 Nigerian Cleanups, and her efforts in recruiting schools in Port Harcourt made the 2000 International Coastal Cleanup the most successful ever in Nigeria. Eudora's personal commitment to educating others about marine debris, raising funds for local cleanups, promoting responsible solid waste management, and improving the quality of life in local communities inspired those who had the opportunity to meet her. She had an ability to bring out in people the spirit of cooperation and volunteerism. We were privileged to know Eudora, and will miss her dedication and enthusiasm to the cause of the environment.

Eudora was killed in a car accident days after her wedding to Prince Ene Baba Owoh, Jr. We extend our deepest condolences to Prince Owoh and their families.

# People, Pounds and Miles—2000 International Coastal Cleanup

Cleanup Territory		Land			Underwate	<b>*</b>		Total	
	People	Pounds	Miles	People	Pounds	Miles	People	Pounds	Miles
Argentina	2,076	22,784	10.40	32	NR	NR	2,108	22,784	10.40
Bahamas	141	1,578	5.00			—	141	1,578	5.00
Barbados	180	3,400	6.00	45	1,080	0.50	225	4,480	6.50
Belgium				90	NR	NR	90	NR	NR
Belize	852	6,747	22.25	13	75	0.52	865	6,822	22.77
Bermuda	750	25,000	NR	,			750	25,000	NR
Brazil	4,599	23,669	56.13	151	2,547	12.12	4,750	26,216	68.25
British Virgin Islands	14	100	1.00	6	55	0.50	20	155	1.50
Canada	3,960	46,984	132.71	373	12,243	7.23	4,333	59,227	139.94
Cayman Islands	21	392	6.25	113	108	6.25	134	500	12.50
Colombia	1,152	11,132	14.86	271	7,017	2.55	1,423	18,149	17.41
Cook Islands	1,453	16,725	15.50	3	100	0.50	1,456	16,825	16.00
Costa Rica	77	1,814	7.59	55	637	2.44	132	2,451	10.03
Cyprus	13	275	0.68	39	333	0.93	52	608	1.61
Czechoslovakia Republic	5	13	0.50	11	51	0,40	16	64	0.90
Dominica	2,014	60,000	70.00	15	1,100	0.50	2,029	61,100	70.50
Dominican Republic	212	4,093	1.52	78	1,492	2.69	290	5,585	4.21
Ecuador	3,327	17,027	31.21				3,327	17,027	31.21
Egypt	153	1,698	1.24	392	2,356	2.36	545	4,054	3.60
El Salvador	115	2,100	6.24	300	2,000	6.24	415	4,100	12.48
France				50	NR	NR	50	NR	NR
Germany				904	4,072	NR	904	4,072	NR
Greece	1,096	28,848	28.15	52	964	1.61	1,148	29,812	29.76
Grenada	354	6,022	8.00				354	6,022	8.00
Guatemala	230	4,000	2.00	90	1,080	2.00	320	5,080	4.00
Honduras	24	100	0.25	15	100	0.25	39	200	0.50
Hong Kong	712	44,205	3.77	139	12,390	4.70	851	56,595	8.47
Hungary	11	616	0.62	8	44	0.03	19	660	0.65
Indonesia	166	1,352	2.50	36	122	0.87	202	1,474	3.37
Ireland	6	55	0.62	25	15	0.62	31_	70	1.24
Italy			- market	1,225	671	NR	1,225	671	NR
Jamaica	277	1,675	27.61			<u> </u>	277	1,675	27.61
Japan	4,037	139,655	21.98	177	150	0.59	14,214	139,805	22.57
Jordan	2	14	0.31	19	191	0.31	21	205	0.62
Kenya	3,047	16,180	160.70	5	39	0.70	3,052	16,219	161.40
Kuwait	30	720	1.24	46	45	0.31	76	765	1,55
Lithuania	2,112	15,143	9.61				2,112	15,143	9.61
Malaysia	56	1,734	1.24	_			56	1,734	1.24

NR- cleanup activity but results not reported

- no cleanup activity

Cleanup Territory		Land	i +		Underwate	r		Total	
No.	People	Pounds	Miles	People	Pounds	Miles	People	Pounds	Miles
Maldives				405	NR	NR	405	NR	NR
Malta				30	1,650	0.31	30	1,650	0.31
Mauritius	41	33,000	1.50	<del></del>	-		41	33,000	1.50
Micronesia	66	83	4.50	NR	NR	NR	66	83	4.50
Mexico	1,185	254,267	69.75	124	1,492	3.88	1,309	255,759	73.63
Netherlands				322	660	NR	322	660	NR
Netherlands Antilles	750	14,439	10.60	140	2,344	6.31	890	16,783	16.91
New Zealand	4	NR	0.31	6	NR	0.31	10	NR	0.62
Nigeria	4,750	1,146,200	19.84				4,750	1,146,200	19.84
Norway	50	500	2.00				50	500	2.00
Palau	52	680	2.50	40	200	0.50	92	880	3.00
Panama	9	140	0.50	21	550	0.50	30	690	1.00
Peru	5,918	605,180	1,480.36	30	763	9.32	5,948	605,943	1,489.68
Philippines	588,562	6,259,747	7,204.96	2,566	49,371	1,375.73	591,128	6,309,118	8,580.69
Poland	24	429	1.86	33	550	1.55	57	979	3.41
Portugal				120	176	NR	120	176	NR
Republic Of The Marshall Islands	215	2,200	5.74	5	25	0.50	220	2,225	6.24
Saudi Arabia	47	418	1.39	129	1,753	1.71	176	2,171	3.10
Seychelles	46	104	1.24	16	290	2.48	62	394	3.72
Singapore	35	600	1.50	35	60	0.50	70	660	2.00
South Africa	13,532	137,988	598,61	66	33	0,62	13,598	138,021	599.23
Spain				790	NR	NR	790	NR	NR
St Kitts & Nevis	250	927	10.00	NR	NR	NR	250	927	10.00
St Lucia	10	120	0.25	11	50	0.25	21	170	0.50
Sultanate Of Oman	27	2,088	3.25	183	5,354	2.50	210	7,442	5.75
Switzerland				193	550	NR	193	550	NR
Taiwan	28	536	0.59	107	343	0.39	135	879	0.98
Tanzania	20	20,000	0.31				20	20,000	0.31
Thailand	10	105	1.00	68	1,658	4,95	78	1,763	5,95
Tonga	509	5,000	20.00				509	5,000	20.00
Trinidad and Tobago	53	500	2.00	13	300	1.00	66	800	3.00
United Kingdom	1,950	16,573	81.41	95	707	7.06	2,045	17,280	88.47
United States	168,471	4,342,582	8,881.44	3,948	106,921	150.59	172,419	4,449,503	9,032.03
Venezuela	100	125	1.00	35	35	0.33	135	160	1.33
Vietnam	570	4,400	4.96	***************************************		W Name	570	4,400	4.96
Totals  Total Number of Countries	830,558	13,354,781	19,071.05	14,309	226,912	1,629.01	844,867	13,581,693	20,700.06

Total Number of Countries: 73

# Total Number of Debris Items Collected During 2000 International Coastal Cleanups

Debris Items	Total ·	Land	Underwater
PLASTIC:			
food bags/wrappers	1,016,660	1,008,873	7,787
salt bags	37,046	36,964	82
trash bags	219,925	219,080	845
other bags	236,919	234,834	2,085
plastic beverage bottles	316,546	311,038	5,508
bleach bottles	52,996	52,573	423
milk/water gallon jugs	86,121	85,014	1,107
oil/lube bottles	51,517	51,011	506
other plastic bottles	123,603	122,328	1,275
buckets	22,837	22,624	213
caps/lids	441,451	437,346	4,105
cigarette butts	1,369,726	1,351,884	17,842
cigarette lighters	52,468	51,946	522
cups/utensils	180,170	176,500	3,670
diapers	48,740	48,478	262
fishing line	74,399	72,568	1,831
fishing floats/lures	46,328	45,663	665
fishing nets	53,246	52,500	746
hard hats	12,559	12,533	26
light sticks	105,359	105,194	165
plastic pieces	578,998	575,336	3,662
pipe thread protectors	10,353	10,230	123
rope	180,712	179,035	1,677
long sheeting	12,736	12,575	161
short sheeting	27,366	27,030	336
six-pack holders	27,606	26,901	705
strapping bands	40,942	40,590	352
straws	297,457	294,578	2,879
syringes	12,719	12,640	79
tampon applicators	16,627	16,491	136
toys	64,239	63,999	240
vegetable sacks	37,884	37,714	170
write protection rings	11,895	11,831	64
other plastic	396,929	395,537	1,392
FOAMED PLASTIC:			.,
buoys	38,884	38,667	217
cups	182,715	179,973	2,742
egg cartons	25,144	25,027	117
fast food containers	194,245	193,083	1,162
meat trays	25,118	24,927	191
packaging material	111,866	111,080	786
foamed plastic pieces	420,071	416,464	3,607
plates	80,131	79,092	1,039
other foamed plastic	117,800	117,128	672
GLASS:		The state of the s	
beverage bottles	291,162	280,197	10,965
food jars	42,029	40,770	1,259

GLASS: (cont.)           other glass bottles/jars         84,266         83,505         761           fluorescent light tubes         13,335         13,287         48           light builbs         19,390         19,283         107           glass pieces         327,648         322,941         4,707           cher glass         55,524         55,073         251           RUBBER:           balloous         55,324         55,073         251           condoms         20,454         20,291         163           gloves         30,473         30,243         230           titres         31,283         30,857         426           condoms         20,454         20,291         163           gloves         30,473         30,243         230           titres         31,283         30,857         426           condoms         20,413         30,857         426           determined         20,293         426         66,121         2,413           aerosa colspan="4">condoms         42,889         42,08         681         bevera	Debris Items	Total	Land	Underwater
Thuorescent light tubes   13,335   13,287   48   light hulbs   19,390   19,283   107   glass   108   19,390   19,283   107   580   108	GLASS: (cont.)			,
Thuorescent light tubes   13,335   13,287   48   light hulbs   19,390   19,283   107   glass   108   19,390   19,283   107   580   108	other glass bottles/jars	84 266	83.505	761
light bulbs         19,390         19,283         107           glass pieces         327,648         322,941         4,707           other glass         55,651         55,071         580           RUBBER:         Bulloons         55,324         55,073         251           condoms         20,454         20,291         163           gloves         30,473         30,243         230           tires         31,283         30,857         426           other rubber         98,315         97,140         1,175           METAL:         buttle caps         269,034         266,621         2,413           aerosol cans         42,889         42,208         681           beverage cans         272,205         257,805         14,400           food cans         78,453         77,424         1,029           other cans         31,152         30,844         308           rearb/loste traps         15,987         15,895         92           55-gallon rusty drums         13,349         13,252         97           55-gallon rusty drums         2,962         2,954         8           metal pieces         67,712         66,			<del></del>	
glass pieces 327,648 322,941 4,707 other glass 55,651 55,651 55,071 580 RUBBER:				
S5,651         S5,071         S80           RUBBER:           Balloons         55,324         55,073         251           condoms         20,454         20,291         163           gloves         30,473         30,243         230           tires         31,283         30,857         426           Other rubher         98,315         97,140         1,175           METAL:           bottle caps         269,034         266,621         2,413           aerosol cans         42,889         42,208         681           bottle caps         269,034         266,621         2,413           aerosol cans         42,889         42,208         681           bottle caps         269,034         266,621         2,413           aerosol cans         42,889         42,208         681           bottle caps         269,034         266,621         2,413           aerosol cans         27,2205         257,805         14,400           total caps         269,034         20,884         308           carsol cans				·/····-///-/-/-/-/-/-/-/////
RUBBER:				
condoms         20,454         20,291         163           gloves         30,473         30,243         230           tires         31,283         30,857         426           other rubber         98,315         97,140         1,175           METAL:         METAL:           bottle caps         269,034         266,621         2,413           aerosol cans         42,889         42,208         681           beverage cans         272,205         257,805         14,400           food cans         78,453         77,424         1,029           other cans         31,152         30,844         308           crab/lobster traps         15,987         15,895         92           55-gallon rusty drums         13,349         13,252         97           55-gallon new drums         2,962         2,954         8           metal pieces         67,712         66,341         1,371           pull tabs         37,161         34,555         2,606           wire         35,150         34,667         483           other metal         100,388         99,032         1,356           PAPER:         2         2	RUBBER:	,,,		300
condoms         20,454         20,291         163           gloves         30,473         30,243         230           tires         31,283         30,857         426           other rubher         98,315         97,140         1,175           METAL:         bottle caps         269,034         266,621         2,413           aerosol cans         42,889         42,208         681           beverage cans         272,205         257,805         14,400           food cans         78,453         77,424         1,029           other cans         31,152         30,844         308           crab/lobster traps         15,987         15,895         92           55-gallon rusty drums         13,349         13,252         97           55-gallon new drums         2,962         2,954         8           metal pieces         67,712         60,341         1,371           pull tabs         37,161         34,555         2,606           wire         35,150         34,667         483           other metal         100,388         99,032         1,356           PAPER:         2         2         94         94 <td>balloons</td> <td>55.324</td> <td>55.073</td> <td>251</td>	balloons	55.324	55.073	251
Section   Sect	condoms			
tires 31,283 30,857 426 other rubber 98,315 97,140 1,175  METAL:  bottle caps 269,034 266,621 2,413 aerosol cans 42,889 42,208 681 beverage cans 272,205 257,805 14,400 food cans 78,453 77,424 1,029 other cans 31,152 30,844 308 crab/lobster traps 15,987 15,895 92 55-gallon rusty drums 13,349 13,252 97 55-gallon new drums 2,962 2,954 8 metal pieces 67,712 66,341 1,371 pull tabs 37,161 34,555 2,606 wire 35,150 34,667 483 other metal 100,388 99,032 1,356  PAPER:  bags 94,495 93,554 941 eardboard 67,607 67,213 394 eardboard 67,607 67			*	
other rubber         98,315         97,140         1,175           METAL:           bottle caps         269,034         266,621         2,413           aerosol cans         42,889         42,208         681           beverage cans         272,205         257,805         14,400           food cans         78,453         77,424         1,029           other cans         31,152         30,844         308           crab/lobster traps         15,987         15,895         92           55-gallon rusty drums         13,349         13,252         97           55-gallon new drums         2,962         2,954         8           metal pieces         67,712         66,341         1,371           pull tabs         37,161         34,555         2,606           wire         35,150         34,667         483           other metal         100,388         99,032         1,356           PAPER:         2         42,667         67,213         394           cardboard         67,607         67,213         394           cardboard         67,607         67,213         394           paper cups         77,339         76,323			····	
METAL:	other rubber			~~~~~~~ <u>~~~~</u>
aerosol cans         42,889         42,208         681           beverage cans         272,205         257,805         14,400           food cans         78,453         77,424         1,029           other cans         31,152         30,844         308           crab/lobster traps         15,987         15,895         92           55-gallon rusty drums         13,349         13,252         97           55-gallon new drums         2,962         2,954         8           metal pieces         67,712         66,341         1,371           pull tabs         37,161         34,555         2,606           wire         35,150         34,667         483           other metal         100,388         99,032         1,356           PAPER:             bags         94,495         93,554         941           cardboard         67,607         67,213         304           card cardboard         67,607         67,213         394           cart ons         81,655         81,173         482           paper cups         77,339         76,323         1,016           newspapers/magazines         69,544 <td>METAL:</td> <td>,</td> <td>,</td> <td>-12.0</td>	METAL:	,	,	-12.0
aerosol cans         42,889         42,208         681           beverage cans         272,205         257,805         14,400           food cans         78,453         77,424         1,029           other cans         31,152         30,844         308           crab/lobster traps         15,987         15,895         92           55-gallon rusty drums         13,349         13,252         97           55-gallon new drums         2,962         2,954         8           metal pieces         67,712         66,341         1,371           pull tabs         37,161         34,555         2,606           wire         35,150         34,667         483           other metal         100,388         99,032         1,356           PAPER:         PAPER:           bags         94,495         93,554         941           cardboard         67,607         67,213         394           card cardboard         67,607         67,213         394           card cardboard         69,607         67,213         394           card cardboard         69,644         69,016         528           paper pieces         346,015	bottle caps	269.034	266.621	2.413
beverage cans         272,205         257,805         14,400           food cans         78,453         77,424         1,029           other cans         31,152         30,844         308           crab/lobster traps         15,987         15,895         92           55-gallon rusty drums         13,349         13,252         97           55-gallon new drums         2,962         2,954         8           metal pieces         67,712         66,341         1,371           pull tabs         37,161         34,555         2,606           wire         35,150         34,667         483           other metal         100,388         99,032         1,356           PAPER:         ***         ***         4941           cardonard         67,607         67,213         394           cardonard         67,607         67,213         394           cartons         81,655         81,173         482           paper cups         77,339         76,323         1,016           newspapers/magazines         69,544         69,016         528           paper pieces         346,015         339,874         6,141           paper piates<	aerosol cans			
food cans         78,453         77,424         1,029           other cans         31,152         30,844         308           crah/obster traps         15,987         15,895         92           55-gallon rusty drums         13,349         13,252         97           55-gallon new drums         2,962         2,954         8           metal pieces         67,712         66,341         1,371           pull tabs         37,161         34,555         2,606           wire         35,150         34,667         483           other metal         100,388         99,032         1,356           PAPER:         PAPER:           bags         94,495         93,554         941           cardboard         67,607         67,213         394           cardonal         67,607         67,213         394           cardonal         77,339         76,323         1,016           newspapers/magazines         69,544         69,016         528           paper pieces         346,015         339,874         6,141           paper plates         44,873         44,268         605           other paper         9,881         9,	beverage cans			~
other cans         31,152         30,844         308           crab/lobster traps         15,987         15,895         92           55-gallon rusty drums         13,349         13,252         97           55-gallon new drums         2,962         2,954         8           metal pieces         67,712         66,341         1,371           pull tabs         37,161         34,555         2,606           wire         35,150         34,667         483           other metal         100,388         99,032         1,356           PAPER:         PAPER:           bags         94,495         93,554         941           cardinard         67,607         67,213         394           cardinard         67,607         67,213         394           cardinard         67,607         67,213         394           cardinard         67,607         67,213         394           cardinard         69,544         69,016         528           paper cups         77,339         76,323         1,016           newspapers/magazines         69,544         69,016         528           paper plates         44,873         44,268 </td <td>food cans</td> <td></td> <td></td> <td></td>	food cans			
crab/lobster traps         15,987         15,895         92           55-gallon rusty drums         13,349         13,252         97           55-gallon new drums         2,962         2,954         8           metal pieces         67,712         66,341         1,371           pull tabs         37,161         34,555         2,606           wire         35,150         34,667         483           Other metal         100,388         99,032         1,356           PAPER:           Bags         94,495         93,554         941           cardboard         67,607         67,213         394           cardons         81,655         81,173         482           paper cups         77,339         76,323         1,016           mewspapers/magazines         69,544         69,016         528           paper pieces         346,015         339,874         6,141           paper plates         44,873         44,268         605           other paper         9,851         9,816         65           crab/lobster traps         9,881         9,816         65           crates         9,937         9,8	other cans			
55-gallon rusty drums         13,349         13,252         97           55-gallon new drums         2,962         2,954         8           metal pieces         67,712         66,341         1,371           pull tabls         37,161         34,555         2,606           wire         35,150         34,667         483           Other metal         100,388         99,032         1,356           PAPER:           hags         94,495         93,554         941           cardboard         67,607         67,213         394           cardons         81,655         81,173         482           paper cups         77,339         76,323         1,016           newspapers/magazines         69,544         69,016         528           paper pieces         346,015         339,874         6,141           paper plates         44,873         44,268         605           other paper         94,519         93,742         777           WOOD:         Crab/lobster traps         9,881         9,816         65           crates         9,937         9,883         54           lumber pieces         105,31	crab/lobster traps	**************************************		
55-gallon new drums         2,962         2,954         8           metal pieces         67,712         66,341         1,371           pull tabls         37,161         34,555         2,606           wire         35,150         34,667         483           Other metal         100,388         99,032         1,356           PAPER:           bags         94,495         93,554         941           cardboard         67,607         67,213         394           cardons         81,655         81,173         482           paper cups         77,339         76,323         1,016           newspapers/magazines         69,544         69,016         528           paper pieces         346,015         339,874         6,141           paper plates         44,873         44,268         605           other paper         94,519         93,742         777           WOOD:         Crates         9,937         9,883         54           lumber pieces         105,312         104,267         1,045           pallets         20,559         20,392         167           other wood         88,950	55-gallon rusty drums			
metal pieces         67,712         66,341         1,371           pull tabs         37,161         34,555         2,606           wire         35,150         34,667         483           Other metal         100,388         99,032         1,356           PAPER:           DATE:           DATE:           bags         94,495         93,554         941           cardboard         67,607         67,213         394           cartons         81,655         81,173         482           paper cups         77,339         76,323         1,016           newspapers/magazines         69,544         69,016         528           paper pieces         346,015         339,874         6,141           paper plates         44,873         44,268         605           other paper         94,519         93,742         777           WOOD:         Crab/lobster traps         9,881         9,816         65           crates         9,937         9,883         54           lumber pieces         105,312         104,267         1,045           pallets         20,559         20,392				
pull tabs         37,161         34,555         2,606           wire         35,150         34,667         483           Other metal         100,388         99,032         1,356           PAPER:           DATE:           bags         94,495         93,554         941           cardboard         67,607         67,213         394           cartons         81,655         81,173         482           paper cups         77,339         76,323         1,016           newspapers/magazines         69,544         69,016         528           paper pieces         346,015         339,874         6,141           paper plates         44,873         44,268         605           other paper         94,519         93,742         777           WOOD:         crab/lobster traps         9,881         9,816         65           crates         9,937         9,883         54           lumber pieces         105,312         104,267         1,045           pallets         20,559         20,392         167           other wood         88,950         88,383         567	metal pieces			· · · · · · · · · · · · · · · · · · ·
wire     35,150     34,667     483       other metal     100,388     99,032     1,356       PAPER:       bags     94,495     93,554     941       cardboard     67,607     67,213     394       cartons     81,655     81,173     482       paper cups     77,339     76,323     1,016       newspapers/magazines     69,544     69,016     528       paper pieces     346,015     339,874     6,141       paper plates     44,873     44,268     605       other paper     94,519     93,742     777       WOOD:     Crab/lobster traps     9,881     9,816     65       crates     9,937     9,883     54       lumber pieces     105,312     104,267     1,045       pallets     20,559     20,392     167       other wood     88,950     88,383     567       CLOTN:	pull tabs			
other metal         100,388         99,032         1,356           PAPER:           hags         94,495         93,554         941           cardboard         67,607         67,213         394           cartons         81,655         81,173         482           paper cups         77,339         76,323         1,016           newspapers/magazines         69,544         69,016         528           paper pieces         346,015         339,874         6,141           paper plates         44,873         44,268         605           other paper         94,519         93,742         777           WOOD:         2000         88,383         54           lumber pieces         105,312         104,267         1,045           pallets         20,559         20,392         167           other wood         88,950         88,383         567           CLOTN:         33,54         34	wire			·
hags         94,495         93,554         941           cardboard         67,607         67,213         394           cartons         81,655         81,173         482           paper cups         77,339         76,323         1,016           newspapers/magazines         69,544         69,016         528           paper pieces         346,015         339,874         6,141           paper plates         44,873         44,268         605           other paper         94,519         93,742         777           WOOD:         Crab/lobster traps         9,881         9,816         65           crates         9,937         9,883         54           lumber pieces         105,312         104,267         1,045           pallets         20,559         20,392         167           other wood         88,950         88,383         567	other metal	100,388	· · · · · · · · · · · · · · · · · · ·	1,356
cardboard         67,607         67,213         394           cartons         81,655         81,173         482           paper cups         77,339         76,323         1,016           newspapers/magazines         69,544         69,016         528           paper pieces         346,015         339,874         6,141           paper plates         44,873         44,268         605           other paper         94,519         93,742         777           WOOD:         Crates         9,881         9,816         65           crates         9,937         9,883         54           lumber pieces         105,312         104,267         1,045           pallets         20,559         20,392         167           other wood         88,950         88,383         567           CLOTH:	PAPER:			
cardboard         67,607         67,213         394           cartons         81,655         81,173         482           paper cups         77,339         76,323         1,016           newspapers/magazines         69,544         69,016         528           paper pieces         346,015         339,874         6,141           paper plates         44,873         44,268         605           other paper         94,519         93,742         777           WDOD:         VIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	hags	94,495	93,554	941
Paper cups   77,339   76,323   1,016	cardhoard	67,607	67,213	394
newspapers/magazines   69,544   69,016   528     paper pieces   346,015   339,874   6,141     paper plates   44,873   44,268   605     other paper   94,519   93,742   777     WOOD:	cartons	81,655	///	482
paper pieces         346,015         339,874         6,141           paper plates         44,873         44,268         605           other paper         94,519         93,742         777           WOOD:         Crab/lobster traps         9,881         9,816         65           crates         9,937         9,883         54           lumber pieces         105,312         104,267         1,045           pallets         20,559         20,392         167           other wood         88,950         88,383         567           CLOTH:	paper cups	77,339	76,323	1,016
paper plates         44,873         44,268         605           other paper         94,519         93,742         777           WOOD:         Crab/lobster traps         9,881         9,816         65           crates         9,937         9,883         54           lumber pieces         105,312         104,267         1,045           pallets         20,559         20,392         167           other wood         88,950         88,383         567           CLOTH:	newspapers/magazines	69,544	69,016	528
other paper         94,519         93,742         777           WOOD:         crab/lobster traps         9,881         9,816         65           crates         9,937         9,883         54           lumber pieces         105,312         104,267         1,045           pallets         20,559         20,392         167           other wood         88,950         88,383         567           CLOTH:	paper pieces	346,015	339,874	6,141
W00D:       crab/lobster traps     9,881     9,816     65       crates     9,937     9,883     54       lumber pieces     105,312     104,267     1,045       pallets     20,559     20,392     167       other wood     88,950     88,383     567       CLOTH:		44,873	44,268	605
crab/lobster traps         9,881         9,816         65           crates         9,937         9,883         54           lumber pieces         105,312         104,267         1,045           pallets         20,559         20,392         167           other wood         88,950         88,383         567           CLOTH:		94,519	93,742	777
crates         9,937         9,883         54           lumber pieces         105,312         104,267         1,045           pallets         20,559         20,392         167           other wood         88,950         88,383         567           CLOTH:				
lumber pieces         105,312         104,267         1,045           pallets         20,559         20,392         167           other wood         88,950         88,383         567           CLOTH:         30,000		9,881	9,816	65
pallets         20,559         20,392         167           other wood         88,950         88,383         567           CLOTH:         30,392         167		9,937	9,883	54
other wood <b>88,950</b> 88,383 567 <b>CLOTH:</b>			104,267	1,045
CLOTH:	The state of the s			167
		88,950	88,383	567
clothing/pieces         92,987         90,851         2,136	CLOTH:			
	clothing/pieces	92,987	90,851	2,136

**GRAND TOTALS** 

10,700,498

10,567,890

132,608

# 

ore than 844,000 volunteers worldwide made the 2000 Cleanup a roaring success. Government officials in Mexico and Nigeria made appearances at the Cleanup, and many television crews and newspapers publicized and reported on the local cleanups.

Numerous sponsors donated free lunches, T-shirts, and coupons, and coordinators organized picnics, cookouts, puppet shows, educational demonstrations, contests, and parties to ensure that the Cleanup was a memorable experience for everyone. Volunteers in Ghazala Beach, Egypt, for example, danced in the sand to the music of DJ Mishka and singer Ahmed Zaki after cleaning their beaches. The Ecuador Cleanup involved sporting, recreational, and social activities, including the selection of Cleanup "queens" in each zone and presentations of folkloric and theatrical groups. Coordinators in Jackson County, Mississippi, USA painted faces, judged sandcastles, and offered hayrides on a tractor. And Mitiaro youth in the Cook Islands were treated to a whale-watching trip!

Some crews reported a beautiful, balmy, blue-skied day for the Cleanup, while other sites faced an unpredictable Mother Nature. Terrible weather and high winds prevented

cape Town, South Africa, and a cleanup date in St. Kitts had to be pushed back due to impending tropical disturbances. Japan had similar bad luck with the weather: cleanups in all areas of Japan except for Okinawa had to be rescheduled because of typhoons; Miyake Island in Japan was evacuated

about three weeks before the

cleanup due to a volcanic eruption; and Nagoya in Aichi prefecture had to deal with floods. Yael Bali, an

ICC Coordinator in Mexico reported that "One of the cleanups in Cancun was the day that we got



the warning of Hurricane Keith coming in, but even so, three mothers with their six-year olds came to clean up." In the United States, Hurricane Gordon disrupted the Cleanup in Florida; meanwhile, volunteers in Lake Havasu City, Arizona, USA worked in 110-degree temperatures!

Recycling was featured at many cleanups. "Everyone was very concerned about recycling and separating the garbage," reports Lis García Estrada, coordinator for the Playa Hermosa cleanup in Costa Rica. In fact, in Pennsylvania, USA, the recyclables separation party drew more volunteers than the cleanup! (The recyclers have been recruited for next year's cleanup effort.)

Younger citizens contributed appreciably to the Cleanup this year. Over 100 youth from different regions of the world picked up debris as part of the Coastal Zone 2000 Conference held in Saint John, New Brunswick, Canada. Enthusiastic students arrived at Ekert Beach in Nigeria before 7 a.m. in the morning to participate. Some students — like those in Lago Paranoá and Brasília, Brazil who were guided on how to separate recyclables by their high school biology teachers - used the opportunity to learn more about pollution and the marine environment. Students in Wisconsin, USA incorporated the Cleanup into a new science curriculum about water-13 different schools and over 800 students participated. Also in the United States, youth turned their education into action: New York students from Monroe County traced a large number of foamed plastic cups to a local bait shop and discussed with the owner

2000 ICC

the possibility of switching to a more biodegradable container, while some Washington State students used part of the day to stencil "DUMP NO WASTE, DRAINS TO BAY" on storm drains in the area to remind people that storm drains are not trash cans.

Many cleanup crews noted how animals and vegetation had adapted to their polluted habitat. Volunteers in Agaba Marine Park in Jordon found baby octopi in some aluminum cans, and gave them lots of coaxing to get them to come out and find a new home on the reef. Tiny crabs were found nesting inside of a bag of chips, one sunfish had made its home in a tire, and a tree had grown around a box spring that was in its way. Here are a few more highlights from the 2000 Cleanup:

# FACING ADVERSITY

In Dalipaga and Iligaw City in the Philippines, volunteers didn't have enough trash bags because the city government garbage truck was on "standby (strike)" so they had to use agricultural bags and baskets instead. Thousands of volunteers still showed up for the Cleanup regardless of the fuel scarcity in Nigeria due to the strike by the petrol tankers union. And our coordinator in Micronesia could not hold the Cleanup due to "political challenges" in her country, but she is still determined to organize an underwater cleanup in 2001.

# **AN ARTIST FINDS BEAUTY EVERYWHERE**

J.E.A.N. (Japanese Environmental Action Network) wanted see participants' creative side and hosted a photo contest entitled "A Message for our Future Ocean." They required contestants to submit three photos: one photo before the cleanup, one photo of the artists' "message to the ocean", and one photo with the "message" creators and participants.

# CITIZENS MAKING A DIFFERENCE

Environmental activists are having a huge impact in Nigeria. The Governor of the Rivers State visited Port Harcourt for the first time in 20 years to see what can be done about the neglected beaches, and Clean Up Nigeria and concerned citizens of Nigeria

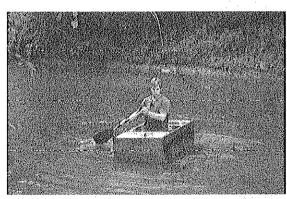
are also pushing to ratify and enforce MARPOL 73/78. Best of luck in your efforts!

# **YOUNG AT HEART**

Think you are too old to dive into the great blue? Our volunteers will prove you wrong. Omar Ali Moh (64 years), and Janet Wedler (60 years), both PADI assistant instructors, helped with the cleanup in Sharm El Sheikh, Egypt, Six-year old Ayla Stephen proved that you are never to young, either. She was the only diver for her cleanup crew in Florida, USA.

# **BURIED TREASURES**

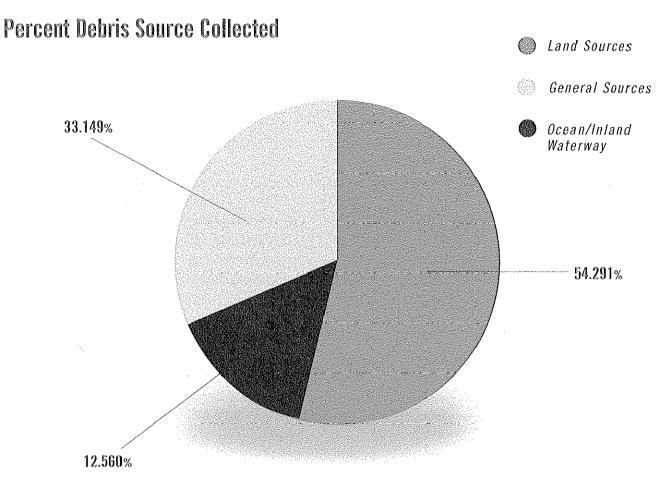
Divers by Moulie Point Lighthouse near Cape Town in South Africa found no litter, but did find three billiard balls from a 1962 shipwreck. The billiard balls were given to the local Maritime Museum. Divers in Maine, USA collected artifacts for the Georgetown Historical Society before the city starts construction on a new bridge, and in Iowa, USA a participant found a 150-year-old buffalo bone that is also going into a museum.



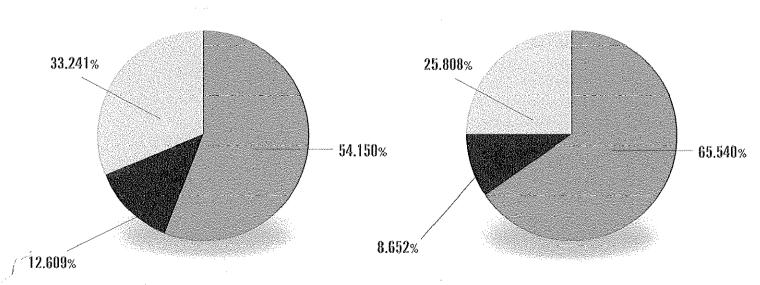
Resourceful US volunteer paddles a refrigerator to shore.

# ROW, ROW, ROW YOUR...FRIDGE?

One cleanup crew in Virginia, USA found a refrigerator afloat in the water. After pondering how to bring it on land, one creative voluntéer opened up the refrigerator, jumped inside and paddled it ashore. (See photograph above)



**Debris Collected from Land and Underwater Cleanups** 



**Debris Collected from Land Cleanups** 

**Debris Collected from Underwater Cleanups** 

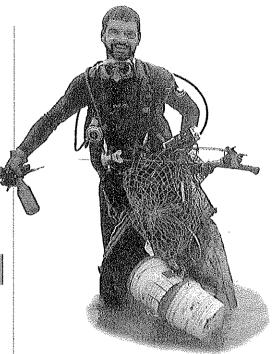
# The Dirty Dozen

# WHAT WE FOUND

Every year we tabulate the top 12 most prevalent items found during the cleanup and list them in our annual report. Year after year the same items get the dubious distinction of being the "Dirty Dozen." The 2000 list predictably resembles

1999's twelve items, with cigarette filters once again on top. The 2000 Dirty Dozen comprises 56.77% of all the debris collected. This percentage is up slightly from 1999, indicating that these 12 items continue to plague our shores and waterways as debris. The top 12 items found during the 2000 Cleanup are listed in the chart below.

The percentage of cigarette filters



# 2000 International Dirty Dozen - Total

	ltems	Total Number Reported	Percentage of Total Debris Collected
1.	cigarette filters	1,369,726	12.80%
2.	food bags/wrappers (plastic)	1,016,660	9.50%
3.	plastic pieces	578,998	5,41%
4.	caps, lids (plastic)	441,451	4.13%
5.	foamed plastic pieces	420,071	3.93%
6.	other plastic items	396,929	3.71%
7.	paper pieces	346,015	3.23%
8.	glass pieces	327,648	3.06%
9.	beverage bottles (plastic)	316,546	2.96%
10.	straws	297,457	2.78%
11.	beverage bottles (glass)	291,162	2.72%
12.	beverage cans	272,205	2.54%
Dir	ty Dozen Totals	6,074,868	56.77%
13.	bottle caps (metal)	269,034	2.51%
14.	other plastic bags	236,919	2.21%
15.	trash bags (plastic)	219,925	2.06%
16.	fast food containers	194,245	1.82%
17.	cups (foamed plastic)	182,715	1.71%
18.	rope	180,712	1.69%
19.	cups, utensils (plastic)	180,170	1.68%
-inches	other plastic bottles	123,603	1,16%
Top	20 Totals	7,662,191	71.61%%

collected in 2000 (12.80%) was about half a percentage point lower than 1999, continuing a pattern of steady decline in the percentage of total debris that cigarette butts represent.



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This may be due to a number of factors, including the success of antilittering campaigns, increased numbers of waste receptacles for used cigarettes in cities and on beaches, and the fact that many beaches are

being cleaned more often. Still, our volunteers found enough cigarette filters worldwide to make up 68,486 packs of cigarettes!

Eight items of the Dirty Dozen are made from some type of plastic. If cigarette filters are taken out of the equation, plastics and foamed plastics make up 65.28% of the debris found during the cleanup. If you keep cigarette filters in the equation, the figure rises to 69.73%. Plastics are ubiquitous, especially as food packaging, and they create a particularly difficult dilemma in the environment, because plastic is strong, durable, and does not easily degrade.

The most noteworthy differences from the 1999 Dirty Dozen come from a comparison of the items found in the underwater-only breakdown (see chart page 21). Balloons, number 18 on last year's underwater-only list, was not even in the top twenty this year. Pull tabs and fish-

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2000 ICC

ing line appeared on the list, though they were absent from last year's Dirty Dozen.

# **WHAT IT MEANS**

Many smokers have developed the bad habit of tossing cigarette filters out car windows, along sidewalks, and on our beaches. No matter where you toss your cigarette, heavy rains and storm drains can carry these lightweight materials toward our oceans and waterways. Cigarette filters are composed of cellulose acetate, a synthetic polymer (a form of plastic), and can take up to seven years to biodegrade. Most people assume that one little cigarette butt is too small to make an impact on the environment, but one filter can cause harm to marine life, and 1.3 million of them, as our volunteers

# 2000 International Dirty Dozen - Land

	Items	Total Number Reported	Percentage of Total Debris Collected
1.	cigarette butts	1,351,884	12.79 %
2.	food bags/wrappers (plastic)	1,008,873	9.55 %
3.	plastic pieces	575,336	5.44 %
4.	caps, lids (plastic)	437,346	4.14 %
5.	foamed plastic pieces	416,464	3.94 %
6.	other plastic items	395,537	3.74 %
7.	paper pieces	339,874	3.22 %
8.	glass pieces	322,941	3.06 %
9.	beverage bottles (plastic)	311,038	2.94 %
10.	straws	294,578	2.79 %
11.	beverage bottles (glass)	280,197	2.65 %
12.	bottle caps (metal)	266,621	2.52 %
Dir	ty Dozen Totals	6,000,689	56.78%
13.	beverage cans	257,805	2.44 %
14.	other plastic bags	234,834	2.22 %
15.	trash bags (plastic)	219,080	2.07 %
16.	fast food containers	193,083	1.83 %
17.	cups (foamed plastic)	179,973	1.70 %
18.	rope	179,035	1.69 %
19.	cups, utensils (plastic)	176,500	1.67 %
20.	other plastic bottles	122,328	1.16 %
Top	20 Totals	7,563,327	71.56 %

found, create a serious hazard. Birds, sea turtles, whales, and other marine animals accidentally ingest the cigarettes filters, causing severe intestinal problems, and sometimes even death. If smokers disposed of their used filters only in appropriate receptacles, our beaches and waterways would be cleaner, and safer.

Since 1990, the following nine items have appeared in the Dirty

Dozen every year: cigarette filters, 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 whole or remnants of waste from prepackaged food or beverage products-in other words, it is what we throw away after we have consumed or used the product.



2000 ICC

Because marine debris travels from one location to another, controlling the pollution in one country often depends on similar efforts taken in other countries. And countries popular with tourists must manage the trash of persons who may or may not have a comparable level of environmental awareness. Less wealthy nations may need to rely on outside monetary support to implement improved sewage systems and waste management facilities. And while some countries may have the proper systems in place, they face the additional challenge of trying to change their citizens' ingrained habits of littering.

The similarity between the top twelve items every year reflects that we are not successfully meeting our pollution prevention challenges. Forget trying to focus on eliminating all land-based sources of debris for a minute...if people could prevent just these 12 items from becoming marine debris, our beaches and oceans would be 57% cleaner!

(text continues page 24)

# 2000 International Dirty Dozen - Underwater

ltems	Total Number Reported	Percentage of Total Debris Collected
1. cigarette butts	17,842	13.45%
2. beverage cans	14,400	10.86%
3. beverage bottles (glass)	10,965	8.27%
4. food bags/wrappers (plastic)	7,787	5.87%
<b>5.</b> paper pieces	6,141	4.63%
6. beverage bottles (plastic)	5,508	4.15%
7. glass pieces	4,707	3.55%
8. caps, lids (plastic)	4,105	3.10%
9, cups, utensils (plastic)	3,670	2.77%
10. plastic pieces	3,662	2.76%
11. foamed plastic pieces	3,607	2.72%
12. straws	2,879	2.17%
Dirty Dozen Totals	85,273	64.30%
13. cups (foamed plastic)	2,742	2.07%
14. pull tabs	2,606	1.97%
15. bottle caps (metal)	2,413	1.82%
16: clothing pieces	2,136	1.61%
17. other plastic bags	2,085	1.57%
18. fishing line	1,831	1.38%
<b>19.</b> rope	1,677	1.26%
20. other plastic items	1,392	1.05%
Top 20 Totals	102,155	77.03%

# You Want It? We've Got It!

f shipwrecked sailors were to land on our modernday beaches, they would be able to live like royalty with the amount of appliances, electronics and furniture found by our cleanup volunteers. Power sources? No problem—volunteers found a ton of batteries on the beach. The sailors would have enough auto and boat parts to handle sufficient transportation, and they would even find some decorations for Christmas. Here are some of the more peculiar items and interesting items found by our volunteers during the 2000 Cleanup.

# SAILING ON THE HIGH SEAS

Dinghy hull, boat gas gauge, boat winch, broken fishing poles, tackle and bait boxes and assorted bait, 12'x2' floating dock, fiberglass chair seats, oars, 4-ton

boat engine, outboard motor, anchors, anti-backflow valve from a marine toilet, boat batteries, boat cushions, boat and ship doors, boat ladder, boat propellers, rudder, fuel tank, pumps, life preservers, pair of waders, sailboat sail, boat stove, boats and partial boats including a broken canoe, 4'x8' paddle boat and Hobie Cat sailboat pontoon

### PHARMACY AT SEA

Dental mirror, hospital garbage, Bayer urine test strips, blood vial, breathing mask, marijuana bags and pipes, bag of cocaine, crack vials, asthma inhalers, a bed pan, biohazard bag, Band-Aids, birth control pill container (empty), blood pressure cuff, bloody swab stick, crutches, diabetes tester with blood, insulin bottles, enema bottle and applicator, eye patch, hypodermic needle, half-used tube of Preparation H, hospital I.D. bands, IV bag, cord, and needles, Nicoderm patch, prescription pills, stethoscope, wheelchairs, thermometers, knee brace, finger splint, wrist brace, test tubes

# M HANDYMAN'S HEAVEN

Felt roofing tiles, asbestos pipe and

asbestos sheets, clay tile, window frame, metal bars, chain link fence, chainsaw, industrial cables and fuses, lead pipe, ruler, soldering gun, paint thinner, bucket of tar, lumber, plastic pipes, roof shingles, 24-foot aluminum ladder, nails, pieces of bathroom tiles, asphalt shingles, bathroom door, wheel barrow without wheels, bricks, broken Porta-Potty, can of glue, bottle of caulking, cement blocks, construction hazard barrel, construction sign, door hinges, door knob, drain pipe, duct tape, glass light fixture, glass sliding doors, gutter, kitchen counter top, linoleum, paint brushes and paint rollers, plywood, scaffolding, window screens, sheet rock, wrenches, bolts, cable, chains, electric drill and drill bit, electric fuse box, hammer, screws, nails, sandpaper, saw blades, shovels, screw driver, pliers, welding goggles

# **THERE GOES THE** NEIGHBORHOOD...

Bed comforters, candles, a can opener, fire extinguisher, garden umbrella, kebab skewer, waterbed bladder, carpeting, rugs, ovens, coconut glasses, toilets and toilet seats, hose, chairs, telephones, couches,

propane tanks, batteries, afghan, air conditioner units, air mattresses, antique bone-handled knife, artificial flowers, baby car seat, baby carriage, baby stroller, baking racks, bar stool, bath tub, sinks, BBQ grills, beds, box springs, Easter egg, bottle of Windex, broken mini-blinds, broken playpen, brooms, can of potted meat, cat pooper-scooper, Christmas decorations, electric fans and heaters, fire hydrant, hammock, lawn mowers, lamps, microwaves, refrigerators, suitcases, vacuum cleaners, waffle iron, weed whacker

# IN THE LINE OF FIRE

Flare gun casings, shotgun shells, a 38-caliber gun, ammunition, arrow, BB gun refill, bullet casings and wads, grenade, a mortar launcher, pellet gun and canister, pocketknife

# **DISCOUNT AUTO PARTS** (AND OTHER MODES OF TRANSPORTATION)

Car trunk, a roof rack, front ends of cars, John Deere 4x4 vehicle, motorcycles, seatbelts, antique motor, auto mufflers, broken headlights, broken windshield, bucket of used motor oil, license plates, air filters, radio antennas, arm rest, car batteries, brake pads and a brake pedal, bumpers, dashboards, engines, exhaust pipes, car keys, floor mats, car stereo and speaker, glove compartment, rear-view mirror, hubcaps, mud flaps for trucks, radiator, steering wheel column, trailer hitch, windshield wiper blades, spark plugs, gas cans (one full of gas), guard rails, helicopter, orange road cones, parking meter, parking sign, parts from a crashed airplane, road reflectors, road signs, wagon

# **■ GADGETS AND GIZMOS GALORE**

"ESC" key from a computer keyboard, magnetic tape, plastic protector for electronic device, 4-way appliance plug. Apple portable computer and other computers, calculator, cameras (two waterproof cameras), cassette players and tapes (Van Halen '94), CD player and CDs, cell phones, circuit boards, a commercial copier and copy machine parts, computer monitors, mouse and mouse pad, eight track tape, headphones, ink jet cartridges, pagers, record players and records, remote controls, satellite dishes, stereos, speakers, TV sets, VCRs, telephone cords

# **■ LOSING IS PART OF THE GAME**

Skateboard, golf balls, skates, roller blades, surfboards, tennis balls, bicycles, bicycle inner tube, tricycles, badminton set, baseballs, bats, and gloves, Bingo card, bowling ball, brand new golf club in the

wrapper, Frisbees, cooler, diving board, duck decoys, goggles, kayak and paddles, kites, lawn furniture, basketballs, pogo stick, ski pole, scuba equipment, snowmobile, swimming pools, tackling dummy, tents, wet suit, beach chairs, parachute flare still with charge

# INDECENT DISPOSALS (AND OTHER PERSONAL ITEMS)

Contraceptive foam, disposable douches, 30 letters, nail polish remover, toupee, airline luggage tag, "I love to party" key chain, eyeglasses, pair of Oakley sunglasses. toothbrushes, E.P.T. pregnancy kit, contact lens solution, dentures, fake fingernalls, hair curlers, hair extensions, baby wipes, dental floss, deodorant, pacifiers, wigs, a briefcase, backpacks, homework, Father's Day card in envelope (undelivered), message in a "LOVE" picture frame, teeth bleaching kit, hearing aid, retainer

# CHA-CHING

Barclay and other bank cards, jewelry box, jewels, a safe and a cash till box, at least \$180.83 in cash U.S., bracelet, lottery tickets, money from Nicaragua and

Costa Rica, diamond earring, dive watch, drivers licenses, wallets, gold coins, Indian head penny, phone cards, purses, rabbit's foot, rings, Timex watch (still working), U.S. passport, soccer ball signed by Carla Overbeck, food stamps, a check and a checkbook

# SAVE THE PLANET: DON'T LITTER

Environmental leaf bags, a Nature Conservancy sign, oil booms and oil boom pieces, recycling bin

# AND TOO WEIRD TO CATEGORIZE!

Typewriter, weather balloon, city garbage cans, fireworks and bottle rockets, American flag, arrest warrant, Barbie's big wheel jeep, Bible, binoculars, bottle with a message inside, flea collar with ID tag "Fluffy", guitar, picture of a naked girl on a horse, overhead projector, pink flamingo, decorative cows, books, a safe, "Do Not Cross" police tape, "For Sale" sign, "No Littering" sign, shopping carts, wedding pictures, political campaign signs, barrels, broken rickshaw, burnt police training manual, cafeteria tray, channel marker, hotel door handle, mailbox, map of Florida, phone bills, police radio scanner, report card, torch, whoopee cushion, rosary beads, manhole cover

# The Dangers of Debris

Marine debris has a devastating and often lethal effect on marine wildlife. Each year volunteers find animals entangled in pieces of trash; 2000 was no exception.

Marine animals easily become entangled in debris floating in the water or left on the beach. Monofilament lines, fishing nets, six-pack rings, and strapping bands are some of the worst culprits. Birds, for example, often become entangled in trash they have selected for nesting.

Debris that has wrapped around limbs, fins, or flippers causes 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 rise to the surface to breathe.

Accidental ingestion of marine debris also injures and kills marine animals.

According to the most recent U.S. Marine Mammal Commission report in 1997, six of the world's seven species of sea turtles, and at least 111 of the world's 312 species of seabirds have been reported to swallow floating pieces of debris. Sea turtles con-



Hawaiian monk seal in plastic pipe collar.

fuse floating plastic bags with jellyfish, one of their favorite treats. Seabirds, too, are vulnerable to the unintentional ingestion of debris because of their indiscriminate 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, and some animals will stop

Seabird entangled in balloon and string.

# Total debris involved in animal entanglements

Debris Items	Invertebrates	fish	amphibians	birds	reptiles	mammals	total
balloon ribbon/string	STANCE OF STANCES	2		6			10
fishing line with hook/lure	24	50	1	84	4	3	166
crab/lobster traps		4		1	1.1		6
fishing nets/rope	6	13		4	2	2	27
plastic bags	11	14		11		10	46
plastic sheetings	1	3	1	5		2	12
rope	9.00	33		8	2	2	54
six-pack holders	6	4		16		en de la companya de	26
strapping bands		1		1			3
wire	5	5		5	1	3	19
miscellaneous		2		991			4
Total	65	131	2	142	10	232	373

eating, and slowly starve to death. Ingested debris such as cigarette filters can also poison wildlife, releasing toxins into the bloodstream.

# WHAT WE FOUND

Our volunteers found 373 animals entangled in some type of debris (see table page 24). Most of the victims were birds—our volunteers found 142 of them—while fish (131 reported) were the second most frequently found entangled animal. Fishing line caused about 45% of the entanglements, rope was a distant second causing 54 (14%) entanglements. Volunteers also found animals entangled in balloons with ribbons, fishing nets, plastic bags, six-pack holders, wire, crab or lobster traps, plastic sheeting, and strapping bands.

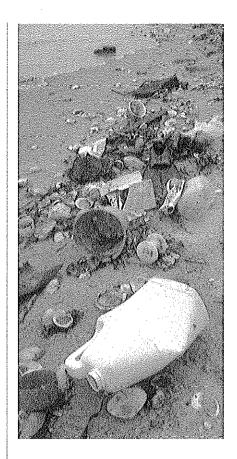
Fishing lines are particularly hazardous to marine animals because they are designed to withstand the thrashing, yanking, and pulling of an animal trying to escape. Likewise, fishing nets purposefully ensnare fish. When these items break loose in our waters they become a floating death-trap for wildlife. "Ghost-fishing" is the term used to describe abandoned nets and gear still catching fish that will never be retrieved. In 2000 volunteers collected a combined total of 127,645 fishing lines and nets in a three-hour period on one day out of the year.

# **WHAT IT MEANS**

The amount of trash collected during the Cleanup gives us an idea of the hazards marine wildlife face daily with marine debris. More than 1.3 million cigarette butts and 1,016,660 plastic bags and wrappers might have been ingested, and 74,399 pieces of fishing line, 27,606 six-pack holders, and 180,712 ropes could have entangled unsuspecting animals. Each piece of debris that enters the ocean or waterway has the potential to injure or kill marine life.



Loggerhead sea turtle. Fishing line is amputating front flipper.



The number of entangled marine animals reported during the Cleanup represents just a snapshot of the amount of damage debris causes to marine animals. Volunteers were not able to reach every mile of coastal land, and divers were certainly not able to cover every inch underwater. Every day more trash gets dumped into our waters and travels for miles. And, of course, 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. Large or small, each piece of debris carries with it a genuine threat to marine wildlife.

# Beyond the Cleanup

<sup>a</sup>very year, people around the world remove millions of pounds of trash from the world's beaches and waterways during the International Coastal Cleanup. These volunteers share our vision of cleaner waters and our goal of reducing and, eventually eliminating, marine debris.

Yet, yearly cleanups are only a temporary bandage on a much larger global wound. Improving the quality of our waters means going to the individual sources of marine pollution to stop litter and waste from becoming marine debris.

The solution involves a focused approach on multiple fronts. Public education is essential in helping people understand how one plastic bag or one soda bottle can affect the

environment. Cities must closely inspect their solid waste management facilities and renovate outdated sewer and storm drain systems so that wastewater and street runoff is handled in an environmentally sound manner, Consumers must demand recycled goods and better recycling facilities to find useful purposes for the ever-increasing amount of trash we create.

Agreements like the MARPOL treaty demonstrate that people and governments are becoming more aware of the immensity of our global marine pollution problem. But we still have a long way to go.

The Ocean Conservancy conducts a number of programs designed to take the lessons of the Cleanup and

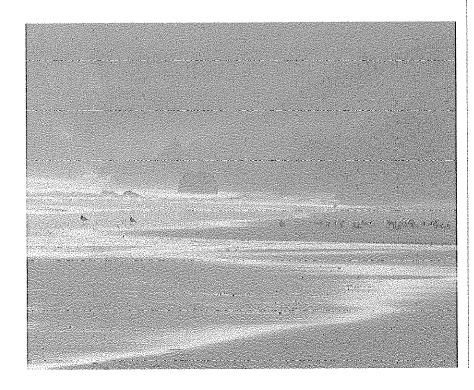
create long-lasting solutions to the problem of marine debris. These activities are direct outgrowths of the International Coastal Cleanup, and each tackles marine debris from a slightly different angle. Collectively, they educate neighborhoods about watershed drainage patterns; create conditions that yield reliable monitoring data; and involve communities in creating their own solutions.

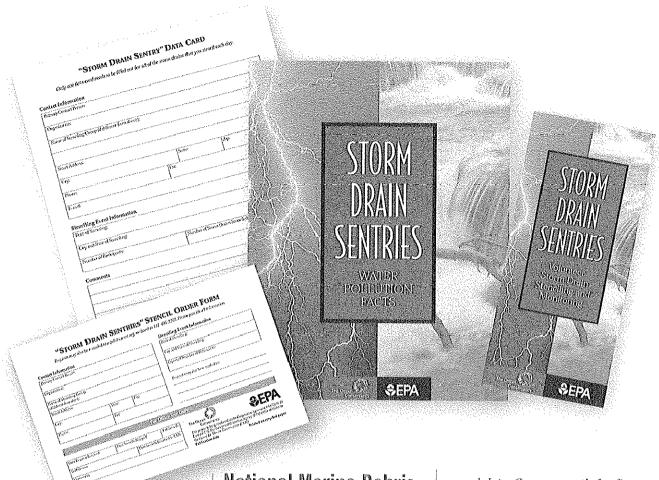
Except where noted below, the following activities are limited to the United States. Please call The Ocean Conservancy's Office of Pollution Prevention and Monitoring at 757-496-0920 to learn more about the programs, and how to set up similar programs in your country.

# Storm Drain Stenciling

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 bodies of water.

Managed by The Ocean Conservancy and funded by the U.S. Environmental Protection Agency, Storm Drain Sentries 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. Volunteers





The Ocean Conservancy's Storm Drain Sentries program aims to reduce non-point source pollution, the greatest single source of water pollution.

stencil storm drains with messages such as "Don't Dump! Protect Your Water."

The Ocean Conservancy sends interested groups a storm drain stenciling kit complete with a fact sheet about nonpoint source pollution, its impacts, and what citizens can do to prevent it. The kit also contains instructions for conducting a stenciling project and a data card for recording information about the number of storm drains stenciled and the types of pollutants found around them.

# National Marine Debris Monitoring Program

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 conditions at the sites, and varying levels of expertise among participants.

The Ocean Conservancy's
National Marine Debris Monitoring
Program, supported by the
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 across the country. At the conclusion of the five-year study, The Ocean Conservancy will conduct a statistical analysis to determine whether marine debris is significantly diminishing in response to current laws and education efforts. It will also help us identify the major sources of the debris.

The debris study is an excellent opportunity for volunteers to become more involved in combating marine debris by becoming active participants in this scientific study. School groups, community organizations, Scout Troops, and concerned citizens are participating in this study at sites located along the entire U.S. coast-line including Alaska, Hawai'i, Puerto Rico and the U.S. Virgin Islands.

# **Local Solutions**

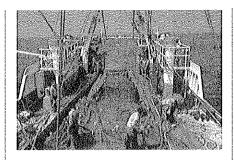
Using data from the Cleanup, The Ocean Conservancy is working with coastal communities around the country and in the Wider Caribbean to develop specific strategies to help keep their wastes out of the water. With support from the Brunswick Public Foundation, Coca-Cola, Philip Morris, and Royal Caribbean International, The Ocean Conservancy's Model Communities program operates on the principle that a problem that originates at the local level must be solved at the local level.

**Current Model Communities** projects focus on four activities that can result in marine pollution:

# RECREATIONAL BOATING AND MARINA OPERATIONS

Through its Good Mate boating program, The Ocean Conservancy is developing educational and training materials for marina staff and recreational boaters to increase awareness of the potential impacts of everyday boating activities—such as fueling, bilge cleaning, vessel maintenance, and vessel operation—and how to prevent or minimize their adverse effects on the environment.

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 for use throughout



the entire United States through partnerships with the U.S. Coast Guard and Coast Guard Auxiliary and into the Caribbean—with projects in Puerto Rico, the U.S. Virgin Islands, the Bahamas, and Bermuda.

# RECREATIONAL AND COMMERCIAL FISHERS

The Ocean Conservancy partnered with Hawai'i Sea Grant to develop its Marine Bounty program, which brought attention to the threats that derelict fishing gear poses to humpback whales, coral reefs, and critically endangered Hawaiian monk seals. Through this program, fishers and other boaters reported the presence of derelict gear in Hawaiian waters. Hawai'i Sea Grant removed the gear from harm's way. A second phase of the project is being developed.

Organizers of a newly emerging project in North Carolina will develop a public education campaign for fishermen on piers and docks. The program will focus on improving the handling of bait containers/bags, fishing line, lures, food items, cigarette/cigar filters and packaging, and other waste materials typically found at these sites.

# RECREATIONAL BEACH **ACTIVITIES**

In Piñones, Puerto Rico, community leaders recognized the lack of adequate waste disposal facilities at a popular beach. Through the Model Communities program they introduced solid waste management strategies that reflected local cultural and social conditions. A permanent recycling center now recycles materials from all the communities surrounding the San Juan Bay Estuary.

# URBAN AND COASTAL LITTERING

Several Model Communities projects focus on reducing the number one item found at cleanups-cigarette butts.

In Ocean City, New Jersey, organizers conducted a public education campaign encouraging beach users to use several newly installed cigarette receptacles. A second project site in another New Jersey city is being discussed.

In Baton Rouge, Louisiana, project partners developed informational materials explaining the environmental impacts of cigarette litter. The materials were distributed at festivals, public meeting places, and college football tailgate parties.

In Virginia, project organizers will work with coastal businesses such as restaurants and hotels to provide adequate cigarette disposal receptacles and encourage patrons to use them.

# **APPENDIX 1: International Sponsors**

**Argentina** 

Celulosa Argentina Diario El Dia Esso Gigot Cosmeticos

Nucleoelectrica Argentina

Proctor & Gamble Interamericas

Repsol YPF

Siderar

Siderca

Bahamas

Asa H. Pritchard

Augapure

Bahamas Waste Management

Deloitte and Touche

City Markets

The D'Albenas Agency

Belize

Atlantic Bank Ltd.

Augusto Quan Ltd.

Bank of Nova Scotia

Barclays Bank PLC

Belize Bank Ltd.

Belize Waste Control Ltd.

**Big-H Enterprises** 

Northern Fishermen Cooperative

Society Ltd.

Novelo's Bus Service

Bermuda

Major Sponsors

Coors

TeleBermuda International

CellularOne

Ministry of Works &

Engineering

Other Sponsors

**Dunkley Dairies** 

John Barritt & Son

Metro Mineral

Butterfield & Vallis

Rosedon

Road Runner Trucking

Undercover Tent Rental

The Parks Department

Elbow Beach Resort

Market Place

The Porch

The Flying Chef

Fair Hamilton Princes

The Cake Shop

Telecom

Capital G

Marine Locker

Knick Knack

H. Davidson & Co. Ltd.

Sail On Making Waves

British Virgin Islands

Conservation and Fisheries

Department

Canada

ACAP Saint John

ALERT

Braxco

**BRITA** 

Canada Corporation

Canadian Coast Guard

City of Saint John

Coastal Zone 2000

Connors Bros.

Eastern Charlotte Waterways

Friends of the Environment

Foundation

Fundy Region Solid Waste

Commission

GE Barbours Ltd.

Hon, Elsie Wayne MP

Irving Nature Park

Irving Oil

Keep Hamilton Clean Committee

Lantic Sugar

Millidgeville Market Superstore

Mispec Recreation Committee Inc.

NB Tel

PITCH-IN CANADA

Province of New Brunswick

Saint John Port Authority

Ship & Shore Cartage Ltd.

Stolt Sea Farm Inc.

TD Friends of the Environment

Foundation

The Ocean Conservancy

Tim Horton's West

Vancouver Aquarium Marine Science

Centre

Colombia

Armada Nacional, Guardacostas

Clean Up Entity Ciudad Limpia

Club De Leones-Cartagena Exelencia **Fundacion Mario Santo Domingo** 

Corporacion Del Medio Ambiente, Cardique

Cruz Roja De Bolivar

Estrantegia Ecoturismo Caribe

Fiscalia General De La Nacion, Futuro Colombia

Fundacion Mamonal Aste-Comite

Ambiental Fundacion Proboquilla (Fundacion

Comunidad) Fundacion Verde Que Te Quiero

Verde Parque Corales Del Rosario Y San Bernardo

Policia Nacional

Prensa Esculea, News paper, El Universal

Secretaria De Educacion Red De **Educadores Ambientales** 

Secretaria Del Medio

Ambiente-Damarena (Guardias

Ambientales)

# Dominica Amerijet International Cable and Wireless Dominica Caribbean Construction Development Depex Colour Lab Dominica Association of Industries and Commerce Dominica Broadcasting Services Dominica Coconuts Products Dominica Conservation Association Dominica Electricity Services LTD Dominica Solid Waste Management Cooperation Courts Dominica **Environmental Health Department** Government Information Services Green Peace International J. Astaphans & Co 1970 Ltd. Josephine Gabriel and Company Ltd. Kairi FM Kentucky Fried Chicken (KFC) Local Government Department National Development Cooperation National Petroleum O.D. Brisbane and Sons P.H. Williams & Co 1979 Ltd. R.C. Enterprises Roseau City Council Ross University Royal Bank of Canada

# Ecuador

Springfield Trading

Tropical Shipping

Western Union

The Chronicle Newspaper

The Ocean Conservancy

Coastal Resources Management Program

Youth Development Division

# Egypt Americana: KFC/Pizza Hut Conrad International Hotel Diving Union Eastmar Travel Moevenpick Golf & Resort Ghazala Gardens Hotel Ghazala Village Hotel Hard Rock Café Hilton Fayrouz Hotel Mariott Resort McDonalds National Parks of Egypt Restaurant El Fanar Sanafir Hotel Sharm Ladies Club Sheraton Sharm Hotel TLC Company

# Greece

HELMEPA JUNIOR

# Japan

All Japan Sponsors

ANA HOTELS WORKERS UNION Circle K Japan Co., Ltd.

HEART CLUB (in Mitsui Marine) Kanagawa Beach Cleaning

Foundation

Sapporo Brewery Ltd.

Sankus and Associates

The Beverage Industry **Environment Beautification** Association

### Kanto

Dunlop Home Products Ltd. Fuii Coca-Cola Bottling Co. Ltd. Otsuka Seiyaka Co, Ltd. (Yokohama Sales Section of The Tokyo Branch) Sumitomo Gomu Kogyo Co. Ltd.

# Kansai

Co-op Kobe Environmental Fund

Dunlop Home Products Ltd.

Hard Rock Café Osaka

Hitachi Kiden Kogyo Co. Ltd.

Hyogo Prefecture Trust Union

Kinki Coca-Cola Bottling Co. Ltd.

Kirin Brewery Co. Ltd. Kobe Sales Head Office

Kobayashi Seiyaku Co. Ltd.

Matsushita Denki Sangyo Co. Ltd.

Mitsui Marine and Fire Insurance Co. Ltd.

National Housing Industry Labor Union

Nestle Japan Labor Union Kobe Branch

Osaka Prefecture Industry Association, Inc.

Roto Seiyaku Co. Ltd.

Sanyo Electric Co. Ltd.

Sapporo Brewery Ltd. Kobe Branch

Sumito Gomu Kogyo Co. Ltd.

Sumitomo Bank Co. Ltd.

Sumitomo Life Insurance Mutual Company

Sumitomo Marine and Fire Insurance Co. Ltd.

Sunstar Co. Ltd.

Torimitsu Co. Ltd.

Yasuda Fire and Marine Insurance Co. Ltd.

### Sendai

Asahi Beer Co. Ltd. Tohoku Region Head Office

Kabushikigaisha Maikaru Tohoku

Kabushikigaisha Tokin

Kirin Brewery Co. Ltd. Sendai Factory

Osaka Community Zaidan (TOYO Environmental Conservation Foundation)

# Inicansiional Resulis

Sendai Coca-Cola Bottling Tohoku Denryoku Kabushikigaisha, Shiogama Eigyosho

# Kagoshima

Alico Japan Kagoshima Central Agency

Faculty of Fisheries, of Kagoshima University

Funatsu Onsen Company

Hokusatsu Tobiuo-Juku

Kagoshima Prefecture

Kagoshima Seakayak Club

Kagoshima Women's Junior College

Kinkou Bay Integrated Operational Association for Future

Landart Co. Ltd.

Southern Kyushu Area Laboratory, Kagoshima Women's Junior College

# 0kinawa Sponsors

Motor Boat Racing Association's Charity Support Fund (MoTaBoTo KyouZou ShikouSha Kyougikai Josei Jigyou)

Japan National Parks Foundation

Bank of the Ryukyus

Okinawa Bank Furusato Fund

# Support

Maeda Point Diver's House SeaWeeds Dive Shop Yomitan Village Government Onna Village Government Okinawa Prefecture Culture & **Environment Department** Okinawa Prefecture Peoples Summit Support Committee Okinawa Prefecture Social

Welfare Community Association

11th Regional Maritime Safety Agency Okinawa (MSA)

Okinawa Tourist & Convention Bureau

Japan National Parks Foundation Ocean & Coastal Environmental Beatification & Protection Foundation

Okinawa Diving Safety Council PADI Japan

MCCS Scuba (U.S. Marine Corps Community Services )

# Sponsors for Poster & Report

Asahi Beer Co. Ltd. Okinawa

Orion Beer Brewing Co.

Kirin Beer Co. Ltd. Okinawa

Okinawa Coca-Cola Bottling Co. Ltd.

PEPSI Bottling Co. Okinawa

A & W All American Food Okinawa

San Ei Department Stores Okinawa

Jimmy's Bakeries

AEON Group-JUSCO

Okinawa Electric Power

Company

Kanehide Group

Okinawa Bank

Japan Trans-Ocean Airlines (JTA)

Okinawa Kaiho Bank

Okinawa Alcoholic Beverage

**Brewers Association** 

Bank of the Ryukyus

Family Mart

Ryuseki (Ryukyu Oil)

Hot Spar

Okinawa Hotel & Ryokan Quality Association

Yomitan MonoGatary Restaurant & Pub

SAM'S Restaurant Group (Great Eastern )

Coconut Moon Beach Bar & Live Music Spot

Marine House SEA SIR

Creative Design Production PROJECT CORE

ajima inc.

http://www.rinken.gr.jp/

Okinawa Diving Safety Council

PADI Japan

Kadena Marina 18th Services

Squadron

**KOBUNDO Printing** 

MakeMan-Power Center

NewMan

Yanase Okinawa

Ryukyu Village

"NATUREWORKS" The Eco

Professionals

### Lithuania

Joint Stock Company "Smiltyne's Ferry"

Joint Stock Company

"Spectrausport"

Klaipeda Municipality

Klaipeda Vytaytas Didysis

Gymnasium

Magazine Klaipeda

Palanga Municipality

School Club "Baltijos Alus"

(The Baltic Eye)

# Malavsia

Le Village Resort

The Body Shop

### Mexico

Agua Solar

Capitania de Puerto

Coca-Cola

Cocina Express

Construcciones Dinamicas SA DE CV

Grupo ACIR

H. Ayuntamiento

Hotel Paraiso del Desierto

Importadora Numeros

II's Cantina

TECATE

Restaurant Costa Brava

Restaurant Lili's Restaurant Mr. Amigo Restaurant Old Port Galey Restaurant Playa Bonita Sria. De Turismo

# Nigeria

Principal Sponsors Akwa Ibom State Ministry of Environment

> Federal Radio Corporation of Nigeria (FECN)

Lagos State Ministry of **Environment & Physical** Planning

Lagos State Waste Management Development Corporation

Lagos State Waterfront & Tourism Development Corporation

News Agency of Nigeria (NAN)

Nigeria Institute of Oceanography & Marine Research (NIOMR)

Radio Lagos (EKO FM) Rivers State Tourism Board Rivers State Water Research

Development Centre

# Sponsors

Biks Ventures Limited Roalad Printers Nigeria Limited Wonder Foods Nigeria Limited

# Volunteer groups

**Boy Scout Movement** Clean up Clubs (in schools) Lagos State University Students Forum for Environment & Development Man O' War Association National Association for **Environmental Education** Students, Port Harcourt Nigerian Red Cross Society Oke-Oia Youth Development Association, Lagos

**Baptist Academy Students** 

Akpakib Oro Student Association University of Uyo (Akwa Ibom State)

# Norway

The International School of Stavanger

### Palau

**NECO Marine Dive Shop** USA Seabee Civic Action Shell Palau

Pascual Hermanos, S.A.

### Panama

Franquicias Panameñas, S.A. Industries Lácteas, S.A. Refrescos Nacionales, S.A. Produción Panameña de Hielo, S.A. SEGURICENTRO **SEMM IPAT Empanadas Panapatty** Polymer Nestlé Panamá, S.A. SUGABEL Alimentos del Istmo, S.A. Pepsi-Cola Riva Smith COSMARK Panamá Viejo COOPS.A.C.A. Felipe Motta, S.A.

# Peru

Principal Sponsor Marina de Guerra del Perú

# Other Sponsors

Ministerio de Educación CTAR - Callao Policía Nacional del Perú-División de Proyección Social **ECOPLAYAS** Municipalidad de Miraflores PETROPERU

Refinería La Pampilla REPSOL -ALICORP CITAM-Ucayali

# Saudi Arabia

**BAe Alternative Dive Club** BAe Beach Sharky Dive Center Dhahran International Hotel

### St Kitts & Nevis

Nevis Historical and Conservation Society Ballahoo Restaurant Bird Rock Beach Hotel Cyril Adams (Addy's Tours) Delisle Walwyn Frigate Beach Resort Island Purified Water Jack Tar Village Resort Marshall's Restaurant Shell Antilles & Guianas Ltd Rams Supermarket St Kitts Bottling Company Turtle Beach Bar & Grill

# Tonga

Australian High Commission New Zealand High Commission U.S. Peace Corps Tonga National Youth Congress

# **United Arab Emirates**

**Emirates Bank Group** 

# **United Kingdom**

Crown Estate Transco Grassroots Environmental Award

# APPENDIX 2: International Raw Data Summary

DEBRIS ITEM	Argentina	Barbados	Belize	Brazil	British V.I.	Canada	Cayman Islands	Colombia	Costa Rica	Dominica	Dominican Republic	Ecuador
PLASTIC												
food bags/wrappers	2,994	624	2,024	167	39	447	271	2,867	0	3,533	61	0
salt bag	103	m	177	25	0	10	19	94	0	08	2	0
trash bags	3,167	III	467	69	1	62	57	1,757	0	835	4	0
other plastic bags	861	295	1,344	64	10	105	55	896	15	2,449	06	0
beverage bottles	3,395	250	852	139	11	177	372	259	0	1,353	11	0
bleach, cleaner bottles	338	1.5	126	46	2	24	17	107	0	3,401	m	0
milk/water gallon jugs	341	22	275	58	13	50	41	375	0	2,806	30	0
oil, lube bottles	454	37	222	37	0	62	31	193	0	1,997	4	0
other plastic bottles	1,129	78	428	52	2	48	182	204	33	964	10	0
buckets	193	10	27	10	0		2	94	0	198	4	0
caps, lids	2,374	315	2,318	224	10	646	575	1,095	2	777	85	0
cigarette butts	3,500	64	486	204	7	1,151	433	1,499	0	942	494	0
cigarette lighters	235	10	100	13	0	17	19	117	S	133	10	0
cups, utensils	260	290	1,300	182	20	224	245	2,569	16	1,375	44	0
diapers	355	16	219	0	3	33	9	129	0	321	19	0
fishing line	149	∞	19	prod	5	42	87	54	20	230	155	0
fishing lures, floats	99		8	8	0	28	16	14	0	84	2	0
fishing nets	85	44	37	19		49	7	. 67	<del></del>	243	S	0
hard hats	51	0	18	7.5	0	0	0	48	0	29		0
light sticks	27	10	229	2	0	per (	30	39	0	83	æ	0
plastic pieces	3,180	328	2,327	354	19	839	169	1,025	0	5,325	9	0
pipe thread protector	23	8	30	11	r4	12	0	91	0	17	3	0
rope	477	202	09	128	ę(	1,051	44	265	1	440	21	0
sheeting longer than 2 ft	52	12-4	28	21	0	7	7	82	က	29		0
sheeting 2 ft or shorter	62	e-4	4	22	0	25	7	90	S	56	7	0
six-pack holders	441	5	30	56	y4	19	20	283	বা	29	101	0
strapping bands	180	8	14	16	<del></del>	178	20	54	0	99	0	0
straws	1,217	134	1,918	2	8	371	189	3,086	0	315	0	0
syringes	77	13	34	15	0	7	63	20	0	32	S	0
tampon applicators	352	0	10	2	0	189	1	147	0	162	1	0
toys	254	2	53	75	0	18	7	105	0	431	ŗ	0
vegetable sacks	31	0	26	29	0	12	S	130	0	40	S	0
"write protection" rings	84	П	-	18	1	26	0	131	0	16	Ľ	0
other plastic items Enamera di actif	992	9	582	205	61	437	<b>9</b> 0	629	71	3,205	14	23,402
pnoys	86	35	32	4	1	105	∞	89	0	189		0
cnps	111	59	748	164	18	192	160	562	-	1,545	163	0
egg cartons	71	Ţ	38	7	0	0	0	73	0	365	5	0
fast food containers	230	64	249	22	6	57	93	238	0	3,281	102	O
meat trays	199	4.	46	0	1	28	8	121	0	327	2	0
packaging material	398	25	179	63	0 ;	111	22	170	0	414	4	0
foamed plastic pieces	1,731	88	1,268	237	13	1,890	247	849	0	3,542	15	
plates	82	33	7/7	0 "	41 0	67	10	513	2	2/3	3,7	C ()
other toamed diastic nems	655	1 /	Z14 I	- C	<u> </u>	90	477	7/7	17	740		3,700

benerage bottles         1,290         505         442         261         64         36         406           food finding lass buttles/arrs         152         10         31         55         104         36         610           floor glass buttles/arrs         152         10         31         52         104         39         610           floor glass buttles/arrs         137         1         20         1         1         11           floor glass buttles/arrs         137         1         20         1         21         11           floor glass buttles/arrs         3,426         77         847         68         49         2,402         211           other plants         3,426         7         847         68         7         14         32           public stars         20         2         65         7         13         12         12           build public stars         20         2         65         13         0         17         12           build public stars         20         2         16         33         0         17         18           build public stars         20         1         12	369	6 651 9 108	'n	1,051	202	000
treins   15.2   10   3.1   5.5   10.4   3.6   1.9   1.9    buttlessfares   3.85   1.3   8.3   3.5   1.0   3.6   1.9   1.0    s   3.456   7.7   8.47   6.8   4.9   2.402   2.2    s   3.456   7.7   8.47   6.8   4.9   2.402   2.2    s   2.65   3.4   4.9   1.3   0.0   0.1   0.1    2.65   2.5   4   4.9   1.3   0.0   0.1   0.1    2.67   1.8   4.9   1.3   0.0   0.1   0.1    s   4.06   3.4   4.9   1.3   0.0   0.1   0.1    s   4.06   3.4   4.9   1.3   0.0   0.1   0.1    s   4.06   3.4   4.9   1.5   0.0   0.0   0.0    s   4.06   3.4   3.2   3.3   3.3   3.3    s   4.06   3.4   3.1   0.0   3.2   3.3    s   4.06   3.4   3.2   3.4   3.1   0.0   3.5    s   4.06   3.4   3.4   3.1   0.0   3.5   3.3    s   4.06   3.4   3.4   3.1   3.5   3.5   3.5    s   4.07   3.1   3.3   3.5   3.5   3.5    s   4.07   3.1   3.3   3.5   3.5   3.5    s   4.07   3.1   3.4   4.0   3.1   3.5    s   4.07   3.1   3.4   4.0   3.1   3.5    s   4.07   3.1   3.4   4.0   3.5    s   4.07   3.1   3.4   4.0    s   4.07   3.1   3.4    s   4.07   3.1   3.1    s   4.07   3.1   3.1    s   4.07   3.1   3.1    s   4.07   3.1   3.1    s   4.07   3.1    s   4.07   3.1    s			C	457	14	
Telestate   385   13   88   36   104   39   60   1   1981 tubes   37   1   20   1   0   1   124   1   1881 tubes   37   1   20   1   1   149   2.402   2.11   1881 tubes   255   3   84   85   1   449   2.22   22   22   23   25   25   25   25	36	1	O (			<
September   143	39		0	19/	20	n
state         143         1         \$0         1         24         \$24           state         3,426         7         847         68         49         2,402         211           thems         265         3         84         85         1         49         221           thems         266         2         65         7         1         34         8           267         18         2         13         0         61         12         221           421         25         4         49         23         0         61         12           267         18         97         18         9         61         12         9           276         421         23         0         61         2         3         12         2           arrians         905         43         16         23         13         13         14         8         10         6         11         40         12         10         11         40         12         10         11         40         11         12         10         41         11         11         11         12	e(	_	0	12	1	0
s         3.426         77         847         68         49         2.402         211           thems         265         3         84         85         1         49         2.2           thems         265         2         65         7         1         34         8           corr         276         4         49         13         0         61         12           276         4         49         13         16         13         1         49         22           276         4         49         17         16         17         3         8           276         406         5         16         17         9         790         41           18         406         5         69         16         790         41         17           18         406         5         16         0         0         0         0           18         406         5         16         0         0         0         0           18         13         14         1         2         0         0         0         0           18 <t< th=""><th>T</th><th></th><th>0</th><th>34</th><th>1</th><th>0</th></t<>	T		0	34	1	0
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Secondario	49		1	1,346	4.	4,735
Color						
Partition	34		0	109	3	0
ubber frems         421         25         140         23         0         17         3           Luber frems         267         18         97         18         1         29         5           Luber frems         267         115         6,422         131         9         790         41           Leans         905         115         6,422         33         0         323         293           ge cans         906         115         6,422         33         0         323         293           ge cans         905         115         6,422         33         0         323         293           ge cans         905         115         6,422         33         0         323         13            ge cans         909         43         12         66         14         15         8         11           sinster traps         13         14         1         2         0         0         0         0           nond drum         14         1         2         48         19         35         24           see         520         21         12         32         22	19	****	0	520	21	0
Langer Herms   267   18   97   18   1   29   5	17		0	730	n	0
ber items         583         17         162         151         9         790         41           six         905         115         6,422         33         0         323         293           ans         906         15         6,422         33         16         2         33         13           cans         909         43         122         164         83         183         210           cans         99         43         12         6         9         14         14           cans         137         14         84         21         0         0         9         0           dumn         137         14         84         21         0         9         0           dumn         137         14         84         21         0         9         0           dumn         134         1         2         48         21         0         0         0           dumn         135         275         48         19         354         2         2           sec         202         21         29         5         22         2         3 <td>29</td> <td></td> <td>0</td> <td>468</td> <td>5</td> <td></td>	29		0	468	5	
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pas         905         115         6,422         33         0         323         293           anis         406         5         69         164         83         13         13           cenns         99         43         122         38         3         183         13           is         137         14         84         21         0         0         6         14           is         137         14         84         21         0         0         6         14           is         137         14         14         84         21         0         6         14           is         137         14         18         0         0         0         0         14         14           is         137         14         18         0         0         0         0         0         0           ter traps         15.18         38         275         48         19         354         2           ces         15.18         35         24         0         0         0         0         0           ces         202         21			win.			
ans         406         5         69         16         2         33         13           cants         929         32         164         83         183         210           cants         929         32         164         83         183         210           is         13         4         32         38         21         6         14           is         137         14         8         21         0         0         9         0           drum-rusty         113         4         18         0         0         9         0           drum-rusty         113         4         18         0         0         9         0           drum-rusty         113         275         48         19         354         2           drum-rusty         114         1         2         0         0         0         0           drum-rusty         113         38         275         48         19         354         2           ges         320         1         2         2         0         0         0         0           des         709 <t< td=""><td>323</td><td></td><td>0</td><td>4,345</td><td>41</td><td>0</td></t<>	323		0	4,345	41	0
cans         929         32         322         164         83         183         210           st         99         43         122         38         3         18         19           ster traps         137         14         84         121         0         0         6         14           ster traps         137         14         84         10         0         9         0           drum - rusty         113         4         18         0         0         9         0           css         1,518         3         275         48         19         354         2           css         1,518         3         275         48         19         354         2           css         1,518         3         2         48         19         354         2           css         200         31         278         24         0         202         23           tall items         200         31         278         24         45         24           stall items         70         144         112         19         0         48         9	33		0	414	12	0
State   Stat	183		0	610	79	0
ter traps  137  14 84 21 0 6 6 14  ter traps  138  13 1 0 0 0 0 9 0 0  drum-rusty  113  1 1 2 0 0 0 0 0  ces  359  1 14 31 0 85 10  820  21 129 8 5 92 23  1 14 31 0 85 10  820  21 129 8 5 92 23  1 145 21 129 8 60  gs  824 21 213 150 5 88 60  gs  824 21 213 150 5 88 93  resimagazines  414 41 112 19 0 48 9  resimagazines  414 41 112 19 0 88 99 10  resimagazines  414 40 0 17 0 0 8 0 8  resimagazines  415 20 118 15 24 45  resimagazines  416 0 17 0 0 8 0 8  resimant  818 82 83 145 61  resimant  818 82 89 89 89 89 89 89 89 89 89 89 89 89 89	18		0	862	23	0
ter traps  13	9		0	198	<b>~</b> —'	0
oces         113         4         18         0         0         5         4           offrum-new         14         1         2         0         0         0         0         0           ces         1518         38         275         48         19         354         2           ses         1518         3         48         5         92         23           ses         20         21         129         8         5         92         23           ses         202         31         278         24         0         202         10           ses         824         21         278         22         10         137         28           ses         709         52         145         22         10         137         28         60           ses         701         81         136         12         2         66         24         93           ser items         662         60         118         15         2         99         10           ser items         662         60         17         0         2         99         10	6	0 21	0	66		0
ces         1,518         38         275         48         19         354         2           ces         1,518         38         275         48         19         354         2           ces         1,518         38         275         48         19         354         2           359         21         129         8         5         92         23           tal items         202         31         278         24         0         202         10           gs         824         21         278         24         0         202         10           gs         824         21         278         22         10         202         10           gs         824         21         12         22         10         48         9           eres         1,925         144         460         73         23         564         133           per items         662         60         111         104         1         24         45           per items         662         60         118         15         2         99         10           per items	5		0	68	2	0
ces         1,518         38         275         48         19         354         2           359         1         14         31         0         85         1           520         21         129         8         5         92         23           tal ltems         202         31         278         24         0         202         10           gs         824         21         278         24         0         202         10           d         709         52         145         22         10         137         28           d         701         81         136         12         2         66         24           f         703         81         136         13         66         24         9           eces         701         81         112         19         0         48         9           eces         72         144         460         73         23         564         133           eces         72         17         111         104         1         24         45           eces         5         6         5	0	0 40	0	20	0	0
SSO	354		0	2,463	80	0
fall items         520         21         129         8         5         92         23           fall items         202         31         278         24         0         202         10           gs         824         21         213         150         5         38         60           gs         824         21         213         150         5         38         60           gs         824         21         213         120         13         22         10         137         28           nor         701         81         136         12         2         66         24           nor         141         41         112         19         0         48         9           proses         1,925         144         460         73         23         564         133           nor         662         60         118         15         2         99         10           ster traps         44         0         17         0         0         8         0           ster traps         5         3         4         36         0         1 <tr< td=""><td>85</td><td></td><td>0</td><td>25</td><td>T</td><td>0</td></tr<>	85		0	25	T	0
tal items         202         31         278         24         0         202         10           gs         824         21         213         150         5         38         60         10           d         709         52         145         22         10         137         28         5           d         701         81         136         12         6         24         6         24         9           res         701         81         112         19         0         48         9           ces         1.925         144         460         73         23         564         133           ces         72         17         111         104         1         24         45           ces         72         17         111         104         1         24         45           ner items         662         60         118         15         2         99         10           ter traps         44         0         17         0         0         8         0           sec         568         5         3         4         36         0	92		0	909	0	0
gs         824         21         213         150         5         38         60           d         709         52         145         22         10         137         28           ers/magazines         414         41         136         12         2         66         24           eves         701         81         136         17         1         380         93           eves         1,925         144         41         112         19         0         48         9           eves         72         17         111         104         1         24         45           eves         72         17         111         104         1         24         45           eves         72         60         118         15         2         99         10           ever         662         60         118         15         2         99         10           ever         568         5         100         22         0         2         6           ever         568         5         86         895         88         3         145         61 </th <th>202</th> <th></th> <th></th> <th>1,763</th> <th></th> <th>3,116</th>	202			1,763		3,116
gs         824         21         213         150         5         38         60           off         709         52         145         22         10         137         28           res/magazines         141         81         136         12         2         66         24           res         141         13         302         17         1         1         2         46         24         66         24         9           sees         1,925         144         460         73         23         564         133         9           ser items         662         60         118         15         2         99         10           ser items         662         60         118         15         2         99         10           ster traps         44         0         17         0         0         8         0         1           ster traps         44         0         17         0         0         2         6         1           ster traps         5         80         2         4         36         0         1           ster traps         <						***************************************
id         709         52         145         22         10         137         28           ers/magazines         141         13         302         17         1         380         93           ers         191         11         11         11         14         46         73         23         64         133           sees         1,925         144         460         73         23         564         133           ser items         662         60         118         15         2         99         10           ster traps         44         0         17         0         0         8         0           ster traps         44         0         17         0         0         8         0           ster traps         44         0         17         0         0         8         0         10           ster traps         44         0         17         0         0         2         6         6           ster traps         5         100         22         0         2         6         6           stecs         1,659         86         895	38		0	293	44	0
res         701         81         136         12         2         66         24           ers/magazines         141         13         302         17         1         380         93           sees         1,925         144         41         112         19         0         48         9           sees         1,925         144         460         73         23         564         133           ser items         662         60         118         15         2         99         10           ster traps         44         0         17         0         0         8         0           ster traps         44         0         17         0         0         8         0           ster traps         44         0         17         0         0         8         0           ster traps         44         0         17         0         2         6         6           ster traps         5         100         22         0         2         6         6           ster traps         1,659         86         895         88         3         145         61	137		0	629	9	0
resymagazines         141         13         302         17         1         380         93           eres         414         41         112         19         0         48         9           per leers         1,925         144         460         73         23         564         133           per leers         72         17         111         104         1         24         45           per leers         662         60         118         15         2         99         10           ster traps         44         0         17         0         0         8         0         1           ster traps         44         0         17         0         0         8         0         2           ster traps         568         5         100         22         0         2         6           ster traps         1,659         86         895         88         3         145         61           steces         1,659         86         895         58         3         145         61	99		0	272	111	0
eres         414         41         112         19         0         48         9           ces         1,925         144         460         73         23         564         133           cer         72         17         111         104         1         24         45           per items         662         60         118         15         2         99         10           ster traps         44         0         17         0         0         8         0           ster traps         44         0         17         0         0         8         0           ster traps         568         5         100         22         0         2         1           ster traps         568         5         100         22         0         2         6           ster         1,659         86         895         88         3         145         61           princes         568         56         55         18         55         70	380		0	351	6	0
rees         1,925         144         460         73         23         564         133           per items         662         60         118         15         2         99         10           ster traps         44         0         17         0         0         8         0           odi tems         332         70         277         35         4         36         0           seces         1,659         86         895         88         3         145         61           pieces         965         66         559         55         18         255         70	48		0	144	59	0
reference         72         17         111         104         1         24         45           ster traps         662         60         118         15         2         99         10           ster traps         44         0         17         0         0         8         0           568         5         3         18         0         2         1           568         5         100         22         0         2         6           ieces         1,659         86         895         88         3         145         61           nieces         965         66         559         55         18         255         70	564 1	33 856	0	947	0	0
ter traps         662         60         118         15         2         99         10           ster traps         44         0         17         0         0         8         0           568         5         100         22         0         2         1           568         5         100         22         0         2         6           60 items         332         70         277         35         4         36         0           feces         1,659         86         895         88         3         145         61           nieces         965         66         559         55         18         255         70	24		0	204	Ş	0
ster traps         44         0         17         0         8         0         8         0         8         0         8         0         2         1 <t< td=""><td>66</td><td><del>, 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 </del></td><td><del></del></td><td>130</td><td>61</td><td>4,553</td></t<>	66	<del>, 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 </del>	<del></del>	130	61	4,553
157         2         3         18         0         2         1           568         5         100         22         0         2         6           od items         332         70         277         35         4         36         0           feces         1,659         86         895         88         3         145         61           nieces         965         66         559         55         18         255         70			0	36	2	0
568         5         100         22         0         2         6           ieces         1,659         86         895         88         3         145         61           nieces         965         66         559         55         18         255         70			0	87	<del></del> (	0
oid items         332         70         277         35         4         36         0           leces         1,659         86         895         88         3         145         61           nieces         965         66         559         55         18         255         70		-	0	244	ж	0
leces         1,659         86         895         88         3         145         61           nieces         965         66         559         55         18         255         70			0	306	19	5,472
nieces 965 66 559 55 18 255	145	51 1,186	0	803	2	0
	255	70 640	4	4,316	58	784
TOTAL RY ZANE 52 944 4 830 32 098 4 527 627 15.818 5.589 3	15.818	33.241	104	71.327	2,328	46,588

# APPENDIX 2: International Raw Data Summary

DEBRIS	Egypt	Greece	Grenada	Hong Kong	Indonesia		Jamaica	Japan	Kenya	Kuwait	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Malaysia
PLASTIG												
food bags/wrappers	1,044	2,365	1,657	10	69	89	2,571	9,104	5,540	45	2,546	274
salt hag	0	0	40	0	0	0	64	7	887	0	507	19
trash bags	18	1,453	135	0	0	0	006	1,404	3,174	4	83	21
other plastic bags	135	0	511	0	9	31	1,063	9,188	4,371	6	824	48
beverage bottles	1,295	2,275	2,400	40	22	0	11,008	9,891	2,986	44	1,624	110
bleach, cleaner bottles	10	0	420	0	0	0	495	717	767	0	145	7
milk/water gallon jugs	89	0	37	4	0	0	542	480	1,569	0	322	209
oil, lube bottles	21	0	309	15	0	0	579	298	757	1	09	9
other plastic bottles	127	0	496	10	16	0	1,596	1,426	3,008	7	139	74
DUCKETS	11	266	23	0	0		157	213	711	2	6	6
Caps, nus	1,237	2,31/	1,408		0	0 5	2,481	10,166	2,895	3/	345	30
cigarette lighters	3,007		1/3	2 1/2	0	310	379	1 973	3,759	40	4,94/	32
cups, utensils	68	823	401	0	6	0	1,654	1.437	1.823	16	0	29
diapers	4	8	148	0	0	0	241	43	291		0	25
fishing line	96	206	133	0	4	0	141	741	851	7	30	***************************************
fishing lures, floats	42	0	74	12	1	0	63	1,064	2,731	2	0	5
fishing nets	0	45	133	15	3	0	140	420	649	1	364	9
hard hats	0	0	21	0	0	0	16	8	423	0	112	0
light sticks	156	0	251	0	0		93	40	3,759	0	320	4
plastic pieces	322	0	502	0	0	0	2,847	45,136	8,273	36	575	34
pipe thread protector	300	0	17	0	0	0	32	10	231	5	357	4
rope	128	248	255	0	7	0	391	5,143	2,697	15	115	28
Sneeting longer than 2 tt	69	χ ζ	38	0	0		28	1,531	214	2	120	9
Sneeting 2 tt of snorter	265	396	09	0	× (	0	8/	9,778	388	2	0	3
six-pack holders	0	0.26	2	0	0		35	16	147	0	0	0
strapping pands	69	259	41		4		100	732	431	0	841	0
Suraws	0/1	2,130	493				186	2,102	4,422	47	298	(5)
Syl lights	0 4	07	0 1				45	101	4/1		322	OT
tampon appreaturs	0 +	165	/ 00			8	2000	18	302	0 [	100	
vegetable sacks	82	COT	43			0	51	117	1 586	OT	906	11
"write protection" rings	9	920	1	0	0	0	40	0	237		48	1
other plastic items	09	8	100	0	3	0	325	23,643	2,282	29	694	7
FOAMED PLASTIC												
pnoys	43	0	12	0	0	0	159	323	96/	2	42	27
cups	91	0	009	13	0	0	803	733	973	0	2	187
egg cartons	25	2	70	0	0	0	44	185	328	0	51	12
fast food containers	61	13	775	7	2	0	795	2,406	1,233	9	116	42
meat trays	20	0	63	3	0	0	104	3,801	209	0	52	18
packaging material	302	8	140	0	2	0	396	489	1,564	18	158	108
foamed plastic pieces	240	4,	254	0	0	0	1,294	53,179	3,341	12	709	161
plates	59	12	501	0	0	0	456	328	978	2	26	9
other foamed plastic items	0	0	199	0	0	0	267	286	2,254	0	475	51
GLASS												
										-		

Specifical entered (COSCOM), entered proposition of the Architecture of the Architectu	ogelstesem/skataeessementenesse	en emblem per filmene en extremente en en en en		and an analysis of the second	ALESTANISM (A) COMMISSION CONTRACTOR	out the second s	and the second s	Lucianian Committee	1.1.0/0	1 (	., .	2
מושים ביים ביים ביים ביים ביים ביים ביים ב	59	12	501	0	0	0	456	328	8/6	7	07	٥
other formed placific items	)	0	199	0	0	0	267	286	2,254	0,	475	51
Cilia io piasto piasto io con	)	;							k may make a facility			
は、アンシ						,	, ()	100	2775	20	255	55.7
beverage bottles	580	492	705	0	10	14	1,124	4,921	2,543	# 0	11	6
food jars	22	8	67	S	2	0	293	000	1 2201	000	912	103
other glass bottles/jars	78	10	311	0	m (	0	780	322	1,230	n C	77/	10
fluorescent light tubes	0	4	42	0	0		559	41	501		Ob	101
light buibs	26	35	20	0	0	)	SS 2	707	321	100		24
glace nieces	225	916	500	0	0	0	760	12,822	1,654	27	211	10
other glass items	39	341	130	0	0	,i	105	1,070	099	07	1,51/	7
- CX	*****			· · · · · · · · · · · · · · · · · · ·								ann Andreas
		1.0	78	C	C	0	43	174	604	red	135	30
palloons		77	20%			2	262	35	859	0	0	3
condoms	> -	0 1	000	V		C	50	168	415	4	252	36
gioves	7 0	126	211	) c	4	0	208	205	1,567	9	27	15
ather rither items	7,10	112	132	0	11	0	881	2,285	6,209	7	271	42
	<u> </u>	, ,			·							
	710	617	002	c	-	С	957	2.313	2,307	0	0	35
bottle caps	0/7	#/0	305		,		425	1.243	310	9	66	11
aerosol cans	01	2 000	412		35	100	261	10,771	2,221	27	780	56
beverage cans	401	2,000	277		SS		363	448	638	7	336	16
food cans	127	25	C (3)		1 -	Ô	128	534	406	4	249	22
other cans	CT	300	ò	> <	· C	c	29	18	200	r-o-f	1,276	9
crab/looster traps	5		213			0	137	29	1,336	7	0	p
55 gallon drum - rusty	77		100		c	C	61	-	213	0	0	0
55 gallon drum - new	24,0	257	147		2	0	316	2,350	086	9	34	52
metal pieces	740	) (27)	74,				55	592	184	0	1,012	0
puit taos	74	134	49	o	2	0	207	701	797	2	51	9
WIFE	1,00	#CT	) <u>,</u>	O	ı m	0	189	3,646	406	4	124	30
OTHER METAL HEIRS	707	077	·····	>	)							
PAPER				,	,	(	1.00	Coc	2526		503	89
paper bags	228	1,154	781	0	0	0	333	389	6,330	12	12	20
cardboard	104	89	338	0	٥		3/0	430	040	1 1	200	12
cartons	366	207	264	0	0		2,049	7507	1,142	7,7	766	273
cons	3	28	300	4	0		331	339	1 005	0 ~	2005	102
newspapers/magazines	98	445	75	S	0	5 0	177	200	2,700	37	480	63
paper pieces	804	156	300	0	0		33/	3,100	490	5	215	22
plates	40	28	419		0		217	240	595	24	1.804	24
other paper items	287	213	121	<b>)</b>	7	>	0	\ † ?	) ) )	· · · · ·	)	
000M										<	,	
crah/Inhster trans	0	0	40	0	0	0	20	182	334	0	٥٩	
orașio de la care	10	100	44	0	0	0	41	185	175	٥	10	7
nallets	47	27	35	0	0	0	. 95	2,206	463	0	3//	11
other wood items	1.756	1,076	286	0	4	0	226	5,902	3,42/	၁ ငှ	137	0/
lumber nieces	598	46	350	0		<b>;1</b>	200	454	88/	7.7	151	10
clothing/pieces	125	185	601	0	12	0	692	1,227	4,237	9	0	76
LICOT AND MARKET	0.50	30 405	21 240	15.2	096	328	45,901	316,571	126,347	655	32,428	3,706
TOTAL BY ZUNE	1 22,010	DO#/07	- KF1-17	)	j }	) i	:	1	,			

# APPENDIX 2: International Raw Data Summary

	<del></del>		Max.	•		<del>-</del>	444		-	•		
DEBRIS ITEM	Mexico	Micronesia	Netherlands Antilles	New Zealand	Nigeria	Norway	Palau	Peru	Philippines	Poland	Saudi Arabia	Singapore
PLASTIC												
food bags/wrappers	2,422	238	735	629	1,616	178	99	6,911	618,744	100	156	10
salt bag	96	0	3	0	70	0	0	1,110	29,513	0	-	0
trash bags	1,345	53	537	3	1,634	10	0	23,050	121,515	0	67	20
other plastic bags	1,040	148	556	25	13,329	32	4	4,989	113,835	10	247	0
beverage bottles	3,368	108	395	87	99	12	14	26,236	71,612	200	208	50
bleach, cleaner bottles	1,314	7	87	26	94	0	3	3,309	32,784	0	19	10
milk/water gallon jugs	1,064	41	134	31	31	14	2	1,476	33,947	10	26	10
nil luhe hottles	1 681	ir.	828	10	105	3	~	3.774	25.333	2.1	<b>***</b>	100
other plactic hottles	847	22	924	73	141	ıÇ:	37	5.077	47 797	i «	33	c
buckets	266	7	811	,	19	9	0	1,206	10,620	2 (1)	4	0
caps, lids	1,994	272	2,729	722	4,344	132	69	15,186	62,029	21	32	70
cigarette butts	3,176	1,595	1,122	121	8,728	573	m	7,764	128,685	100	69	250
cigarette lighters	138	7	279	43	105	105	13	800	22,167	3	9	15
cups, utensils	1,812	145	1,123	31	112	15	25	5,239	54,318	0	136	20
diapers	434	ŧ.	27	3	Ţ	. 3	0	1,719	35,477	9	13	0
fishing line	314	8	226	21	84	52	0	088	28,854	100	128	10
fishing lures, floats	58	53	23	0	166	0	6	624	21,684	S	49	20
fishing nets	167	14	145	1	109	8	8	1,297	38,167	0	31	2
hard hats	2	2	0	0	32	0	0	376	10,409	0	0	0
light sticks	181	0	161	<b>,</b> 1	123	4	0	1,017	87,468	0	7	0
plastic pieces	2,680	418	10,655	364	1,463	483	96	4,783	52,568	42	33	25
pipe thread protector	138	0	17	S	29	<b>t</b> -ord	0	825	3,913	2	25	0
rope	901	151	096	179	127	449	6	3,206	61,564	2	24	100
sheeting longer than 2 ft	59	31	4	_	208	4	2	760	5,339	0	20	0
sheeting 2 ft or shorter	29	7.7	1,021	63	76	40	0	539	6,358	\$	13	
six-pack holders	904	121	292	34	7	qued	_	4,008	4,725	0	3	0
strapping bands	119	17	37	113	334	44	9	853	11,544	4	4	0
straws	2,752	55	1,178	274	184	95	16	4,044	90,048	0	0	95 30
syringes	163	2		31	63	0	n	1,109	6,281	د	(	0
tampon applicators	401	0	2	3		0	0	731	2,314	2	o  -	0
toys	459	χ,	52	OT (	42	φ.	11	3,335	33,092		4,	ء ا
vegetable sacks	⊋, ,		14	⇒ (	\o_{\circ}	4, 0		1,4/0	24,181		7	
write protection, rings	142	7	T	٥ ا	<u>د</u>	8	<b>&gt;</b> (	26/	075,7	⊃!:		
other plastic items	972	26	416	398	739	35	0	5,536	152,315	41	C)	<b>O</b>
FOAMED PLASTIC										<del></del>		· · · · · · · · · · · · · · · · · · ·
buovs	314	7.5	78	ŝ	221	0	27	1.174	18,182	11	0	0
cnbs	668	301	233	40	64	11	37	3,073	53,244	41	25	0
egg cartons	99	1	14	0	62	0	0	1,460	16,480	20	1	0
fast food containers	283	72	580	9	587	13	10	1,453	48,487	10	6	200
meat trays	113	0	12	11	66	_	2	741	8,897	0	0	0
packaging material	124	40	618	11	396	43	756	1,190	36,254	0	5	0
foamed plastic pieces	1,040	343	3,626	232	1,466	145	210	3,459	40,168	2	4	300
plates	999	1 96 1	83	n	201	0	77	7,800	54,085	O	2/4	0

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	2,524	124	2,502	113	2,032	S	22	5,560	71,715	115	182	45
	119	4	299	3	291	2	3	1,160	24,005	F	17	0
other glass bottles/jars	786	0	228	35	239	0	0	2,964	38,702	10	29	0
fluorescent light tubes	122	2	က	0	61	0		550	6)206	0	0	0
	137	0	56	3	27	7	0	958	10.964	4	0	0
	5.305	344	1.377	28	1.628	38	09	3.461	38,375	100	10	0
	51	13	21	41	24	2	0	544	24,808	0	8	2
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	84	22	22	16	192	29	0	1,249	10,243	T.	0	0
	131	0	19	4	947	2	0	1,889	4,666	5	0	0
	74	13	35	1	213	0	0	917	6,647	20	0	0
	85	-	99	9	92	0	0	1,251	16,178	2	1	0
other rubber items METAL	109	104	346	33	320	5	23	1,060	41,589	0	4,	m
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	677	538	889	31	397	14	21	3.113	42,640	56	256	50
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55 gallon drum - rusty	27	0	4	0	96	2	0	446	7,385	0	0	0
55 gallon drum - new	6	0	0	0	29	0	0	109	1,755	0	0	0
***************************************	242	65	315	0	1,381	5	0	3,484	11,607	91	3	0
	236	223	19	8	55	7	10	1,373	2,960	0	32	0
	260	19	71	,4	291	14	0	2,438	11,270	16	6	0
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	322	19	111	7	318	9	7	009'6	34,074	73	9	0
	206	22	51	77	306	11	0	3,367	27,280	15	4	0
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	116	80	136	3	254	5	0	2,562	23,755	98	16	٥
newspapers/magazines	180	m	110	2	158	17	0	5,442	32,976	15	1	0
	1,369"	198	277	27	18,246	84	0	8,748	66,851	100	56	0
	116	18	54	0	350	0	0	2,012	22,197	0	5	0
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	138	0	2	0	85	0	0	1.143	5,607	0	0	0
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	534	23	368	6	2,480		0	9,420	15,553	49	0	2
	818	79	1,557	0	245	76	0	6,946	15,255	39	0	0
	488	71	543	16	393	24	3	4,854	14,260	27	39	10
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# APPENDIX 2: International Raw Data Summary

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	375	398	12	57	865	19,819	72,856	180,712	
deer deer	20	6	0	2	304	0	3,665	12,736	
horter	12	19	0	0	388	0	7,048	27,366	
six-pack holders 25	10	2	0	0	418	0	15,857	27,606	
ng bands	299	140	3	4	444	2,187	19,019	40,942	
12	435	186	68	09	1,168	4,427	161,639	297,457	
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on applicators	600	18	0	0	85	336	10,986	16,627	
tuys 1,290	28	17	-	7	705	943	21,245	64,239	
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			)	)			1		
buoys 778	137	7	2	9	500	281	15.153	38.884	
cups 7,415	385	24	10	2	1,084	1.000	107,702	182,715	
egg cartons 945	73	24	0	0	354	0	4,373	25.144	
ntainers 98,	233	33	22	24	253	962	32,312	194,245	
meat trays 762	6/	12	1	0	44	0	9,338	25,118	
	475	95	24	19	902	1,975	56,930	111,866	
es	462	347	3	0	543	16,365	268,945	420,071	
	225	29	5	0	801	0	25,021	80,131	
other foamed plastic items 4,038	66	347	2	10	459	1,697	29,173	117,800	
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plates other foamed plastic items GLASS	beverage bottles	food jars	Other glass bothes/jars	HEAT EAST TRAIN THESE	iigin balas	giass pieces	OTHER REMS REMS	balloons	condoms	gioves	tires	other rubber items METAL	bottle caps	aerosol cans	beverage cans	food cans	other cans	Grad/robster traps	55 gallon drifth = 105ty	netal pieces	oull tabs	wire	other metal items	PAPER	paper bags	cardboard	cartons	cups	newspapers/magazines	naper proces	other paper items	WOOD	crab/lobster traps	crates	pallets	other wood items	lumber pieces CLOTH	clothing/pieces	TRUCK NO STOT
4,038	8,608	341	13,940	207	1,6/3	286,72	4,730	109	1,262	2,515	524	529	1,230	16,751	13,106	859	1,206	23	077	07	104	906	1,202		180	858	154	280	398	9,101	811		0	3	437	1,431	339	709	700 000
99	654	7.1	761	77	7,50	1,336		8	52	8	. 36	374	1,173	48	473	126	26	10	J C	219	6	64	151		72	169	61	54	2.17	317	237		0	5	65	242	399	231	000
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1,697	1,168	0	٥	٥	10/	6,481	808 808	733	157	379	127	2,250	1,578	352	4,381	220	0	၁၉	777	1616	0,70	524	2,364		381	1,493	456	129	420	4,001	694		22	0	60	5,691	0	5,379	0.00
25,02 <u>1</u> 29,173	177,039	12,382	20,924	1,//4	3,8/9	209,531	13,375	40.655	8,428	16,690	9,030	37,547	130,401	10,176	184,294	13,633	8,964	2,248	2,466	38 182	27,069	14.814	58,850		40,093	28,653	20,485	43,794	23,664	16,256	47.789	,	1,781	1,619	4,526	32,558	70,503	49,470	
80,131 117,800	291,162	42,029	84,266	15,535	19,390	327,648	55,651	55.324	20.454	30,473	31,283	98,315	269,034	42,889	272,205	78,453	31,152	15,987	13,349	67,712	37.161	35,150	100,388		94,495	67,607	81,655	77,339	69,544	346,015	94.519		9,881	9,937	20,559	88,950	105,312	92,987	
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U.S. Results







# 2000 International Coastal Cleanup U.S. Results

Published by The Ocean Conservancy 1725 DeSales Street, NW Washington, D.C. 20036 www.oceanconservancy.org

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# Contents — U.S. Results







# Overview

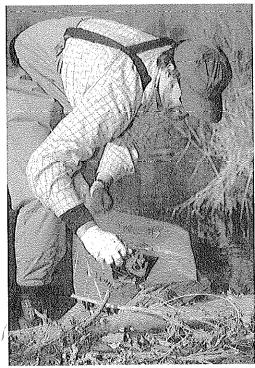
The Problem of Marine Debris 5 Sources of Debris 5 The International Coastal Cleanup 6  The 2000 Cleanup  Results 8 Sources of Debris 8 People, Pounds and Miles 9 Total Number of Items Collected 10 Coordinators 12 Highlights 14 Percent Sources of Debris 16 The Dirty Dozen 17 The Dangers of Debris 22  Beyond the Cleanup Storm Drain Stenciling 24 National Marine Debris Monitoring Program 25 Local Solutions 26  Appendices State/Territory Sponsors 27 Raw Data Summary 33	Acknowledgments	
Sources of Debris	The Problem of Marine Debris	. 5
The 2000 Cleanup  Results 8 Sources of Debris 8 People, Pounds and Miles 9 Total Number of Items Collected 10 Coordinators 12 Highlights 14 Percent Sources of Debris 16 The Dirty Dozen 17 The Dangers of Debris 22  Beyond the Cleanup Storm Drain Stenciling 24 National Marine Debris Monitoring Program 25 Local Solutions 26  Appendices State/Territory Sponsors 27		
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Sources of Debris	The 2000 Cleanup	
People, Pounds and Miles	Results	. 8
People, Pounds and Miles	Sources of Debris	. 8
Total Number of Items Collected		
Coordinators		
Highlights		
Percent Sources of Debris 16 The Dirty Dozen 17 The Dangers of Debris 22  Beyond the Cleanup  Storm Drain Stenciling 24 National Marine Debris Monitoring Program 25 Local Solutions 26  Appendices State/Territory Sponsors 27		
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Storm Drain Stenciling	Beyond the Cleanup	
National Marine Debris Monitoring Program		21
Local Solutions	Storm Drain Stenching	25
Appendices State/Territory Sponsors	National Marine Debris Monitoring Program	20
State/Territory Sponsors	Local Solutions	20
	Appendices	
	State/Territory Sponsors	27

# **Overview**

working for nearly 30 years to ensure that our oceans provide a healthy environment for an abundant and diverse population of marine animals. The International Coastal Cleanup began in 1986 as an effort by an Ocean Conservancy employee to retrieve unpleasant debris from the Texas coast. Today, hundreds of thousands of people from all over the world remove trash and litter from their local beaches and waters while recording important data on what they find.

The mission of the International Coastal Cleanup is:

 To remove debris from the shorelines, waterways, and beaches of



2000 US ICC

- 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.

The International Coastal
Cleanup is the largest marine pollution cleanup effort currently in existence. The event heightens public awareness about the vast problem of marine debris, but more importantly, it unites citizens from across the United States and many other nations in an attempt to do something about pollution in their communities. 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.



Our deepest gratitude and sincerest thanks goes to the tens of thousands of enthusiastic individuals who make the International Coastal Cleanup a success every year. Armed with trash bags and data cards, and adorned in everything from gloves to scuba gear, rain jackets to sunscreen, our volunteers go forth on land and in water



2000 US ICC

to retrieve the litter and trash their neighbors have left behind. We salute those volunteers who return to the Cleanup year after year, and your commitment to a cleaner and healthier ocean. For those volunteers who were first-time participants, we extend a heart-felt "thank you" for a job well done.

The International Coastal
Cleanup simply would not happen
without our state and territory coordinators who spend an immeasurable
about of time preparing for the
Cleanup—lining up sponsors, volunteers, publicity, and thank-you gifts—
and organizing the marine debris
data. So many of you go the extra
mile to assure a successful and entertaining Cleanup for everyone
involved. Thank you for your hard

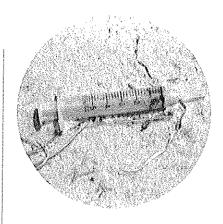
work, your willingness to volunteer your time, and for your dedication to this important cause. (A list of the 2000 U.S. coordinators can be found on page 12.)

Special thanks also goes 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-at-hand. We appreciate your contributions and your commitment to a cleaner marine environment. National sponsors of the 2000 Cleanup appear on page 2 of this report; state and local sponsors are listed beginning on page 27.

# Total Control of the contro

Our oceans, lakes, and rivers are an economic livelihood and a recreational escape for people across the United States. Yet, in spite of their importance in our everyday lives, our oceans and waterways are threatened daily by an influx of marine debris.

Marine debris is the term for any manufactured item that ends up as trash in our oceans or waterways. 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 the lakes, rivers, and streams that lead to the ocean. Whatever its size, shape,



or composition, trash poses a significant threat to beachgoers, coastal communities, and especially marine ecosystems.

At its most benign, trash detracts from the aesthetic beauty of a waterfront landscape. But marine debris is also 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.

Marine debris is particularly dangerous and often lethal to marine wildlife. Floating plastic bags deceive sea turtles into thinking they are delectable jellyfish. Seagulls and other shore birds mistakenly swallow cigarette filters instead of food. Fishing lines, abandoned fishing nets, rope and plastic six-pack rings all are known to entangle marine animals, maining and even killing them.

Marine debris won't disappear by itself. In fact, it will probably get worse. As the human population

grows, so will our trash, increasing the probability that it will ultimately end up in our oceans and waterways. In addition, technology continues to make more and more of our goods stronger, more durable and lighter in weight, which means that the debris lasts longer and travels farther.

# Sources of Debris

Simply stated, the source of all debris is human activity. People produce waste, and if waste is not handled appropriately it can eventually become marine debris. Areas closest in proximity to large cities of course have greater pollution problems. But once in water, debris can travel, and depending on ocean current patterns. climate and tides can land thousands of miles from its origin.

The Ocean Conservancy classifies debris as either land-based or oceanbased. It can be difficult to pinpoint the origin of many items to one source. If no definitive source can be determined, then items are attributed to general sources.

Ocean-based sources of debris typically include commercial fishing vessels; recreational boats and cruise ships; merchant, military, and research vessels; and offshore petroleum platforms and their associated supply vessels. Debris may be introduced accidentally-such as when a fishing line snaps or boater's hat blows off of his or her head-or



2000 US ICC

it could result from illegal and thoughtless dumping practices.

The at-sea disposal of solid waste has been prohibited in most of the world's waters since 1988, when Annex V of the MARPOL Treaty went into effect. MARPOL is an international agreement governing the shipboard disposal of hazardous materials; Annex V covers solid waste. Although some countries have not ratified Annex V, cleanup data in recent years indicates that debris from ocean sources is declining.

Land-based debris enters the water from a source on land, such as recreational beachgoers 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.

Even trash that originates miles from the coast can travel by sewage pipe, storm drain, or other waterway into the ocean. When public wastewater treatment facilities back up during periods of heavy rain, for example, the wastewater is diverted into the nearest natural waterway, dumping tampon applicators, condoms, and other waste into the ocean. Likewise, some storm water systems discharge directly into waterways, not into water treatment facilities. Thus, litter discarded on city streets, sidewalks and yards will likely be carried into the ocean via a storm drain.

# The International Coastal Cleanup

15 years ago, about 2,800 Texas residents, irritated by the appearance of debris on their beaches, removed 124 tons of trash from 122 miles of Texas coast, during The Ocean Conservancy's first beach cleanup. Similar efforts in other communities multiplied, and by 1988 the Cleanup had become a national event, with cleanups in every coastal state. Cleanups in Canada and Mexico

made the 1989 cleanup an international event.

To date, people in more than 100 countries and all 55 U.S. states and territories have rid their shorelines, oceans, rivers, lakes, and other waterways of tons of marine debris.

Each year, tens of thousands of volunteers across the United States spend three hours on the third Saturday of September combing the beaches for shiny wrappers, discarded cigarette filters, deflated balloons, and other pieces of litter. Year after year, participants express their surprise at the discarded clothing, junked appliances, and other unusual items they find on the beach.

Some adventurous volunteers dive for debris under the water as well. Much of the debris they find has probably been on the ocean floor or river bottom for many years. Often barnacles, oysters, starfish, sea coral and other marine or aquatic life have adopted this forgotten



2000 US ICC

debris as part of their habitat. Divers have the added challenge of deciding whether removing the debris is worth destroying these improvised homes.

Volunteers in the International Coastal Cleanup record every piece of trash they collect on detailed, standardized data cards provided by The Ocean Conservancy. The data card lists 81 items volunteers are likely to encounter on beaches and waterways.

Recording each piece of debris found during the Cleanup is a tedious, but necessary, job for the volunteers if we are to better comprehend what types of debris are found along our beaches and waterways and create lasting solutions to the problem.

The data cards are compiled, analyzed, and tracked year by year, revealing possible patterns in marine debris in a region 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 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.

# **New Improved Data Card**

<sup>≈</sup>rom the first cleanup in 1986, The Ocean Conservancy knew that it was not enough simply to clean the beaches. To have any kind of lasting impact the Cleanup would also need to provide hard data on the types and quantities of the debris.

The first data cards contained 34 possible items volunteers might find, based on the kinds of debris found in the Gulf of Mexico. As the Cleanup



expanded to other regions, new items were added to the card as volunteers recorded them in the "Other" category. Cigarette butts are the most famous example. By 1990 the list of items topped out at 81, categorized by what the debris was made of (wood, plastic, foamed plastic, rubber, metal, glass, paper, or cloth).

The Ocean Conservancy will

be changing the data card in 2001 to reflect what we have learned in 16 years of collecting data on marine debris. The Ocean Conservancy's database currently contains over 70 million pieces of data from more than 100 countries; the types and quantities of debris, as well as its impact on coastal communities and marine wildlife, are well documented.

It is now time for the Cleanup to focus on the activities, sources, and behaviors producing the debris.

Thus, the 2001 data card will contain fewer items—those debris items found consistently and in the greatest quantities and locations—and will be categorized by the activity or source likely to have produced it: beach/shoreline and recreational activities, ocean/waterway activities, smoking related activities, dumping activities, and sewer waste.

Determining the source of the debris has always been integral to Cleanup data analyses, but the original data card could not provide enough information from which to draw many firm conclusions.

The Ocean Conservancy spent nearly two years developing the new data card, in consultation with Cleanup coordinators, volunteers, and the Cleanup Advisory Council. We believe the new card will reveal even more about where marine debris comes from, and will lead to better, permanent solutions for controlling our wayward trash,

# The 2000 Cleanup

# Results

More than 170,000 people turned out for the 2000 International Coastal Cleanup in the United States—172,419 to be exact. They came from 46 states plus the District of Columbia, American Samoa, Commonwealth of the Northern Mariana Islands, Guam, and U.S. Virgin Islands. They covered over 10,231 miles on shore and underwater. Together, they picked up 5,074,227 pieces of debris weighing over 4.4 million pounds! (see chart page 9).

More than 3,900 divers contributed nearly 107,000 pounds of trash, covering a combined area of about 350 miles. They removed 78,362 pieces of debris from below the water's surface.

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# WHAT WE FOUND

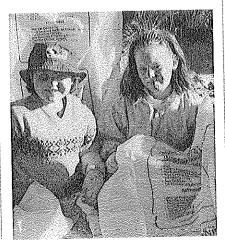
Most (60.2%) of the debris found during the 2000 Cleanup was attributed to land-based sources such as beach-picnickers, inappropriate or illegal dumping, and géneral littering (see large pie chart page 16). This percentage has remained fairly consistent from year to year (58.5% in 1999; 59.5% in 1998). The percentage of debris attributed to ocean-based sources, such as recreational boats and commercial fishing, was comparatively low at 7.2%. Again, this percentage is similar to

1999 and 1998 (7.8% and 7.2% respectively) Almost one third (32.6%) of the debris could not be specifically attributed to either landor ocean-based sources, and could have come from either source.

Interestingly, the underwater-only breakdown shows a higher percentage of land-based debris (71.2%) than the land-only cleanup (60.0%) (see small pie charts page 16). The percentage of ocean-based debris found on land was only slightly higher than the ocean-based debris found underwater.

# WHAT IT MEANS

If we as a nation eliminated landbased sources of pollution only, our beaches and shorelines would be 60% cleaner—without anyone having to pick up a single piece of beach trash. Discarding our trash only into proper receptacles, whether at the beach, on a boat, or on a city street, may be the single most effective change we as a society can make in the effort to eliminate marine debris. For their



2000 US ICC

The state of the s

—Elvela Joshua, 11. Julius E. Sprauve School student from St. John, Virgin Islands, taken from an article from The Virgin Island Daily News, October 4, 2000

part, municipalities can make sure to provide adequate public trash receptacles, update old sewer systems, and enforce anti-dumping laws. Improvements in recycling of goods and materials would keep even more debris off of our beaches and out of our waterways.

The low figures of ocean-based sources of debris reveal that Annex V of the MARPOL treaty has considerably cut down on debris from oilrigs, ships, and other vessels. In 1988, for example, debris attributable to ocean-based sources made up 15.9% of the Cleanup total. Would sweeping national regulations, similar to Annex V and with its attendant financial penalties, achieve the same results on land? Or are the activities that generate land-based debris too varied and disparate to be controlled by legislation? Whatever the answer, people must fully understand that littering of any kind, anywhere is unacceptable if our oceans are to survive.

(text continues page 17)

# U.S. People, Pounds and Miles

U.S. Results

NR- cleanup activity but results not reported

- no cleanup activity

Cleanup Territory		Land			Underwate	)r		Total	
	People	Pounds	Miles	People	Pounds	Miles	People	Pounds	Miles
Alabama	3,849	04 549	202.10	10	10	0.01	2.050	0.550	
Alaska	148	94,548 3,706	293.19 42	10	10	0.01	3,859	94,558	293.2
American Samoa	1,485	414,140	45.37	21	1,000	2.40	148	3,706	42
Arizona	831	100,539	50.63	103	1,000	2.48 12.28	1,506	.//-	47.85
Arkansas	39	140	6	98	2,655	12.20	934	101,582 2,795	62.91
California	43,262	734,121	2,508.75	149	825	8.93	137 43,411		2,517.68
Colorado	108	419	20.5	75	350	7	183	734,946	***************************************
Com. N. Mariana Islands	126	152	1.25	63	505	1.13	189	657	27.5
Connecticut	441	5,575	21.75	37	106	2.25	478	5,681	2.36
Delaware	1,815	24,710	90		100	KA-KA-O	1,815	24,710	90
District of Columbia	102	825	4.6			·	102	825	4.6
Florida	32,039	1,062,064	1,482.47	208	2,876	10.18	32,247	1,064,940	1,492.65
Georgia	437	3,228	10.5	14	150	2	451	3,378	12.5
Guam	1,663	52,904	0.75	273	3,518	0.56	1,936	56,422	1.31
Hawaii	2,185	31,487	135.59	155	2,218	2.57	2,340	33,705	138.16
ldaho	54	400	2.12	70	700	1.01	124	1,100	3.13
Illinois	971	3,850	17.54	106	1,043	1.61	1,077	4,893	19.15
Indiana	414	12,478	15	79	9,572	11.5	493	22,050	26.5
lowa	15	100	1	26	800	3	41	900	4
Kentucky	7	800	1.5	18	212	0.5	25	1,012	2
Louisiana	2,440	85,208	163.25	22	15	NR	2,462	.85,223	163.25
Maine	2,303	38,502	267.05	**************************************		*****	2,303	38,502	267.05
Maryland	513	12,770	31.75				513	12,770	31.75
Massachusetts Michigan	3,433	54,680	215.5	120	5,082	2	3,553	59,762	217.5
Michigan Minnesota	1,528	7,128	128.83	31	1,510	0.53	1,559	8,638	129.36
Mississippi	125	1,463	18.25	27	220	3	152	1,683	21.25
Missouri	2,850 337	60,060	70	90	8,000	1.25	2,940	68,060	71.25
Montana	24	1,710 160	32.5	113	5,290	9.25	450	7,000	41.75
Nebraska	693	8,625	6.68	39	566	3	63	726	9.68
New Hampshire	868	6,106	25	62 13	205	1.38	755	8,830	21.57
New Jersey	3,250	30,995	36.75	484	900	1.25	881	7,006	26.25
New Mexico	7	20	0.13	7	3,456 10	1.25 0.13	3,734	34,451	38
New York	9,891	234,582	367.1	517	28,987	18.07	14 10,408	30	0.26
North Carolina	16,160	597,042	1,409.09	123	1,455	3.69	16,283	263,569 598,497	385.17
North Dakota	51	1,700	5.25	10	100	0.25	61	1,800	1,412.78 5.5
Ohio	466	8,175	22.15	137	1,266	1	603	9,441	23,15
Oklahoma	45	200	1.14	63	875	1.18	108	1,075	2.32
Oregon	6,057	36,135	366.75	23	300	1	6,080	36,435	367.75
Pennsylvania	380	1,945	37.5	14	720	1	394	2,665	38.5
Rhode Island	1,441	16,110	61.75	17	110	0.75	1,458	16,220	62.5
South Carolina	7,988	112,453	141.36	120	3,900	0.06	8,108	116,353	141.42
South Dakota	2	25	0.25	20	175	2	22	200	2.25
Tennessee	43	585	0,5	37	111	0.25	80	696	0.75
<u> Texas</u>	11,301	323,905	193.8	125	2,910	1.25	11,426	326,815	195,05
JS Virgin Islands	593	5,705	12.73	27	6,225	0.5	620	11,930	13.23
Jtah "	7	6	0.75	11	120	0.25	18	126	1
/irginia	3,873	124,199	413.06	97	800	7.18	3,970	124,999	420.24
Vashington v:	1,003	25,837	66,12	55	5,215	6	1,058	31,052	72.12
Visconsin	802	355	14.75	23	475	1.11	825	830	15.86
Vyoming	6	10	1	16	340	7	22	350	8
otal	168,471	4,342,582	8,881.44	3,948	106,921	150.59	172,419	4,449,503	9,032.03

# Total Number of Debris Items Collected During 2000 U.S. Coastal Cleanups

ebris Items	Total	Land	Underwater
LASTIC:	284,287	281,324	2,963
ood bags/wrappers	3,233	3,199	34
alt bags	<u>56,551</u>	55,914	637
rash bags	69,757	68,890	867
ther bags		146,645	3,484
lastic beverage bottles	150,129	6,819	110
oleach bottles	6,929	22,792	376
nilk/water gallon jugs	23,168	11,642	83
oil/lube bottles	11,725	41,765	954
other plastic bottles	42,71	7,141	142
buckets	7,283	252,666	2,587
caps/lids	255,253		12,407
cigarette butts	1,027,303	1,014,896 19,502	254
cigarette lighters	19,756		2,107
cups/utensils	95,588	93,481	120.
diapers	7,562	7,442	792
fishing line	30,521	29,729	466
fishing floats/lures	14,942	14,476	113
fishing nets	8,606	8,493	113
hard hats	754	743	129
light sticks	11,119	10,990	
plastic pieces	337,384	334,652	2,732
pipe thread protectors	4,150	4,098	52
rope	72,856	72,275	581
long sheeting	3,665	3,625	40
short sheeting	7,048	6,955	93
six-pack holders	15,857	15,436	421
strapping bands	19,019	18,859	160
straws	161,639	159,972	1,667
syringes	3,226	3,199	27_
tampon applicators	10,986	10,889	97
	21,245	21,063	182
toys vegetable sacks	7,099	7,025	74
write protection rings	6,648	6,605	43
other plastic	84,032	83,311	721
FOAMED PLASTIC:		4 F 000	153
buoys	15,153	15,000	2,013
cups	107,702	105,689	2,013 62
egg cartons	4,373	4,311	
fast food containers	32,312	31,745	567
meat trays	9,338	9,215	123
packaging material	56,930	56,301	629
foamed plastic pieces	268,945	266,794	2,151
plates	25,021	24,558	463
other foamed plastic	29,173	28,930	243
GLASS:		170.070	6,961
beverage bottles	177,039	170,078	772
food jars	12,382	11,610	

Debris Items	Total	Land	Underwater
GLASS: (cont.)			
other glass bottles/jars	20,924	20,572	352
fluorescent light tubes	1,774	1,758	16
light bulbs	3,879	3,847	32
glass pieces	209,531	207,920	1,611
other glass	13,375	12,944	431
I A CONTROL OF THE CO			
balloons	40,655	40,419	236
condoms	8,428	8,276	152
gloves	16,690	16,512	178
tires	9,030	8,716	314
other rubber	37,547	37,010	537
February A			
bottle caps	130,401	128,382	2,019
aerosol cans	10,176	9,758	418
beverage cans	184,294	172,187	12,107
food cans	13,633	13,118	515
other cans	8,964	8,789	175
crab/lobster traps	2,248	2,167	81
55-gallon rusty drums	2,466	2,426	40
55-gallon new drums	384	383	1
metal pieces	38,182	37,580	602
pull tabs	27,069	26,434	635
wire	14,814	14,589	225
other metal	58,850	57,967	883
Constitution of the Consti	CONTROL MERCHANICA CONTROL AND	TO THE OWNER COMMISSION OF THE PROPERTY OF THE	
bags	40,093	39,457	636
cardboard	28,653	28,375	278
cartons	20,485	20,269	216
paper cups	43,794	43,035	759
newspapers/magazines	23,664	23,367	297
paper pieces	219,256	217,167	2,089
paper plates	16,365	15,910	455
other paper	47,789	47,281	508
A CANADA			
crab/lobster traps	1,781	1,748	33
crates	1,619	1,606	13
lumber pieces	70,503	69,840	663
pallets	4,526	4,493	33
other wood	32,558	32,252	306
Western Common C			80 - 18 - 18 - 19 - 19 - 19 - 19 - 19 - 19
clothing/pieces	49,470	48,617	853

**GRAND TOTALS** 

5,074,277

4,995,915

78,362

# U.S. Coordinators

ur thanks and praise go to the U.S. state and territory coordinators whose time and energy made the 2000 cleanup a fun and safe event for everyone. The state and territory coordinators for the 2000 Cleanup are:

Mabama Alma Wagner, ADECA-DISL

Alaska Kyra Riley, The Ocean Conservancy

American Samoa Andrew Sunia, American Samoa **Environmental Protection Agency** 

Arizona Leandra Lewis, Arizona Clean & Beautiful

California Eben Schwartz, California Coastal Commission

Chris Parry, California Coastal Commission

Colorado Carl Fox. Divers Reef

Connecticut Peg Van Patten, Connecticut Sea Grant-UCONN

Delaware Jennifer Hall, DE Department of Natural Resources and **Environmental Control** 

District of Columbia Joseph Lazarsky, The Ocean Conservancy

Florida Michele Clary, The Ocean Conservancy

Denise Washick, The Ocean Conservancy

Georgia Larry Shaffield, Clean Coast

Dave Duena, Guam Bureau of Planning, Guam Coastal Management Program

# Hawai'i

Christine Woolaway, University of Hawai'i, Sea Grant Extension Service

Lynn Nakagawa, Hawai'i Coastal Zone Management Program

# Illinois

Jennifer Nielsen, Lake Michigan Federation

Lisa Hronek, Lake Michigan Federation

# Indiana

Gayle Tokarz, Grand Cal Task Force

# Louisiana

Pam Kimball, Department of Environmental Quality, Environmental Assistance Division

ludy Desselle, Department of Environmental Quality, **Environmental Assistance Division** 

### Maine

Theresa Torrent-Ellis, Maine Coastal Program, State Planning Office

# Maryland

Phyllis Koenings, Assateague Coastal Trust

### Massachuseits

Tom Hoppensteadt, Massachusetts Office of Coastal Zone Management

# Michigan

Jamie Morton, Lake Michigan Federation

### Minnesota

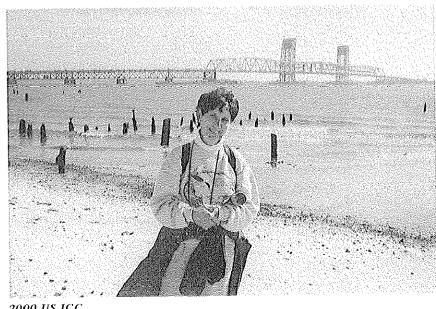
Jay Sandal, Great Lakes Aquarium

### Mississioni

Lauren Thompson, Mississippi Department of Marine Resources

### Missouri

Diane Sanders, Skin-n-Scuba Dive Shop Inc.



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Montana Evelyn Joppa, Mrs. J's Scuba

Nebraska Jane Polson, Keep Nebraska Beautiful

**New Hamoshire** Mary Power, New Hampshire Coastal Program

New Jersey Carol Elliott, Alliance for a Living Ocean

Virginia Loftin, NJ Dept. of Environmental Protection Adopt-A-Beach

Tony Totah, Clean Ocean Action

**New York** Barbara Cohen, American Littoral Society

Don Riepe, American Littoral Society

North Carolina Judy Bolin, North Carolina Big Sweep

North Dakota Randy Kraft, SCUBA One

unio Jamie Kochensparger, Ohio Lake Erie Commission

**Oklahoma** Melissa Hohman, Grand Divers Supply

Aregon Bev Ardueser, SOLV Jack McGowan, SOLV

PA01 Americas Tiffany Leite, Project AWARE Foundation

Kristin Valette, Project AWARE Foundation

Pennsylvania Leni Herr, VerizonTelephone Pioneers

Puerto Rico Elimari Sanchez, Conserva el Encanto, Inc.

Rhode Island Eugenia Marks, Audubon Society of Rhode Island

Christine Dalton, Audubon Society of Rhode Island

South Carolina Peg Alford, S.C. Sea Grant Consortium

Ellis Farr, S.C. Department of Natural Resources

South Dakota Dennis Lively, Scuba Supply/High Plains Dive Club

Tennessea Virginia Keith, Ski/Scuba Center

Toxas Leah Esparza, Texas General Land Office, Texas Adopt-A-Beach Program U.S. Virgin Islands St. Croix: Paige Rothenberger, VI Marine Advisory Service, University of the Virgin Islands

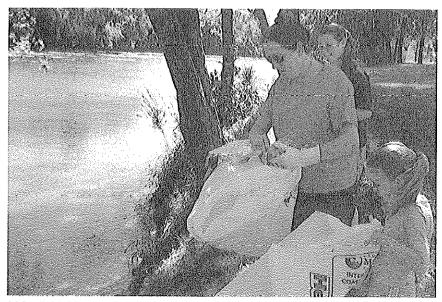
St. Thomas/St. John: Donna Griffin, Department of Planning and Natural Resources, Division of Fish and Wildlife

Vermont Kathy Faulkner, Willoughby Divers

Virginia Katie Register, Clean Virginia Waterways

Washington Joan Hauser-Crowe, WA State Parks

Wisconsin Kae DonLevy, Wisconsin Lake Schooner Education Association



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# 

ore than 170,000 volunteers made the 2000 U.S. Cleanup a roaring success again this year. North Carolina's volunteers reached record-breaking numbers -16,283. Many local television crews and newspapers publicized and reported on the local cleanups. At least one mayor and one State Senator in Indiana and Ohio rolled up their sleeves and pitched in to help. Many sponsors donated free lunches, T-shirts and coupons, and coordinators organized picnics, cookouts, raffles, treasure hunts, and other contests to ensure that the Cleanup was a memorable experience for everyone. Jackson County, Mississippi, for example, painted faces, judged sandcastles, and offered hayrides on a tractor. A few sites even used the event to raise money for local charities.

Some crews reported a beautiful, balmy, blue-skied day for the Cleanup, while other sites faced an unpredictable Mother Nature. A coordinator in Seward, Alaska complained that, "It seems no matter which day we pick, it RAINS!" noting that the date of last year's cleanup was beautiful this year! Hurricane Gordon disrupted the cleanup in Florida. One participant in Sunset Beach reported that, "We got about two hours of cleanup before we got hit with 40 mph winds!" Big surf in Waimea Bay,

> Hawai'i scattered cans and wrappers that had already

> > been collected, and in Lake Havasu City, Arizona, volunteers worked in 110degree heat!

In spite of uncooperative weather in some places, volunteers picked up over 4.4 million pounds of trash, and we

2000 US ICC

are happy to report that many of the sites recycled much of that trash. In fact, in Pennsylvania, the recy-



Found: 297,457 straws When stacked end to end, they would be 6:8 times higher than Mt. Everestl

clable separation party drew more volunteers than the cleanup! (The recyclers have already been recruited for next year's cleanup effort.)

Our younger citizens contributed appreciably to the Cleanup this year. Six-year old Ayla Stephen was the only diver in her cleanup crew in Florida. Michelle Burkett from Rancho Santa Margarita, California used the Cleanup as part of her Gold Award project, the highest award she can receive as a Girl Scout. Some lucky schoolchildren got a day off from school while others used this opportunity to learn more about pollution and the marine environment. Wisconsin students incorporated the Cleanup into a new science curriculum about water-13 different schools and more than 800 students participated. Long Island, New York has started its own pollution study project where youth groups will document debris collected over one year, comparing data taken at different times. Students from Monroe County, New York turned their education into action: after tracing a large number of foamed plastic cups to a local bait shop, they discussed switching to a more biodegradable container with the shop owner. Some Washington State students used part of the day to stencil "DUMP NO WASTE, DRAINS TO BAY" on storm drains in the area to remind people that storm drains are not trash cans.

As always, marine and other wildlife made the Cleanup memorable for many cleanup crews. Two unfortunate divers were stung by jellyfish in California, while biting black flies were quite an ordeal for people collecting trash on the beach in Georgia. In Hawai'i, an octopus followed a dive team for 15 minutes as they retrieved monofilament debris from the water. A huge school of salmon in Lake Michigan surprised a crew in Illinois and all attentions were turned from trash to this real-life nature show. And last but certainly not least, "Sneakers," a volunteer dog from Pennsylvania, eagerly transported trash that divers had retrieved from the water to the shore.

Many crews noted examples of how animals and vegetation had adapted to their polluted habitat. One sunfish had made its home in a tire, and a tree had grown around a box spring that was in its way. Here are a few more highlights from the 2000 Cleanup:

# POLICE REPORT

A Girl Scout troop leader found a dead man in Halls Mill Creek in Alabama. Luckily, none of the Scouts saw the body. A woman's purse which had been reported stolen weeks before was found under a fishing bridge in Ocean Springs, Mississippi. The credit cards and money were missing, but the woman was happy to be reunited with her driver's license, photos, and other belongings.

# **ANCHORS AWAY**

The Naval Construction Battalion Center sent 90 students from their training center for the first time to clean up the Back Bay of Bilioxi, Mississippi. They brought a fleet of 26 boats and canoes and were able to clean areas previously not accessible to Cleanup volunteers.

# THAT DUCK MUST BE ON SOMETHING...

Concerned volunteers in Rhode Island brought a duck displaying what they thought was strange behavior to a wildlife veterinarian. Although the duck's behavior was normal for its species, it was an abandoned domestic breed, and would not have survived long in the wild. It now resides at a rehabilitation center that specializes in ducks.

# **BURIED TREASURES**

Divers in Maine collected artifacts for the Georgetown Historical Society before the city started construction on a new bridge. An Iowa volunteer found a 150-year-old buffalo bone, now going into a museum!

# NO TRESPASSING (USUALLY)

Officials in Ohio allowed Cleanup volunteers to scour nature preserves and wildlife refugees normally off limits to people for trash and litter. Sure enough, the crew found debris all over these "pristine" areas supposedly protected from human encroachment.

# 🕅 ROW, ROW, ROW YOUR...FRIDGE?

One cleanup crew in Virginia found a refrigerator afloat in the water. After pondering how to bring it on land, one creative volunteer opened the door, jumped inside, and paddled it ashore.

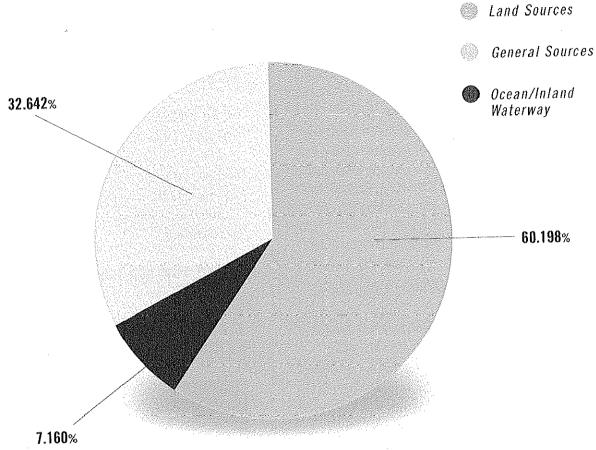


Resourceful VA volunteer paddles an abandoned refrigerator to shore.

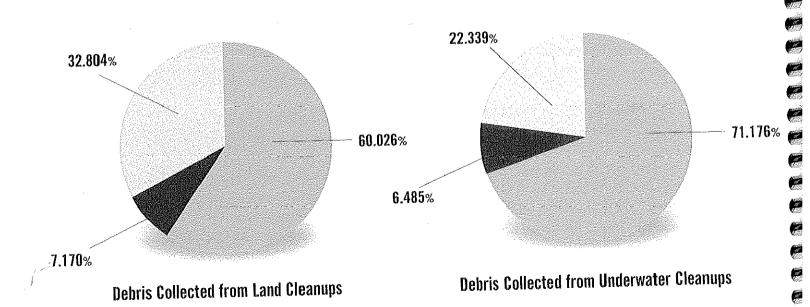
### AND THE AWARD GOES TO...

Two dedicated volunteers, both from New York, were recognized for their long-time commitment to the Cleanup in their local areas. Barbara Cohen received an Environmental Quality Award from the U.S. Environmental Protection Agency, and Sharen Trembath received the Ford Taurus Community Safety Award, and was featured in People magazine!

# **Percent Debris Source Collected**



Debris Collected from Land and Underwater Cleanups



U.S. Results

# 

# **WHAT WE FOUND**

Every year The Ocean Conservancy tabulates the top 12 most prevalent items found during the cleanup and lists them in our annual report. Year after year the same items get the dubious distinction of being the "Dirty Dozen." This year's list predictably resembles last year's, with cigarette filters once again at the top. The 2000 Dirty Dozen makes up 67.1% of all the debris collected, upslightly from last year. The top 12 items found during the 2000 Cleanup are listed in the chart below.

The percentage of cigarette filters collected this year (20.25%) was about a percentage point higher than last year, but still lower than in 1998

# 

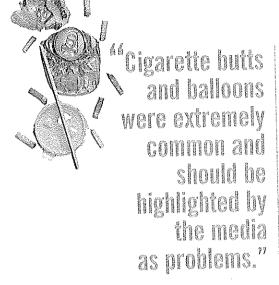
	Total	Percentage
•	A Company of Company o	of Total Debri
Items	Reported	Collected
cigarette filters	1,027,303	20.25%
plastic pieces	337,384	6.65%
food bags/wrappers	284,287	5.60%
foamed plastic pieces	268,945	5.30%
caps, lids (plastic)	255,253	5,03%
paper pieces	219,256	4.32%
glass pieces	209,531	4.13%
beverage cans	184,294	3.63%
beverage bottles (glass)	177,039	3.49%
straws	161,639	3.19%
beverage bottles (plastic)	150,129	2.96%
bottle caps (metal)	130,401	2.57%
y Dozen Totals	3,405,461	67.12%
cups (foamed plastic)	107,702	2.12%
cups, utensils (plastic)	95,588	1.88%
other plastic items	84,032	1.66%
rope	72,856	1.44%
lumber pieces	70,503	1.39%
other plastic bags	69,757	1.37%
other metal items	58,850	1.16%
packaging material (foamed plastic	56,930	1.12%
20 Totals	4,021,679	79.26%
	cigarette filters plastic pieces food bags/wrappers foamed plastic pieces caps, lids (plastic) paper pieces glass pieces beverage cans beverage bottles (glass) straws beverage bottles (plastic) bottle caps (metal)  y Dozen Totals  cups (foamed plastic) cups, utensils (plastic) other plastic items rope lumber pieces other plastic bags other metal items packaging material (foamed plastic)	cigarette filters 1,027,303 plastic pieces 337,384 food bags/wrappers 284,287 foamed plastic pieces 268,945 caps, lids (plastic) 255,263 paper pieces 219,256 glass pieces 209,531 beverage cans 184,294 beverage bottles (glass) 177,039 straws 161,639 beverage bottles (plastic) 150,129 bottle caps (metal) 130,401 y Dozen Totals 3,405,461 cups (foamed plastic) 107,702 cups, utensils (plastic) 95,588 other plastic items 84,032 rope 72,856 lumber pieces 70,503 other metal items 58,850 packaging material (foamed plastic) 56,930

(23.82%) and 1997 (22.55%). You are more than three times as likely to find a cigarette butt on the beach as any other item on our list. Our volunteers found enough cigarette filters to make up 51,365 packs of cigarettes!

Seven items of the Dirty Dozen are made from some form of plastic. If cigarette filters are taken out of the equation, plastics and foamed plastics

Fact! Found: 607,708 beverage bottles That's enough to give every resident of the state of Wyoming 1.2 beverages!

make up 59.4% of the debris found during the cleanup; with cigarette filters the figure rises to 67.6%. Plastics are ubiquitous in our society, especially as food packaging, and they create a particularly difficult



--- Thomas Hoppensteadt, State Coordinator of Massachusetts

dilemma in the environment, because plastic is strong, durable, and does not easily degrade.

The most noteworthy differences from last year's Dirty Dozen appears in the underwater-only list (see chart page 19) Beverage cans, glass beverage bottles and plastic beverage bottles took 2nd, 3rd, and 4th place respectively, behind cigarette filters,



2000 US ICC

making up about 28.78% of the total items found. In 1999, beverage cans, glass beverage bottles and plastic beverage bottles made up only 9.55% of the total items found underwater. Number 15 balloons on last year's underwater list was not even in the top twenty this year, and fishing line appeared on the list of underwater items again after being absent last year.

# **WHAT IT MEANS**

Many smokers have developed the bad habit of tossing cigarettes filters out car windows, along sidewalks, and on our beaches. No matter where you toss your cigarette, heavy rains and storm drains can carry these lightweight materials toward our oceans and waterways. Cigarette filters are composed of cellulose acetate, a synthetic polymer (a form

	Total Number	Percentage of Total Debris
Homs	Reported	Collected
1. cigarette butts	1,014,896	20.31%
2. plastic pieces	334,652	6.70%
3. food bags/wrappers (plastic)	281,324	5.63%
4. foamed plastic pieces	266,794	5.34%
5. caps, lids (plastic)	252,666	5.06%
6. paper pieces	217,167	4.35%
7. glass pieces	207,920	4.16%
8. beverage cans	172,187	3.45%
9. beverage bottles (glass)	170,078	3.40%
10. straws	159,972	3.20%
11. beverage bottles (plastic)	146,645	2.94%
12. bottle caps (metal)	128,382	2.57%
Dirty Dozen Totals	3,352,683	67.11%
13. cups (foamed plastic)	105,689	2.12%
14. cups, utensils (plastic)	93,481	1.87%
15. other plastic items	83,311	1.67%
16. rope	72,275	1.45%
17. lumber pieces	69,840	1.40%
18. other plastic bags	68.890	1.38%
19. other metal items	57,967	1.16%
20. packing material (foamed plastic)		1.13%
Top 20 Totals	3,960,437	79.29%

of plastic), and can take up to seven years to biodegrade. Most people assume that one little cigarette butt is too small to make an impact on the environment, but one filter can harm marine life, and 1 million of them, as our volunteers found, create a serious hazard. Birds, sea turtles, whales, and other marine animals accidentally ingest the cigarettes filters causing severe intestinal

problems, and sometimes even death. If smokers disposed of their used filters only in appropriate receptacles, our beaches and waterways would be cleaner, and safer.

Since 1990 the following nine items have appeared in the Dirty Dozen every year: cigarette filters, plastic pieces, foamed plastic pieces, paper pieces, plastic caps and lids, glass pieces, glass beverage



Seabirds are particularly susceptible to entanglement in discarded fishing gear.

bottles, plastic straws, and beverage cans. Most of these items are whole or remnants of packaging from food or beverage products—in other words, it is what we throw away after we have consumed or used the product.

More and more beaches are installing adequate facilities for waste disposal, and some have even installed special receptacles for cigarette and other smoking-related products. Yet the same items keep appearing in the Dirty Dozen year after year. The message seems clear: the only way to really stop marine debris is to stop littering. The impact of such a simple behavior would be profound. If people could prevent just these 12 items from becoming marine debris, our beaches and oceans would be 67% cleaner! (text continues page 22)

# 2000 United States Dirly Dozen - Uniterwater

	Items	Total Number Reported	Porcentage of Total Debri: Collected
1.	cigarette filters	12,407	15.38%
2.	beverage cans	12,107	15.45%
3.	beverage bottles (glass)	6,961	8.88%
4.	beverage bottles (plastic)	3,484	4.45%
5.	food bags/wrappers (plastic)	2,963	3.78%
6.	plastic pieces	2,732	3.49%
7.	caps, lids (plastic)	2,587	3.30%
8.	foamed plastic pieces	2,151	2.74%
9.	cups, utensils (plastic)	2,107	2.69%
10.	paper pieces	2,089	2.67%
11.	bottle caps (metal)	2,019	2.58%
12.	cups (foamed plastic)	2,013	2.57%
Dir	ty Dozen Totals	53,620	68.43%
13.	straws	1,667	2.13%
14.	glass pieces	1,611	2.06%
15.	other plastic bottles	954	1.22%
16.	other metal items	883	1.13%
17.	other plastic bags	867	1.11%
18.	clothing/pieces	853	1.09%
19.	fishing line	792	1.01%
20.	food jars (glass)	772	0.99%
Top	20 Totals	62,019	79.17%

# You Want It? We've Got It!

If Christopher Columbus were to land on our beaches today, he would discover more than just a new world—Columbus and his crew could live like royalty with the amount of appliances, electronics and furniture found by our cleanup volunteers. Power sources? No problem—volunteers found a ton of batteries on the beach. They would have had enough car and boat parts to handle sufficient transportation, and they would have even found some decorations for Christmas. Here are some of the more peculiar and interesting items found by our volunteers during the 2000 Cleanup.



# SAILING ON THE HIGH SEAS

Broken fishing poles, tackle and bait boxes and assorted bait, boats and partial boats including a broken canoe, 4'x8' paddle boat and Hobie Cat sailboat pontoon; 12'x12' floating

dock, fiberglass chair seats, oars, 4-ton boat engine, outboard motor, anchors, anti-backflow valve from a marine toilet, boat batteries, boat cushions, boat and ship doors, boat ladder, boat propellers, rudder, fuel tank, pumps, life preservers, pair of waders, row boats, sailboat sail, boat stove, channel marker

# PHARMACY AT SEA

Marijuana bags and pipes, bag of cocaine, crack vials, asthma inhalers, a bed pan, biohazard bag, Band-Aids, birth control pill container (empty), blood pressure cuff, bloody swab stick, crutches, diabetes tester with blood, enema bottle and applicator, eye patch, glass hypodermic needle, half-used tube of Preparation H, hospital I.D. bands, IV bag and needles, Nicoderm patch, prescription pills, stethoscope, wheelchairs, thermometers, knee brace, finger splint, wrist brace, test tubes

# HANDYMAN'S HEAVEN

Paint thinner, bucket of tar, broken saw blade, lumber, plastic pipes, roof shingles. 24-foot aluminum ladder, nails, pieces of bathroom tiles, asbestos sheets, asphalt

shingles, bathroom door, wheelbarrow without wheels, bricks, broken porta-potty, can of glue, bottle of caulking, cement blocks, construction hazard barrel, construction sign, door hinges, door knob, drain pipe, duct tape, glass light fixture, glass sliding doors, gutter, kitchen counter top, linoleum, manhole cover, paint brushes and paint rollers, plywood, scaffolding, window screens, sheet rock, wrenches, bolts, cable, chains, electric drill and drill bit, electric fuse box, hammer, screws, nails, ruler, sandpaper, saw blades, shovels screw driver, pliers, weed whacker, welding goggles

# IN THE LINE OF FIRE

Flare gun casings, shotgun shells, a 38-caliber gun, ammunition, arrow, BB gun refill, bullet casings and wads, grenade, a mortar launcher, pellet gun and canister, pocketknife

# **THERE GOES THE** NEIGHBORHOOD...

Carpeting, rugs, ovens, coconut drinking glasses, toilets and toilet seats, garden hose, chairs, telephones, couches, propane tanks, batteries,

afghan, air conditioner units, air mattresses, antique bone-handled knife, artificial flowers, baby car seat, baby carriage, baby stroller, baking racks, bar stool, bath tub, sinks, BBQ grills, beds, box springs, Easter egg, bottle of Windex, broken miniblinds, broken playpen, brooms, can of potted meat, cat pooper-scooper, chairs, Christmas decorations, electric fans and heaters, fire hydrant, hammock, lawn mowers, lamps, microwaves, refrigerators, suitcases, vacuum cleaners, waffle iron



# DISCOUNT AUTO PARTS (AND OTHER MODES OF TRANSPORTATION)

Front ends of cars, John Deere 4x4 vehicle. motorcycles, seatbelts, antique motor, auto mufflers, broken headlights and a windshield.

bucket of used motor oil, license plates, air filters, radio antennas, arm rest, car batteries, brake pads and a brake pedal, bumpers, dashboards, engines, exhaust pipes, car keys, floor mats, car stereo and speaker, glove compartment, rear-view mirror, hubcaps, mud flaps for trucks, radiator, steering wheel column, trailer hitch, windshield wiper blades, spark plugs, gas cans (one full of gas), guard rails, helicopter, orange road cones, parking meter, parking sign, parts from a crashed airplane, road reflectors. road signs, wagon

### GADGETS AND GIZMOS GALORE

"ESC" key from a computer keyboard, 4-way appliance plug, Apple portable computer and other computers, calculator, cameras (two waterproof cameras), cassette players and tapes (Van Halen '94), CD player and CD's, cell phones, circuit boards, a commercial copier and copy machine parts, computer monitors, mouse and mouse pad, eight track tape, headphones, ink jet cartridges, pagers, record players and records, remote controls, satellite dishes, stereos, speakers, TV sets, VCR's, telephone cords

# LOSING IS PART OF THE GAME

Golf balls, skates, roller blades, surfboard, tennis balls, bicycles, tricycles, badminton set, baseballs, bats, and gloves, bingo card, bowling ball, brand

new golf club in the wrapper, Frisbees, cooler, diving board, duck decoys, goggles, kayak and paddles, kites, lawn furniture, basketballs, pogo stick, ski pole, scuba equipment, snowmobile, swimming pools, tackling dummy, tents, wet suit, beach chairs, parachute flare still with charge

# INDECENT DISPOSALS (AND OTHER PERSONAL ITEMS)

Contraceptive foam, disposable douches, "I love to party" key chain, eyeglasses, pair of Oakley sunglasses, toothbrushes, E.P.T. pregnancy kit, contact lens solution, dentures, fake fingernails, hair curlers, hair extensions, baby wipes, dental floss, deodorant, pacifiers, wigs, a briefcase, backpacks, homework, dildo, Father's Day card in envelope (undelivered), message in a "LOVE" picture frame, teeth bleaching kit, hearing aid, retainer

### CHA-CHING

At least \$180.83 worth in cash, credit cards, bank cards, bracelet, lottery tickets, money from Nicaragua and Costa Rica, diamond earring, dive watch, drivers licenses, wallets, gold coins, Indian head penny, phone cards, purses, rabbit's foot, rings, Timex watch (still working), US passport, soccer ball signed by Carla Overbeck, food stamps, a check and a checkbook

### SAVE THE PLANET: DON'T LITTER

Environmental leaf bags, Nature Conservancy sign, oil spill containment booms, recycling bin

### AND TOO WEIRD TO CATEGORIZE!

City garbage cans, fireworks and bottle rockets, American flag, arrest warrant, Barbie's big wheel jeep, Bible, binoculars, bottle with a message inside, flea collar with ID tag "Fluffy", guitar, picture of a naked girl on a horse, overhead projector, pink flamingo, decorative cows, books, a safe, "Do Not Cross" police tape, "For Sale" sign, "No Littering" sign, shopping carts, wedding pictures, political campaign signs, barrels, broken rickshaw, burnt police training manual, cafeteria tray, hotel door handle, mailbox, map of Florida, phone bills, police radio scanner, report card, torch, whoopee cushion, rosary beads

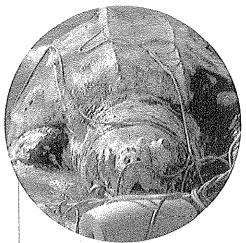
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Marine debris has a devastating and often lethal effect on marine wildlife. Each year volunteers find animals entangled in pieces of trash; this year was no exception.

Marine animals easily become entangled in debris floating in water or left on the beach. Monofilament fishing lines, fishing nets, six-pack rings, and strapping bands are some of the worst culprits. Birds, for example, often become entangled in trash they have selected for nesting.

Debris that has wrapped around limbs, fins or flippers 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 rise to the surface to breathe.

Accidental ingestion of marine debris also injures and kills marine animals. According to the most recent U.S. Marine Mammal Commission report in 1997, six of the world's seven species of sea turtles, and at least 111 of the world's 312 species of seabirds have been reported to swallow floating pieces of debris. Turtles confuse floating plastic



Loggerhead sea turtle entangled in discarded fishing gear.

bags with jellyfish, one of their favorite treats. Seabirds, too, are especially vulnerable to unintentional ingestion of debris because of their indiscriminate eating habits. Many animals cannot regurgitate an item once it has been swallowed, and it often becomes lodged in their throat and digestive tract. Debris that will not pass out of the stomach gives a false sense of fullness, and some animals will stop eating, and slowly



# Total debris involved in animal entanglements

Debris Items	Invertebrates	fish	amphibians	birds	reptiles	mammals	total
halloon ribbon/string	1	2		6		1.	10
fishing line with hook/lure	23	48	1	84	4	3	163
crab/lobster traps		2		1			3
fishing nets/rope	6	9		4	2	2	23
plastic bags	8.4	14	ting the twenty	11	1 + 7 - 1	9	42
plastic sheetings	1	3	1	5		2	12
rope	9	30		8	2	2	51
six-pack holders	6	4		16			26
strapping bands	· 1 ·	1.		1			3
wire	5	5		5	1	3	19
miscellaneous	1	1		. 1			3 *
Total	61	119	2	142	9	22	355

starve to death. Ingested debris such as cigarette filters can also poison wildlife, releasing toxins into the bloodstream.

# **WHAT WE FOUND**

Sadly, the number of entangled animals found in 2000 surpassed the record high set in 1999. Our volunteers found 355 animals entangled in some form of debris (see table page 22). Most of the entanglement victims were birds—our volunteers found 142 of them—while fish (119 reported) were the second most frequently found entangled animal. Fishing line caused about 46% of the entanglements; rope was a distant second, causing 51 (14%) entanglements. Volunteers also found animals entangled in balloons with ribbons, fishing nets, plastic bags, six-pack holders, wire, crab or lobster traps, plastic sheeting, and strapping bands.

Fishing lines are particularly haz-

ardous to marine animals because they are designed to withstand the thrashing, yanking, and pulling of a fish trying to escape. Likewise, fishing nets purposefully ensnare fish. When these items break loose in our waters they become a floating deathtrap for wildlife. "Ghost-fishing" is the term used to describe abandoned nets and gear still catching fish that will never be retrieved. In 2000, volunteers collected a combined total of 39,127 fishing lines and nets in a three-hour period on just one day out of the year.

# **WHAT IT MEANS**

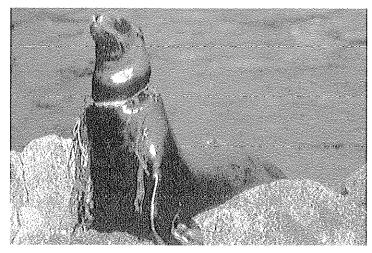
The amount of trash collected during the Cleanup gives us an idea of the hazards marine wildlife face daily with marine debris. More than a million cigarette butts and nearly 300,000 plastic bags might have been ingested. Thirty thousand pieces of fishing line, 15,000 six-pack holders, and 72,000 ropes could have entan-



Dead loon in balloon strings.

gled unsuspecting animals. Each piece of debris that enters the ocean or waterway has the potential to injure or kill marine life.

The number of marine animals reported entangled during the Cleanup represents just a snapshot of the amount of damage debris causes to marine animals. Volunteers were not able to reach every mile of coastal land, and divers were certainly not able to cover every inch of underwater environment. And of course, 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.



Sea lion entangled in fishing net.

# Beyond the Cleanup

removed 36.4 million pounds of trash from beaches and waterways during the annual International Coastal Cleanup. Our volunteers share our vision of cleaner waters and our goal of reducing and, eventually eliminating, marine debris.

Yet, yearly cleanups are only a temporary bandage on a much larger global wound. Improving the quality of our waters means going to the individual sources of marine pollution to stop litter and waste from becoming marine debris.

The solution involves a focused approach on multiple fronts. Public education is essential in helping people understand how one plastic bag or one soda bottle can affect the environment. Cities must closely

inspect their solid waste management facilities and renovate outdated sewer and storm drain systems so that wastewater and street runoff is handled in an environmentally sound manner. Consumers must demand recycled goods and better recycling facilities to find useful purposes for the ever-increasing amount of trash we create.

Agreements like the MARPOL treaty demonstrate that people and governments are becoming more aware of the immensity of our global marine pollution problem. But we still have a long way to go.

The Ocean Conservancy conducts a number of programs designed to take the lessons of the Cleanup and create long-lasting solutions to the problem of marine

debris. These activities are direct outgrowths of the International Coastal Cleanup, and each tackle 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 creating their own solutions.

The following programs are run out of The Ocean Conservancy's Pollution Prevention office in Virginia Beach, VA. Call 757-496-0920 for more information.

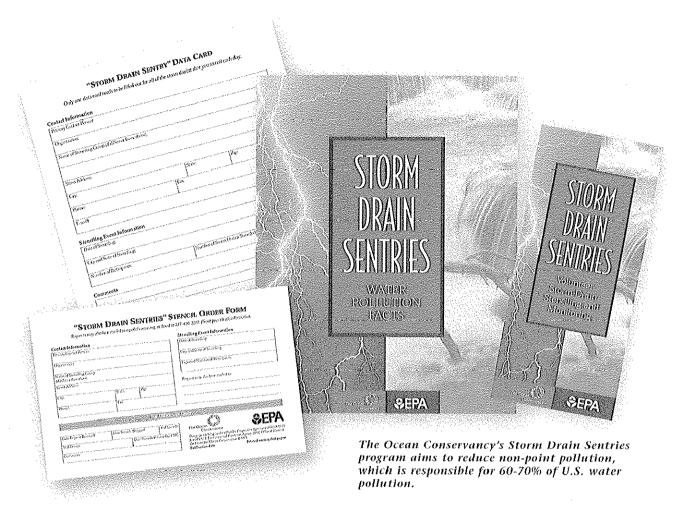
# The state of the s

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 bodies of water.

Managed by The Ocean Conservancy and funded by the U.S. Environmental Protection Agency, Storm Drain Sentries 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. Volunteers stencil storm drains with messages such as "Don't Dump! Protect Your Water."

The Ocean Conservancy sends interested groups a storm drain sten-





ciling kit complete with a fact sheet about nonpoint source pollution, its impacts, and what citizens can do to prevent it. The kit also contains instructions for conducting a stenciling project and a data card for recording information about the number of storm drains stenciled and the types of pollutants found around them.

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Data from the International Coastal Cleanup have been used to inform legislative hearings, shape U.S. government programs and research, sup-

port 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 conditions at the sites, and varying levels of expertise among participants.

The Ocean Conservancy's National Marine Debris Monitoring Program, supported by the 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 across the country. At the conclusion of the five-year study, The

Ocean Conservancy will conduct a statistical analysis to determine whether marine debris is significantly diminishing in response to current laws and education efforts. The results of the study will also help us identify the major sources of the debris.

The debris study is an excellent opportunity for volunteers to become more involved in combating marine debris by becoming active participants in this scientific study. School groups, community organizations, Scout Troops, and concerned citizens are participating in this study at sites located along the entire U.S. coastline including Alaska, Hawai'i, Puerto Rico and the U.S. Virgin Islands.

# Local Solutions

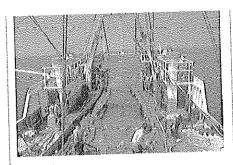
Using data from the Cleanup, The Ocean Conservancy is working with coastal communities around the country and in the Wider Caribbean to develop specific strategies to help keep their wastes out of the water. With support from the Brunswick Public Foundation, CocaCola, Philip Morris, and Royal Caribbean International, The Ocean Conservancy's Model Communities program operates on the principle that a problem that originates at the local level must be solved at the local level.

Current Model Communities projects focus on four activities that can result in marine pollution:

# RECREATIONAL BOATING AND MARINA OPERATIONS

Through its Good Mate boating program, The Ocean Conservancy is developing educational and training materials for marina staff and recreational boaters to increase awareness of the potential impacts of everyday boating activities—such as fueling, bilge cleaning, vessel maintenance, and vessel operation—and how to prevent or minimize their adverse effects on the environment.

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 for use throughout



the entire U.S. through partnerships with the U.S. Coast Guard and Coast Guard Auxiliary and into the Caribbean—with projects in Puerto Rico, the U.S. Virgin Islands, and the Bahamas—and Bermuda.

# RECREATIONAL AND COMMERCIAL FISHERS

with Hawai'i Sea Grant to develop its Marine Bounty program, which brought attention to the threats that derelict fishing gear poses to humpback whales, coral reefs, and critically endangered Hawai'ian monk seals. Through this program, fishers and other boaters reported the presence of derelict gear in Hawai'ian waters. Hawai'i Sea Grant removed the gear from harm's way. A second phase of the project is being developed.

Organizers of a newly emerging project in North Carolina will develop a public education campaign for fishermen on piers and docks. The program will focus on improving the handling of bait containers/bags, fishing line, lures, food items, cigarette/cigar filters and packaging, and other waste materials typically found at these sites.

# RECREATIONAL BEACH ACTIVITIES

In Piñones, Puerto Rico, community leaders recognized the lack of adequate waste disposal facilities at a popular beach. Through the Model Communities program they introduced solid waste management strategies that reflected local cultural and social conditions. A permanent recycling center now recycles materials from all the communities surrounding the San Juan Bay Estuary.

# W URBAN AND COASTAL LITTERING

Several Model Communities projects focus on reducing the number one item found at cleanups—cigarette butts.

In Ocean City, New Jersey, organizers conducted a public education campaign encouraging beach users to use several newly installed cigarette receptacles. A second project site in another New Jersey city is being discussed.

In Baton Rouge, Louisiana, project partners developed informational materials explaining the environmental impacts of cigarette litter. The materials were distributed at festivals, public meeting places, and college football tailgate parties.

In Virginia, project organizers will work with coastal businesses such as restaurants and hotels to provide adequate cigarette disposal receptacles and encourage patrons to use them.

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# **APPENDIX 1: State/Territory Sponsors**

Alabama

Dolphin Level

Cellular South

Sea Turtle Level

Exxon/Mobil Oil

The Forum

Pelican Level

Alabama Power Company

Alabama Power Real Estate

City of Gulf Shores

Degussa-Huls

Mitsubishi Polysilicon

Shell

Seagull Level

Phenolchemie

. In-Kind Contributors

ADEMCA Coastal Programs

ADEM

Alabama Coastal Foundation

**Baldwin County Commission** 

Bebo's Car Wash

Brita

Browning Ferris Industries (BFI)

City of Gulf Shores

Coca-Cola

Compass Marketing, Inc.

Dauphin Island Sea Lab

Frito-Lay

Kimberly-Clark Corporation

Lewis Communications

Mobile County

People Against a Littered State (PALS)

The Ocean Conservancy

Town of Dauphin Island

# Alaska

Alaska Fly Fishers

Kenai Fjords Tours

The Alaska Sea Life Center

# American Samoa

American Samoa Environmental

Protection Agency

American Samoa Power Authority

Department of Commerce

School Lunch Program

T & T Recycling Inc.

### Arizona

Arizona Clean & Beautiful

# California

California Coastal Cleanup Day

presented by Brita and the

California Coastal Commission

Oracle Corporation

See's Candies

Bank of America

American Plastics Council

**Universal Studios** 

**KPMG** 

California State Parks Foundation

Starbucks Coffee Company Digitcare Corporation Orange Plastics

Media Sponsors

San Jose Mercury News

San Francisco Magazine

KRON TV

Bay TV/ SF Gate

KGO Newstalk AM 810

Contra Costa Newspapers

Hills Newspapers

CD93/KMBY

KTLA-5

Los Angeles Times

OC Metro

The Log

### Colorado

**Divers Reef** 

# Connecticut

Aqua Sports

Avalonia Land Conservancy

Boy Scouts and Cub Scouts of America

Brita

Connecticut Sea Grant College Program

Friends of Sherwood Island

Girl Scouts of America

Greenwich Clean and Green

Keep America Beautiful

Mobil

Mystic Aquarium

Save the Sound Inc.

Sea Keepers

Sierra Club

Sound Waters

Southern Connecticut State University

Staples

The New Haven Riverkeeper

The Maritime Aquarium

University of Connecticut -

Avery Point Dive Team

Wal-Mart Stores, Inc.

# District of Columbia

The Ocean Conservancy

### Florida

Tampa Tube Containers

Florida Institute of Oceanography

# Georgia

Brita

Captain Hank Barrett

Captain Jerry Coleman

Captain Bob Forseth

Chatham County-Savannah

Metropolitan Planning Commission Water Resources Program

Clean Coast

Delegal Creek Marina

Dr. Mark Lewis

Georgia Adopt-A-Stream

Iler Family

Keep Savannah Beautiful

Savannah College of Art and Design

Shellman Bluff Fish Camp

The Landings on Skidaway Island

# Guam

Maranas Energy Co.

Underwater World

Mobil Oil

Ambros Inc

MDA

GTDS

**Professional Sports Divers** 

Scuba Company

Foremost Crystal Clear Drinking Water

Coca-Cola

SeaMens Club

**Jeff Pirates Cove** 

Gov. Guam

U.S. Coast Guard

Team Andersen

AAA Cellar

Naval Forces Marianas

Pacific Sanitation Inc.

Sorensen Pacific Broadcasting

PDN

Trashco

Guahan Waste Control

Commercial Sanitation

Marine Mania Fisheve Marine Park

Sea Walker

Guam Cell Communication

Recycling Association of Guam

Exxon

CreativiTees

Bureau of Planning

# Hawai'i

State of Hawai'i-Coastal Zone

Management Program/The Office of Planning/Department of Business, Economic Development and

Tourism The University of Hawai'i Sea Grant

College Program (SOEST) Hawai'i County Department of Parks

and Recreation- Aquatics Division Kauai Floatsam & Jetsam Blitz

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Hawai'i State Department of Land and Natural Resources-State Parks The City and County of Honolulu

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**BP** Amoco Brita Mapa Professionals Target The Times

### Maine

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Plummer Motz School Scarborough Middle School 7th Grade, Kennebunk Middle School St. George School St. James School of Biddeford St. Mary the Virgin Church Troy Howard Middle School U.S. Coast Guard Wells National Estuarine Research Reserve Woodland High School Work Opportunities Unlimited Yarmouth Elementary School York Recycle Committee Maryland American Lung Association of Maryland Assateague Coastal Trust Assateague Island National Seashore-NPS Assateague Mobile Sportsfishermen's Association **Browning-Ferris Industries** Chamber of Commerce-Chincoteague Island Chincoteague NWR-USF&WS Chincoteague Volunteer Fire Department

County of Accomack Cat Country 97.5 & 105.9 FM Conectiv Delmarva Broadcasting Co. Delaware Chapter, Surfrider Association DE Department of Natural Resources & **Environmental Control** MD Department of Natural Resources Nanticoke Watershed Alliance Nassawango Creek Stewardship Committee-The Nature Conservancy Ocean City Dune Patrol Playtex Family Products

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Audubon Society of Rhode Island Rhode Island Department of Environmental Management Rhode Island Department of Health Sovereign Bank

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Quintana Town Council

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Department

Sargent County Store

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Sargent News/Sargent Garbage

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SBPOA

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Sea Baggers

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AA Supplies of St. Thomas Cost-U-Less

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The Brita Company Longwood College The Ocean Conservancy VA Dept of Conservation and Recreation's Fall River Renaissance Virginia Litter Prevention & **Řecycling Grant** 

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Shenandoah River State park

Shenandoah River Outfitters, Inc.

(RSVP/NVSEC)

Smith Mountain Lake State Park Sticklevville School Tire Distributors Town of Shenandoah U.S. Army Garrison, Fort Belvoir U.S. Coast Guard Headquarters U.S. Navy VA Beach Department of Parks & Recreation VA Cooperative Extension VA Department of Conservation & Recreation VA Department of Environmental Quality Virginia Beach Hammerheads Virginia Explore Park Virginia Litter Prevention & Řecycling Grant Virginia Museum of Natural History at VA Tech Walker Nature Education Center Ware River Yacht Club Washington Area Parrot Head Club WAVE- Working All Virginia's Environments Wild River Outfitters of VA Beach Wilderness Road State Park Wise County Clean Team York River State Park

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Blue Sky Printing of Poulsbo Brem-Air Disposal, Inc. City of Bremerton **DAN Sponsor** Department of Transportation Diamond Parking Service Divers Alert Network Domino's Pizza Kentucky Fried Chicken, Port Orchard Kitsap County Surface & Storm Water Management Kitsap Diving Association K-Mart, Port Orchard PADI Project AWARE Mike's Espresso Naval Station Bremerton Sea Grant Washington Scott McLendon's True Value Hardware Silverdale Target Sinclair Inlet Washington Scuba Alliance

Wisconsin PADI

# TARLESS STATES OF THE STATES O

# APPENDIX 1: United States Raw Data Summary

DEBRIS ITEM	Alabama	Alaska	American Samoa	Arizona	California	Colorado	Com. N. Mariana Islands	Connecticut	Delaware	District of Columbia	Florida
PLASTIC											
food bags/wrappers	7,980	423	702	270	67,054	56	55	1,928	46	379	46,413
salt bag	63	2	86	10	715	0	0	99	0	p-1	544
trash bags	1,538	55	476	478	14,051	9	7	486	15	162	8,002
other plastic bags	2,526	124	376	303	11,706	4	37	465	17	70	12,199
beverage bottles	7,580	380	955	743	16,561	72	32	580	40	545	28,147
bleach, cleaner bottles	244	16	302	10	642	0	0	26	S	3	896
milk/water gallon jugs	1,112	20	230	136	2,352	, ← 1	2	9/	12	152	4,421
oil, lube bottles	872	64	91	7.1	1,272	1	₹	23	3	24	1,993
other plastic bottles	1,622	86	304	263	5,367	9	2	144	9	267	9,793
buckets	342	9	119	11	096	0	0	23	0	5	1,502
caps, lids	9,392	266	625	747	47,832	25	S	1,240	33	213	49,118
cigarette butts	37,713	1,042	979	2,433	229,928	89	3	5,904	123	621	218,612
cigarette lighters	675	45	101	63	2,839	2		61	<del>,</del> ⊶	Q	4,219
cups, utensils	3,132	106	456	400	14,384	18	9	584	91	17.	17,809
diapers	203	11	228	40	191	I	0	1.7	3	69	668
fishing line	1,057	534	39	55	3,768	89	16	139	9	63	5,882
fishing lures, floats	640	265	51	33	1,261	29	2	37	12	II	2,988
fishing nets	226	21	40	S	682	0	0	35	0	14	1,412
hard hats	11	0	20	53	114	0	0	0	0	0	89
ight sticks	505	က	114	16	1,312	0	0	8	5	0	2,429
plastic pieces	11,185	182	908	515	78,362	6	139	1,960	101	151	58,802
pipe thread protector	1717	110	121	14	7 223	) <u>-</u>		140	O CC	0	8/9
chooting languar than 2 ft	1,717	Orr	101	Q#	50%	11	67	147	3,0	† C	7,4/0
chooting longer marks	244	0 (1	20	00	1 001	2 -	n <	22	70		CT# -
succuig 2 ft of and to	088	OF.	505	110	2 112	ŤT	0 4	23	0	10	7,140
ctronning hande	573	3 4	163	OTT	2,116	7	٥ ٥	31.	7	0.1	2,333
lapping paires	040	C# 0	707	376	3,012	7	n u	//	T	7	30,130
Suraws	4,405	00	767	6/3	53,512	0	0	730	07	07	30,720
Symmetra tamnon annibratore	20,	2 5	73	01	027	0		07	0	4	413
tampon appineators	905	10	926	22	3 437			66	# 1.7	16	2 224
vegetable sacks	307	12	62	36	1.643	1	· C	38	2		1.106
"write protection" rings	217	0	18	23	1,157	0	0	30	2	9	1.541
other plastic items	1,580	67	150	78	20,141	11	1. 4.	483	12	20	11,514
FOAMED PLASTIC					######################################						<i></i>
buoys	611	79	84	38	1,452	4,	29	98	2	5	2,800
cnbs	4,682	210	630	553	17,496	10	26	440	16	170	22,142
egg cartons	159	9	189	9	222	0	Ţ	7	2	18	780
fast food containers	1,566	93	175	249	5,384	0	₹	149	12	103	6,322
meat trays	482	19	69	31	1,386	0	38	26	11	ŢŢ	1,468
packaging material	1,531	76	171	66	19,460	3	0	488	5	92	9,342
foamed plastic pieces	8,717	387	979	171	84,256	13	108	1,178	9	188	45,825
piales	1,249	51	920	9/1	3,130	1	99	/0	/	98	3,907

beverage bottles	6,956	485	774	2,288	19,969	21	76	625	35	693	47,694
other glass bottles/iars	804	2,42	435	148	2,363	16		64	11	182	
fluorescent light tubes	88	0	32	21	199	0	0	6	0	3	384
ight bulbs	239	1	72	2	408	0	0		0 9	7	
glass pieces	6,420	300	578	089	54,296	323	250	1,115	40	130	
other glass items RUBBER	150	71	16	153	3,164	)	4,	96	o O	7	
	1,290	\$	131	94	6,857	0	0	200	\$7	2	
	285	S	55	14	1,829	0	0	23	2	12	
	423	18	105	12	3,457	0	6	26	3	S	
	412	25	81	26	1,422	0	6	16	0	4	
other rubber items METAL	1,530	111	229	67	8,261	E	27	311	0	25	
bottle caps	4,330	243	891	621	20,997	13	18	551	S.E.	302	34,469
aerosol cans	360	33	163	21	907	0	0	46	5	25	
beverage cans	8,405	644	1,270	5,436	15,119	168	1,006	541	130	454	36,025
	530	37	230	116	1,696	26	26	35	e	18	
	259	194	219	65	1,260	14	0	14	0	13	
crab/lobster traps	136	0	16	F-1	170	0	0	4	-	2	
55 gallon drum - rusty	38	15	115	38	597	0	0	3	0	11	
55 gallon drum - new		0	20	0	76	0	0	0	0	8	
metal pieces	1,612	354	199	141	9/6'9	8	77	506	0	36	
	1,617	62	49	354	3,470	S	0	100	11	21	
	552	55	157	42	3,526	2	9	37	0	10	
other metal items	1,431	86	143	150	26,486	16	39	150	0	S	
	1,604	85	432	499	7,949	0	0	151	gened	65	
	1,365	61	163	205	5,236	9	78	63	22	40	
	927	21	306	172	3,072	3	27	91	0	130	
	1,859	181	378	408	7,116	9	6	277	S	113	
newspapers/magazines	682	25	287	158	6,552	0	e-ord	148	8	11	
paper pieces	6,227	357	247	1,206	70,633	10	72	1,135	20	105	
	645	64	390	257	2,479	&	0	160	10	24	2,271
other paper items WOOD	1,613	40	71	391	12,298	2	arma)	328	6	16	
crab/lobster traps	48	0	31	0	226	0	0	13	0	0	
	09	9	38	1	244	0	0	21	0	0	272
	06	33	82	15	1,035	0	0	20	0	0	_
other wood items	3,531	122	620	177	11,790	3	S	255	6	24	
lumber pieces	745	27	141	53	7,092		10	210	9	0	
clothing/pieces	1,667	96	283	381	9,480	12	24	176	14	31	
TOTAL BY ZONE	170 000		( 1 1								

(12) (6) (2)

# APPENDIX 1: United States Raw Data Summary

DEBRIS ITEM	Georgia Sa	E	TO NO.		Sold Sold Sold Sold Sold Sold Sold Sold	2	lowa	Louisiana	9	Zar yang	Massachusetts	Michigan gan
PLASTIC												
food bags/wrappers	273	4,446	869'9	0	2,943	648	47	2,760	5,005	1,490	12,226	4,865
salt bag	7	46	72	0	12		0	70	54		103	7
trash bags	91	1,236	1,451	10	252	09	16	810	589	456	1,731	363
other plastic bags	77	1,330	1,851	20	506	127	0	920	1,121	431	2,755	986
peverage pottles	838	2,698	3,703	4	816	184	209	3,400	2,018	881	3,622	1,375
Dieach, cleaner bottles	93	244	332	0 (		4	0	325	248	13	277	62
mik/water gallon jugs	123	392	524		65	27	11	1,335	366	114	099	155
office aloctic bottles	102	218	1 447		1/	8 6	2 6	385	570	64	183	69
buckets	243	1,104	1,44/	2	147	23	87	1,028	310	2/1	1,188	533
caps. lids	243	3.730	6.383	# C	3 566	1155	35	2 293	2 764	1 307	202	5 070
cigarette butts	310	11,228	31,022	80	28,235	5,356	20	7.305	26.547	3.740	49.194	34.912
cigarette lighters	39	382	802	0	154	40	13	357	230	76	555	203
cups, utensils	188	3,036	2,806	0	1,047	221	9	1,597	926	554	4,088	1,244
diapers	18	899	379	0	88	34	0	183	24	25	196	158
fishing line	57	206	2,307	2	72	33	7	390	360	311	1,308	260
fishing lures, floats	49	154	1,367	0	93	24	16	294	217	122	443	201
fishing nets	12	198	741	0	21	7	1	142	554	48	916	185
hard hats		32	13	0	13	0	0	36	31	1	17	0
light sticks	6	84	599	0	104	12	0	716	73	11	149	117
plastic pieces	1,141	6,408	14,358	0	6,395	1,388	9	3,852	4,420	1,319	11,586	12,298
pipe unead protector	9	1/2	257	0	26	5	0	57	128	9	105	62
rope	791	2/9	3,2/2	0	166	99	7	1,497	5,008	236	8,216	339
Sueeting longer than 2 th	0 6	7/	110	0	13	_ (	0	63	102	23	177	185
Sneeting 2 tt or snorter	12	258	149	0	18	20	0	130	178	41	337	116
SIX-pack noiders	34	1,130	427	0	116	19	3	300	122	82	366	141
strapping pands	23	308	487	0	283	39	3	274	891	62	1,190	441
straws	70	1,748	2,502	0	2,810	665	4	1,398	985	843	7,425	4,137
syringes		36	76	0	23	2	0	52	11	17	160	108
tampon applicators	14	64	126	0	113	82	1	90	238	39	1,422	311
100/8	42	464	643	0	260	91	2	220	331	144	913	489
vegetable sacks	9	152	321	0	51	S	23	115	116	53	315	83
Write protection" rings	7.7	144	138	0	107	71	0	136	123	49	249	113
other prastic frems	154	1,940	5,448	4ા	1,131	491	2	826	2,357	230	3,619	3,094
FOAMED PLASTIC											and the second	
pnoys	110	202	2,578	0	9	4	1	146	1,229	44	828	26
cnps	143	3,034	2,545	0	625	184	31	1,842	1,536	615	3,269	096
egg cartons	52	95	144	0	12	0	2	305	25	10	72	18
fast food containers	69	936	1,570	0	153	24	30	801	334	141	888	244
meat trays	88	398	720	0	22	16	0	436	81	44	156	61
packaging material	93	804	1,367	0	335	36	5	825	858	372	1,323	453
foamed plastic pieces	1,798	2,116	8,459	0	3,139	586	3,1111111	3,174	5,455	1,040	7,924	3,105
plates	142	3,016	1,213	0	158	89	5	729	95	70	568	364
other foamed plastic items	102	756	1,220	0	239	13	0	302	448	112	731	313
GLASS		toolitoto lääilisen					A (PAGE OFFICE A)					

Commence of the Commence of th	STREET CONTRACTOR STREET			Community of the Commun	Homospace and the second	A COLUMNIA DE LA COLU	more comments of the comments	TOCK	0.5		548	364
plates	142	3,016	1,213	5	128	80,	0	67/	73	0;	1000	010
other foamed plastic items	102	756	1,220	0	239	ಣ	<b>Ф</b>	302	448	717	/31	515
GLASS										1	7 1 4	1
beverage bottles	333	5,074	8,441	09	2,132	404	47	2,864	1,316	922	3,215	1,143
food jars	32	390	627	0	42	9	8	352	150	33	233	70
other glass bottles/jars	63	572	922	0	144	23	20	567	437	76	202	971
fluorescent light tubes	6	64	65	0	18		0	152	9	4	/7	7 0
light bulbs	56	110	7.1	0	23	က	0	290	52	2	46	× (
glass pieces	187	4,408	10,286	0	17,402	943	1	1,473	4,987	424	5,888	4,458
other glass items	14	896	851	0	72	63	51	08	234	φ	242	1/6
RUBBER												***************************************
balloons	68	288	861	0	863	450	0	201	394	532	2,881	2,871
condoms	2	96	166	0	51	6	0	85	97	15	266	66
gloves	1.5	158	319	0	7.5	8	0	667	857	37	60/	502
tires	44	257	357	4	45	13	S	138	158	22	180	88
other rubber items	59	1,190	1,823	9	257	100	'n	353	3,094	93	2,333	4448
							,	,		777	0 1700	2775
bottle caps	73	2,756	4,522	<b>₹</b> ~~•1	3,052	518	2	1,954	960	/32	3,723	2,273
aerosol cans	72	988	329	4	21	27	0	328	106	24	140	503
beverage cans	834	17,498	5,978	100	1,774	456	241	3,382	1,517	1,119	4,813	1,013
food cans	63	835	422	0	145	18	0	288	149	76	209	91
other cans	39	292	309	0	54	41	0	163	106	44	167	96
crab/lobster trans	24	0	36	0	7	0	0	24	293	17	333	0
55 gallon drum - rusty	0	70	52	0	32	5	10	45	43	9	77	25
55 gallon drum - new	0	9	2	0	2	0	0	6	4	0	40	0
metal pieces	96	1,170	1,387	0	951	153	0	531	912	226	1,547	793
pull tabs	154	1,225	1,112	0	542	234	0	099	174	97	765	372
wire	47	792	580		152	48	0	180	225	39	582	190
other metal items	89	912	2,506	52	434	189	4	482	1,170	82	1,340	1,441
OF CAN												
naner hade	2.6	776	1.233	0	217	81	21	822	274	207	1,315	768
cardoard	23	818	782	0	136	92	10	527	338	94	1,193	465
cartons	37	920	763	0	150	37	÷٦	454	289	108	789	224
cups	08	904	1,386	0	205	61	23	961	414	265	1,583	477
newspapers/magazines	42	316	836	0	232	36	∞	266	216	143	724	1/3
paper pieces	375	7,001	7,543	0	3,036	498	0	2,587	3,020	/39	016'/	4,025
plates	13	964	711	0	84	26	9	457	141	/4	449	7,47
other paper items	41	744	3,330	7	439	163		362	/9/	2	1,765	1,703
non												
crah/lohster trans	28	4	33	0	S	0	0	28	93	9	162	8
crates	2	24	40	0	13	73	0	54	28	S	9	8
pallets	4	09	81	0	236	2	0	42	126		167	21
other wood items	20	726	859	0	711	84	0	188	572	46	1,703	365
lumber pieces	72	470	986	0	1,057	104	~	1,092	1,454	237	2,560	995
Cloth										**************************************		
clothing/pieces	104	1,234	1,573	4	531	196	8	814	856	226	2,226	1,039
TOTAL BY ZONE	10 324	111 455	173.160	358	89.821	16,958	1,032	67,051	93,485	22,503	194,315	105,242
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	112/21	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	, )								

# APPENDIX 1: United States Raw Data Summary

DEBRIS ITEM	Minnesota	Mississippi	Missouri	Montana	Nebraska	New Hampshire	New Jersey	New York	North Carolina	North Dakota	ē	Oklahoma
PLASTIC												
food bags/wrappers	705	6,612	1,182	24	473	2,528	11,899	23,970	19,026	0	2,009	36
salt bag	0	69	13	0	15	9	124	166	161	0	S	0
trash bags	59	1,924	494	0	88	124	2,513	4,177	4,040	0	178	2
other plastic bags	689	2,2/3	650	0	112	449	2,338	6,412	4,498	0	409	6
beverage bottles	617	3,852	1,056	98 0	240	789	5,008	15,210	20,966	100	1,098	53
mile funder collections	7	143	21.0	) c	4 5	21	143	383	228		87	
nii Iriba bottlec	0 -	237	107	70	13	24	215	1,003	1,18/		11/	
other plastic bottles	30	979	351	23.0	17	127	1,607	3 506	3,023		201	
huckets		219	92	2	1	25	165	548	107/5		48	0
caps, lids	306	5,849	944	19	260	1,043	18,441	21,551	11,263	0	1.975	15
cigarette butts	1,817	32,691	2,875	38	1,484	9,641	27,861	44,604	76,057	0	2,605	0
cigarette lighters	6	489	155	2	37	29	869	1,702	926	0	193	11
cups, utensils	167	2,750	412	13	76	491	6,033	9,574	5,227	0	1,024	26
diapers	54	171	94	0	23	12	133	388	811	0	22	4
TISHING URB	3/	547	424	2 .	\$	471	846	2,182	1,965	0	69	0
IISHING IUTES, TIOATS	33	335	787	15	x o	99	537	1,110	1,248	0	38	3
rishing nets	1	691	36			109	148	394	583	0	∞ (	0
nard nats	) r	77	24		، د	7 8	14	20	61,	0	0	0
IIght Sticks	T	474	170	2 [	200	77	324	080	465	0	49	
plastic pieces	240	7,468	924	/7	797	2,844	11,081	22,411	16,581	<b>)</b>	2,563	35
pipe tireau protector	) ç	138	18		<u>ئ</u> د	71	96	215	217	0	24	0
in the	75	44,4	4, 1	5 -	10	4,044	1,36/	3,234	1,84/	<b>5</b>	84	0
Sheeting tonger than 2 it	15	90	15		0	~ 8	6/	296	27.7	0	45	0
Sheeting 2 it of shorter	21	148	2 2		0	23	/17	3 130	157	0	30	0
SIX-pack noticers	10	330	48	200	38	30	333	1,136	1,682	0	282	
ottapping panus	200	1000	740		, , ,	CY U	- 14	1,376	124		1,000	~ F
Straws	787	4,1/1	545	0	101	040	13,843	10,479	4,833		1,285	4
tamnan annlicatore	7 -	20	25		0 6	000	1 607	333	77.7		030	
fovs	42	304	152	> m	S 65	66	1,007	1,887	1,676		210	
vegetable sacks	2	180	31	0	3	27	187	280	313	0		<u></u>
"write protection" rings	0	191	20	2	,d	11	379	452	167	0	59	0
other plastic items	173	1,789	538	6	99	618	2,656	7,409	4,153	0	1,076	24
FOAMED PLASTIC							,					
pnoxs	0	221	122	0	0	162	244	1,377	487	0	8	0
sdno	168	3,283	905	8	244	414	3,011	9,092	10,011	0	891	13
egg cartons	2	114	44	0 1	3	10	96	141	698	0	16	0
fast food containers	22	1,037	285	0	86	103	516	2,490	2,810	0	244	0
meat trays	. 7	284	48	0	17	30	165	446	895	0	39	0
packaging material	70	1,160	268	3	53	488	1,602	3,257	4,308	0	358	0
foamed plastic pieces	567	7,561	840	11	140	2,107	6,661	18,324	988′6	0	1,029	101
plates	9	729	125	<del></del>	42	37	357	1,736	1,713	0	167	0
other foamed plastic items	73	286	337	0	32	155	1,000	2,382	1,322	0	122	w

TOAITIEG DISSUE DIECES	567	7.561	840	,(	140	2.107	6.661	18.324	988.6	0	1.029	101
plates	9	729	125	Ţ	42	37	357	1,736	1,713	0	167	0
other foamed plastic items	29	586	337	0	35	155	1,000	2,382	1,322	0	122	S
beverage bottles	165	5.712	2.653	92	626	1.087	3.454	10.267	19.633	200	1.232	212
food jars	0	333	163	3, 8.	250	46	413	.1.091	"1,521	007		1
other glass bottles/lars	8	530	303	2	71	92	326	"1.285	"3,226	0	139	3
fluorescent light tubes	0	25	24	0	0	0	49	41	212	0	0	0
light bulbs	0	198	43	0	7	2	100	235	316	0	12	0
glass pieces	282	13,636	641	0	332	2,509	2,025	20,149	10,144	0	1,285	55
other glass items		268	58		16	54	222	2,156	834	0	124	4
RUBBER												
balloons	29	489	49	0	1	264	2,479	5,099	2,143	0	210	0
condoms	0	264	47	0	104	22	234	958	823	0	43	0
gloves	9	618	73	0	7	217	215	962	740	0	37	0
tires	18	281	62	20	19	29	92	720	1,531	0	65	_
other rubber items	21	869	142	25	19	1,301	819	2,180	1,596	4	211	6
hottle cans	05	5 362	777	2	500	552	2 834	10.056	7 499		352	21
aerosol cans	6	3,302	143	) -	200	200	162	873	1 847		286	0
beverage cans	414	4.054	3.004	418	1.032	1.911	3.311	10.004	18.848	100	2.118	528
food cans	09	278	152	49	27	28	227	938	"2,510	0	56	3
other cans	44	160	95	1	12	36	76	575	1,688	0	92	2
crab/lobster traps	0	89	20	0	2	300	33	111	80	0		0
55 gallon drum - rusty	3	42	42		5	6	44	198	228	0	15	0
55 gallon drum - new	0 127	1.036	720	0 5	0 0	0	9	9 2005	36	0	022	0 2
metal pieces	47T	1,020	126	10	150	405	343	3,093	2,223		2/3	
wire	42	522	130	10	177	141	334	1,311	9,309		7/	
other metal items	91	794	550	3	68	453	730	3,861	2,905	2	261	15
PAPER											en Austracom cumo inno ida	
paper bags	54	1,367	360	2	45	312	1,217	2,863	4,243	0	236	0
cardboard	24	1,271	180	9	100	181	552	1,963	3,079	0	143	0
cartons	62	709	201		42	173	431	1,575	1,642	0	108	0
cups	10	1,348	424	40	31	16/	1,419	3,3/0	5,818	0	352	
naner nieces	495	7 002	895	43	468	1 861	1,020	12,720	13 332		1 287	12
plates	22	348	95		49	99	481	1.482	1.573	0	45	
other paper items	142	2,112	234	2	93	732	1,342	"3,681	1,990	0	250	9
M00M									***************************************	O-001/00/00/00/00	ornario en	
crab/lobster traps	0	41	10	0	0	78	74	103	38	0	0	0
crates	0	42	11	0	0	9	82	91	147	0	5	0
pallets	9	28	56	0	3	22	26	360	230	0	15	0
other wood items	125	1,165	40	0	6	244	984	2,213	4,857	0	85	0
lumber pieces CLOTH	36	2,656	457	4	55	557	2,920	5,339	5,540	0	233	0
clothing/pieces	118	1,179	228	11	30	657	1,116	3,936	4,074	0	321	6

# **APPENDIX 1: United States Raw Data Summary**

DEBRIS ITEM	9	Pennsylvania	Rhode sade	South	South	Texas	US Virgin Islands	Virginia	Washington	Wisconsin	Totals
PLASTIC											
food bags/wrappers	5,059	1,109	7,384	6,718	15	18,942	1,010	5,904	1,702	773	284,287
salt bag	13	4	49	39	0	536	0	37	108	38	3,233
trash bags	803	93	1,005	626	10	5,467	162	1,357	499	236	56,551
other plastic bags	975	221	1,652	1,212	10	7,516	466	1,744	615	156	69,757
beverage bottles	1,370	712	2,859	3,985	5	8,997	715	6,386	792	304	150,129
bleach, cleaner bottles	29	26	340	62	0	837	23	143	57	10	6,929
milk/water gallon jugs	172	7.2	190	423	2	2,946	125	641	177	64	23,168
oil, lube bottles	69	62	372	168	0	894	9/	514	80	15	11,725
other plastic bottles	451	174	916	825	0	3,812	143	"1,050	535	128	42,719
huckets	61	25	242	123	0	652	14	201	40	59	7,283
caps, lids	3,211	/69	5,638	4,337	30	24,262	1,090	3,997	1,065	1,528	255,253
cigal ette butts	14,902	656,7	17,739	42,393	100	40,412	/8/	6,124	1,817	3,202	1,027,303
cine utaneile	718	250	2370	2,75	701	6,573	1 675	417	250	701	19,/30
dianers	104	66	22,72	7,7	4	#00'0 060	1,023	178	930	31	7 562
fishing line	564	176	022	472	20	4 201	32	594	131	73	30 521
fishing lures, floats	331	68	273	301	22	1.475	4	381	77	25	14 942
fishing nets	164	41	155	96		1 078	63	106	125	96	8,606
hard hats		0	33	4	0	166	0	4	11	7	754
light sticks	107	6	169	218	0	2.227	· ∞	52	89	16	11.119
plastic pieces	8,126	1,065	8,012	5,074	0	27,030	668	4,433	817	1,827	337,384
pipe thread protector	77	3	30	58	0	527	9	442	33	18	4,150
rope	3,246	36	"1,982	815	0	14,312	505	902	993	45	72,856
sheeting longer than 2 ft	29	25	80	42	0	510	13	111	133	2	3,665
sheeting 2 ft or shorter	112	34	156	91	0	1,009	26	247	186	9	7,048
six-pack holders	107	9	239	173	12	1,624	89	270	150	7	15,857
strapping bands	554	33	520	249	0	1,724	93	145	306	51	19,019
straws	1,151	340	4,573	3,958	0	9,558	853	3,037	529	276	161,639
syringes	48	10	09	20	0	407	10	58	3	35	3,226
tampon applicators	103	45	421	63	0	665	23	106	36	36	10,986
toys	375	116	459	562	2	1,777	29	491	72	143	21,245
Vegetable Sacks	123	13	181	101		73.2	11	144	239	13	7,099
other placeto items	1 111	247	121	2 105		7 14	105	1117	39	07	0,040
office present refins	1,414	740	1,330	2,193	)	766'6	193	1,110	6/0	970	84,032
FOAMED PLASIC											
buoys	214	18	529	396	0	604	20	216	145	26	15,153
sdno	985	455	2,120	2,410	5	6,954	581	4,202	423	297	107,702
egg cartons	19	8	140	68	0	792	7	46	22	25	4,373
fast food containers	408	75	464	894	20	2,164	311	757	319	09	32,312
meat trays	181	16	212	235	0	952	15	140	73	20	9,338
packaging material	1,510	234	780	1,028	0	2,479	185	1,191	128	117	56,930
foamed plastic pieces	8,767	674	3,703	9,150	0	12,762	603	5,315	208	1,609	268,945
plates	121	57	262	428	10	2,562	342	438	125	58	25,021
other foamed plastic items	535	78	613	876	0	1,289	66	214	110	195	29,173
UU # 1C		_	*****	minter							

packaguig materiar	DIC'I	1-1-67	100/	1,020		The second secon	SOJ		150	TIT	2000 AC
foamed plastic pieces	8,767	674	3,703	9,150		12,762	603	5,315	208	1,009	268,943
plates	121	2/	$\dagger$	4.28	OT	7,207	347	450	110	105	20,041
other foamed plastic items	535	78	613	876		1,289	9. 9.	212	9	ري د	29,173
GLASS											
beverage bottles	1,509	510	2,434	4,174	4	8,254	1,593	6,186	949	526	177,039
food jars	98	61	183	257	10	891	16	685	69	29	12,382
other glass bottles/jars	163	83	409	345	2	1,332	67	555	127	39	20,924
fluorescent light tubes	12	3	44	14	0	236	2	26	2	0	1,774
light bulbs	35	38	27	107	0	410	S	162	34	14	3,879
glass pieces	2,314	202	3,275	2,198	0	13,125	658	3,325	407	714	209,531
other glass items	149	12	323	237	0	544	16	83	118	53	13,375
		o+5-40003	<del>čen v čen</del> o	<del> S</del>							
hollode	3,62	X	1 322	772	c	2.397	49	1.129	50	183	40,655
Lanonis	100	r C	150	08	ò	624	68	151	14	32	8,428
Collability	228	05	797	287	o C	3.095	111	121	62	94	16,690
#iros	227	103	119	122	2	445	16	550	51	21	9,030
other rubber items	678	93	481	678	0	2,129	98	535	62	163	37,547
		•••••						******			
hoffle cans	1 202	146	2.183	2.629	20	8,780	930	2,857	441	236	130,401
aprocol cans		56	189	123	S	618	84	382	46	14	10,176
heverage cans	1.512	547	3.358	5.300	100	12,461	489	5,367	1,085	410	184,294
fund gans	115	72	268	311	10	710	40	403	123	9/	13,633
other cans	79	49	115	323	0	521	19	149	8	22	8,964
crab/lobster trans	43	T	57	30	0	100	2	18	0	2	2,248
55 gallon drum - rusty	43	S	23	19	0	311	8	40	77	32	2,466
55 gallon drum - new	3	1		2	0	57	7	<b>"</b>	2	0	384
metal pieces	499	202	827	723	0	2,084	174	628	70	96	38,182
pull tabs	266	-67	268	587	0	1,679	51	334	09	20	27,069
All &	242	20	208	216	10	1,259	140	179	77	23	14,814
other metal items	1,354	209	1,553	800	0	2,182	214	547	119	99	58,850
PAPER		<del></del>									
naner hags	372	7.7	833	849	4	2,273	257	614	511	51	40,093
cardboard	414	62	633	968	10	1,579	207	464	301	86	28,653
cartons	181	62	578	382	0	1,486	96	374	189	26	20,485
cubs	406	142	1,030	985	20	2,384	253	1,042	338	57	43,794
newspapers/magazines	758	45	398	409	0	867	82	154	157	59	23,664
paper pieces	3,238	583	3,252	5,635	0	8,253	718	2,114	969	801	219,256
plates	100	17	340	343	0	1,288	244	349	1 473	153	10,503
other paper items	748		641	1,75/	<b></b>	2,014	122	704	1,4,0	727	£0 / ' / ‡
Woon											
crab/lobster traps	13	0	103	16	0	267	0	17	10	7	1,781
Grates	25	3	28	35	0	220	3	19	22	7	1,619
pallets	79	5	62	51	0	520	10	39	35	27	4,526
other wood items	1,163	58	1,235	2,212	10	6,575	272	1,623	381	178	70,849
lumber pieces	379	77	473	1,129	0	2,309	8	320	777	123	34,414
clothing/pieces	940	142	928	1,085	0	4,074	199	678	265	105	49,470
TOTAL RY ZANE	77 663	411.45	99.362	131.297	467	328,204	18,869	91,055	23,201	17,580	5,074,277
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