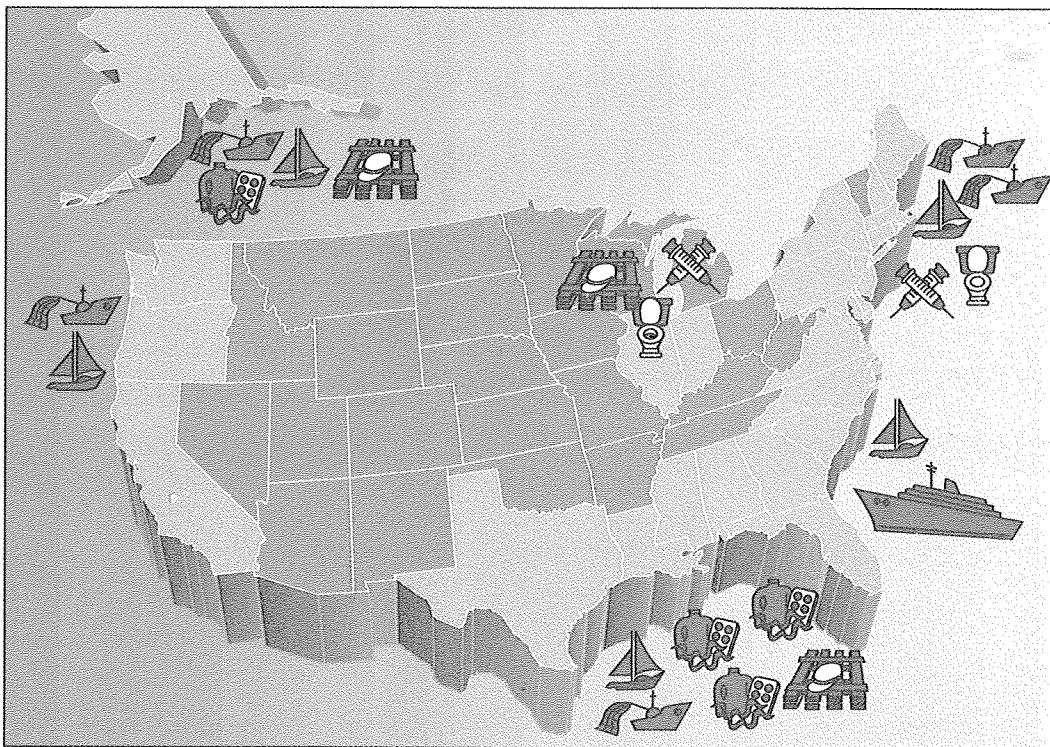


1990 BEACH CLEANUP RESULTS



Sgt. Shewey



CENTER FOR MARINE CONSERVATION

CLEANING NORTH AMERICA'S BEACHES

1990 BEACH CLEANUP RESULTS



CENTER FOR MARINE CONSERVATION

printed on recycled paper

CLEANING NORTH AMERICA'S BEACHES

1990 BEACH CLEANUP RESULTS

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*Dr. Michael Champ: Senior Scientist, Geochemical and Environmental Research Group, Texas A&M University. Dr. Champ made it possible for CMC to select and obtain the cartoons printed in this report. Dr. Champ is a longtime advocate for the value of animation as an educational tool. The cartoons were provided with permission from the author, Arnold Wiles, *The Marine Pollution Bulletin*, and its Editor, Professor R.B. Clark. Additional thanks to Tod Shove, for the perseverance to locate Dr. Champ and Dr. Clark.*

Karen Hodge, Lauri Kearney, Brenda Burns, and Gloria Coggleshall: data entry "whiz kids." Many, many hours were spent by these individuals in the most tedious of tasks, entering all the data from the 18,000 beach cleanup data cards into a computerized database. Without their efforts, compilation of this report would not have been possible.

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Patrick Kane: "computer disaster hotline." Well, who are you going to call when your computer decides to take a vacation ten minutes before you have to get something in the mail? Through many patient hours over the phone and even a "house call" or two, Patrick volunteered his expertise to help make it through computer-crisis situations. His ability to get over, around, or through problems enabled the report process to continue to run smoothly.

These are just a few of the many individuals who make an effort of this size so successful. Everyone who participated in any aspect of the 1990 National Beach Cleanup can feel proud of their contribution.

INTRODUCTION

In 1982, numerous organizations, government agencies, and individuals in the United States began to celebrate COASTWEEKS, a three-week period each fall dedicated to the beauty and value of our nation's coasts. Throughout the years, COASTWEEKS celebrations have included nature walks, lectures, exhibits on coastal issues, and a wide variety of other activities.

Beach cleanups, coordinated nationally by the Center for Marine Conservation (CMC) since 1988, have become the most well-attended COASTWEEKS event. Between September 8 and October 20, 1990, more than 108,000 volunteers participated in the 1990 National Beach Cleanup, removing more than 260 million pounds of trash. These volunteers also expressed their desire to improve the longterm condition of the coast by collecting detailed information on the types of trash they found. This report is a compilation of their efforts and a testimony of their commitment to the spirit of COASTWEEKS. Unfortunately, the report is also testimony to the fact that many people do not yet share the spirit of COASTWEEKS.

In the past two years, extensive marine debris education campaigns have been conducted for beachgoers, boaters, fishermen, merchant shippers, and other marine user groups. New trash disposal regulations have been enacted on the state, local, national, and international level. Why then are we still finding trash on our beaches? A major focus of this report is to identify the sources of marine debris and demand their accountability.

The 1990 National Beach Cleanup brought together 30 coastal states¹ including the District of Columbia, three inland states on the Great Lakes, and three U.S. territories. Each year regional coordinators in each area organize extensive public relations campaigns to recruit volunteers and educate the public about the problems caused by trash in the marine environment. The news about these cleanups has been so extensive that in 1990 four countries joined in this effort and conducted cleanups—Canada, Guatemala, Japan, and Mexico.

Why would so many people want to spend three hours of their weekend picking up someone else's trash? For one, coastal trash is ugly. Some coastal communities spend thousands of dollars annually to remove trash from their beaches. The city of Santa Monica, California, for example, spent \$1.3 million in 1989 to clean just three miles of beach. In addition, the debris presents a hazard to navigation—it is not unusual for a boater to experience tangled propellers or equipment failure because of plastic trash bags, fishing line, or other debris. Finally, with the increased use and subsequent disposal of plastics, we have realized that marine debris is more than a litter problem. We now know that this trash, especially plastic trash, kills marine animals that eat or become entangled in marine debris.

¹ This report refers to the District of Columbia and all U.S. territories as "states."

*"We received
hundreds of letters
and thousands of
signatures from
citizens living in the
Gulf region and we
knew they expected
their national leaders
to take action . . .
There is no question
that the beach
cleanups had an
impact."*

Lt. Commander
Galan McEachin, U.S.
Coast Guard, about Coast
Guard proposal to
designate Gulf of Mexico
as a Special Area under
MARPOL Annex V

Have these cleanups helped to reduce the problem of marine debris? Obviously, removing tons of trash from our beaches is a benefit. But beach cleanups have produced more lasting results. For instance, information collected during beach cleanups was used to encourage U.S. ratification of an international ban on dumping plastics at sea. The ban, known as Annex V of the MARPOL Treaty, went into effect on December 31, 1988. Annex V also regulates the ocean dumping of other trash depending on the ship's distance from shore. Recognizing that beach cleanup data, collected over time, could measure the effectiveness of Annex V, the Center for Marine Conservation established the National Marine Debris Database in 1988 with partial funding from the U.S. Environmental Protection Agency, the National Oceanic and Atmospheric Administration, and the U.S. Coast Guard. Data obtained during the first year of the program in the fall of 1988 (shortly before the anti-dumping regulations of Annex V took effect) now serve as a baseline to monitor the effectiveness of MARPOL Annex V.

More recently, the efforts of beach cleanup volunteers in the five states bordering the Gulf of Mexico are credited with the designation of the Gulf of Mexico and the Wider Caribbean as a Special Area under MARPOL Annex V. Since these waters are nearly enclosed by land, marine debris becomes concentrated and thus poses a significant problem for the area's marine animals, fishermen, and beach users. The U.S. Coast Guard used data collected by beach cleanup volunteers from Texas to Florida to illustrate this problem at a meeting of the International Maritime Organization (IMO), the agency that oversees the implementation of the MARPOL Treaty. As a result, in November 1990 the Marine Environment Protection Committee of the IMO agreed "in principle ²" to designate the Gulf of Mexico and the Wider Caribbean as a Special Area, which means that no dumping of *any* trash will be allowed in those areas.

Cleanups have also helped increase public awareness of the need to recycle. Several cleanups now recycle glass and aluminum beach debris, while some have begun to recycle plastics. In California, for example, volunteers used plastic bags made from 100% recycled plastic. As a result of a cooperative project with two petroleum companies, DuPont and Conoco, volunteers during the 1990 Texas Coastal Cleanup collected all plastic items separately. ARW Polywood Inc., in Ohio will recycle the plastic collected into plastic lumber for park benches and picnic tables in coastal areas.

Beach cleanups also provide a unique opportunity for different sectors of the community to work together to solve an environmental problem. Corporations and industries work with environmental groups and state agencies to coordinate cleanups on the local, state, and national level. For example, in 1990, 726 7-Eleven stores in coastal areas distributed brochures about the cleanup to their customers encouraging their participation. Faber Castell, a pencil manufacturer, donated 70,000 pencils to CMC so that volunteers could record information about the trash collected on CMC Data Cards. First Brands Corporation donated 83,000 large GLAD trash bags to 13 states. Appendix 1 lists the numerous companies that provided financial or in-kind support to national and regional coordinators.

² In July 1991 the IMO will vote to make the designation official, provided that none of the IMO member nations have objected to the Special Area designation.

Perhaps the largest contribution to the National Beach Cleanup comes from the state coordinators, zone captains, and volunteers. These individuals donate their time and talents to contribute to a cleaner, safer marine environment. Many of the state cleanups receive national and regional recognition for their efforts from *Take Pride in America* and other award programs (see box).

Fortunately, the problem of trash in the ocean is preventable. With concerted efforts by mariners, effective enforcement by regulatory agencies, and continued monitoring on the part of beach cleanup volunteers, the ocean will be a safer place for people, boats, and marine wildlife.

*If all 1990 beach
cleanup volunteers
were paid a
minimum wage of
\$4.25 for their work,
it would total at least
\$1.3 million.*

Beach Cleanup Award Winners

State	Awards Won
California	1989 California State Take Pride in America
Delaware	1989 National Take Pride in America
Florida	1989 Florida State Take Pride in America 1989 National Take Pride in America
Maine	1989 Maine State Take Pride in America 1989 National Take Pride in America
Mississippi	1989 Mississippi State Take Pride in America
North Carolina	1989 North Carolina State Take Pride in America 1989 National Take Pride in America
Pennsylvania	1989 Pennsylvania State Take Pride in America
South Carolina	1989 Mt. Gay Call Award
CMC's National Beach Cleanup	1988 National Take Pride in America 1989 National Take Pride in America



ORGANIZATION OF THIS REPORT

There are four chapters to this report. Chapter 1, *Results of the 1990 National Beach Cleanup*, describes the types and sources of trash found on all 23 coastal U.S. states, three inland states in the Great Lakes area, the District of Columbia, and three U.S. territories.

Chapter 2 discusses the 1990 *International Beach Cleanups* in Canada, Guatemala, Japan, and Mexico. The organizers of these cleanups worked with the Center for Marine Conservation (CMC) and, as in the U.S. cleanups, used CMC's standardized data card to record information on the types and quantities of debris collected. These data cards were returned to CMC and entered into the National Marine Debris Database.

Chapter 3, *Trends in National Beach Cleanup Data: 1988-1990*, examines some of the trends that are becoming apparent after three years of collecting data nationwide. Based on the information from 1990 data cards, volunteers are becoming increasingly proficient in identifying the types and sources of trash they collect.

Often the solutions to marine debris will be regional rather than national in scope. For example, data cards from Florida indicate the need for special efforts to combat the dumping by passenger cruise lines. Chapter 4, *Detailed Analysis of State and International Beach Cleanups* presents detailed data on a state-by-state basis to help illuminate these regional needs. Much of the information in Chapter 1 appears in more detail in Chapter 4, including graphic and tabular presentations of the sources of debris and the locations where debris was found. Chapter 4 also includes detailed information for each country that participated in the 1990 cleanup.

Finally, Appendix 1 contains information on the sponsors of national and regional cleanups. Appendix 2 is a list of debris items that were traceable to specific sources. Appendix 3 lists debris items identified as originating from foreign countries. Appendix 4 shows trends in the types and quantities of foreign trash items found on U.S. beaches since 1988. By demand of those who spent countless hours entering and compiling this data, Appendix 5 was included to show the odd assortment of undergarments left "behind" at the beach! Appendix 6 lists the source and publication date of the Arnold Wiles cartoons that appear throughout the report. Appendix 7 is a detailed list of *all* items recorded in the National Marine Debris Database in all U.S. States and territories. Appendix 8 provides identical information for items reported during the 1990 International Beach Cleanups.

RESULTS OF 1990 NATIONAL BEACH CLEANUP

Overview

In total, 108,749 volunteers participated in beach cleanups in 23 U.S. coastal states, the District of Columbia, three inland states, three U.S. territories, and four foreign countries. If all of these volunteers were paid a minimum wage of \$4.25 for their three hours of work, it would total \$1.3 million.

The United States alone accounted for 107,260 of these volunteers from the states and territories of Alabama, Alaska, California, the Commonwealth of the Northern Mariana Islands, Connecticut, Delaware, the District of Columbia, Florida, Georgia, Hawaii, Illinois, Indiana, Louisiana, Maine, Maryland, Massachusetts, Mississippi, New Hampshire, New Jersey, New York, North Carolina, Oregon, Pennsylvania, Puerto Rico, Rhode Island, South Carolina, Texas, Virginia, the Virgin Islands, and Washington.

International participation increased in 1990, as Japan and Guatemala held their first cleanups, joining the established efforts in Canada and Mexico.

The 1990 Cleanup also marked the first year of expanded participation of volunteers in the Great Lakes area (Lake Michigan and Lake Erie). Because debris in the Great Lakes endangers migratory birds, as well as resident waterfowl and fish, the restrictions of MARPOL Annex V apply to all vessels in the Great Lakes as well as other inland waterways and coastal areas. The Great Lakes support the largest recreational boating population in the United States, and boaters in the region frequently encounter tangled propellers and equipment failure due to improperly discarded trash.

In the United States alone, volunteers collected trash from 3,656 miles of coastline. Florida accounted for nearly one-third of the total miles cleaned with 1,050 miles, followed by California with 368 miles, and North Carolina with 350 miles of coastal and inland waterways.

However, cleanups that covered a relatively small area did not necessarily correspond to a small effort. Although volunteers in the Virgin Islands worked on just one-quarter of a mile of beach, they hauled in an impressive 30,000 pounds of trash.

In total, volunteers removed 2,645,283 pounds, or 1,323 tons of trash from U.S. and international beaches. Volunteers reported 4,375,567 items of trash collected from assorted U.S. and international beaches. Figure 1 is an overview of the results of the 1990 National and International Beach Cleanups. Table 1 provides more detailed information about the quantities of individual items reported on CMC data cards.

The Fabled "Kitchen Sink"

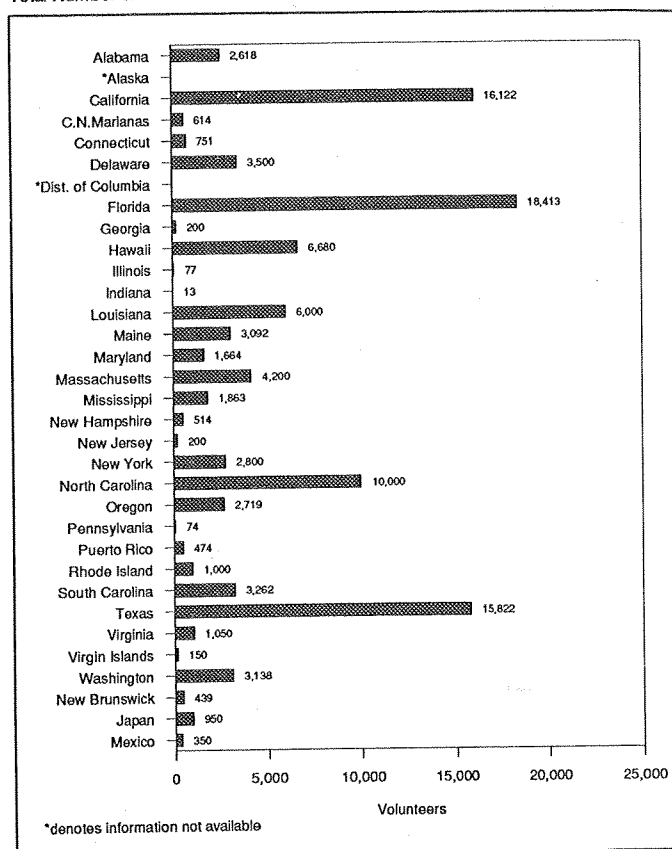
Volunteers at the 1990 National Beach Cleanup removed at least 4,227,791 items of trash from U.S. and international beaches, including *ten kitchen sinks*. Here's where they were found:

- Citrus County, Florida
 - Eastport/Lubec, Maine
 - Buckroe Beach, Virginia
 - Hillsborough County, Florida
 - Indian River County, Florida
 - Lake Erie, New York
 - New York City, New York
 - Ommelanden Park, Delaware
 - Palm Beach County, Florida
 - Portland/Falmouth, Maine
-

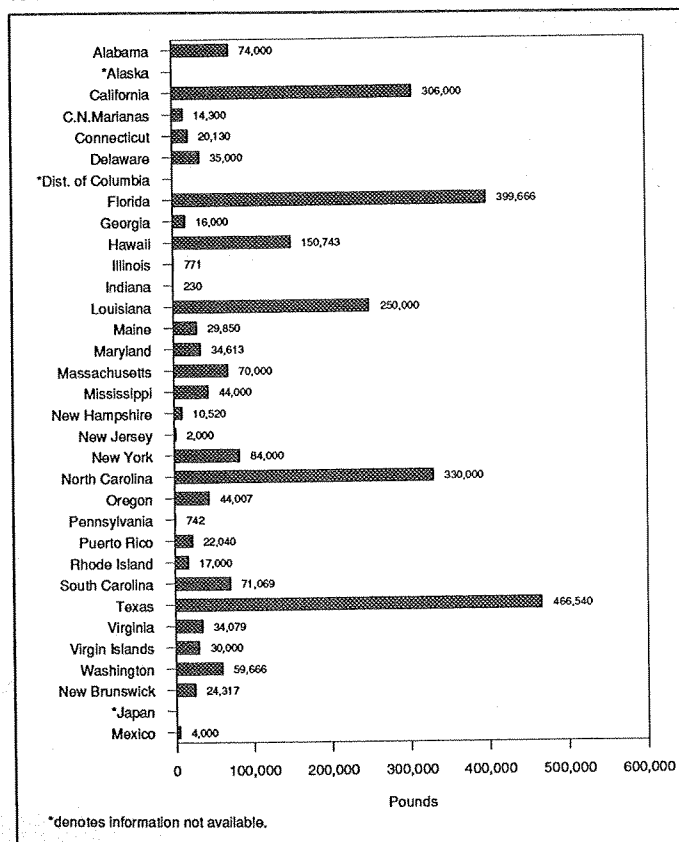
Figure 1. Overview of Results



Total Number of Volunteers - 108,749



Total Pounds of Debris - 2,645,283



Total Miles Cleaned - 3,720.5

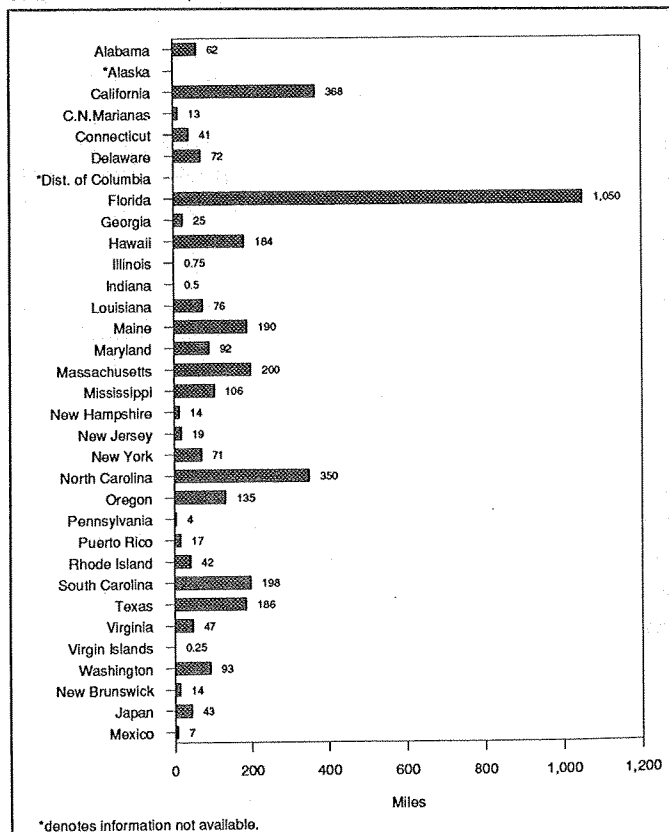


Table 1. Total Number of Debris Items Collected During 1990 U.S. Beach Cleanups

PLASTIC			GLASS		
Bags:			Bottles:		
food	178,856		beverage	169,513	
trash	51,930		food	15,246	
salt	3,435		other	18,962	
other	66,408		Fluorescent light tubes	3,210	
Bottles:			Light bulbs	9,580	
beverage	100,036		Pieces	193,221	
bleach	22,071		Other	16,370	
milk/water	35,384				
oil/lube	20,054		RUBBER		
other	42,481		Balloons	26,536	
Buckets	8,156		Condoms	3,741	
Caps/lids	165,384		Gloves	11,169	
Cigarette filters	531,828		Tires	7,772	
Cigarette lighters	26,622		Other	36,893	
Cups/utensils	102,245				
Diapers	9,425		METAL		
Fishing line	32,174		Bottle caps	96,528	
Fishing nets	11,007		Cans:		
Floats/lures	12,688		aerosol	14,177	
Hard hats	964		beverage	168,779	
Light sticks	14,341		food	13,111	
Pieces	286,238		other	8,709	
Pipe thread protector	5,576		Crab/fish traps	2,645	
Rope	93,736		55 gallon drums:		
Sheeting:			rusty	2,329	
longer than 2 feet	6,832		new	366	
2 feet or shorter	14,577		Pieces	33,682	
Six-pack holders	34,722		Pull tabs	36,328	
Strapping bands	20,889		Wire	17,213	
Straws	140,843		Other	38,792	
Syringes	3,738				
Tampon applicators	17,125		PAPER		
Toys	15,628		Bags	34,231	
Vegetable sacks	7,823		Cardboard	28,610	
Write protection rings	6,592		Cartons	22,971	
Other	81,055		Cups	41,301	
			Newspapers	19,953	
STYROFOAM			Pieces	196,753	
Buoys	15,020		Plates	13,795	
Cups	117,672		Other	62,847	
Egg cartons	8,110				
Fast food containers	34,139		WOOD		
Meat trays	15,552		Crab/lobster traps	1,634	
Packaging	47,527		Crates	2,511	
Pieces	250,898		Lumber	69,546	
Plates	18,863		Pallets	3,544	
Other	26,481		Other	31,854	
			CLOTH (clothing pieces)	48,424	
TOTAL - 4,227,791					

Why Collect Data?

"Three days after the cleanup, it was difficult to tell that the event had taken place. Still I think these cleanups are very important for people to see first hand how much stuff there is on our beaches and to realize the incredible variety of ludicrous things that end up 'decorating' our shores. Also the data collected by such a large number of people covering so many miles of beach is of considerable use to those of us studying the problem."

Tony Amos,
researcher at the
University of Texas

The obvious objective of the beach cleanup is to remove trash from coastal areas. However, temporary trash removal is not the primary purpose of most beach cleanup programs. A study by Dr. Tony Amos, a researcher at the University of Texas, demonstrated that three days after a cleanup, it was difficult to see the benefits of the beach cleanup.

Rather, the goal of beach cleanup programs is to *permanently* eliminate marine debris in our waterways. Cleanups achieve this in a number of ways, for example by first educating cleanup volunteers. The act of recording items as they are collected immediately demonstrates to volunteers the need to solve this problem. The impact of cleanups extends beyond these participants. Extensive press coverage of the National Cleanup also brings the problem to legislators and industry representatives, who are able to create longlasting solutions.

Most cleanup programs emphasize data collection in order to identify the composition of trash on the beaches. A thorough knowledge of the nature of the marine debris problem makes it possible to prioritize the actions necessary to solve the problem.

The Center for Marine Conservation requests that beach cleanup volunteers record the quantities and types of trash items collected on a standardized data card (Figure 2). Information from every volunteer who completes a data card becomes part of the National Marine Debris Database.

Understandably, information collected by volunteers cannot be considered as scientific as data collected under more carefully controlled conditions. However, beach cleanup information is remarkably consistent and informative. In many cases information from the National Marine Debris Database corresponds to more rigorous scientific surveys. For example, in 1989 the National Park Service collaborated with the National Marine Fisheries Service to conduct a scientific sampling of trash found on eight coastal areas (see box—*National Park Service Marine Debris Monitoring Program*). The results of the study closely resemble the information obtained by volunteers participating in the National Beach Cleanup.

The CMC data cards lists 81 different debris items in eight major categories: plastic, Styrofoam¹, glass, rubber, metal, paper, wood, and cloth. In each category a space was included for "other," to ensure that items not specifically listed on the data card would be recorded. Volunteers also record specific information on the sources of foreign debris items as indicated by product labels or other markings, and any observations of entangled or stranded marine wildlife. CMC also encourages volunteers to make comments and to include their name and address².

¹ The term "styrofoam" was used on the data card instead of the more technical "foamed plastic" to assist volunteers in debris identification. In data analyses, plastic and styrofoam items were grouped together and are referred to as "plastic."

² All volunteers who include their name and address receive a free subscription to the *Coastal Connection*, a biannual newsletter produced by CMC to promote solutions to the marine debris problem. In addition, volunteers who comment on their data card that they do not understand how CMC uses this data are sent a free copy of this report.

National Park Service Marine Debris Monitoring Program

In 1988 and 1989 eight national parks participated in a Marine Debris Monitoring Program. The program, which is being conducted by the National Park Service and the National Marine Fisheries Service, gathered information from Olympic National Park (WA), Channel Islands National Park (CA), Padre Island National Seashore (TX), Gulf Islands National Seashore (MS), Canaveral National Seashore (FL), Cape Hatteras National Seashore (NC), Cape Cod National Seashore (MA), and Assateague Island National Seashore (VA). The study surveyed permanent monitoring sites at 42 beaches four times each year.

Results over the first year identified plastic items as making up 90% of all trash. The remaining 10% consisted of 4% glass, 2% metal, 2% wood, and 2% other. Plastic items appeared in greatest abundance in the spring and fishing gear was most prevalent in the summer. Plastic bottles were the most abundant packaging item.

The study states that although first year interpretations must be considered preliminary, the data reveals certain patterns. For example, storm events and strong winds "transported debris off the beach or, along with increased sand deposition, buried it." The study also showed some regional abundances that are consistent with beach cleanup data. For example, while beach cleanups have reported sewage-associated wastes to be most prevalent in the Northeastern United States, the Monitoring Program found tampon applicators were most abundant in Cape Cod.

Additionally, beach cleanups have noted that states bordering the Gulf of Mexico have larger amounts of offshore generated trash. Therefore, it is no surprise that the monitoring study reported Padre Island's debris was orders of magnitude beyond other parks in nearly all categories. A partial explanation for the quantity of debris at Padre Island is that currents converge at the island bringing debris from as far away as the Caribbean and Mexico.



Figure 2. Data Card Used by 1990 Beach Cleanup Volunteers (front)

BEACH CLEANUP DATA CARD

Thank you for completing this data card. Answer the questions and return to your area coordinator or to the address at the bottom of this card. This information will be used in the Center for Marine Conservation's National Marine Debris Data Base and Report to help develop solutions to stopping marine debris.

Name _____ Affiliation _____

Address _____ Occupation _____ Phone (_____) _____

City _____ State _____ Zip _____ M _____ F _____ Age: _____

Today's Date: Month: _____ Day _____ Year _____ Name of Coordinator _____

Location of beach cleaned _____ Nearest city _____

How did you hear about the cleanup? _____

SAFETY TIPS

1. Do not go near any large drums.
2. Be careful with sharp objects.
3. Wear gloves.
4. Stay out of the dune areas.
5. Watch out for snakes.
6. Don't lift anything too heavy.

WE WANT YOU TO BE SAFE

Number of people working together on this data card _____ Estimated distance of beach cleaned _____ Number of bags filled _____

SOURCES OF DEBRIS. Please list all items with foreign labels (such as plastic bleach bottles from Mexico) or other markings that indicate the item's origin (such as cruise line names, military identification or debris with names and/or address of shipping/freighting or fishing companies, or oil/gas exploration activities).	
SOURCE	ITEM FOUND
Example: ABC Shipping Company	plastic strapping band

STRANDED AND/OR ENTANGLED ANIMALS (Please describe type of animal and type of entangling debris. Be as specific as you can.)

What was the most peculiar item you collected? _____


Comments _____

Thank you!

**PLEASE RETURN THIS CARD TO
YOUR AREA COORDINATOR
OR MAIL IT TO:**


Center for Marine Conservation
1725 DeSales Street, NW
Washington, DC 20036

A Membership Organization




**Center for
Marine
Conservation**


Formerly Center for Environmental Education, Est. 1972




EPA
United States
Environmental Protection
Agency



NOAA
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
U.S. DEPARTMENT OF COMMERCE



UNITED STATES COAST GUARD
1790



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Figure 2. Data Card Used by 1990 Beach Cleanup Volunteers (back)

ITEMS COLLECTED			
<p>You may find it helpful to work with a buddy as you clean the beach, one of you picking up trash and the other taking notes. An easy way to keep track of the items you find is by making tick marks. The box is for total items; see sample below.</p>			
<p>Example: egg cartons <u> </u></p>	<p>TOTAL 16</p>	<p>cups <u> </u></p>	<p>TOTAL 22</p>
PLASTIC			
	Total number of items		Total number of items
bags:		fishing nets	
food bags/wrappers	<input type="text"/>	hard hats	<input type="text"/>
trash	<input type="text"/>	light sticks	<input type="text"/>
salt	<input type="text"/>	pieces	<input type="text"/>
other bags	<input type="text"/>	pipe thread protector	<input type="text"/>
bottles:		rope	<input type="text"/>
beverage, soda	<input type="text"/>	sheeting:	
bleach, cleaner	<input type="text"/>	longer than 2 feet	<input type="text"/>
milk/water gal. jugs	<input type="text"/>	2 feet or shorter	<input type="text"/>
oil, lube	<input type="text"/>	6-pack holders	<input type="text"/>
other bottles	<input type="text"/>	strapping bands	<input type="text"/>
buckets	<input type="text"/>	straws	<input type="text"/>
caps, lids	<input type="text"/>	syringes	<input type="text"/>
cigarette filters	<input type="text"/>	tampon applicators	<input type="text"/>
cigarette lighters	<input type="text"/>	toys	<input type="text"/>
cups, utensils	<input type="text"/>	vegetable sacks	<input type="text"/>
diapers	<input type="text"/>	"write protection" rings	<input type="text"/>
fishing line	<input type="text"/>	other plastic (specify)	<input type="text"/>
fishing lures, floats	<input type="text"/>		<input type="text"/>
STYROFOAM® (or other plastic foam)			
buoys	<input type="text"/>	packaging material	<input type="text"/>
cups	<input type="text"/>	pieces	<input type="text"/>
egg cartons	<input type="text"/>	plates	<input type="text"/>
fast food containers	<input type="text"/>	other Styrofoam® (specify)	<input type="text"/>
meat trays	<input type="text"/>		<input type="text"/>
FOLD ALONG THIS LINE			
GLASS			
bottles/jars:		fluorescent light tubes	<input type="text"/>
beverage bottles	<input type="text"/>	light bulbs	<input type="text"/>
food jars	<input type="text"/>	pieces	<input type="text"/>
other bottles/jars	<input type="text"/>	other glass (specify)	<input type="text"/>
RUBBER			
balloons	<input type="text"/>	tires	<input type="text"/>
condoms	<input type="text"/>	other rubber (specify)	<input type="text"/>
gloves	<input type="text"/>		<input type="text"/>
METAL			
bottle caps	<input type="text"/>	55 gallon drums:	
cans:		rusty	<input type="text"/>
aerosol	<input type="text"/>	new	<input type="text"/>
beverage	<input type="text"/>	pieces	<input type="text"/>
food	<input type="text"/>	pull tabs	<input type="text"/>
other	<input type="text"/>	wire	<input type="text"/>
crab/fish traps	<input type="text"/>	other metal (specify)	<input type="text"/>
PAPER			
bags	<input type="text"/>	newspapers/magazines	<input type="text"/>
cardboard	<input type="text"/>	pieces	<input type="text"/>
cartons	<input type="text"/>	plates	<input type="text"/>
cups	<input type="text"/>	other paper (specify)	<input type="text"/>
WOOD (leave driftwood on the beach)			
crab/lobster traps	<input type="text"/>	pallets	<input type="text"/>
crates	<input type="text"/>	other wood (specify)	<input type="text"/>
lumber pieces	<input type="text"/>		<input type="text"/>
CLOTH			
clothing/pieces	<input type="text"/>		<input type="text"/>
<p>Remember to turn the card over and fill out your name and address and to record sources and entangled wildlife!</p>			

**Items of Concern
Identified by the
National Park Service
Marine Debris
Monitoring Program**

Potential Ingestion Hazards

- foam fragments
- plastic bags
- plastic sheets
- balloons

**Potential Entanglement
Hazards**

- netting
- monofilament fishing line
- rings/gaskets
- six pack rings
- loops and closed straps
- rope longer than 3 feet

In 1990 CMC revised the data cards to incorporate comments from volunteers and cleanup coordinators. Because many meticulous volunteers record items that are not listed on the data card, CMC added the following items: "plastic food bags/wrappers," "cigarette filters," "Styrofoam plates," "Styrofoam packaging materials," and "condoms." The 1990 data card also reflected minor changes in groupings. For example, prior to 1990, straws were grouped with plastic cups and utensils. The new separate category for plastic straws reveals that they are the tenth most prevalent item on our beaches.

In an effort to further standardize the data collection process, in 1990 the Center for Marine Conservation produced informational signs for coordinators to post at check-in locations. The poster, entitled, *Who's Trashing the Ocean? Help Us Find Out—Be a Data Detective!* featured drawings of items collected by volunteers that can indicate a particular source (Figure 3). The poster also gives information on how to use the data card and explains how their data will be used to compile a national assessment of beach debris.

All comparisons are made on the basis of percent contribution to the total amount of trash collected. For example, a six-pack ring counts as one item as does a wooden pallet, or a piece of rope. Calculations based on relative abundance (percentage) makes it possible to compare regional beaches even though they may have had different numbers of volunteers, miles cleaned, or pounds collected. Another way of understanding these percentages is to imagine all the trash collected in each state in a pile. If a person randomly selected a piece of trash from a state's pile, the likelihood of pulling out a milk jug would be, for example, 0.83%. The more milk jugs on the beach, the greater the likelihood of pulling one from that state's pile of trash.

In 1990 CMC distributed 85,070 data cards. Volunteers returned 18,872, or 22%, of all cards distributed. Most survey experts would consider 22% a good return rate. Each data card represents the trash collected by one, several, or sometimes a summary of the work of a large group of volunteers. Participants in Alabama returned the highest percentage of cards, or 59.8%, followed by high return rates in Rhode Island (58.0%), Maine (44.3%), and Connecticut (44.2%). Other states with above average data card return rates include New Hampshire (43.4%), Florida (43.2%), Georgia (39.5%), Delaware (35.3%), California (33.3%), Louisiana (26.4%), and Massachusetts (26.2%). In an effort to conserve paper, some coordinators used the 1989 version of the data card left over from previous cleanups. As a result, in some cases the percent of 1990 data cards returned is actually lower than the figures above suggest.

Results

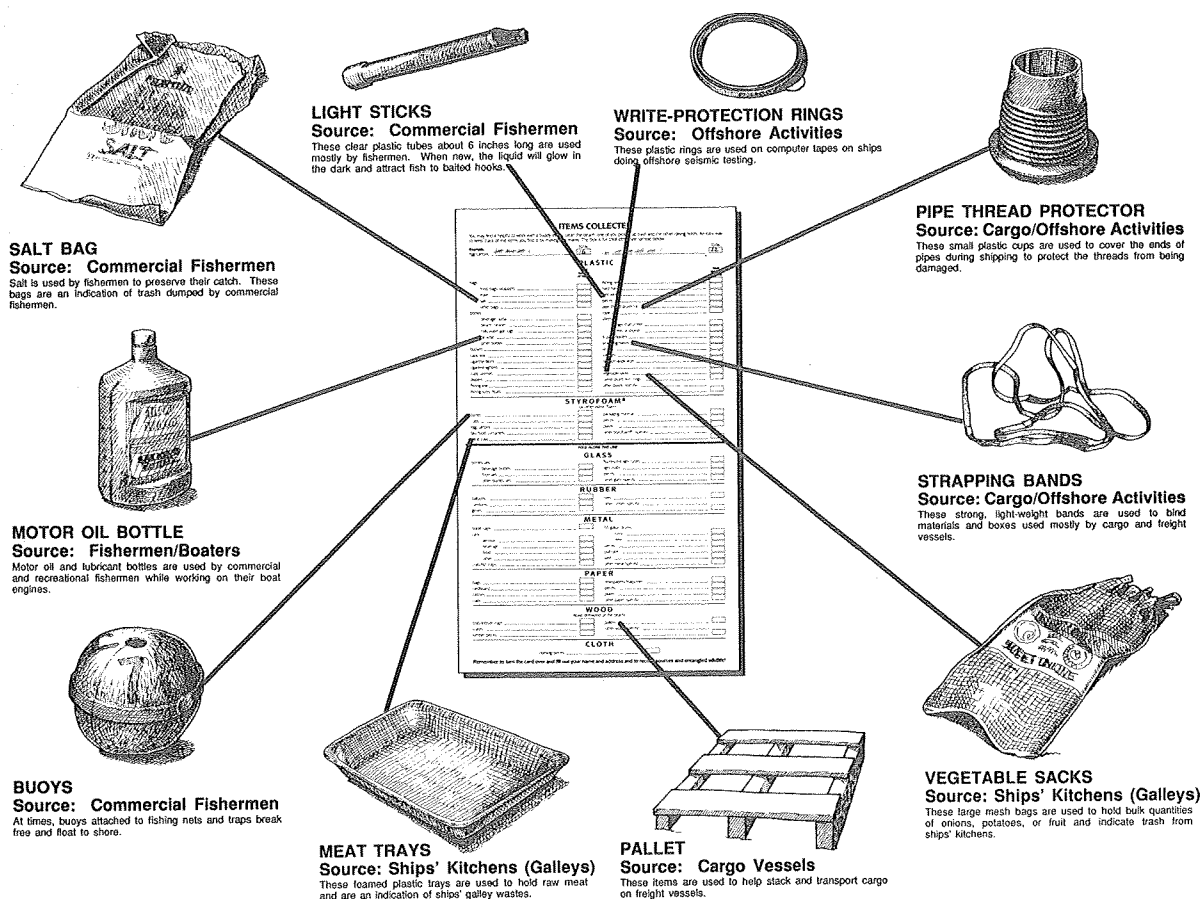
What is Most Prevalent Type of Debris?

Of the 4,227,791 items recorded on data cards, plastic was by far the most abundant item reported accounting for 63.9% of all trash (Figure 4). Plastic debris is of particular concern because of its ability to persist for many years and for the tendency of wildlife to ingest or become entangled in plastic items. Figure 5 shows the percent of plastic reported for each state. The District of Columbia had the lowest percentage of plastic, 37.2%. Indiana and New Jersey reported the highest percentages with 68.8% and 68.6% respectively. All

Figure 3. Marine Debris Poster Used by 1990 Beach Cleanup Volunteers

WHO'S TRASHING THE OCEANS? HELP US FIND OUT! BE A DATA DETECTIVE!

An international law now prohibits dumping trash at sea. But some people are still throwing their trash overboard and we need your help to identify them. Be on the lookout for the items pictured below. They are important clues to identify the sources of marine debris. If you find one of these items, be very careful to correctly record it on the data card. If you can, take a photograph of the item showing the identifying markings and give it to your zone captain. The picture will be sent to the Coast Guard so they can investigate the debris source. Working together, we can stop the crime of dumping trash in the ocean!!



The information recorded on the data cards will be used by The Center for Marine Conservation in a national study to develop solutions to ending the serious marine debris problems facing all coastlines and waterways.

- Collect data as a team, one person recording items, while the others collect and bag the trash.
- Do not write words like "Lots" or "Many." Use only numbers.
- Count items in groups of five and record the total in the box.
- Leave natural items like driftwood or seaweed on the beach. Avoid stepping on dune plants and grass.

BE SURE TO READ THE SAFETY TIPS ON THE DATA CARD!!



Figure 4. Percent Composition of Debris Collected During 1990 U.S. Beach Cleanups.

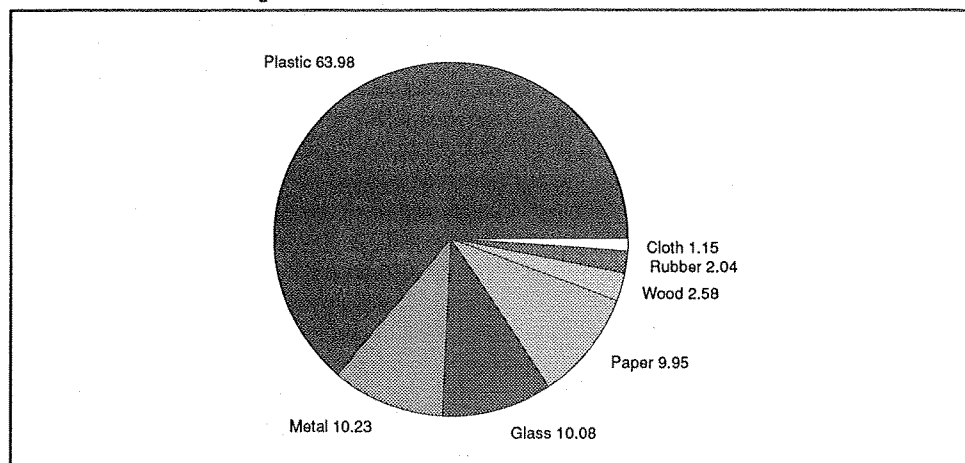
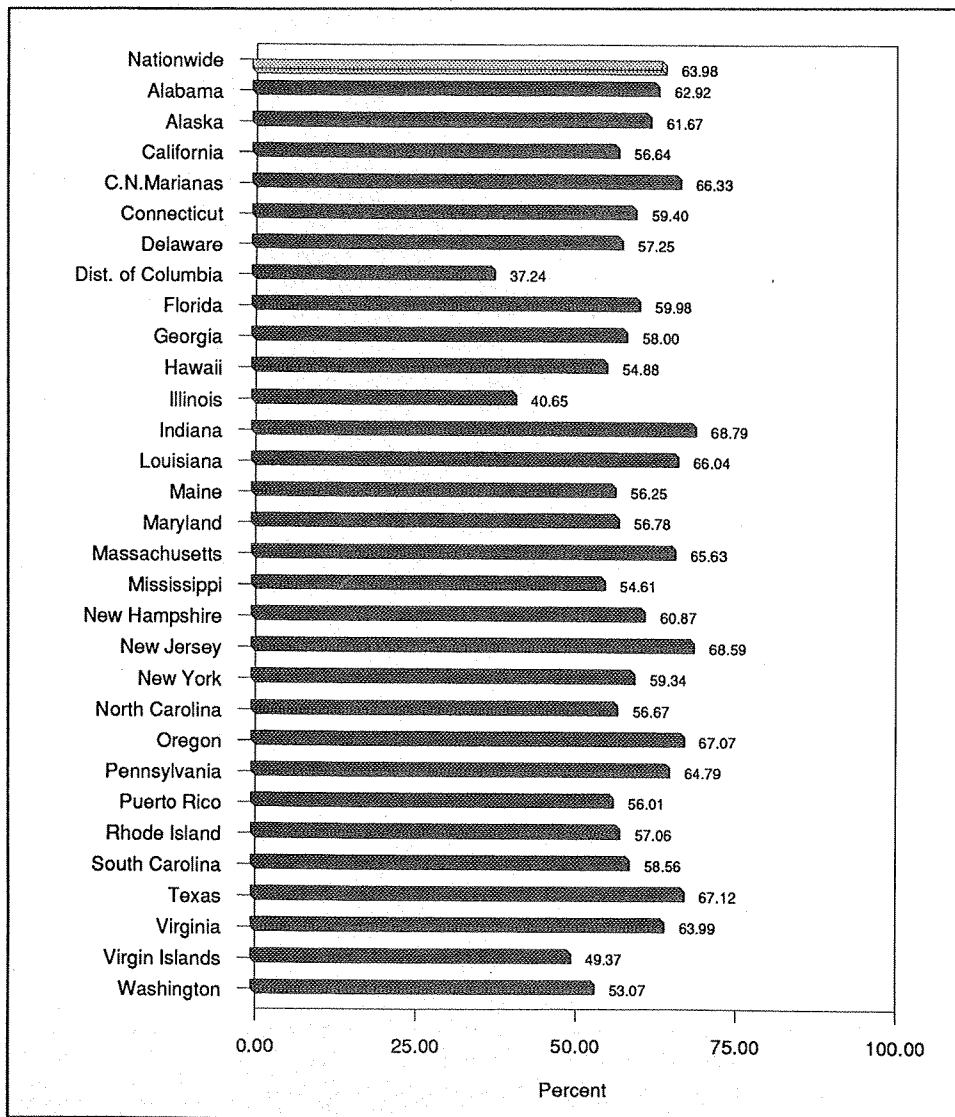


Figure 5. Plastic Debris Collected During 1990 Beach Cleanups.



other categories of trash were reported in much less abundance: 10.2% metal, 10.1% glass, 9.9% paper, 2.6% wood, 2.0% rubber, and 1.2% cloth.

According to the National Park Service's Marine Debris Monitoring Program, ten debris items are of particular concern to wildlife. Unfortunately, most of these items were prevalent on U.S. beaches, including 250,898 foam fragments, 300,629 plastic bags, 21,409 plastic sheets, and 26,536 balloons. Items identified as hazards for wildlife entanglement and reported by volunteers included 11,007 pieces of netting, 32,174 pieces of monofilament fishing line, 6,592 write-enable protection rings, 34,722 six pack rings, 20,889 strapping bands and 93,736 pieces of rope.³

The Dirty Dozen

Since 1988, CMC has identified the "Dirty Dozen," the 12 most abundant items reported from the cleanup. The most interesting aspect of the 1990 Dirty Dozen is the appearance of cigarette filters in first place (compared to fifth place in 1989). Volunteers recorded 531,828, cigarette filters, or butts, accounting for 12.6% of all the trash nationwide—the equivalent of 26,591 packs of cigarettes. Prior to 1990, cigarette butts were not on the data card, yet volunteers often recorded them in the margin. At the suggestion of coordinators and volunteers, CMC added cigarette filters to the 1990 data card.

Most cigarette filters are made of cellulose acetate which is a synthetic material. Cigarette filters are therefore classified as plastics and fall within the definition of plastic under MARPOL Annex V. During previous cleanups, however, many volunteers who reported cigarette filters recorded this information under the category of paper. Perhaps this is why cigarette filters are so abundant on our beaches: people think filters are paper and will degrade rapidly. The abundance of cigarette filters on our beaches indicates the need to educate smokers about their contribution to the debris problem.

The Dirty Dozen constitutes 59.19% of all trash reported. If the following items were eliminated from U.S. beaches, they would be two-thirds cleaner.

Rank	Item	Total Number Reported	Percent of Total Debris Collected
1.	cigarette filters	531,828	12.58
2.	plastic pieces (fragments of larger plastic objects)	286,238	6.77
3.	foamed plastic pieces	250,898	5.93
4.	paper pieces	196,753	4.70
5.	glass pieces	193,221	4.57
6.	plastic food bags and wrappers	178,856	4.23
7.	glass beverage bottles	169,513	4.01
8.	metal beverage cans	168,779	3.99
9.	plastic caps and lids	165,384	3.91
10.	plastic straws	140,843	3.33
11.	foamed plastic cups	117,672	2.78
12.	plastic eating utensils (including cups, spoons, and forks)	102,245	2.42
	Total	2,502,230	59.19

*Cigarette butts were
the number one item
found on all U.S. and
foreign beaches.
Volunteers collected
531,828 individual
cigarette butts, or the
equivalent of 26,591
packs of cigarettes.*

³ The National Park Service Marine Debris Monitoring Program characterizes rope greater than 1 meter (3 feet) as "entangling debris." The National Marine Debris Database contains information about rope of all lengths and does not make a size distinction.

The Dirty Dozen reflects meticulous data collection. The top five items reported are pieces or fragments of larger objects. Only volunteers dedicated to a cleaner environment would collect and record half a million cigarette butts or 250,000 plastic pieces discarded by someone else.

In addition, the Dirty Dozen highlights some obvious solutions to the marine debris problem. Several of our most prevalent items could be recycled after use and would then never appear on our beaches. Expanded community and marina recycling programs would reduce the number of glass beverage bottles, glass pieces, metal beverage cans, and plastic beverage bottles found in coastal areas.

The Dirty Dozen also highlights the need to address other debris items on an individual level. For instance, since volunteers reported 140,843 straws to be a prevalent debris items found on our beaches, in some communities concession stands near waterways should discontinue providing straws. The next 13 most prevalent items were as follows:

Rank	Item	Total Number Reported
13.	plastic beverage bottles	100,036
14.	metal bottle caps	96,528
15.	plastic rope	93,736
16.	wood and lumber	69,546
17.	miscellaneous plastic bags	66,408
18.	plastic trash bags	51,930
19.	cloth and clothing	48,424
20.	foamed plastic packaging	47,527
21.	miscellaneous plastic bottles	42,481
22.	paper cups	41,301
23.	metal pull tabs	36,328
24.	plastic milk and water gallon jugs	35,384
25.	plastic six-pack holders	34,722

A Word About Bottle Bills

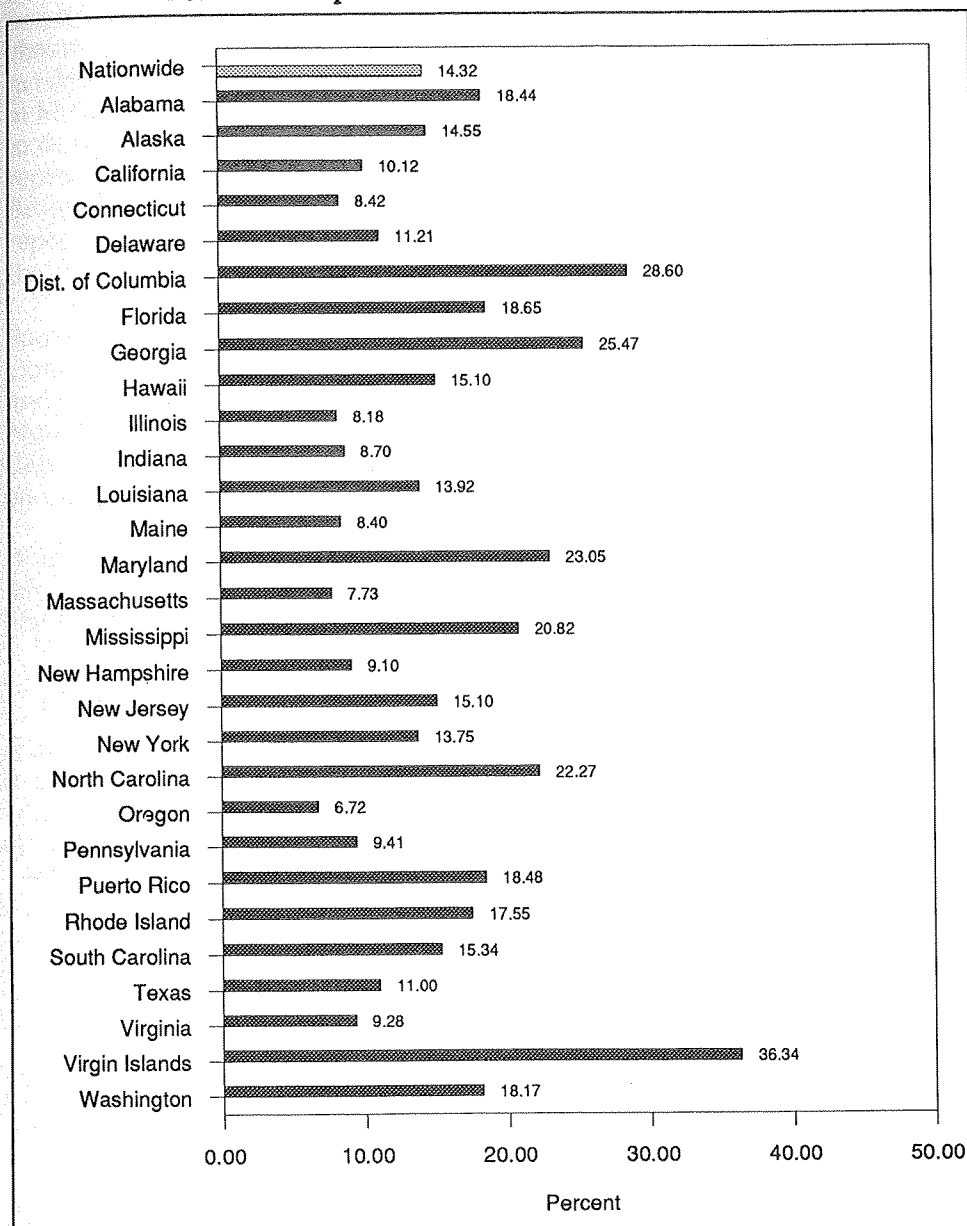
Glass beverage bottles, metal beverage cans, and plastic beverage bottles were all among the 12 most prevalent items found on U.S. beaches. These items, along with plastic six-pack rings, metal bottle caps, and metal pull tabs make up the category of bottles and associated goods. Nationwide, more than 14% of the trash was bottles and associated goods (Figure 6). States that reported percentages above this figure include the Virgin Islands (36.3%), the District of Columbia (28.6%), Georgia (25.5%), Maryland (23.0%), North Carolina (22.2%), Mississippi (20.8%), Florida (18.6%), Puerto Rico (18.4%), Alabama (18.4%), Washington (18.1%), Rhode Island (17.5%), South Carolina (15.3%), Hawaii (15.1%), New Jersey (15.1%), and Alaska (14.5%).

Nine states have enacted legislation to encourage beverage container recycling. These "bottle bills" require vendors to add a few cents to the price of the beverage as a deposit. An individual receives a refund for the deposit upon return of the container. Six states that participate in the beach cleanup have bottle bill legislation—Connecticut, Delaware, Maine, Massachusetts, New York, and Oregon. In *all* of these states, the quantities of bottles and associated goods reported were lower than the national figure. *None* of the states that reported bottles and associated goods above the national figure have a beverage container law.

Items Classified as Bottles and Associated Goods (14.32% of total)

- plastic beverage bottles (100,036)
- glass beverage bottles (169,513)
- metal beverage cans (168,779)
- plastic six-pack rings (34,722)
- metal bottle caps (96,528)
- metal pull tabs (36,328)

Figure 6. Bottles and Associated Goods Reported During 1990 Beach Cleanups.



Amount of Bottles and Associated Goods Found in States with Bottle Bill Legislation

State	% of Total
New York	13.8
Delaware	11.2
Connecticut	8.4
Maine	8.4
Massachusetts	7.7
Oregon	6.7
Nationwide	14.3

Sources of Beach Debris

It is clear that cigarette butts, beverage bottles, plastic eating utensils and other items listed in the Dirty Dozen are the most prevalent types of marine debris. Unfortunately, due to their general uses, we can not pinpoint the sources of these items. Certain debris items, however, indicate specific debris sources. These "indicator items" were first identified by CMC in 1986 with the assistance of the Texas Coastal Cleanup Steering Committee. Because the Committee included representatives of marine industry groups, they were familiar with the types of debris that could be generated by industry members. For instance, plastic cyalume light sticks were identified by representatives of the fishing industry as items generated by longline fisheries. Using this information, CMC identified 28 items which are general indicators of trash coming from specific ocean-based or land-based sources (Table 2).

Table 2. Categories and Quantities of Indicator Items Reported During the 1990 National Beach Cleanup

Category	Indicator Items	Total Number Reported
Recreational Fishing/ Boating Wastes	plastic fishing line	32,174
	plastic floats and lures	12,688
		44,862 (1.06%) ¹
Commercial Fishing Wastes	plastic rope	93,736
	foamed plastic buoys	15,020
	plastic light sticks	14,341
	rubber gloves	11,169
	plastic fishing nets	11,007
	plastic salt bags	3,435
	metal crab/fish traps	2,645
	wooden crab/lobster traps	1,634
		152,987 (3.62%)
Operational Wastes	plastic strapping bands	20,889
	glass light bulbs	9,580
	plastic sheeting longer than 2 feet	6,832
	write-protection rings	6,592
	plastic pipe thread protectors	5,576
	wooden pallets	3,544
	fluorescent light tubes	3,210
	wooden crates	2,511
	plastic hard hats	964
		59,698 (1.41%)
Galley Wastes	plastic trash bags	51,930
	plastic milk/water gallon jugs	35,384
	plastic bleach/cleaner bottles	22,071
	foamed plastic meat trays	15,552
	foamed plastic egg cartons	8,110
	vegetable sacks	7,823
		140,870 (3.33%)
Sewage-Associated Wastes	plastic tampon applicators	17,125
	rubber condoms	3,741
		20,866 (0.49%)
Medical Waste	plastic syringes	3,738 (0.09%)
Total Number of Indicator Items		423,021 (10.00%)

¹ Number in parentheses indicates percent of total debris items collected nationwide.

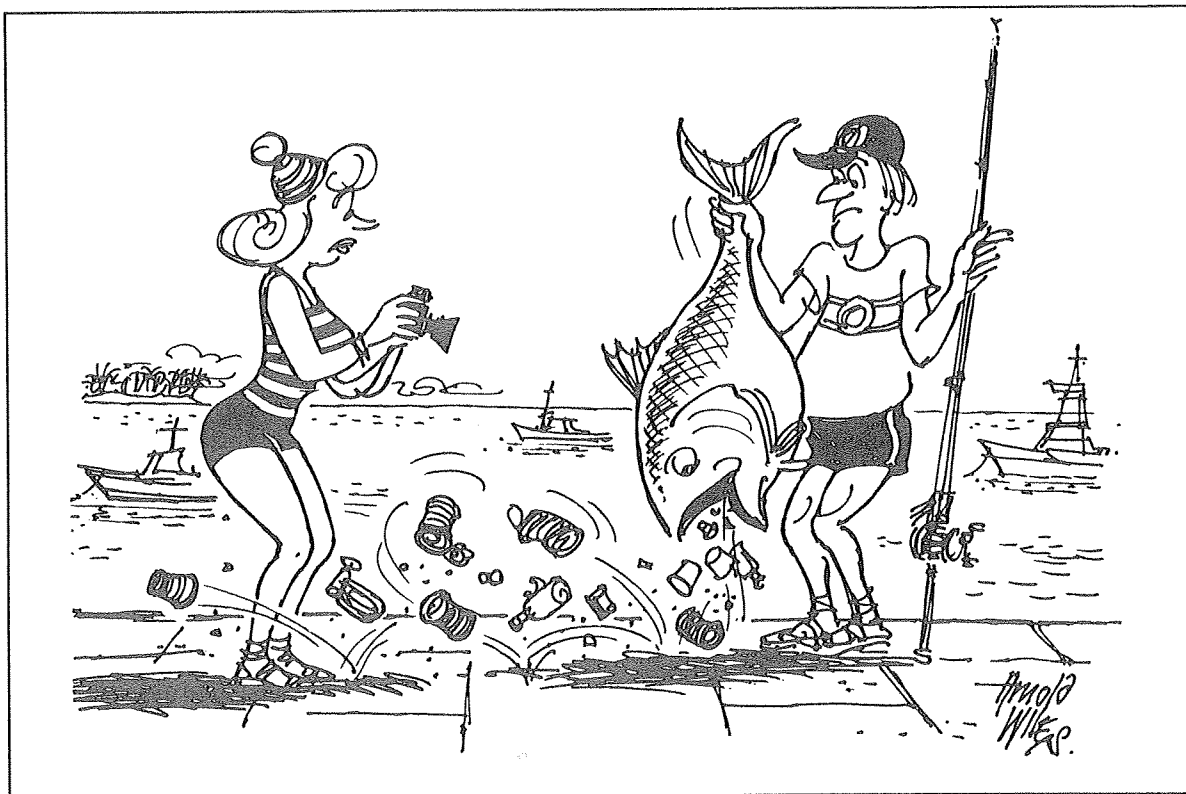
As stated earlier, the 1990 cleanup focused on identifying sources of debris, and cleanup volunteers were eager to provide as much detailed information as possible on the items they found. Appendix 2 is an extensive list of items classified as "traceable" debris. These reports provide an indication of trends in regional contributions to the marine debris problem. For example, volunteers in Maine listed 39 names of sources of marine debris and 31 of these are related to commercial fishing operations. The reports specifically listed 19 separate reports of plastic tags from "Canadian Lobster Fisheries" and ten from "New Brunswick Aquaculture Salmon." Likewise in Massachusetts, out of 21 separate reports, 14 were from commercial fishing sources. In contrast, in the Gulf states there is a prevalence of petroleum industry waste items.

Some items reported by volunteers represent a company such as "Winchell's Donuts," "Pizza Hut," or "Sailors Supply Company." In these cases a consumer, and not the company listed, most likely improperly discarded the item. Nonetheless, we encourage all companies listed as contributing "Traceable Debris" items to consider their responsibility to prevent marine debris and encourage their customers to do the same.

Where possible, all sources and companies that were identified will receive a letter from the Center for Marine Conservation with information about the National Beach Cleanup and a copy of this report.

Ocean-Based Sources of Marine Debris

Items that indicate contributions by vessels, or "ocean-based sources" of debris include: 1) recreational fishing and boating wastes, 2) commercial fishing wastes, 3) operational wastes generated by vessels and offshore petroleum operations, and 4) galley-type wastes. In addition, volunteers identified wastes from another ocean-based source of debris, passenger cruise lines.





Recreational Fishing and Boating Indicator Items

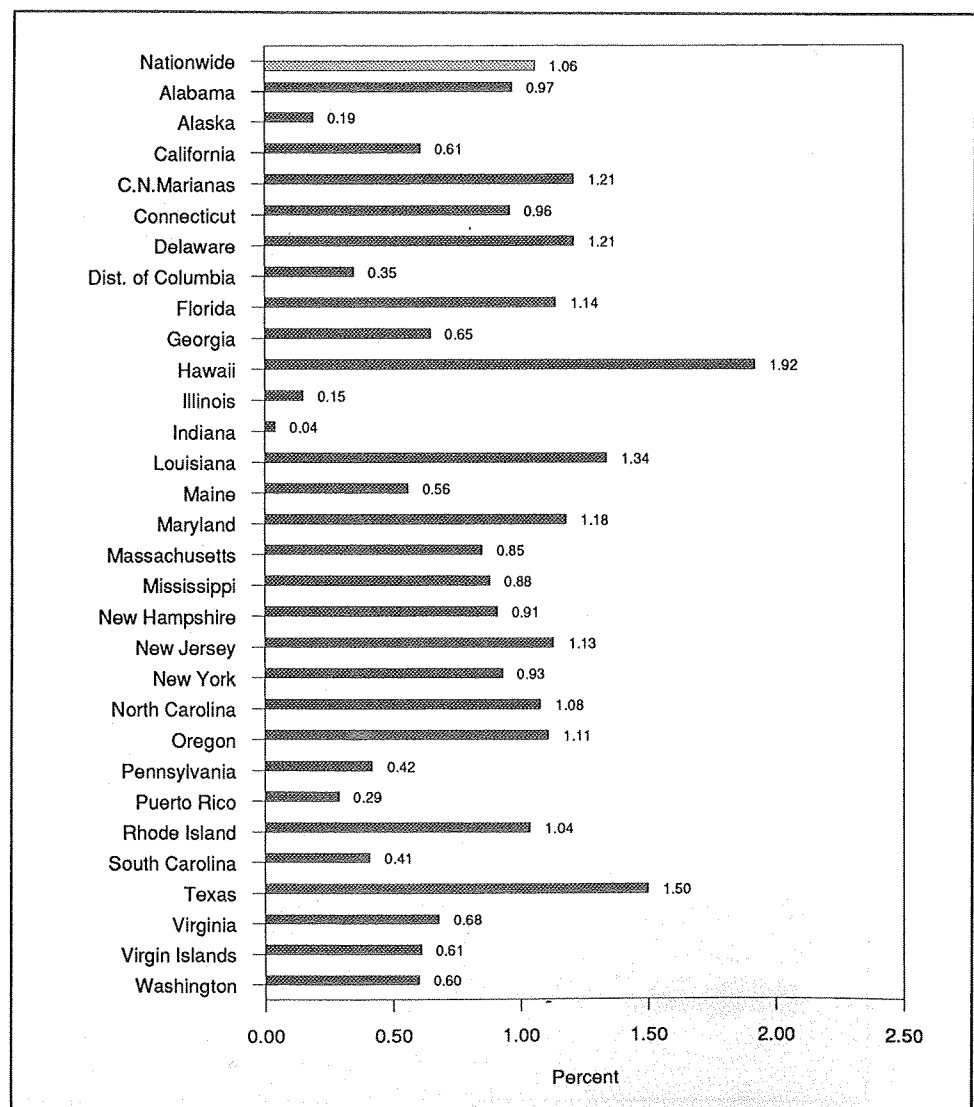
- plastic monofilament fishing line (32,174)
- plastic floats and lures (12,688)

It is important to recognize that there is variability in the sources of some indicator items in different parts of the country. For instance, in a region with heavy marine traffic, plastic trash bags on the beach may be an indicator of galley wastes from ships at sea, whereas in a state with little marine traffic, plastic trash bags on the beach may instead indicate illegal trash dumping by local residents. Therefore, while preliminary information can be used to provide a means of comparison on a national level, it will be important for government, industry, and other groups in each region to assess the data reported from their area within the context of potential sources of debris items.

Recreational Fishing and Boating Wastes

Monofilament fishing line and fishing floats and lures indicate contributions from recreational boating and fishing activities. These two items represent 1.1% of all the trash collected. States with recreational boating trash above the national figure include Hawaii (1.9%), Texas (1.5%), Louisiana (1.3%), Delaware (1.2%), the Northern Mariana Islands (1.2%), Maryland (1.2%), Florida (1.1%), New Jersey (1.1%), Oregon (1.1%), and North Carolina (1.08%). Figure 7 lists the percent of trash attributable to recreational fishing and boating sources in all states.

Figure 7. Recreational Fishing and Boating Wastes Reported from 1990 U.S. Beach Cleanups



Monofilament line causes particular problems to birds and other wildlife. In Florida, volunteers collected monofilament fishing line separately from other trash to determine the prevalence of this item. In 1990 Florida volunteers reported approximately 260 miles of discarded fishing line. There were a total of 142 reports of wildlife affected by trash and 47 of these reports (33%) were attributed to entanglement in monofilament fishing line. These figures indicate the need to educate fishermen and boaters about the need to properly discard used fishing line. Berkley, a fishing tackle manufacturer, hopes their efforts to recycle fishing line will decrease the amount of fishing line reported in the future (see box).

Berkley's Fishing Line Recycling Program

Monofilament fishing line is a durable, non-degradable material that is excellent for its intended use—commercial and recreational fishing—but deadly to birds and marine life if it is discarded into the water. Berkley, a fishing tackle manufacturer, is working to reduce this threat through its fishing line recycling program. Berkley includes information about the proper disposal of fishing line in all its packages of line. In addition, Berkley has placed 8,000 recycling bins in tackle shops across the nation since September 1990. Upon request, Berkley provides free bins to stores and will pay to transport used fishing line to the recycling center. The line is recycled into products such as stove knobs, boat propellers, and fasteners for backpacks. All income received from the sale of recycled products will defray the transportation costs of the program. For more information about the program contact Jan Bowles at Berkley, 1 Berkley Drive, Spirit Lake, Iowa 51360-1041 (712) 336-1520.

Commercial Fishing Wastes

Nationwide, 3.6% of all trash reported could be identified as waste from commercial fishing operations (Figure 8). Trash items from commercial fishing sources include plastic rope, plastic light sticks, plastic fishing nets, plastic salt bags, foamed plastic buoys, wood fish and crab traps, and metal fish and crab traps, and rubber gloves.

Three specific regions of the United States had higher than average amounts of commercial fishing trash: the Gulf of Mexico, New England, and Alaska. In these regions, both New Hampshire (13.8%) and Alaska (10.7%) reported commercial fishing gear on their beaches *three times above* the national figure. Percentages from Louisiana (7.4%) and Texas (7.5%) were *twice as high* as most states. Four of the five Gulf states—Louisiana, Texas, Mississippi, and Alabama were above the national figure. Although Florida also borders the Gulf of Mexico, the amount of commercial fishing gear was below the national figure. This information is consistent with the circulation patterns of the Gulf, which concentrate trash on the northwestern Gulf shores. The commercial fishing trash reported in the Gulf states consisted primarily of cyalume light sticks, which are used in longline fisheries, and rubber gloves, commonly used by shrimp fishermen. Large longline and shrimp fisheries operate in the Gulf of Mexico.

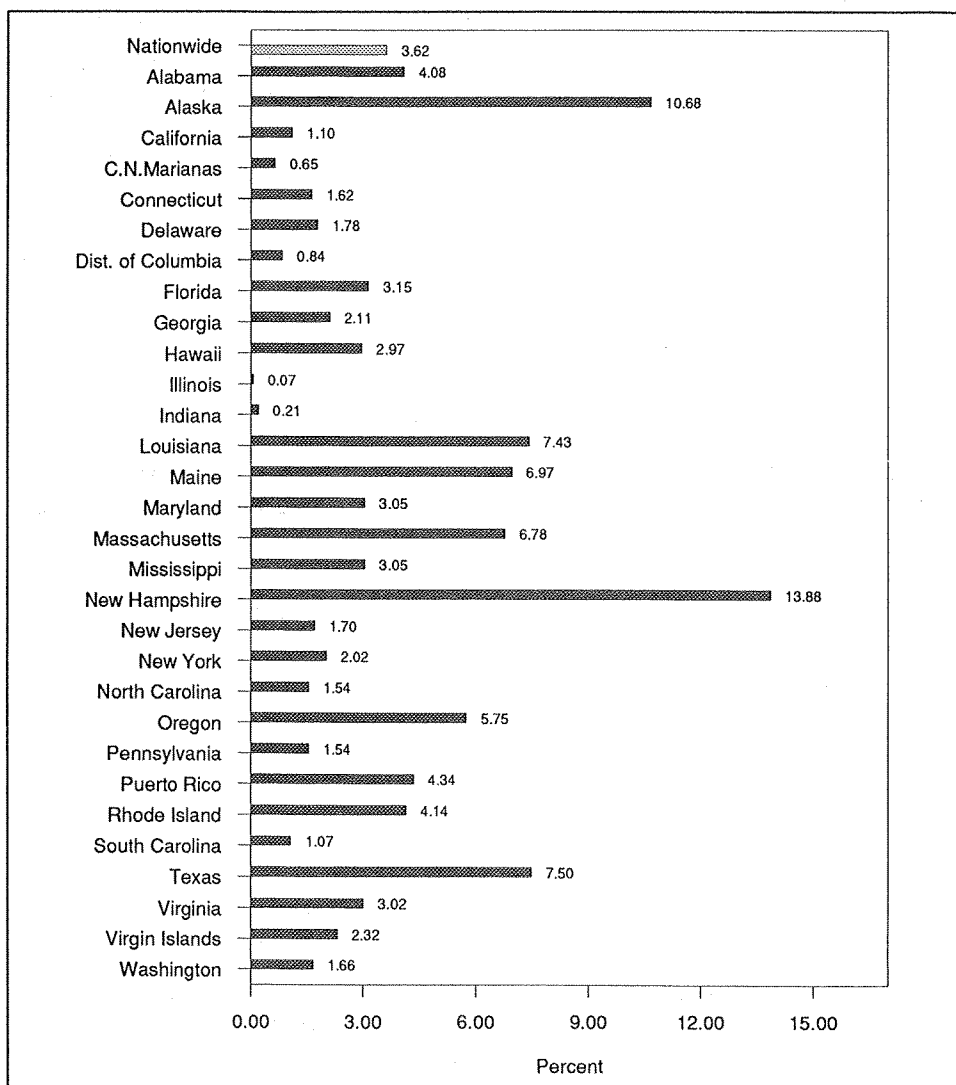
In contrast, high percentages of commercial fishing trash in the New England states, for example, Maine, Massachusetts, and Rhode Island, was attributed primarily to rope, metal traps, and plastic fishing nets. The presence of these types of commercial fishing gear over others is primarily due to the extensive

Figure 8. Commercial Fishing Wastes Reported from 1990 U.S. Beach Cleanups



Commercial Fishing Indicator Items

- plastic rope (93,736)
- plastic light sticks (14,341)
- plastic fishing nets (11,007)
- plastic salt bags (3,435)
- foamed plastic buoys (15,020)
- wood fish and crab traps (1,634)
- metal fish and crab traps (2,645)
- rubber gloves (11,169)



New England lobster trap fishery. Similarly, the predominance of nets and lack of light sticks and salt bags reported in Alaska is consistent with the types of fishing operations conducted in this region. Although longline fisheries are conducted for sablefish and halibut in Alaska, they do not use light sticks.

Operational Wastes

MARPOL Annex V regulates the discharge of wastes from all ships at sea. An offshore oil platform falls under the MARPOL definition of a ship and so must comply with the no-dumping restrictions. The category designated as operational wastes includes trash generated by offshore operations such as petroleum drilling in addition to equipment used on cargo vessels. Nationwide these wastes accounted for 1.4% of all trash items reported (Figure 9). Unfortunately, many of these items are particularly harmful in the marine environment. For example, the 20,889 strapping bands and 21,409 pieces of plastic sheeting reported are known to pose entanglement and ingestion problems for wildlife. Glass light bulbs, of which 12,790 were found, are a potential safety hazard for beach visitors.

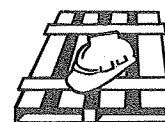
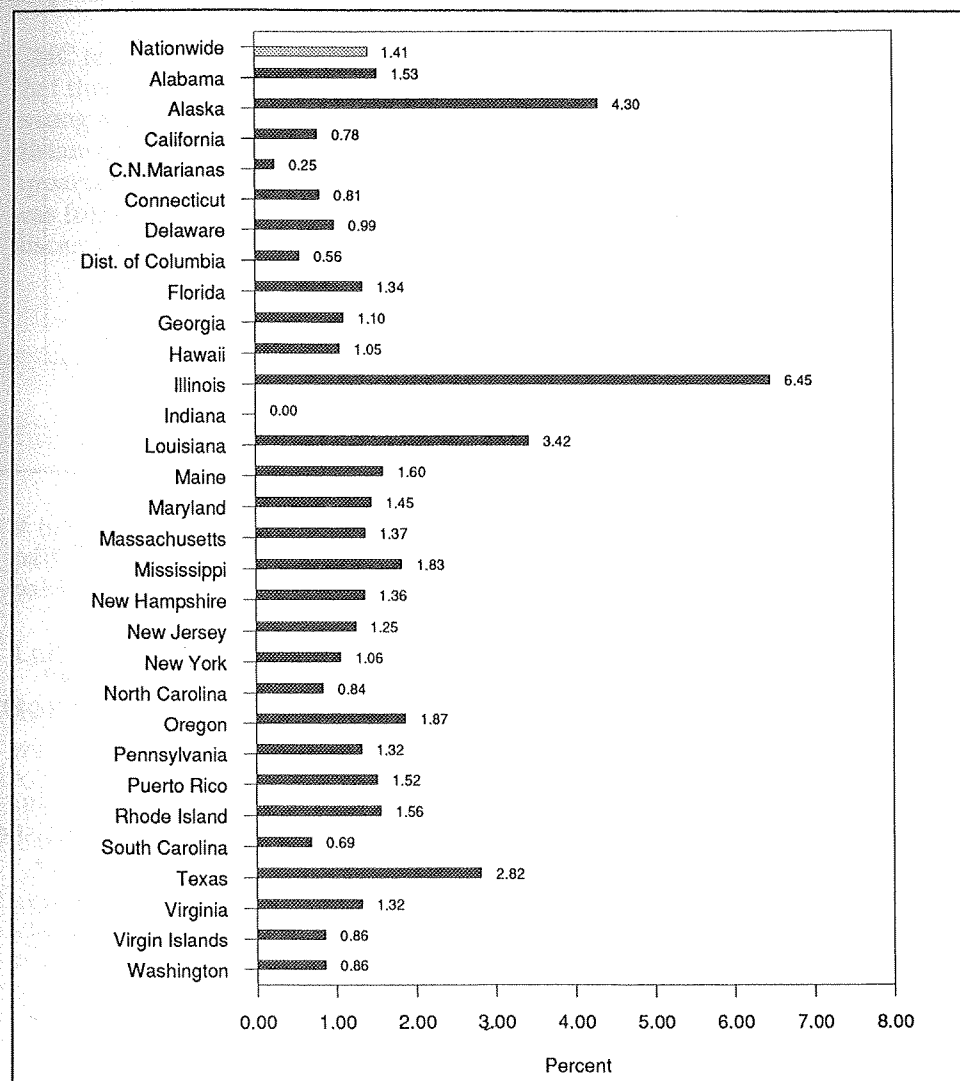
Operational wastes were both prevalent and above the national figure in four of the five Gulf states. Illinois, reported the greatest number of operational wastes with 6.4%. However, the fact that 95% of Illinois' operational wastes were a single item—light bulbs—may indicate that they came from other land-based sources. In most other states strapping bands and plastic sheeting were the predominant items in the operational waste category. Other states that were above the national percentage were Alaska, Oregon, Maine, Rhode Island, Maryland, and Puerto Rico.

Galley Wastes

Galley wastes are items such as egg cartons and bleach bottles—items normally found in household kitchens but which beachgoers are unlikely to bring to the beach. Thus, they are assumed to originate in ships' kitchens or galleys.

Galley wastes were concentrated in the Gulf of Mexico. All of the Gulf states except Florida reported percentages at least *two or three* times above the national figure of 3.3% (Figure 10). Louisiana, Mississippi, Texas, and Alabama had a large percentage of vegetable sacks, an item that is common on a ship that must feed a large crew. Alaska, which had the largest percentage

Figure 9. Operational Wastes Reported from 1990 U.S. Beach Cleanups



Operational Wastes Indicator Items

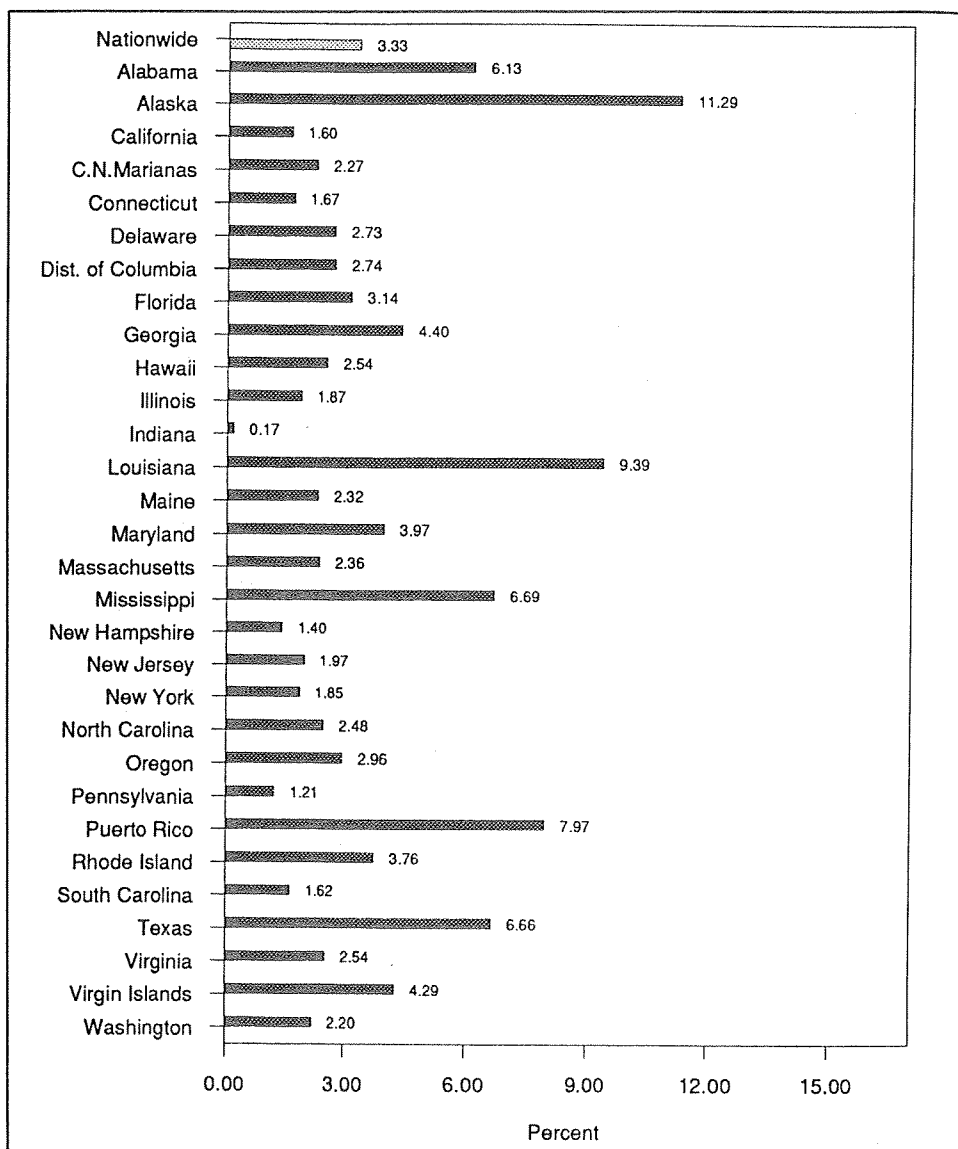
- plastic hard hats (964)
- plastic strapping bands (20,889)
- plastic sheeting ≥ 2 feet (6,832)
- plastic pipe thread protectors (5,576)
- glass light bulbs (9,580)
- glass fluorescent light tubes (3,210)
- wood pallets (3,544)
- wood crates (2,511)

Figure 10. Galley Wastes Reported from 1990 U.S. Beach Cleanups



Galley Waste Indicator Items

- plastic trash bags (51,930)
- plastic milk and water gallon jugs (35,930)
- plastic bleach or cleaner bottles (22,071)
- plastic vegetable sacks (7,823)
- foamed plastic egg cartons (8,110)
- foamed plastic meat trays (15,552)



of galley wastes (11.3%), reported that 8.1% of all galley waste items were plastic trash bags.

Puerto Rico, Georgia, Maryland, Rhode Island, and the Virgin Islands also reported galley waste figures above the national figure. Perhaps this is an indication of high levels of shipping, boating, and cruise line activity in these areas.

Many of the items classified as galley wastes are also items common to use in household kitchens. Subsequently the prevalence of plastic trash bags, plastic milk and water gallon jugs, foamed plastic egg cartons, foamed plastic meat trays, and plastic bleach or cleaner bottles indicates a need to identify ways that household wastes make their way to the marine environment. This may be due to illegal dumping or to municipal landfills that need to improve their transfer and transportation procedures to eliminate the loss of refuse items.

Marine Debris Attributable to Passenger Cruise Lines

The Center for Marine Conservation frequently receives requests for educational materials from passenger cruise lines who report that they would like to comply with the provisions of MARPOL Annex V. Although the efforts are commendable, they are not yet 100% effective industry-wide as evidenced by continued washups of cruise line trash on U.S. beaches. In most cases cruise line trash is identifiable because items display the logo of the ship or cruise line! Not all trash generated by cruise lines will be labeled with a company logo, and it is likely that unlabeled trash found with identifiable cruise line trash was also generated by cruise ships.

Eighty-five percent of all cruise line operations in the U.S. sail in and out of Florida ports. As would be expected, the greatest number of reports of cruise line trash came from Florida—24 of 33 reports (Table 3). The biggest offender was Royal Caribbean with 14 out of 33 reports. Carnival Cruise Lines was next with four reports.

Interestingly, when cruise lines have been investigated for Annex V violations, they blame passengers or disgruntled crew members. It is possible that plastic items such as shampoo bottles could be tossed overboard by passengers. However, it is unlikely that they are discarded in any other manner than through the ship's refuse collection system. It is nevertheless the company's responsibility to educate passengers and discipline its crew to obey the law.

CMC receives several letters every year from cruise line passengers distressed that they witnessed illegal dumping of trash. In some cases the passengers are wrong and the disposal consisted of non-plastic trash at the appropriate distance from land. However, many times the dumping is not only illegal, but apparently clandestine. The most startling letter received recently by CMC was from an employee on a cruise line who reported that his ship purposely discards plastic trash at night to ensure

"that no passengers might witness the spectacle. . . . A team of deckhands formed into a chain, along which was being passed every plastic bag in the dump, regardless of contents, until it reached the last man, stationed beside an opened hatch, who swung everything into the sea—I was horrified. I discussed this with one of the staff members afterwards, and was told that this is common practice."

If this is indeed common practice, cruise lines should realize that their passengers are more environmentally aware than ever, and are less willing to patronize lines that practice illegal trash disposal.

Land-Based Sources of Marine Debris

As noted earlier, the provisions of MARPOL Annex V regulate the discharge of wastes from ships. Other U.S. laws, such as the Clean Water Act, regulate the contributions of debris from land-based sources. Condoms and plastic tampon applicators are indications of one land-based source of marine debris—inadequate sewage treatment practices. Plastic syringes are also an indicator of land-based sources of debris. According to the U.S. Environmental Protection Agency, most syringes and other medical wastes found on beaches are discharged by sewer systems, storm drains, or landfills in marine areas.

Table 3. Passenger Cruise Line Debris Reported During 1990 Beach Cleanups

Location Found	Type of Debris	Cruise Ship Indicated
California		
Los Angeles	plastic shampoo bottle	Admiral
	plastic cap	Admiral
Delaware		
Primehook	plastic cup	Royal Caribbean
Florida		
St. Johns	balloon	Carnival
St. Lucie	3 balloons	Carnival
	("The Fun Ships")	
St. Lucie	plastic cup	Carnival
Dade	plastic cup	Carnival
Martin	plastic cup	Chandris Fantasy
Dade	4 plastic cups	Commodore
Lee	plastic shampoo bottle	Holland America
Palm Beach	plastic cup	Norwegian
Santa Rosa	plastic bottle	Princess
St. Lucie	plastic shampoo bottle	Premier
	("Vidal Sassoon")	
St. Johns	2 plastic shampoo bottles	Royal Caribbean
Brevard	plastic shampoo bottles	Royal Caribbean
St. Lucie	3 plastic shampoo bottles	Royal Caribbean
St. Lucie	plastic cup	Royal Caribbean
St. Lucie	plastic conditioner bottle	Royal Caribbean
Martin	plastic container	Royal Caribbean
Palm Beach	2 plastic cosmetic bottles	Royal Caribbean
Broward	2 plastic shampoo bottles	Royal Caribbean
Broward	plastic conditioner bottle	Royal Caribbean
	("Cruise Care Conditioner")	
Dade	plastic shampoo bottle	Royal Caribbean
Monroe	cologne bottle	Royal Caribbean
Monroe	plastic shampoo bottle	Royal Caribbean
Dade	beverage holder	Sea Escape
Dade	plastic bag	Windjammer
Louisiana		
Holly Beach	plastic conditioner bottle	Royal Caribbean
New York		
Nassau	cocktail stirrer	Cunard
Puerto Rico		
Bahia Ballenas	plastic bottle	Princess
Texas		
Galveston	2 plastic shampoo bottles	Holland America
Galveston	plastic shampoo bottle	Princess
Mexico		
Quintana Roo		
(Celarain)	plastic bottle	Princess

Sewage-Associated Wastes

Many sewage treatment systems, particularly in the Northeast, are connected to storm water systems, and termed "combined sewage overflows" (CSOs). Storm sewers collect rainwater and trash deposited from streets and gutters. Under normal operating conditions these combined sewage systems trap solid waste materials while the rainwater flows to local waterways. A separate conduit then carries household sewage and solid waste particles to a sewage treatment plant. However, during times of heavy rainfall the capacities of these systems are exceeded and raw sewage, mixed with runoff from storm drains, overflows into coastal areas. Thus, solid waste items, such as condoms and tampon applicators, that should be removed at a municipal sewage plant, instead become marine debris.

Due to their abundance noted during previous cleanups, beach cleanup coordinators asked CMC to add condoms to the 1990 data card. Nationwide, condoms and plastic tampon applicators accounted for less than 1% of all trash items collected.

However, eight states reported sewage-associated wastes above the national percentage, seven of which are in the northeastern region of the country (Figure 11). Many experts agree that the sewage systems in the Northeast are antiquated and in need of drastic improvements. Unfortunately, the cost to correct this problem is exorbitant. In 1988, the Environmental Protection Agency estimated that it would cost \$16.4 billion to correct CSO problems nationwide, and \$5.7 billion just in New York and New Jersey.

New Jersey and Massachusetts had approximately five times the percentage of sewage-associated wastes as the national percentage with 2.8% and 2.6% respectively. Both of these states as well as New York (1.6%) and Rhode Island (1.1%) had a relatively large number of tampon applicators as compared to condoms.

Storm drains that empty into waterways are also a source of marine debris. During heavy rains storm drains carry tremendous amounts of litter washed from land into coastal waterways. Recent EPA regulations address storm drains as a land-based source of pollution. The final regulations for Storm Water Discharges specifically require action to "reduce pollutants (including floatables) in discharges from municipal separate storm sewers." The regulations require 147 cities and 47 U.S. counties to obtain discharge permits for all storm drains. Additionally the municipalities must submit management plans to reduce pollutants in storm drain run-off and eliminate any illegal connections between sewer systems and storm drains. It remains to be seen whether these new regulations will reduce marine debris significantly. In the future perhaps the National Marine Debris Database will provide a means to evaluate the effectiveness of these regulations.

Medical Wastes

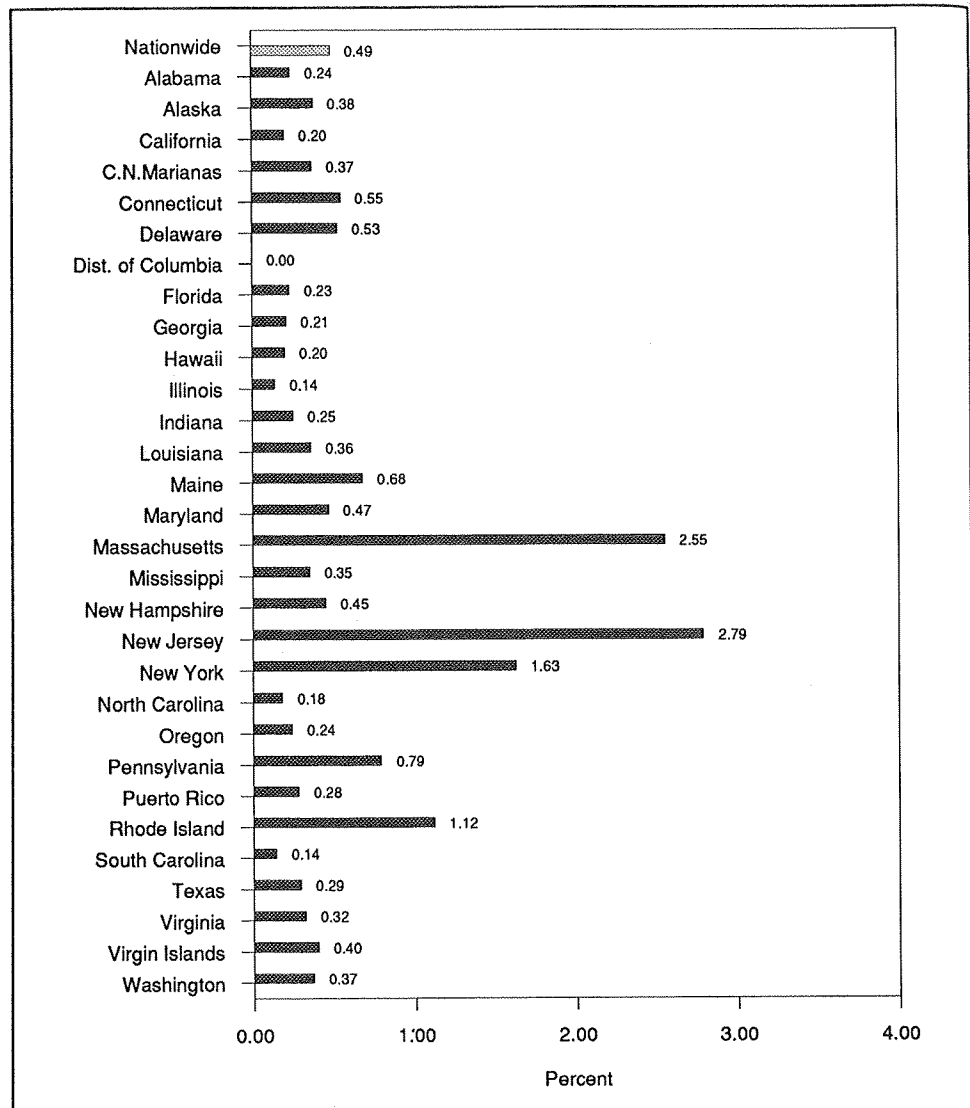
Plastic syringes reported in the Database are categorized as medical waste. CMC classifies medical wastes as coming from land-based sources, as a result of information from the Environmental Protection Agency, which suggests that most of the medical waste items found on beaches are discarded by diabetics into toilets or by illegal drug users into street gutters and make their way to beaches through storm drains and sanitary sewer systems. These studies de-emphasize the possibility that large businesses and hospitals illegally dump medical waste items.



Sewage Associated Waste Indicator Items

- condoms (3,714)
- plastic tampon applicators (17,125)

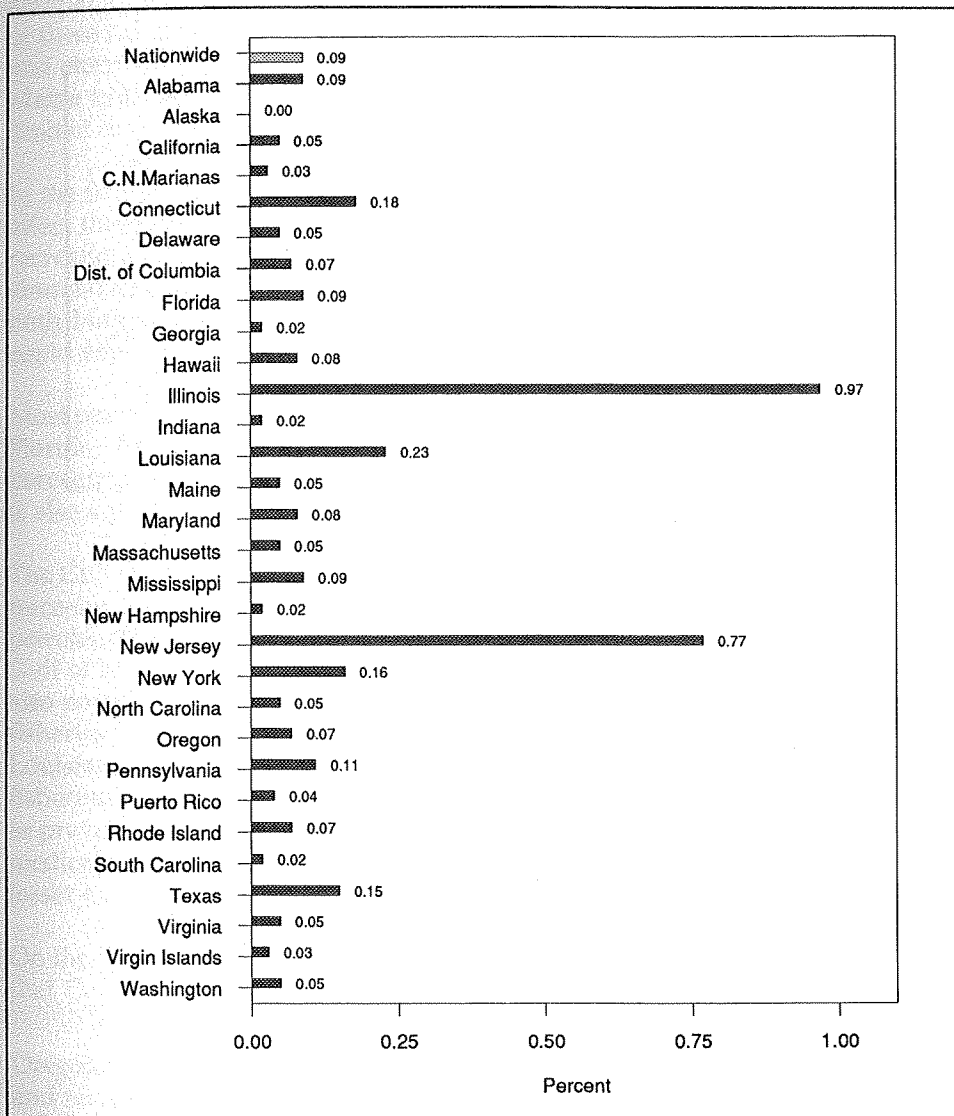
Figure 11. Sewage-Associated Wastes Reported from 1990 U.S. Beach Cleanups



In 1990 volunteers reported finding 3,738 plastic syringes on U.S. beaches, accounting for a fraction (0.09%) of all the trash reported (Figure 12). Illinois and New Jersey reported by far the highest percentage of syringes with 0.9% and 0.8% respectively. Other states that were above the national percentage were Connecticut, New York, Pennsylvania, Indiana, and Louisiana.

In both 1988 and 1989 there was a strong correlation between a high percentage of sewage-associated wastes and a relatively high percentage of medical wastes. Again in 1990, this correlation supports the assumption that some medical wastes enter the marine environment through sanitary sewer systems. However, volunteers from 15 different states reported finding 29 other medical waste items on U.S. beaches that may have originated from illegal dumping, including a blood transfusion bottle in Texas and hospital ID bracelets in several states.

Figure 12. Medical Wastes Reported from 1990 U.S. Beach Cleanups



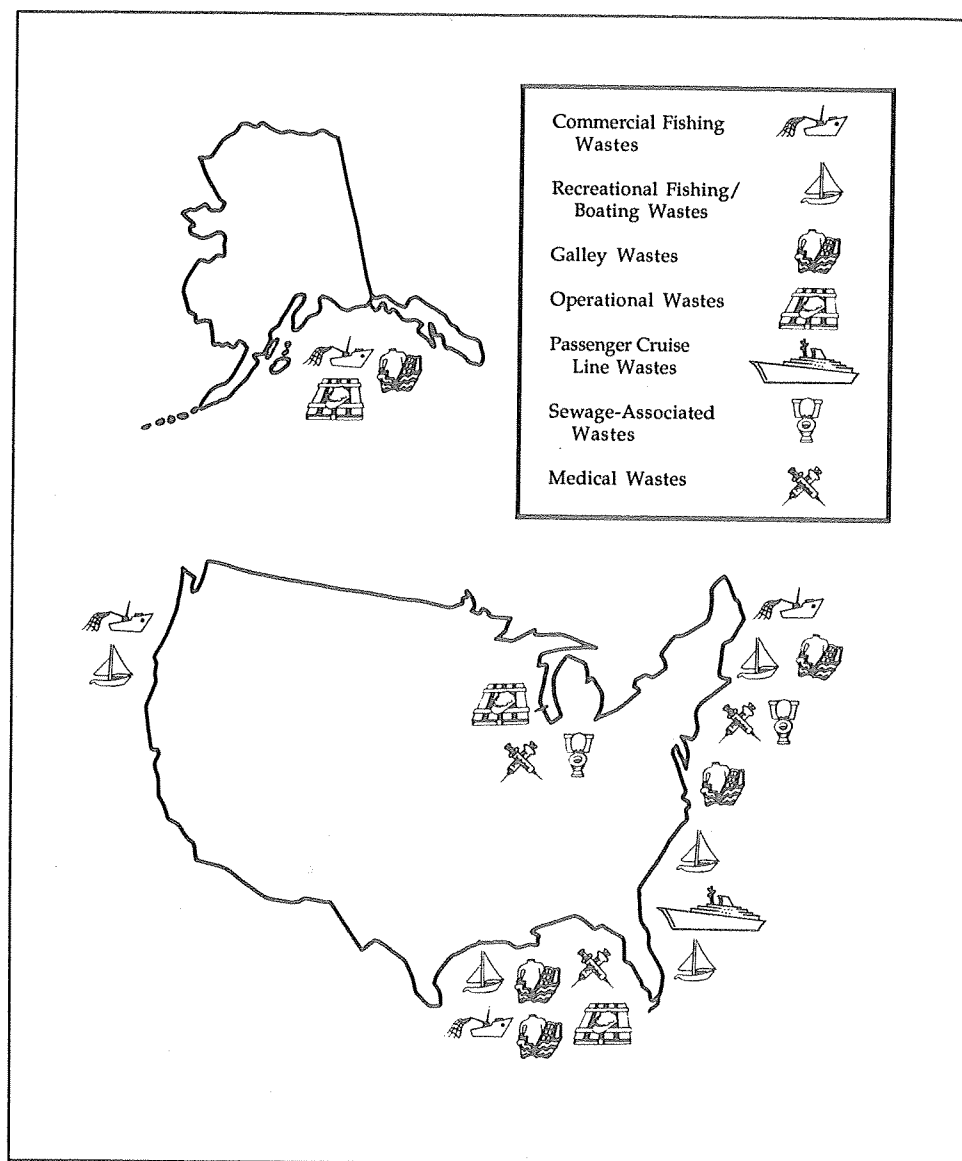
**Medical Waste
Indicator Items**

- plastic syringes (3,738)

An interesting sidelight to this issue concerns a cleanup volunteer in Maryland who found a plastic survey bottle from the New York Department of Environmental Protection (NYDEP). From June to October 1990, NYDEP conducted a survey, prompted by washups of medical debris and other floatables, to determine the origin of trash found on New York beaches. Since a survey bottle released in New York found its way to Maryland's beaches, clearly, the impact of debris generated in one area extends beyond state borders.

Although medical wastes account for a very small percentage of the total trash items reported, it is important to consider the potential human health hazard. Cleanup coordinators instruct volunteers not to handle medical wastes and to notify the appropriate authority for proper removal from the beach. Ironically, although medical wastes are only a small part of the marine debris problem, their appearance on beaches and the resultant press attention helped to increase public awareness about the marine debris problem in general.

Figure 13. National Debris Hotspots



National Summary of Marine Debris Sources

While marine debris is a national problem, the sources of debris vary in different areas of the country. Figure 13 shows hotspots in the United States for debris items traceable to specific sources.

In the Northeast (from Maine to Maryland), commercial and recreational fisheries, sewage systems, and storm drains are notable sources of marine debris. The amount of commercial fishing gear is high throughout New England including the states of Maine, Massachusetts, New Hampshire, and Rhode Island. Much of this gear is rope and fishing traps indicating that the region's lobster trap fisheries are largely responsible. In Maine and Rhode Island, fishing operations could also be a cause for the abundance of galley wastes such as foamed plastic meat trays and milk jugs found in the states of New Jersey, Delaware, and Maryland.

Sewage-associated and medical wastes (including syringes, tampon applicators, and condoms) are consistently higher in the Northeast as compared to other areas of the country. According to the U.S. EPA, the majority of these items enter the marine environment through antiquated sewer systems and storm drain systems. While sewage-associated wastes are prevalent from Maine to Delaware, findings of relatively high amounts of medical wastes are limited to the metropolitan areas of Connecticut, New York, and New Jersey.

In the Southeast United States, there appear to be no sources of debris that affect the entire region. However, on a state-by-state basis high amounts of recreational fishing gear are found in North Carolina, and galley wastes are abundant in Maryland and Georgia. Since major shipping routes are adjacent to both Maryland (the Chesapeake Bay) and Georgia (the Savannah River) this could explain the high amount of galley wastes found in these areas.

Most passenger cruise lines operating in the United States sail out of ports in Florida. It is no surprise that Florida cleanup volunteers report the highest percentage of trash attributable to passenger cruise lines. Recreational fishing is also a prominent source of debris in this state.

The Gulf of Mexico and Wider Caribbean undoubtedly have the most trash traceable to offshore sources. Galley and operational wastes from ships and petroleum industry operations are relatively common in all states bordering the Gulf of Mexico with the exception of Florida. The abundance of these wastes is also notable in Puerto Rico and the Virgin Islands. In addition, commercial fisheries are obvious sources of debris in this region, particularly in Alabama, Louisiana, Texas, and Puerto Rico, while additional debris from recreational fishermen is notable in Louisiana and Texas. Sewage-associated wastes are not as prevalent in the Gulf as compared to other areas of the country. In contrast, medical wastes are prevalent, especially in Louisiana and Texas, and to a lesser extent in Florida and Mississippi.

On the Pacific, the relative lack of debris items from offshore sources indicates that California and Washington have primarily a land-based litter problem.

Oregon's beaches, on the other hand, show a need to confront both commercial and recreational fisheries, and to address any additional sources of operational wastes. Alaska also has relatively high amounts of commercial fishing, operational, and galley wastes. For both the islands of Hawaii and the Northern Mariana Islands, the source groups that show the most significant contribution is recreational fisheries.

Finally, in the Great Lakes, Pennsylvania's cleanup on Lake Erie shows high amounts of sewage and medical wastes attributable to sewage systems and/or storm drains. While there is no clear explanation for the high percentage of operational wastes reported from Illinois' lakefront cleanup in Chicago, the high percentage of syringes indicates, as in the Northeast, that medical wastes are most prevalent on beaches in metropolitan areas.

Foreign Sources of Beach Trash

Annex V of the MARPOL Treaty prohibits the discharge of plastic wastes from ships at sea. The treaty applies to all ships of the 44 nations currently signatory to this treaty. According to the U.S. law that implements Annex V in U.S. waters (the Marine Plastic Pollution Research and Control Act), domestically, no vessel from any country may discharge plastics within 200 miles of our coastline.

In order to identify foreign sources of debris, the data cards request volunteers to note all items that had foreign labels. As a result there were reports of more than 430 items from 44 countries. Although some of these items may have been generated on land, the majority were food packaging and empty bottles of cleaning agents dumped by the international shipping fleet.

Foreign debris was reported from the following locations: Argentina, Belgium, Brazil, Canada, Chile, China, Colombia, Cuba, Denmark, Dominican Republic, Egypt, Finland, France, "Germany," Greece, Guatemala, India, Indonesia, Iraq, Israel, Italy, Jamaica, Japan, "Korea," Malaysia, Mexico, Netherlands, New Zealand, Norway, Philippines, Poland, Singapore, Spain, Sweden, Taiwan, Thailand, Trinidad and Tobago, Turkey, Union of Soviet Socialist Republics, United Kingdom, Uruguay, Venezuela, Viet Nam, and Yugoslavia. Countries with debris found for the first time included Egypt, Iraq, and Uruguay. In addition, many volunteers reported items as being "Arabic," "South American," or "Oriental" in origin. Appendix 3 lists all foreign debris reported in each state.

Foreign debris was found in 25 of 30 states. No foreign debris was reported on data cards from inland cleanups conducted in the District of Columbia, Indiana, Illinois, and Pennsylvania. Volunteers in Alaska also did not report foreign items. The largest number and assortment of international beach debris was reported in Texas with 171 items identified to 18 countries.

Impacts of Trash on Marine Wildlife

In March 1991 individuals from Sea World of Texas and the volunteer Marine Mammal Stranding Network worked to save an ailing pygmy sperm whale found stranded on Matagorda Island, Texas. After a day in captivity, the whale expelled a plastic bag through its mouth. The staff and Sea World suspected that "ingesting a foreign object may have been one reason for the marine mammal's ill condition." Unfortunately the whale died. This event is a strong reminder of the real impacts of trash in the marine environment.

In 1990 there were 142 reports of wildlife affected by debris either through apparent entanglement or ingestion. These reports came from volunteers in 20 states. Table 4 shows the state, animal, and type of debris identified.

In 1990, more animals were reported found entangled in marine debris than in 1988 or 1989. It is important to realize that the number of volunteers and area of beach cleaned also increased over this time. Out of 142 reports of entangled wildlife, 28 of these involved some sort of plastic item. One item of particular concern is monofilament fishing line. Monofilament fishing line was reported to be the most common cause of entanglement, over one-third of the reports in 1990. Entanglements in fishing nets accounted for 16% of all the 1990 reports.

Of the entangled wildlife reported, one New York volunteer reported a "dead seagull with a balloon protruding from mouth." The release of decorative balloons into the environment is a form of litter that has the potential to end up in the ocean. Figure 14 and the box on page 39 contain additional information about the presence of balloons on U.S. beaches.

Figure 14. Names "Dropped" on Balloons During the 1990 National Beach Cleanup.

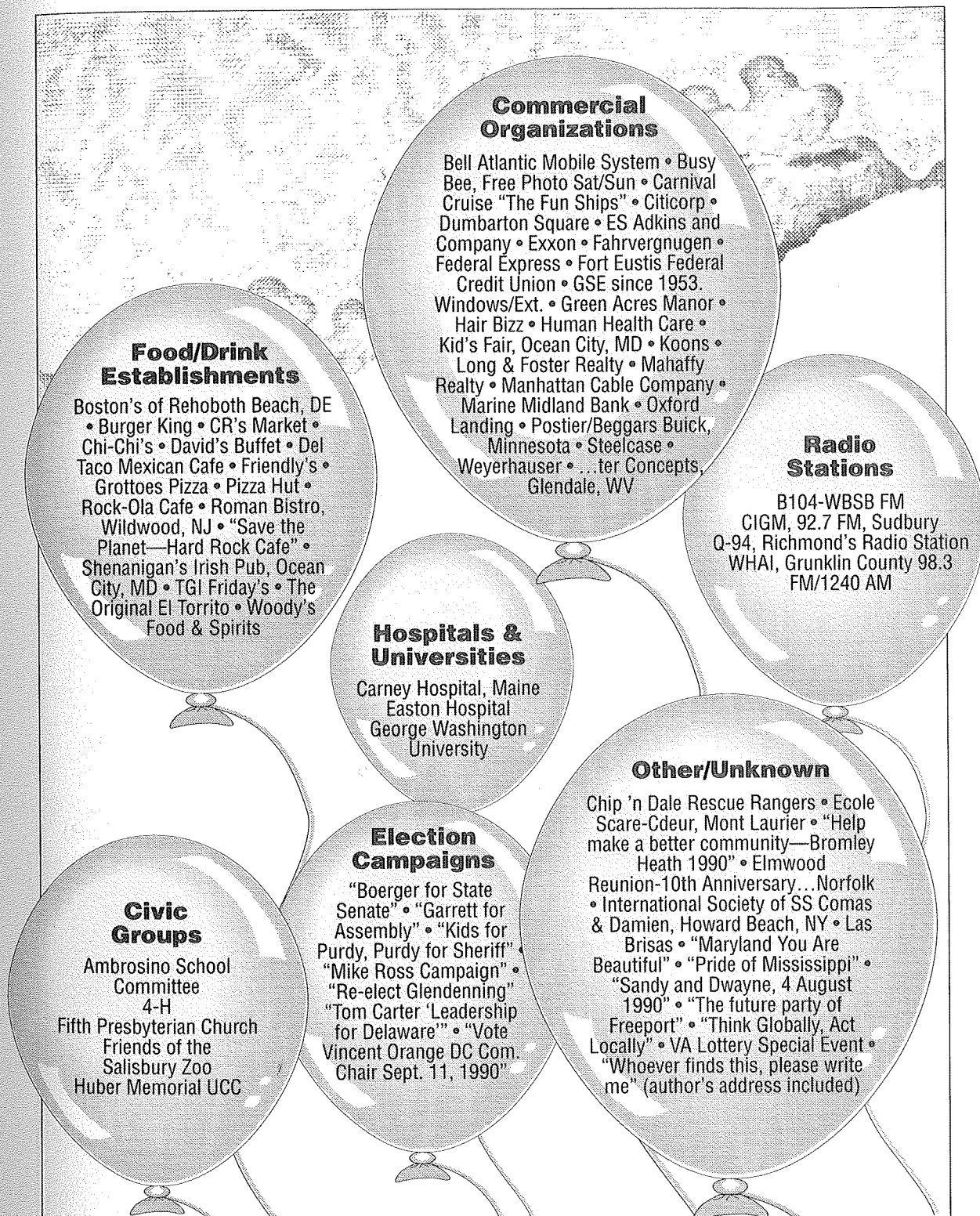
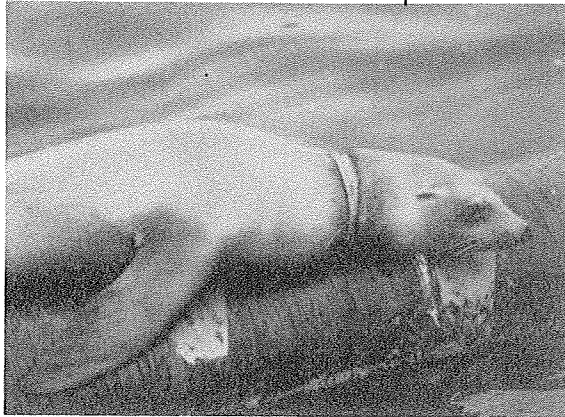


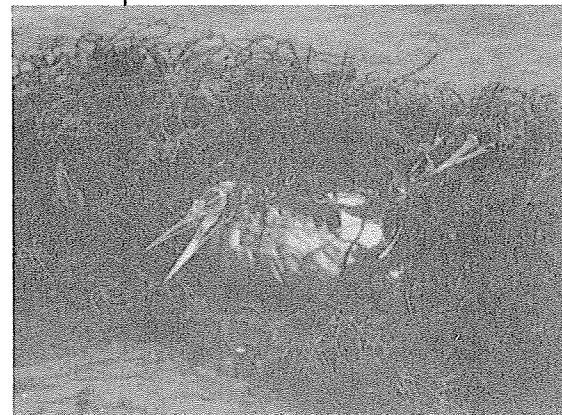
Table 4. Wildlife Impacted by Debris Reported During 1990 Beach Cleanups



State	Animal	Debris Item	Other Comments
Alabama	fish	plastic bottle	trapped inside
California	2 seagulls	six-pack ring	entangled (one released)
	5 seagulls	fishing line	entangled
	fish	fishing line	entangled
	seagull	plastic bag	entangled
	3 birds	fishing line	entangled
	bird	plastic bag	entangled
	seal pup	fishing line	entangled
	crab	pen top	entangled
	crab	fishing line	entangled
	cormorant	fishing line	entangled
	mouse	plastic bottle	trapped inside (released)
	bird	plastic	entangled
	mollusks	plastic bag	trapped inside (released)
	sea lion	plastic gill net	entangled
Connecticut	fish	plastic wrapper	trapped inside
	crab	fishing line	entangled
	ray	fishing line	entangled
	swan	rope	entangled
Delaware	frog	fishing line	entangled
	2 crabs	fishing net	entangled
Florida	seagull	fishing line & hook	entangled
	periwinkle	glass jar	trapped inside
	crab	rope	entangled
	2 fish	monofilament	entangled
	turtle	plastic bag	trapped inside
	heron	fishing line & weight	entangled (released)
	barracuda	six-pack ring	entangled
	hawk	fishing line	entangled
	egret	fishing line	entangled
	jellyfish	glass	trapped inside
	clown fish	beer can	trapped inside (released)
	crabs	aluminum can	trapped inside
	2 fish	crab trap	trapped inside
	pelican	fishing line	entangled
	snail	fishing line	entangled
	horseshoe crab	fishing line	entangled
	fish	six-pack ring	entangled
	crab	plastic bag	entangled
	crab	glass bottle	trapped inside
	tern	fishing line	entangled
	catfish	fishing line	entangled

Table 4. Wildlife Impacted by Debris Reported During 1990 Beach Cleanups (cont.)

State	Animal	Debris Item	Other Comments
Hawaii	fish	wire	entangled
	eel	fishing line & hook	entangled
	shark	copper wire	entangled
	puffer fish	fishing net	entangled
	shark	hook and line	entangled
	crab	string	entangled
	sea turtle	fishing line	entangled
	shell fish	fishing line	entangled
Louisiana	fish	plastic sheet	entangled
	fish	rope	entangled
	fish	wire and rope	entangled
	turtle	wire	entangled
	fish	fishing line	entangled
Maine	seagull	six pack ring	entangled
	seagull	fish hook	entangled
Maryland	crab	fishing line	entangled
	skeleton	nylon net	entangled
	seagull	fishing line	entangled
	2 toadfish	crab pot	trapped inside
Massachusetts	seagull	plastic	protruding from beak
	seagull	lure	protruding from mouth - released
Mississippi	seagull	fishing line	entangled
	catfish	beer can	trapped inside
New York	2 seagulls	fishing line	entangled
	crab	fishing line	entangled
	mussels	cloth	entangled
	seagull	balloon	protruding from mouth
	seagull	fishing line	entangled
North Carolina (Coastal)	shark	fishing net	entangled
	3 seagulls	fishing line	entangled
	turtle	hook	entangled
North Carolina (Inland)	rat	garbage	entangled
	copperhead	plastic bag	entangled
	snake		



**Table 4. Wildlife Impacted by Debris Reported During 1990
Beach Cleanups (cont.)**

State	Animal	Debris Item	Other Comments
Oregon	12 birds	net	entangled
	2 birds	fishing line	entangled
	bird	plastic cord	entangled
	seagull	net	entangled
	bird	plastic tissue	entangled
	bird	crab trap	trapped inside
	seagull	strapping band	entangled
	murre	netting	entangled
Rhode Island	bird	plastic bag	entangled
	field mouse	beer can	trapped inside
	2 seagulls	fishing line	entangled
	horseshoe crab	plastic	entangled
	possum	plastic bag	entangled
	skunk	lobster trap	trapped inside
South Carolina	seagull	plastic holder	entangled
	stingray	shrimp net	entangled
Texas	fish	sweater	enclosed
	crab	fishing line	entangled
	snapper	fishing line	entangled
	2 crabs	fishing net	trapped - released
	crab	rope	entangled
	crab	test trundle hook	entangled
	seagull	fishing line	entangled
	dead fish	plastic bag	entangled
	seagull	monofilament line	entangled
	barnacles	plastic string	entangled
	fish	plastic rings	entangled
	fish	six-pack ring	entangled
	blue heron	telephone wires	entangled
	seagull	nylon rope	entangled
	heron	plastic rope	entangled
	fish	fishing line	entangled
	fish	plastic bottle	trapped inside
	bird	rope	entangled
	crab	netting	entangled
Washington	shell fish	audio tape	entangled
	fish	metal can	trapped inside - released
	seagull	fishing line	entangled - released
Virgin Isles	slug	beer bottle	trapped inside
	seagull	fishing line	entangled

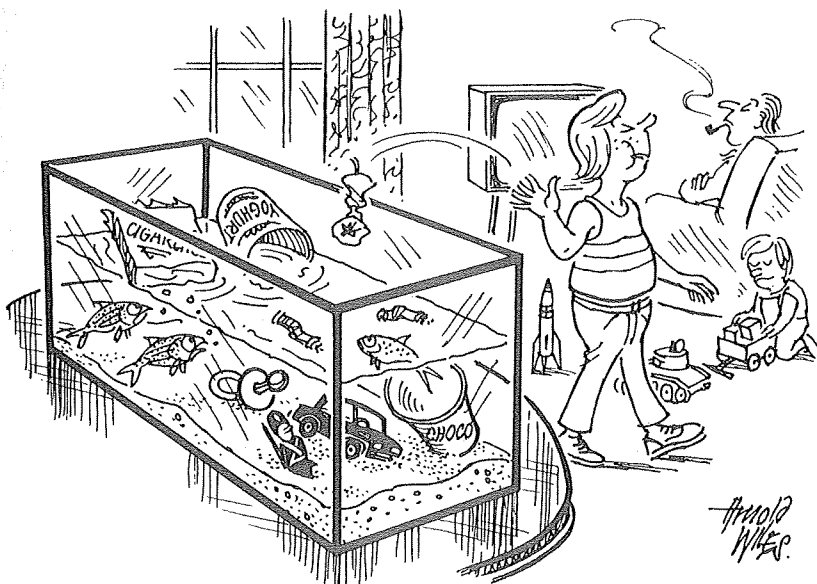
What Goes Up Does Come Down

Ingestion of balloons by marine wildlife, such as endangered sea turtles, has become the subject of increasing research by the scientific community and concern on the part of the general public. To respond to this concern, the states of Florida, Connecticut, Tennessee, and Virginia have enacted legislation that bans mass balloon releases. New Jersey, New York, Delaware, California, and Washington have all proposed similar legislation.

Volunteers participating in the 1990 Assateague Island cleanup in Virginia had a direct effect on the success of their state's legislation. Having noticed the high proportion of balloons found on Assateague compared to other areas of the country, cleanup coordinators asked volunteers to collect balloons separately. CMC then examined each balloon in the 30-pound pile and identified 52 different sources, from six states. One volunteer remarked, "I was amazed. The beach cleanup completely changed my attitude about balloons released into the environment."

CMC presented the balloons to the Virginia General Assembly in Richmond to show senators and representatives what volunteers were finding on the beach. In January 1991, the Virginia legislature subsequently passed a law that prohibits mass releases of balloons.

Throughout the nation, volunteers reported 26,536 balloons on the beach in 1990. The number of balloons reported in Virginia was four times greater than the national figure. The National Park Marine Debris Monitoring Study also showed that of eight coastal parks, Assateague Island National Seashore had the second highest percentage of balloons after Padre Island National Seashore in Texas.

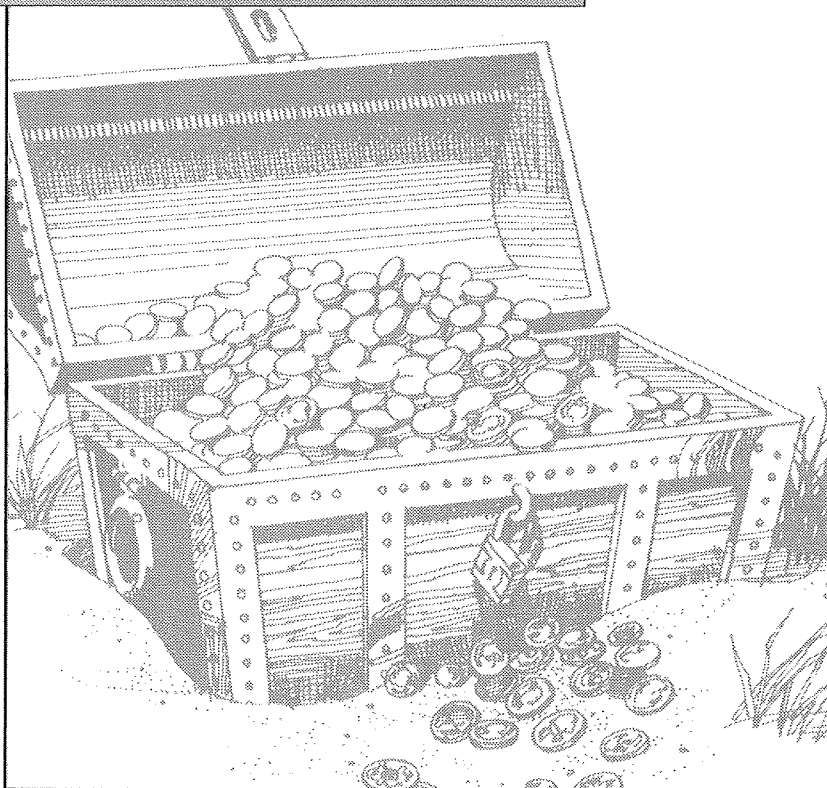
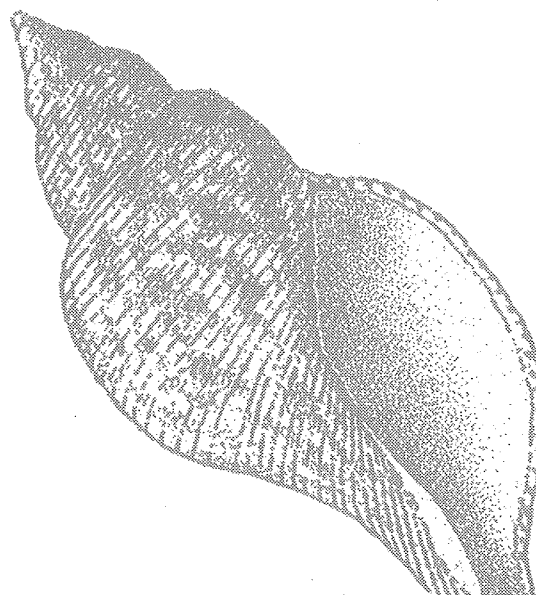


"Good of them to make us feel so at home . . ."

Figure 15. Treasures Found During 1990 National Beach Cleanup.

VALUABLES

California	1966 10K class ring Casio watch Gucci watch Silver ring
Delaware	100 gold coins
Florida	opal and diamond ring
New York	Timex watch (still working)
Rhode Island	1/4 of \$1 bill watch (still working)
Texas	3/4 of \$5 bill Silver and onyx bracelet
Washington	\$10 (Canadian)
Japan	5,000 yen bill



U.S. CURRENCY

Texas	\$501.00
Florida	50.25
Washington	20.00
Hawaii	13.06
Connecticut	5.00
Rhode Island	5.00
Oregon	1.00
Texas	1.00
Virginia	1.00
California	.65
New York	.35

RESULTS OF 1990 INTERNATIONAL BEACH CLEANUPS

Marine debris knows no geographic boundaries. Litter dumped overboard in the Pacific can find its way to Japan or California. Therefore, the problem must be addressed through international efforts. As in the United States, beach cleanups and the data they provide are an effective way to encourage longlasting solutions to the global problem of marine debris. CMC encourages international participation in beach cleanups and the Marine Debris Database.

In September 1990 international participation in beach cleanups expanded from Canada and Mexico to include Guatemala and Japan. Volunteers in Canada, Japan, and Mexico used CMC's standardized data card (translated as needed) for analysis in the Database. (Cleanup organizers in Guatemala chose not to use data cards because participants were either too young or part of an underwater cleanup.)

International Overview

Of the 108,749 cleanup volunteers worldwide 1,739 were international participants. Figure 1 in Chapter 1 includes a summary of these international results. Canada and Mexico celebrated their second year of participation in the beach cleanup effort. Canada's province of New Brunswick nearly doubled its number of volunteers from the 1989 cleanup. A summary of items collected by international volunteers is in Table 5.

International volunteers removed at least 28,317 pounds of trash from their beaches. Although Japan was unable to calculate the approximate weight of trash collected, at minimum it was equivalent to 14 tons. Interestingly, Japan is the only foreign country that participated in the cleanup that is also signatory to Annex V. Perhaps information about types, amounts, and sources of trash in Canada, Guatemala, Mexico, and countries that participate in the future, will provide incentive for their governments to ratify Annex V and promote programs that eliminate marine debris.

The Center for Marine Conservation sent Spanish versions of the data cards, coloring books, and information about MARPOL to coordinators in Guatemala and Mexico. The U.S. Embassy in Guatemala City offered to deliver materials and information to volunteers interested in organizing an underwater cleanup. Sixty volunteers collected trash from beneath the surface of Lake Atitlan, a very deep and beautiful lake surrounded by three volcanoes.

Coordinators of the second annual cleanup on the island of Cozumel, Mexico expanded their program to include mainland volunteers in the state of Quintana Roo. In total, 350 volunteers cleaned seven miles and removed two tons of trash from Mexican beaches.

Japan participated in the beach cleanup for the first time. CMC staff member Maria Brown worked with Japanese activists to help organize this cleanup. Their efforts resulted in nearly 1,000 volunteers who cleaned 70 beaches and completed 119 data cards. The language barrier was a slight problem; however, cleanup organizers translated CMC's data cards (Figure 16) into

Table 5. Total Number of Debris Items Collected During 1990 International Beach Cleanups

PLASTIC		GLASS	
Bags:		Bottles:	
food	7,681	beverage	4,963
trash	2,267	food	690
salt	400	other	545
other	6,356	Fluorescent light tubes	108
Bottles:		Light bulbs	303
beverage	4,364	Pieces	3,425
bleach	1,619	Other	240
milk/water	985		
oil/lube	1,005	RUBBER	
other	2,913	Balloons	248
Buckets	400	Condoms	17
Caps/lids	5,248	Gloves	196
Cigarette filters	16,595	Tires	171
Cigarette lighters	1,174	Other	1,734
Cups/utensils	2,168		
Diapers	261	METAL	
Fishing line	520	Bottle caps	9,195
Fishing nets	607	Cans:	
Floats/lures	375	aerosol	577
Hard hats	391	beverage	9,882
Light sticks	377	food	758
Pieces	11,957	other	395
Pipe thread protector	166	Crab/fish traps	63
Rope	5,044	55 Gallon drums:	
Sheeting:		rusty	120
longer than 2 feet	582	new	58
2 feet or shorter	774	Pieces	704
Six-pack holders	275	Pull tabs	2,165
Strapping bands	2,930	Wire	303
Straws	2,260	Other	587
Syringes	118		
Tampon applicators	411	PAPER	
Toys	1,059	Bags	811
Vegetable sacks	198	Cardboard	454
Write protection wrings	256	Cartons	471
Other	2,467	Cups	437
		Newspapers	308
STYROFOAM		Pieces	1,616
Buoys	373	Plates	225
Cups	1,591	Other	998
Egg cartons	108		
Fast food container	545	WOOD	
Meat trays	1,104	Crab/lobster traps	10
Packaging	758	Crates	223
Pieces	8,819	Lumber	3,983
Plates	743	Pallets	147
Other	533	Other	1,307
		CLOTH (clothing pieces)	562
TOTAL - 147,776			

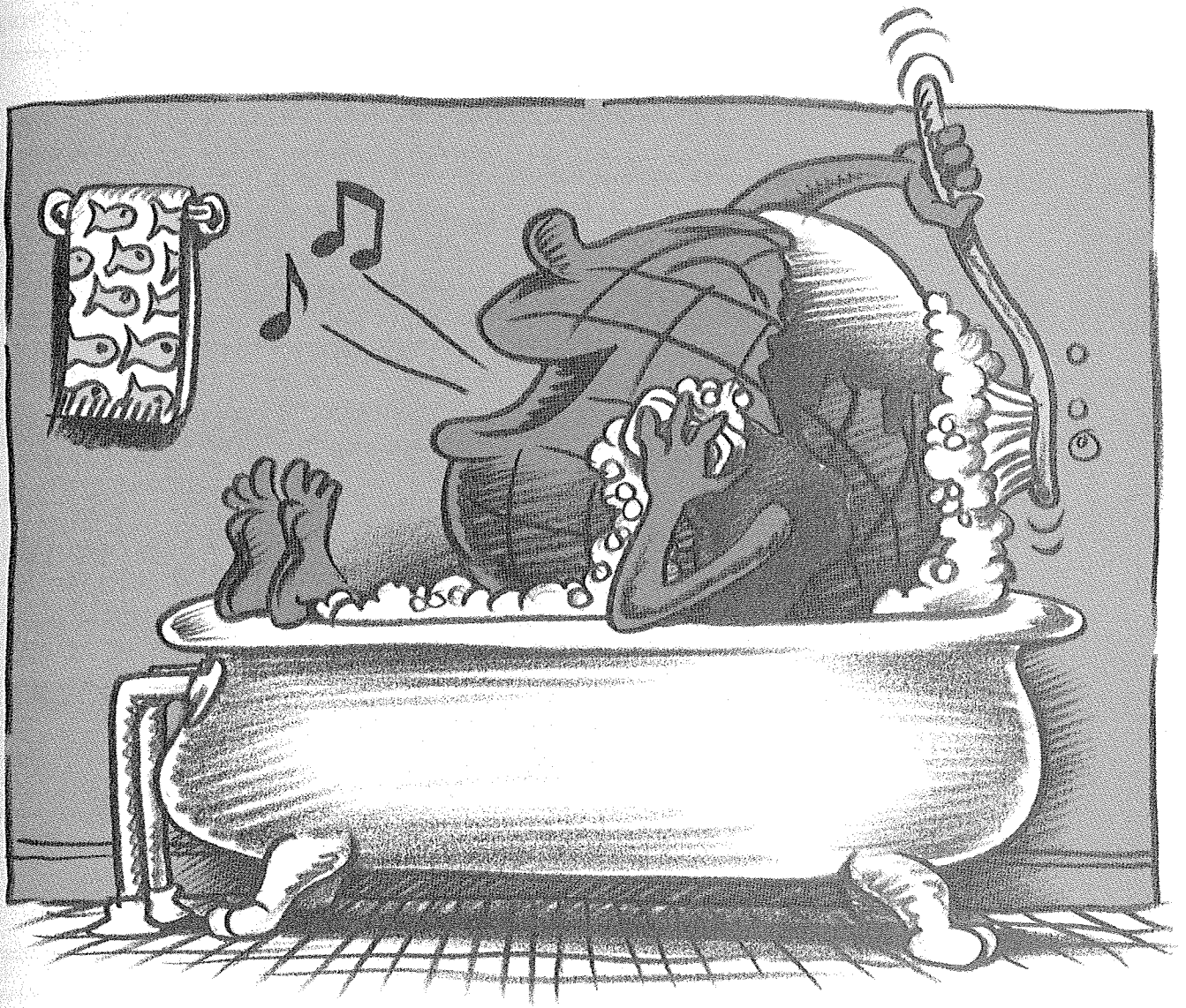


Figure 16. Data Card Used by 1990 Beach Cleanup Volunteers in Japan (front)

海岸クリーンアップデータカード
BEACH CLEANUP DATA CARD

Thank you for completing this data card. Answer the questions and return to your area coordinator or to the address at the bottom of this card. This information will be used in the Center for Marine Conservation's National Marine Debris Data Base and Report to help develop solutions to stopping marine debris.

Name (氏名) _____ Affiliation (所属団体) _____
 Address (住所) _____ Phone () _____
 _____ 丁目 _____ 職業 _____ M(男) F(女) Age(年齢) _____
 Today's Date: Month: _____ Day: _____ Year: _____ 年 Name of Coordinator _____
 清掃した海岸(町名) _____ このC-upのリーダー名 _____
 Location of beach cleaned _____ Nearest city _____
 一番近い都市名 _____

How did you hear about the cleanup?
 このクリーンアップをどのようにして知りましたか。 _____

SAFETY TIPS

1. Do not go near any large drums.
2. Be careful with sharp objects.
3. Wear gloves.
4. Stay out of the dune areas.
5. Watch out for snakes.
6. Don't lift anything too heavy.

WE WANT YOU TO BE SAFE

安全の心得

1. 大きなドラム缶に近づかないこと。
2. 鋭利なものに気をつけること。
3. 手袋をはめる。
4. 砂丘に入らない。
5. ヘビに気をつけること。
6. 重すぎるものを持ち上げない。

安全にクリーンアップをして下さい。

このデータカードに関わった人数 _____ 清掃した海岸(川辺)の長さの距離 _____ いっぱいになったゴミ袋の数 _____
 Number of people working together on this data card _____ Estimated distance of beach cleaned _____ Number of bags filled _____

SOURCE (会社・製造者名)	ITEM FOUND (種類)
Example: ABC Shipping Company	plastic strapping band
(例) ABC 船会社	プラスチック製ストラップ



SOURCES OF DEBRIS. Please list all items with foreign labels (such as plastic bleach bottles from Mexico) or other markings that indicate the item's origin (such as cruise line names, military identification or debris with names and/or address of shipping/freighting or fishing companies, or oil/gas exploration activities). 漂流物の源 — 外国から流れ着いたと思われるものは全て下のように入力して下さい。


STRANDED AND/OR ENTANGLED ANIMALS (Please describe type of animal and type of entangling debris. Be as specific as you can.)
 ゴミや漂着物にからまっていた動物 (動物名とからまっていたものをできるだけ正確に書いてください。)

What was the most peculiar item you collected?
 あなたが集めたものの中で一番変わった(特殊な)物は何?

Comments
 ほかの感想

Thank you! どうもありがとう! ☺



Center for Marine Conservation

Formerly Center for Environmental Education, Est. 1972

このカードは下記へ
返送してください。



〒121
足立区南花畑2-7-6
-403 菊地由美
クリーン・アップ係



※データはなるべく各地区ごとに集計してから送ってください。

**PLEASE RETURN THIS CARD TO
YOUR AREA COORDINATOR
OR MAIL IT TO:**

Center for Marine Conservation
 1725 DeSales Street, NW
 Washington, DC 20036

A Membership Organization



 Printed on recycled paper.

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■日本版データカード作成協力 / (財)地球環境 財団 / モンキーベイ自然保護基金

翻訳: 菊地由美, 菊地由美, 根岸裕恵

Figure 16. Data Card Used by 1990 Beach Cleanup Volunteers in Japan (back)

ITEMS COLLECTED			
<p>You may find it helpful to work with a buddy as you clean the beach, one of you picking up trash and the other taking notes. An easy way to keep track of the items you find is by making tick marks. The box is for total items; see sample below.</p>			
<p>Example: (例) 正正正一 egg cartons (タマゴの容器)</p>	TOTAL 16	<p>cups (カップ) 正正正正一</p>	TOTAL 22
PLASTIC (プラスチック・ビニール)			
<p>bags: (袋) food bags/wrappers (食品用・包装用) trash (ゴミ袋) salt (塩袋) other bags (その他のビニール袋)</p>	Total number of items	<p>fishing nets (網) hard hats (ビニール帽) light sticks (網についている、小さい棒) pieces (破片) pipe thread protector rope (ロープ) sheeting: longer than 2 feet (60cm以上) 2 feet or shorter (60cm以下) 6-pack holders (缶をまとめるビニール製の輪) strapping bands (ビニールのひも) straws (ストロー) syringes (注射器・針) tampon applicators (タンポンのアプリケーター) toys (玩具) vegetable sacks (野菜包装用) "write protection" rings (磁器保護用リング) other plastic (specify) (その他具体的に)</p>	Total number of items
<p>bottles: (アラボトル) beverage, soda (ソフトドリンク) bleach, cleaner (漂白剤・フーナー) milk/water gal. jugs. (牛乳・水類) oil, lube (油類) other bottles (その他のアラボトル)</p>	Total number of items	<p>buckets (カゴ) caps, lids (ふた) cigarette filters (タバコのフィルター) cigarette lighters (ライター) cups, utensils (カップ・食品類) diapers (紙おむつ) fishing line (釣糸) fishing lures, floats (釣のルアー・浮球)</p>	Total number of items
STYROFOAM® (発泡スチロール)			
(or other plastic foam)			
<p>buoys (ブイ) cups (カップ) egg cartons (タマゴの容器) fast food containers (ハンバーガー等の容器) meat trays (食品トレイ)</p>	Total number of items	<p>packaging material (その他の容器) pieces (かたまり・破片) plates (皿) other Styrofoam® (specify) (その他具体的に)</p>	Total number of items
FOLD ALONG THIS LINE			
GLASS (ガラス)			
<p>bottles/jars: (ビン) beverage bottles (飲料用) food jars (食品用) other bottles/jars (その他のビン容器)</p>	Total number of items	<p>fluorescent light tubes (蛍光灯) light bulbs (電球) pieces (かたまり・破片) other glass (specify) (その他具体的に)</p>	Total number of items
RUBBER (ゴム)			
<p>balloons (風船) condoms (コンドーム) gloves (ゴム手袋)</p>	Total number of items	<p>tires (タイヤ) other rubber (specify) (その他具体的に)</p>	Total number of items
METAL (金属)			
<p>bottle caps (ビン等のふた) cans: (缶) aerosol (スプレー缶) beverage (飲料缶) food (食品缶) other (その他) crab/fish traps (釣り具)</p>	Total number of items	<p>55 gallon drums: (廃棄物の入ったドラム缶) rusty (さびついているもの) new (新しいもの) pieces (破片) pull tabs (プルタブ) wire (ワイヤー) other metal (specify) (その他具体的に)</p>	Total number of items
PAPER (紙)			
<p>bags (紙袋) cardboard (ボード紙) cartons (タシホル) cups (紙コップ)</p>	Total number of items	<p>newspapers/magazines (新聞・雑誌) pieces (紙切れ) plates (紙皿) other paper (specify) (その他具体的に)</p>	Total number of items
WOOD (木)			
(leave driftwood on the beach)			
<p>crab/lobster traps (ロブスター捕りのわなかご) crates (木箱) lumber pieces (材木)</p>	Total number of items	<p>pallets (積荷台用) other wood (specify) (その他具体的に)</p>	Total number of items
CLOTH (布)			
clothing/pieces (服・その他)			
<p>Remember to turn the card over and fill out your name and address and to record sources and entangled wildlife!</p>			

Japanese and then re-translated the results back into English for entry in the CMC database. Both CMC and the Japanese cleanup coordinators plan to expand the cooperative program (see box).

International Partnerships to Stop Marine Debris

One of the most exciting aspects of the International Beach Cleanup Campaign will be the partnerships that will be created to reduce the marine debris problem. Thanks to a grant from the Japan-based Center for Global Action, two CMC staff members will attend Japan's Earth Day 1991 cleanup, and exchange information with Japanese conservationists on the sources and methods to eliminate marine debris. They will also assist in developing a Japanese Adopt-a-Beach program. Subsequently, the coordinator of the Japan cleanup and a second Japanese representative will come to the United States. They will meet with Adopt-a-Beach coordinators, visit ports with recycling programs, and learn about citizen marine pollution monitoring programs. The U.S./Japan exchange is the beginning of a longterm partnership to end marine pollution and will be a model for other international conservation exchanges.

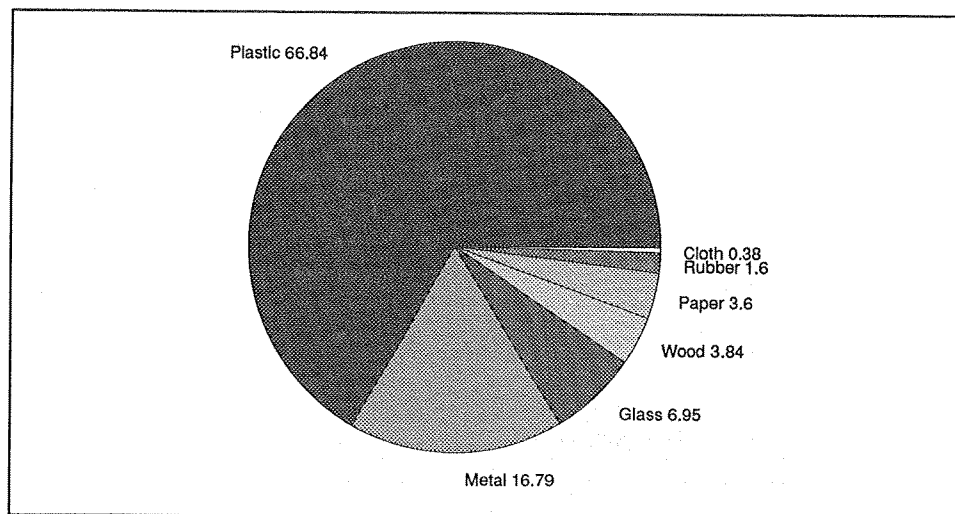
Japanese Coordinator Yumi Kikuchi commented that "Japan is sometimes criticized by other countries as environmental terrorists because of our conduct of clearcutting tropical forests, drift net fishing, and exporting public pollution. But I want the world to know there are people who care about the environment and conservation of wildlife."

What is the Most Prevalent Type of International Debris?

In total, international volunteers (all countries excluding the United States) recorded 147,776 items on CMC data cards. Plastic items were by far the most abundant item, accounting for 66.8% of all trash items reported (Figure 17). All other categories of trash were reported in much less abundance: 16.7% metal, 6.9% glass, 3.8% wood, 3.6% paper, 1.6% rubber, and 0.4% cloth.

Overall, plastics were slightly more abundant on foreign beaches (66.8%) compared to the U.S. figure 63.9% (Figure 18). Canada had the highest

Figure 17.
Percent Composition
of Debris Reported
During 1990 International
Beach Cleanups



percentage of plastic items, at 77.2%. Higher percentages of metal items were also reported by international volunteers as compared to U.S. cleanups. All other categories made up smaller percentages than U.S. figures.

The International Dirty Dozen

As in the United States the top 12 most abundant debris items accounted for nearly two-thirds of all debris found during international cleanups. Also similar to the United States, cigarette filters were the single most common item reported by volunteers. The international Dirty Dozen is as follows (the number in parentheses represents the numerical rank of that item in the U.S. Dirty Dozen):

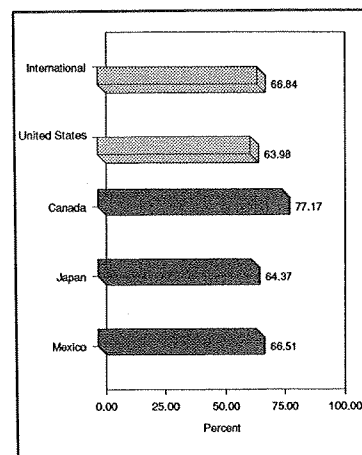
Rank	Item	Total Number Reported	Percent of Total Debris Collected
1.	cigarette filters (1)	16,595	11.23
2.	plastic pieces (fragments of larger plastic objects) (2)	11,957	8.09
3.	metal beverage cans (8)	9,882	6.69
4.	metal bottle caps (14)	9,195	6.22
5.	foamed plastic pieces (3)	8,819	5.97
6.	plastic food bags and wrappers (6)	7,681	4.23
7.	miscellaneous plastic bags (17)	6,356	4.30
8.	plastic caps and lids (9)	5,248	3.55
9.	plastic rope (15)	5,044	3.41
10.	glass beverage bottles (7)	4,963	3.36
11.	plastic beverage bottles (13)	4,364	2.95
12.	wood and lumber pieces (16)	3,983	2.70
	Total	94,087	63.67

As indicated, some items such as bottle caps, miscellaneous plastic bags, rope, and lumber that are quite prevalent on international beaches do not occur as frequently on U.S. beaches. In contrast, items such as plastic straws, plastic cups and utensils, foamed plastic cups, and paper pieces, that were among the U.S. Dirty Dozen, were not as prevalent on international beaches. Perhaps these cleanups demonstrate that Americans generate more litter in the form of convenience and fast-food items.

Other debris items reported in abundance include:

Rank	Item	Total Number Reported
13.	glass pieces	3,425
14.	plastic strapping bands	2,930
15.	miscellaneous plastic bottles	2,913
16.	plastic trash bags	2,267
17.	plastic straws	2,260
18.	plastic utensils (including cups, spoons, and forks)	2,168
19.	metal pull tabs	2,165
20.	plastic bleach bottles	1,619
21.	paper pieces	1,616
22.	foamed plastic cups	1,591
23.	cigarette lighters	1,174
24.	foamed plastic meat trays	1,104
25.	plastic toys	1,059

Figure 18.
Plastics Reported
During 1990
International
Beach Cleanups





Recreational Fishing and Boating Indicator Items

- plastic monofilament fishing line (520)
- plastic floats and lures (375)

Bottles and Associated Goods

Internationally, 20.9% of all items reported were bottles and associated goods. The percentage reported by Japanese volunteers was the highest with 24.3% followed by Mexico (16.8%) and Canada (9.1%). In comparison, 14.3% of all U.S. trash items reported were bottles and associated goods. Interestingly, the international figure is similar to those U.S. states that do not possess container deposit laws or mandatory recycling programs (Figure 19).

Sources of International Beach Debris: Ocean Based Debris

Recreational Fishing and Boating Wastes

Monofilament fishing line and fishing floats and lures indicate contributions from recreational boaters and fishing activities. These two items represented 0.6% of all the trash collected in three countries. Volunteers reported higher amounts of recreational fishing debris, especially monofilament fishing line, in Mexico (2.3%), Japan (0.5%) and Canada (0.2%). With the exception of Mexico, U.S. volunteers reported more debris (1.1%) attributable to recreational fishermen and boaters than international volunteers (Figure 20).

Figure 19. Bottles and Associated Goods Reported During 1990 International Beach Cleanups

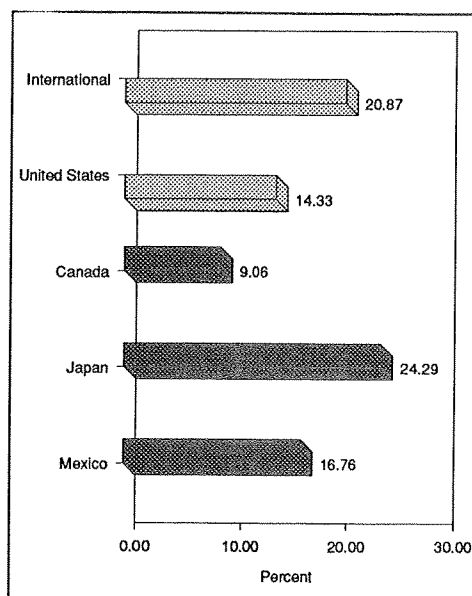
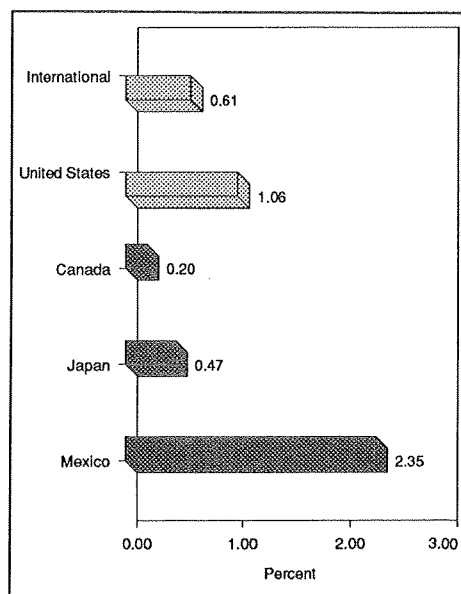


Figure 20. Recreational Fishing and Boating Gear Reported During 1990 International Beach Cleanups



Commercial Fishing Wastes

U.S. and international figures for contributions from the commercial fishing community are very similar. On foreign beaches, volunteers reported that 4.8% of all trash was either rope, plastic light sticks, plastic fishing nets, plastic salt bags, foamed buoys, wood fish and crab traps, or metal fish and crab traps. In Canada, specifically New Brunswick, trash from commercial fisheries is more than twice as high as Mexico, and more than three times as high as the U.S. figure (Figure 21).

Operational Wastes

The category designated as operational wastes includes trash generated by offshore operations such as petroleum industry activities and equipment used on cargo vessels. On foreign beaches these wastes accounted for 3.5% of all trash items reported. Mexico (7.0%) reported the highest percentage of operational wastes followed by Canada (5.6%) and Japan (2.5%). The international percentage of operational waste (3.5%) was higher than the U.S. figure of 1.4% (Figure 22). It should be noted that the lowest amounts for operational wastes were found in countries signatory to MARPOL Annex V—the United States and Japan.

Figure 21. Commercial Fishing Gear Reported During 1990 International Beach Cleanups

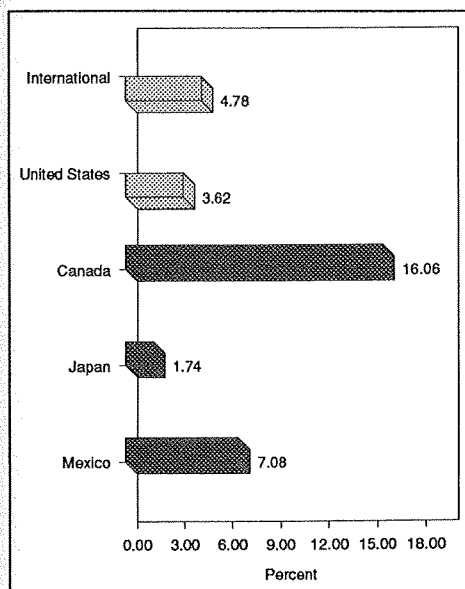
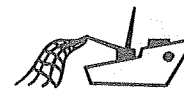
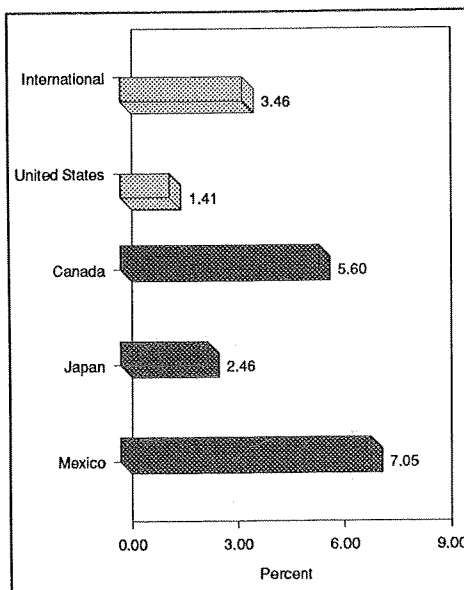


Figure 22. Operational Wastes Reported During 1990 International Beach Cleanups



Commercial Fishing Indicator Items

- plastic rope (5,044)
- plastic light sticks (377)
- plastic fishing nets (607)
- plastic salt bags (400)
- foamed plastic buoys (373)
- wood fish and crab traps (10)
- metal fish and crab traps (63)
- wood crates (223)
- rubber gloves (196)



Operational Wastes Indicator Items

- plastic hard hats (391)
- plastic strapping bands (2,930)
- plastic sheeting ≥ 2 feet (1,356)
- plastic pipe thread protectors (166)
- glass light bulbs (303)
- glass fluorescent light tubes (108)
- wood pallets (147)

Figure 23. U.S. Agency for International Development Letter Supporting National Beach Cleanup Efforts in Guatemala



USAID GUATEMALA



AGENCY FOR INTERNATIONAL DEVELOPMENT
UNITED STATES A. I. D. MISSION TO GUATEMALA

USAID/GUATEMALA or c/o American Embassy
APO MIAMI 34024 Guatemala, City, Guatemala, C. A.
Telephones: 366352/53, 366378, 321739, 366309
Telex: 3110 USAID GU
Fax: 365346, 311130

August 23, 1990


Center For Marine Conservation
1725 DeSales Street, N.W.
Washington, D.C. 20036

On behalf of The PADI Divers of Guatemala, the people of Panajachel, and myself I would like to thank you for all the technical and moral support that you and the Center for Marine Conservation gave us during our pre-cleanup efforts of Lake Atitlán.

I am sure that without your logistical support the cleanup would have remained in the planning stages. You have made an incredible difference and we are very grateful.

Once again, thank you very much. Please stay in contact with us and keep up the good work!

Sincerely,


Roberto Diez de Medina
Office of Rural Development

Galley Wastes

Galley wastes that characterize the types of items contributed by shipboard dining facilities include plastic trash bags, plastic milk and water gallon jugs, plastic bleach or cleaner bottles, plastic vegetable sacks, plastic foamed egg cartons, and plastic foamed meat trays. Figure 24 shows that the percentage of these items reported in all three foreign countries (4.2%), is higher than the U.S. figure (3.3%). The percentage of galley wastes found on Mexican beaches (11.7%) is three times that of Canada (3.6%) and Japan (3.4%). One-half of all galley waste items reported in Mexico were plastic trash bags; over one-quarter of all the galley waste items reported in Mexico were plastic bleach and cleaner bottles. It is interesting to note that volunteers in the Gulf region, particularly Texas, often report finding green bleach bottles with Spanish lettering, an indication that they come from Mexico (see Appendix 3 for listing).



Galley Wastes Indicator Items

- plastic trash bags (2,267)
- plastic milk and water gallon jugs (985)
- plastic bleach or cleaner bottles (1,619)
- plastic vegetable sacks (198)
- foamed plastic egg cartons (108)
- foamed plastic meat trays (1,104)

Sources of International Beach Debris: Land-Based Debris

Sewage-Associated Wastes

Sewage-associated wastes in foreign countries accounted for 0.3% of all trash collected as compared to 0.5% in the United States (Figure 25). Although these percentages are relatively negligible compared to other debris items, the highest number of sewage wastes was in Canada, which reported 252 tampon applicators (1.0%), over twice the percentage in any other country. Mexico had 0.8% of their trash attributed to sewage-type items and in Japan sewage-associated wastes were 0.05%. In all countries, condoms accounted for much less of the total percentage of sewage-associated wastes as compared to plastic tampon applicators.



Sewage Associated Waste Indicator Items

- condoms (17)
- plastic tampon applicators (411)

Figure 24. Galley Wastes Reported During 1990 International Beach Cleanups

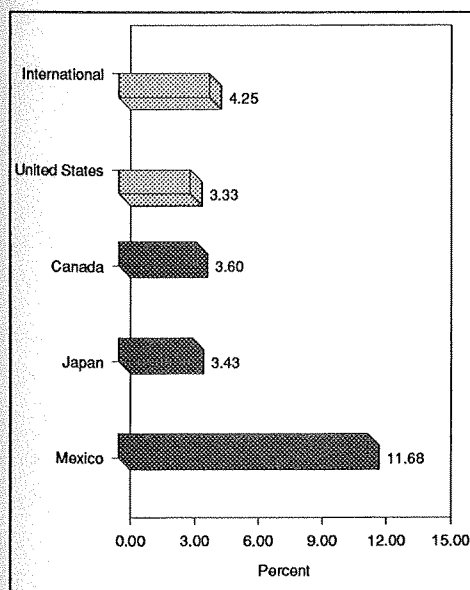


Figure 25. Sewage-Associated Wastes Reported During 1990 International Beach Cleanups

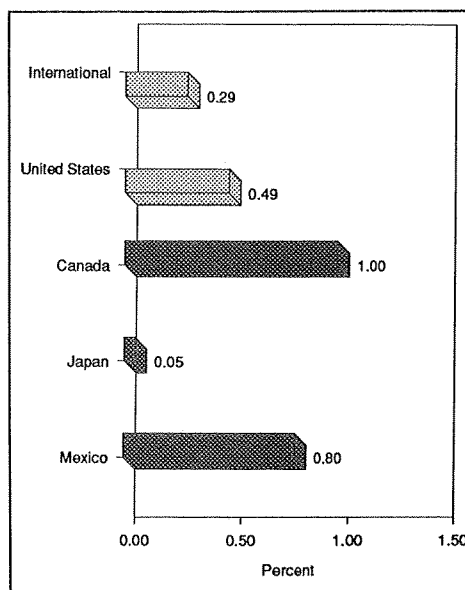
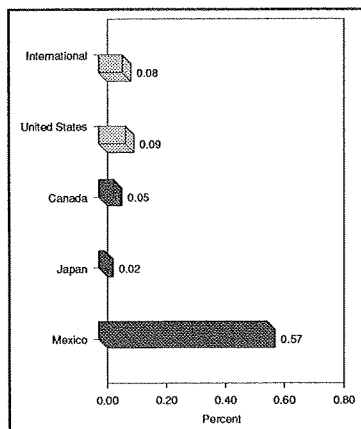


Figure 26.
Medical Wastes
Reported During
1990 International
Beach Cleanups



Medical Waste
Indicator Items

- plastic syringes (118)

Medical Wastes

Similar to U.S. cleanups, medical wastes (indicated by the presence of syringes) were reported to be a very small percentage of all trash items collected. In all three countries the national percentage was 0.08%, essentially equal to the U.S. figure of 0.09% (Figure 26). Mexico had seven times the international and U.S. national percentage with 0.6%. Much smaller percentages of Canadian and Japanese trash were reported to be syringes (0.05% and 0.02%).

Foreign Sources of Foreign Beach Trash

Volunteers in Canada and Mexico noted several items as foreign debris. There were no reports of foreign debris in Japan. The reports listed in Table 6 indicate that the United States is the major source of foreign debris on Canadian and Mexican beaches. The box entitled *Trashing San Salvador* also indicates the international nature of the marine debris problem.

Table 6. Foreign Debris Reported by International Beach Cleanups

Country	Source	Debris Item	Remarks
Canada (New Brunswick)			
	Thailand	1 plastic package	dried silverfish
	United States	13 plastic jugs	milk
		1 plastic bottle	medicine
		1 glass bottle	soda
Mexico (Quintana Roo)			
	Brazil	1 plastic bottle	
	United States	1 metal can	gel
		1 aerosol can	
		1 newspaper	Texas

Trashing San Salvador

When Columbus first landed in the New World, on what is believed to be the island of San Salvador, he heaped the first of many lavish praises on the natural beauty he saw around him. Five centuries later other things are being heaped on the beaches of San Salvador, providing a rich trail of evidence of the degradation of the ocean.

Nancy Hotchkiss, the Assistant Director of Public Programs at the National Aquarium in Baltimore, led a group of American students to San Salvador on a coral reef studies program. While wandering the island's beaches, the students became keenly aware of a variety of marine debris items washed up on the beaches.

They reported that the beaches were generally strewn with fishing gear, plastic crates, hard hats, tar, drums, etc. In addition, the students' collection had a wide international scope. This can probably be explained by a large number of ships that regularly travel through the area, as well as the ocean currents from Europe and Africa that flow to the Western Hemisphere. Foreign materials included cans of disinfectant from Brazil, Cyprus, Italy, the USA and the USSR; deodorant from Argentina, France, Italy, Mexico, and Spain; and a metal cap labeled "radioactive material" from the United States Navy.

TRENDS IN NATIONAL BEACH CLEANUP DATA: 1988-1990

The National Marine Debris Database was established in 1988 to monitor the effectiveness of new litter prevention citizen education programs, and to identify longterm trends in the abundance and composition of marine debris. To that end, the Center for Marine Conservation developed a standardized data card and now encourages all beach cleanup coordinators to use the cards and return them for analysis and entry into the Database.

After three years of standardized data collection it is possible to examine trends in marine debris. Since the 1988 National Beach Cleanup occurred three months before MARPOL Annex V took effect, information from this cleanup provides a baseline from which to monitor the effectiveness of Annex V. The Database will become even more useful with continued longterm data collection efforts.

Because information collected in 1988 included only U.S. coastal states, an analysis of trends from the last three years must be limited to comparisons of U.S. states participating in the beach cleanup.

Participation

Statewide beach cleanups began in 1984 in Oregon. During this first statewide event, organized by Judie Neilson Hansen, 2,100 volunteers turned out. Beach cleanups quickly captured public interest and spread to other coastal states. Figure 27 shows the growth in beach cleanup participation since 1984. Nationwide, cleanup volunteers totaled 6,400 in 1985, jumped to 9,000 in 1986, and increased to 23,000 by 1987. In 1988 CMC worked with COASTWEEKS organizers to coordinate the first National Beach Cleanup, and cleanup participation doubled to 47,500. It continued to increase in 1989 and topped the 100,000 mark in 1990 with a total of 108,749 volunteers—108,749 citizens serious about improving the coastal and marine environment.

Some states are now deluged by thousands of volunteers. In three years the following states have more than *tripled* the number of volunteers from 1988 to 1990: Alabama (630 to 2,618), Connecticut (14 to 751), Delaware (650 to 3,500), Maryland (171 to 734), and Virginia (130 to 1,100).

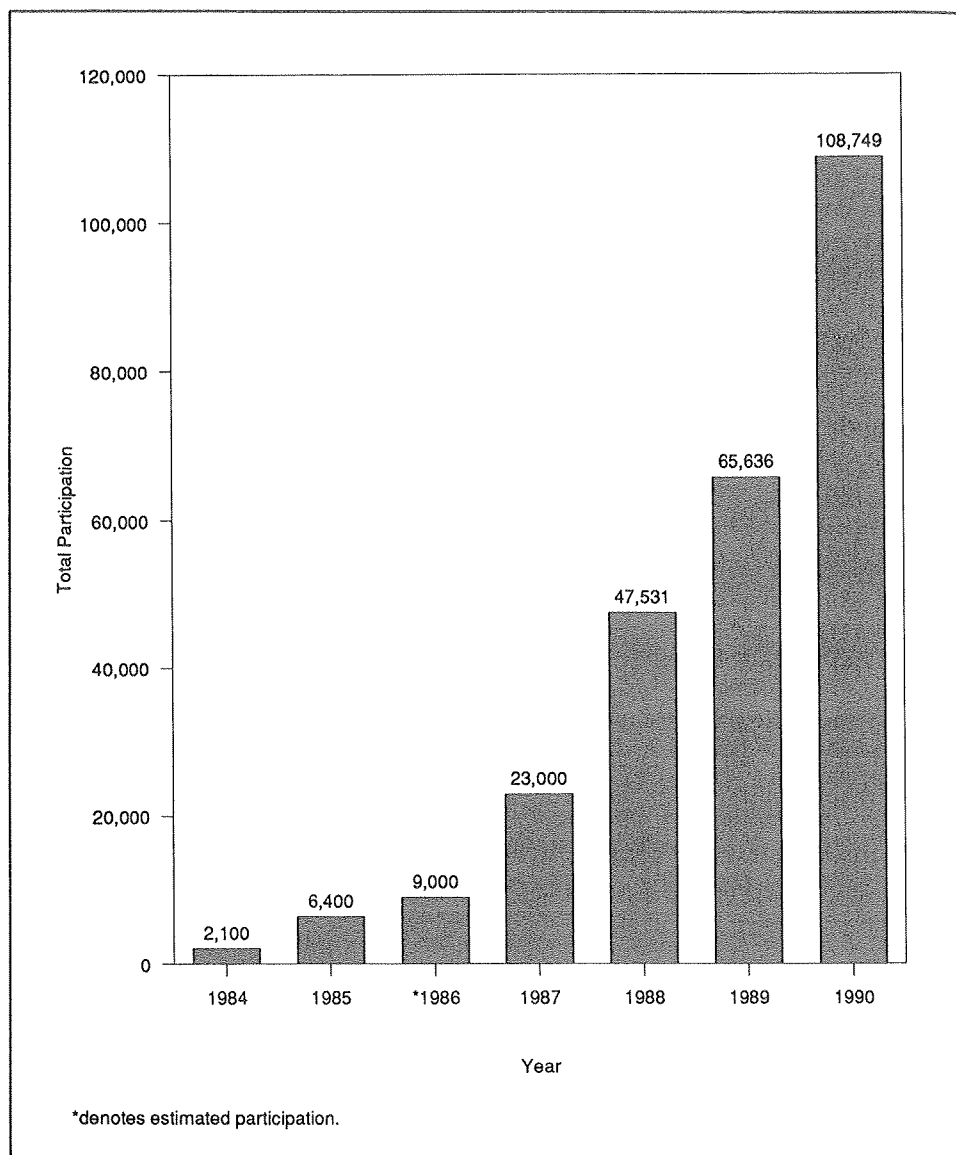
Most states have at least doubled volunteer participation over the last three years, including California (5,700 to 16,122), Hawaii (3,037 to 6,680) Louisiana (2,700 to 6,000), and North Carolina (3,500 to 10,000).

In 1989 the National Beach Cleanup attracted international participation with volunteers in Canada and Mexico. Japan and Guatemala joined the cleanup effort in 1990 and the total international participation was 1,739.

Data Collection

Data collection began with the first Texas Coastal Cleanup in 1986 organized by the Center for Marine Conservation. With input from volunteers, industry members, and beach cleanup coordinators, the Center for Marine Conservation

Figure 27. Participation in National Beach Cleanups 1984-1990



has modified the data card. The 1990 version (Figure 2) of the data card represents information necessary to assess trends and demonstrates increasing knowledge of marine debris gathered through this program.

Cleanup volunteers are increasingly aware of the need to collect data on the trash they find. In 1988, 47,500 volunteers returned over 8,000 data cards, or a 16.8% return rate. The 65,000 volunteers in 1989 completed 13,331 data cards (20.5%). The data card return rate increased again in 1990 to 22.2%, or 28,393 cards.

Many Miles of Cleaner Coasts

Coordinators make their best estimate to determine the number of miles covered by volunteers. In 1988 coordinators reported cleaning 3,500 miles of coastline. The 1989 figure was 2,946, and 3,281 in 1990. Contrary to these numbers, CMC believes beach cleanup programs covered more miles in 1990 than the first national cleanup in 1988. Although there is no statistical support for this intuition, CMC believes the decrease in the miles reported actually reflects an increase in *accuracy* in the coordinator reports.

Pounds of Trash Collected

The thousands of pounds of trash collected each year is a testament to the muscle and dedication of the volunteers. However, it is not possible to use the weight of trash collected as an indication of the total amount of trash on the beach. The amount of trash present on the beaches on a given day varies according to many factors including winds, currents, weather, and proximity to potential sources.

It is also unwise to compare the amount of trash collected in one state versus another or from one year to the next. In addition, changes in volunteer participation will result in different amounts of trash collected and some beaches are cleaned on a regular basis. Finally, although all coordinators measure the amount of trash collected, methods used vary with each coordinator. Thus while tonnages may be interesting and impressive, they cannot be used in any meaningful way. More useful are the figures on the *types* of debris collected.

What is the Most Prevalent Type of Debris?

The National Marine Debris Database monitors seven general material types found on the beach: plastic (including Styrofoam®), metal, glass, paper, rubber, wood, and cloth. Although specific items of debris pose threats to humans and wildlife, plastic causes the most concern as a result of its persistent nature. Information from the Database increases this concern because it shows that the majority of the trash present on the beach is plastic.

In 1988, CMC reported that 62% of all trash was plastic. In 1988, cigarette butts were not listed on the data cards, yet volunteers often recorded them in the margins as a "paper" item. To make all three years comparable, we have recategorized all cigarette butts as plastics. With this correction, the percent composition of plastic items in 1988 increases from the previous report of 61.9% to 65.9%.

Remember Barbie, the doll? They found her head and shoe in Massachusetts, her leg in Lake Erie, and her bra in Scarsborough, Maine.



Over the past three years, there has been essentially no change in the abundance of plastic—65.9% in 1988 to 62.7% in 1989 to 63.9% in 1990 (Figure 28). Figure 29 shows how a single item that represents a large percentage of the total, such as cigarette butts, can hide a change. By removing cigarette butts from the total, the trend in plastic reported on U.S. beaches shows a 5.7% decrease over three years from 64.5% in 1988, to 60.5% in 1989, to 58.8% in 1990. At the time of the 1988 National Cleanup, it was legal to dump plastics in the ocean. It would be encouraging if the downward trend of plastics on the beaches continues and is in fact a result of legislation to prohibit the dumping of plastics and marine debris education efforts.

Figure 28. Trends in Plastic Debris as a Percent of U.S. Total: 1988-1990 (including cigarette filters).

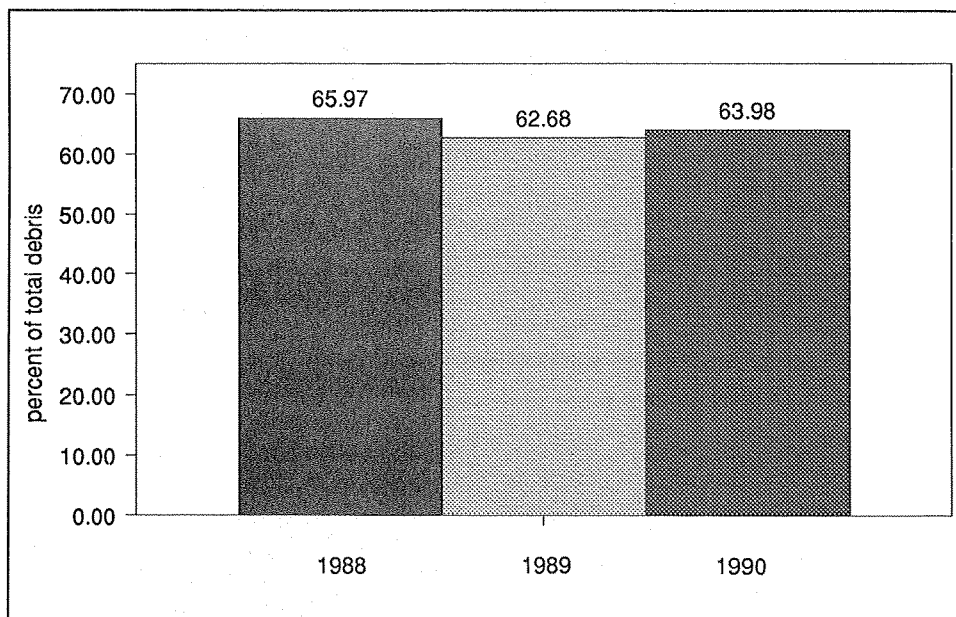


Figure 29. Trends in Plastic Debris as a Percent of U.S. Total: 1988-1990 (excluding cigarette filters).

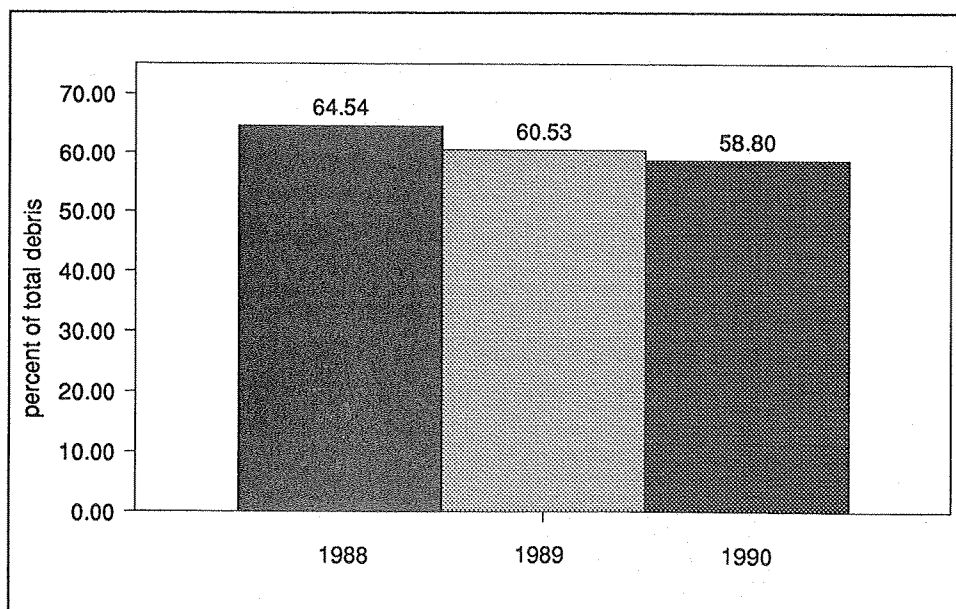


Table 7. Trends in the U.S. "Dirty Dozen"

<u>Debris Item</u>	<u>1988 Rank</u>	<u>1989 Rank</u>	<u>1990 Rank</u>
plastic pieces	2	2	2
foamed plastic pieces	1 ¹	1	3
plastic cups, utensils, straws	3	3	4 ²
metal beverage cans	4	9	8
foamed plastic cups	5	10	10
glass beverage bottles	6	8	7
plastic caps and lids	7	6	9
paper pieces	8	7	5
plastic trash bags	9	12	0
miscellaneous plastic bags	10	11	0
glass pieces	11	4	6
plastic beverage bottles	12	0	11
cigarette filters	0	5	1 ³
bottle caps	0	0	12

¹ Foamed plastic pieces were divided into two categories (large pieces and small pieces) in 1988 and 1989.

² A separate category was created for plastic straws in 1990.

³ Cigarette filters were not listed on the data card for the 1988-1989 cleanups, although many volunteers listed this item in the data card margins. The Center added "cigarette filters" as a line item on the card in 1990.

The Dirty Dozen

The items listed on the National Marine Debris Database "Dirty Dozen" have the dubious honor of being the 12 most common items found on U.S. coastlines. From year to year, the three most abundant items consistently have been plastic pieces or fragments; foamed plastic pieces; and plastic cups, utensils, and straws—all disposable convenience items (Table 7).

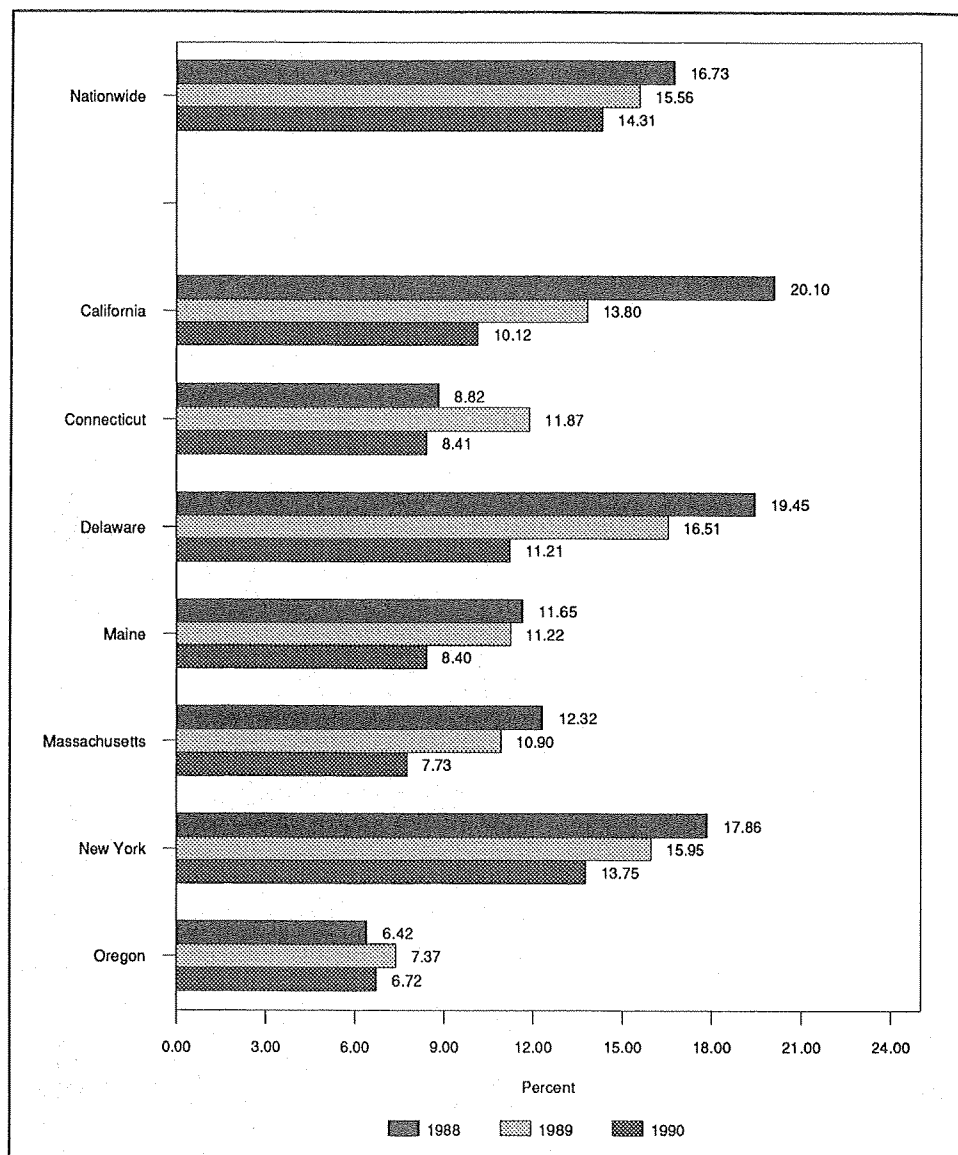
In 1988 and 1989 cigarette filters were not listed on the data card. However, some volunteers reported them, anyway, usually in the margins. In 1989, cigarette butts were the fifth most abundant item reported that year. In 1990, by formally adding cigarette filters to the data card, they were found to be the most prevalent item on all beaches—accounting for 12.6% of all items found.

Bottles and Associated Goods

The percentage of bottles has also remained essentially the same over three years, although there has been a slight decrease (16.7% to 15.6% to 14.3%). Ten U.S. states have legislation that require a deposit upon purchase of beverage containers. Seven of these states participate in the National Beach Cleanup (Figure 30). Six of the states with bottle bills showed an overall decrease or relatively no change in the percentage of bottles reported, although some minor fluctuations occurred in Connecticut and Oregon. California showed the sharpest decline (10.0%) from 1988 to 1990. Connecticut shows a 3.0% increase within the years of 1988 to 1989, yet an overall decrease from 1988 to 1990.

The remaining 20 states participating in the National Cleanup do not have bottle bill legislation. There is no clear pattern, either upward or downward in the amount of bottles reported in states that do not have bottle bill legislation.

Figure 30. Trends in U.S. Bottles and Associated Goods 1988-1990
(states *with* beverage container deposit legislation)



Six-Pack Rings

The national percentage of six-pack rings collected has shown a slight decrease over the three years. Twenty-four states have legislation that require the exclusive use of beverage connecting rings made from degradable materials (see box). Ten states enacted this legislation *prior* to 1988. All of these states show an overall decrease in the percentages of six-pack rings over the three-year period (Figure 31).

For participating states that have enacted degradable six-pack ring legislation within the last three years there has also been an overall decrease in the percentage of six-pack rings, with the exception of Louisiana which enacted this law in 1991 (Figure 32). There is a lack of pattern, either upward or downward, for states that have no legislation concerning the use of degradable six-pack rings.

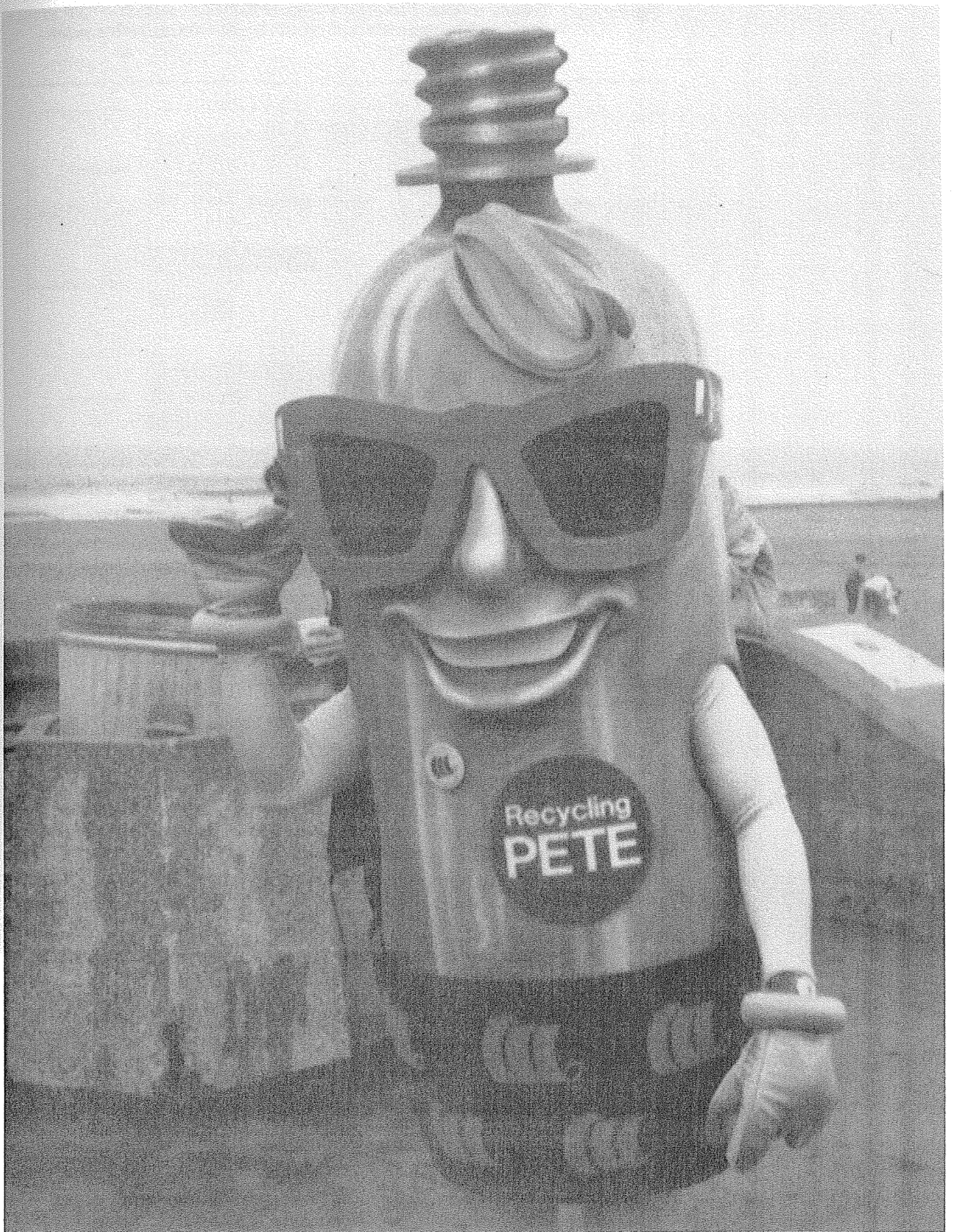


Figure 31. Trends in U.S. Six-pack Rings 1988-1990
(states with degradable six-pack legislation effective *prior* to the 1988 cleanup)

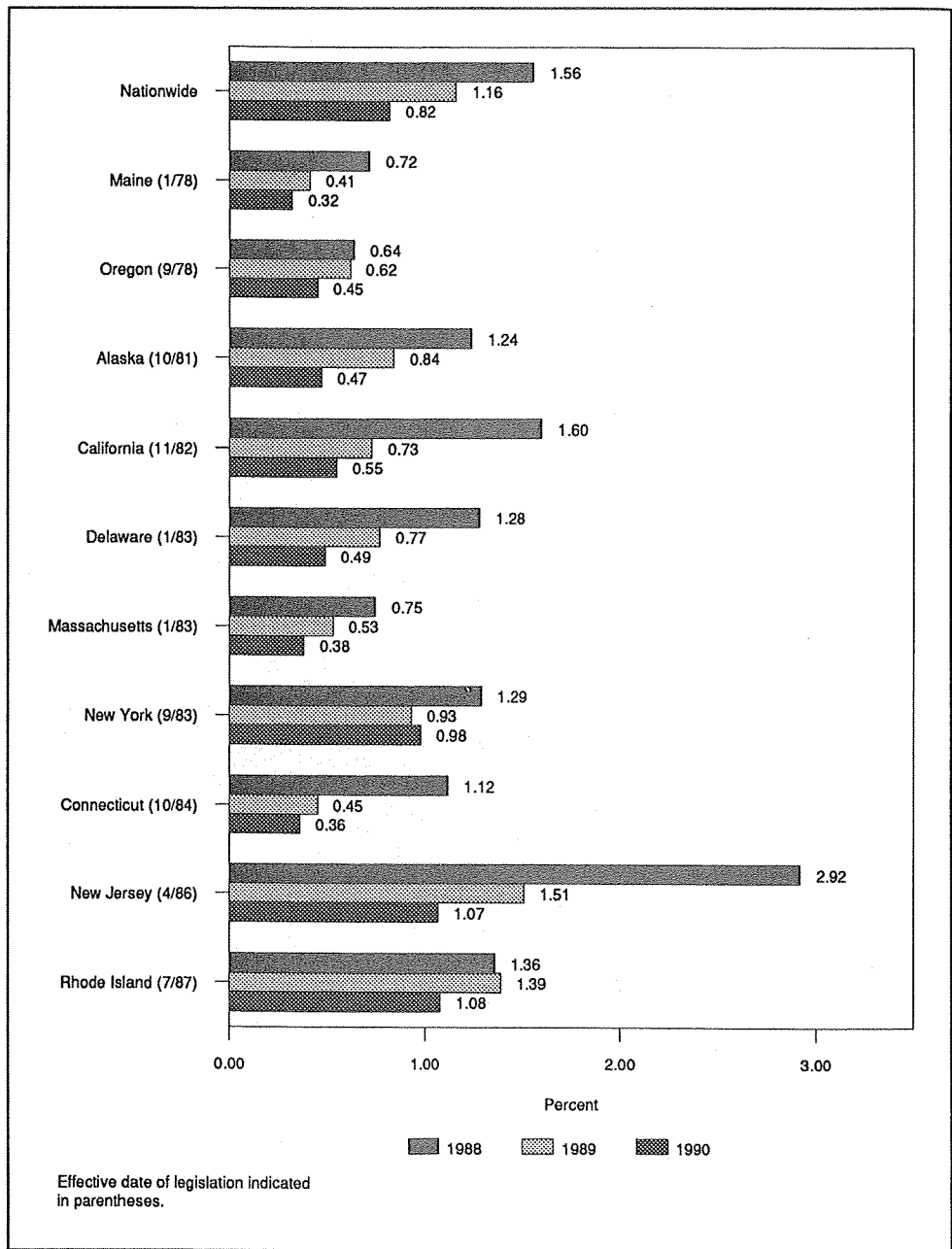
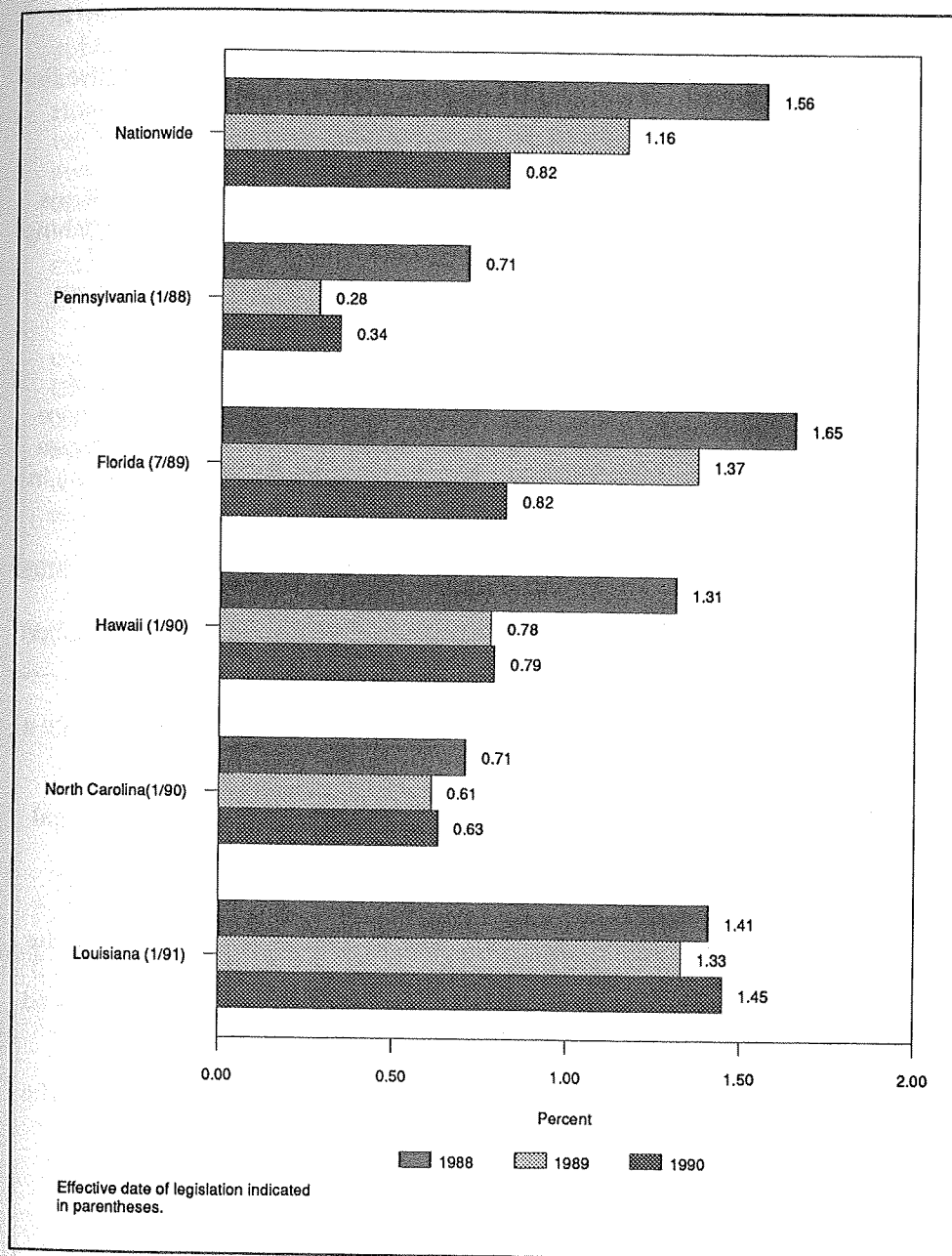


Figure 32. Trends in U.S. Six-pack Rings 1988-1990
 (states with degradable six-pack legislation effective *after* the 1988 cleanup)



Sources of Marine Debris

Certain debris items listed on the data card are used as "indicator items" to trace specific sources of debris. Figure 33 shows the trends over three years in items identified as coming from specific sources as determined by reports of indicator items. Figure 34 has additional information about trends in cruise line wastes.

Trends in Ocean-Based Debris

There is no clear pattern, either upward or downward, in the presence of items attributable to the categories of commercial fishing gear or recreational fishing wastes. The box entitled *Recreational Boaters on Citizen Pollution Patrol* describes a current program to decrease the contribution of marine debris from small boats.

The decrease in operational waste was comparatively negligible, a total of 0.4% over three years. However, there is a downward trend in the prevalence of items traceable to galley wastes reported from 1988 to 1990. The 1988 figure of 7.8% decreased to 6.1%, and finally to the lowest figure of the three years in 1990 to 3.3%.

Figure 34 shows the relative amounts of trash traceable to passenger cruise lines reported during the three years of the National Beach Cleanup. In 1988 volunteers reported 27 items from nine different cruise lines. In 1989 the number of items more than doubled to 71 pieces from 13 cruise line companies. The number of reports decreased in 1990 to 46 items from 13 lines. With this information there is no clear pattern, either upward or downward, to indicate a trend in the contribution of trash from cruise lines.

We know that items reported in 1988 were dumped at a time when it was legal for vessels to discard plastic trash overboard (i.e., before Annex V of the MARPOL Treaty came into effect). We must assume that some of the plastic trash with cruise ship markings reported in 1989 could have been discarded legally (before December 31, 1989) and remained afloat or uncollected until the 1989 cleanup. However, cruise line trash found in 1990 is not likely to be the result of legal, pre-MARPOL dumping. Now there is no excuse for the continued washups of cruise line trash.

In all three years of data collection, Royal Caribbean Cruise Lines has been the biggest offender. Volunteers reported four items with a Royal Caribbean identification in 1988; 26 items in 1989; and 20 assorted cups and shampoo bottles in 1990.

Six-Pack Rings

Twenty-four states currently have laws that require the use of beverage connecting rings that will degrade. Although degradable plastics are not a solution to the marine debris problem, the use of degradable six-pack rings could shorten the item's lifespan and therefore reduce the risk of wildlife entanglement. In many cases industry members voluntarily switched to using degradable six-pack rings with only a slight increase in cost.

Information from beach cleanup data over three years indicates that states that mandate the use of degradable six-pack rings reported a lower percentage of six-pack rings on the beach.

In September 1988 the federal government passed a law to require the use of degradable beverage containers nationwide. The law directed the U.S. Environmental Protection Agency (EPA) to develop regulations to implement the law within 24 months of enactment. To date, two and one-half years later, the EPA has not proceeded with the rules. Regardless of whether six-pack rings are degradable, it is a good idea to take a few seconds to cut the loops of six-pack rings before disposal.

Figure 33. Trends in U.S. Indicator Items 1988-1990

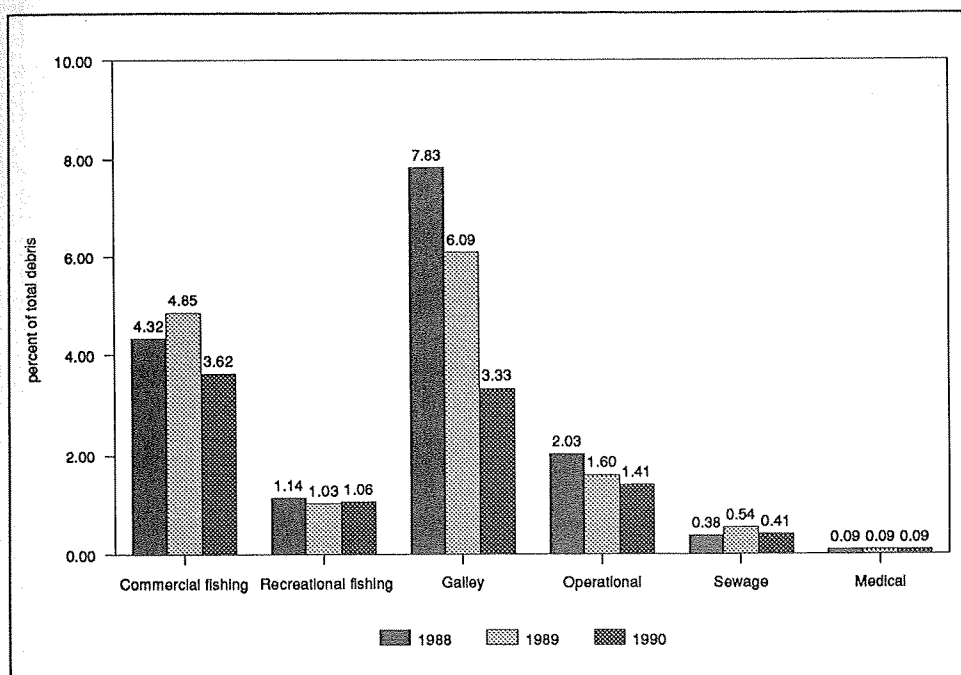






































Figure 34. Trends in U.S. Cruise Line Debris 1988-1990

CRUISE LINE	1988	1989	1990	% OF TOTAL
Royal Caribbean				34.48
Norwegian				13.10
Holland America				9.66
Carnival				7.59
Premier				7.59
Crown				6.90
Princess				4.83
Commodore				3.45
Chandris Fantasy				2.76
Admiral				1.38
Costa				1.38
Cunard				.69
Home				.69
Massachusetts Bay				.69
Ocean				.69
Pacquet				.69
Scandinavian				.69
Sea Escape				.69
Sitmar				.69
Skyward				.69
Windjammer				.69
PERCENT OF 3 YEAR TOTAL	18.49	49.32	32.51	

Scale: 1- 3% = 

3-10% = 

10-20% = 

20-45% = 

¹ Total number of reports of cruise line debris are: 1988 - 27; 1989 - 72; 1990 - 46 for a three year total of 145 reports.

Norwegian Cruise lines, which had relatively high percentages reported in 1988 and 1989, dropped to represent 2% of all the cruise line trash in 1990. In 1988, when it was legal to dump plastics from ships, trash from Premier Cruise Lines represented a large percentage of the total cruise line trash reported (25.9%). In 1989 and 1990 volunteers reported less than three percent of all cruise line trash as coming from Premier.

Trends in Land-Based Debris

Land-based debris items are the one category that remained consistent from 1988 to 1990. Although there is no trend indicating whether the amount of sewage-associated wastes are increasing or decreasing, sewage items accounted for 0.4% of all trash in 1988, 0.5% in 1989, and less than 0.4% in 1990. The box, *Pointless Pollution*, describes a regional program to reduce the land-based contribution to marine debris.

Public concern for medical waste items on the beaches peaked after the extensive media coverage in the summers of 1987 and 1988. During the 1988 beach cleanup the National Marine Debris Database revealed that some of the public concern over the amount of medical wastes on our beaches was unfounded. It is true that medical waste items are a potential human health hazard and deserve special attention. Yet over the last three years the data reflects consistently that medical wastes represent only a fraction of the larger problem of marine debris. In all three years volunteers reported that all of the medical waste collected was just 0.09% of all trash items.

Trends in the International Contribution to Marine Debris

Appendix 4 lists all reports since 1988 of foreign debris noted by volunteers on U.S. beaches. Reports list trash from 79 different "countries." Country names in quotation marks reflect the identification as made by the volunteers, not the proper name of the country. Of the 79 countries listed in the table, only 36 have not ratified MARPOL Annex V. Thus, the relationship between the status of Annex V ratification and that country's contribution to the total number of foreign items reported is not obvious at this time.






































































In all three years, however U.S. volunteers reported the highest percentage of items from Mexico and Japan. Canada, another participant in the National Beach Cleanup, placed fifth in the amount of foreign debris found on U.S. shores. Both Canada and Mexico identified the United States as the primary source of foreign debris on their beaches (see Chapter 2). Clearly, if we all do our part to reduce marine debris, we will all benefit, no matter where we live.


Wildlife Entanglement

Unfortunately, in the last three years, reports of entangled wildlife increased—from 45 to 142. It is important to realize that the number of volunteers and area of beach cleaned also increased over this time. Nonetheless, these numbers represent the serious impact of debris on wildlife.

Figure 35 shows the percentage of entanglement reports for each of the three cleanup years and highlights the items identified by volunteers as the cause of entanglement. Out of 252 reports of entangled wildlife, 200 involved plastic items. These reports clearly demonstrate a need for increased efforts to eliminate the discharge of plastics into the marine environment.

Figure 35. Trends in U.S. Wildlife Entanglement 1988-1990

ENTANGLING ITEM	1988	1989	1990	% OF TOTAL
Fishing line	  	  	  	38.49
Fishing nets		 	  	11.51
Rope	 	 	 	6.35
Plastic bags	 	 	 	5.56
Six-pack rings	 	 	 	5.16
String	 	 		3.57
Wire			 	3.57
Fishing line & hook		 		3.17
Plastic	 	 		3.17
Crab/lobster traps	 			2.78
Fishing hooks				1.98
Metal cans				1.98
Plastic beverage bottles				1.98
Glass bottles				1.59
Unidentified				1.19
Cassette tape				.79
Cloth				.79
Plastic sheeting				.79
Plastic strapping bands				.79
Vegetable sacks				.79
PERCENT OF 3 YEAR TOTAL	17.46%	26.19%	56.35%	

Scale: 0.5- 3% = 

3-10% =  

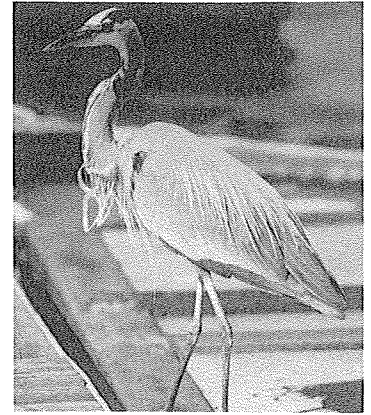
10-50% =   

¹ Additional types of debris representing 0.50 % or less of the total entangling debris reported for the period 1988-1990 include: balloons, plastic pen top, plastic carpet threads, plastic cord, plastic holder, plastic milk jug, plastic milk jug ring, plastic packaging tape, and rubber bands.

² Total number of entanglement incidents are: 1988 - 44; 1989 - 66; 1990 - 142 for a three year total of 252 reports.

One item of particular concern is monofilament fishing line. Fishing line was reported to be the most common cause of entanglement—over one-third of the reports in all three years: 44% in 1988, 42% in 1989, 33% in 1990. The percentage of entanglements in fishing nets shows an increase from 1988 (2.2%) compared to 1989 (6.3%) and 1990 (16%). In contrast, information from the National Marine Fisheries Service reports that entanglements of northern fur seals in fishing nets has declined since 1985 (see box).

Six-pack rings are often identified as the major source of wildlife entanglements. But, six-pack rings were not reported in as many cases as monofilament line. The percentage of wildlife entangled in six-pack rings in 1988 was 6% and decreased to 4% in both 1989 and 1990.

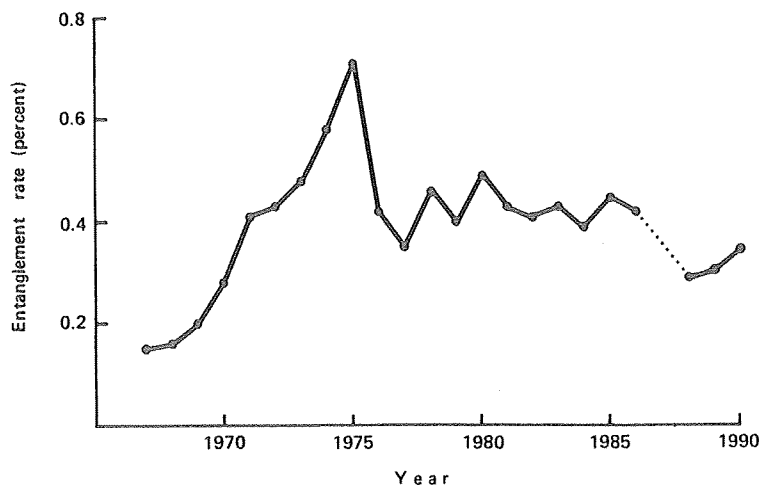


Declining Impact of Commercial Fishing Gear on Northern Fur Seals

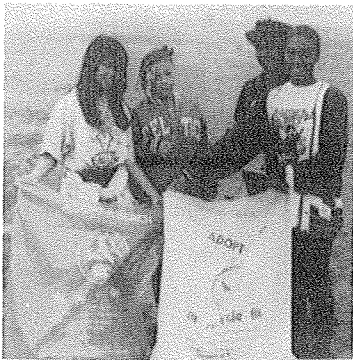
In 1982 Dr. Charles Fowler of the National Marine Fisheries Service reported that the northern fur seal population was declining at the rate of 50,000 individuals per year as a result of entanglement in plastic items and discarded fishing gear. He has continued to document the effects of plastic debris on seals and sea lions in the northern Pacific.

Fishing nets and plastic strapping bands are the most common items found to entangle fur seals. The study also quantifies entanglements in twine, rope, and monofilament fishing line.

Recently, Dr. Fowler noted a decline in the rate of fur seal entanglement in commercial fishing gear (see Graph 1 below). "The third year (1990) has provided convincing evidence that a change has occurred in the entanglement rate and . . . the reduction each year is attributable to less entanglement in trawl webbing." Dr. Fowler cites the possibility that the decrease in observed entanglements may be the result of "changes in the rate of loss and discard of net fragment from fishing vessels. Various education programs at the national and international level have been in place for several years, and international regulations prohibit the discard of such debris."



Graph 1. Percentage of northern fur seals found entangled in commercial fishing gear from 1967 to 1984 as cited in *Entanglement Studies*, St. Paul Island, 1990 *Juvenile Male Northern Fur Seals*, January 1991 *National Marine Mammal Laboratory*.

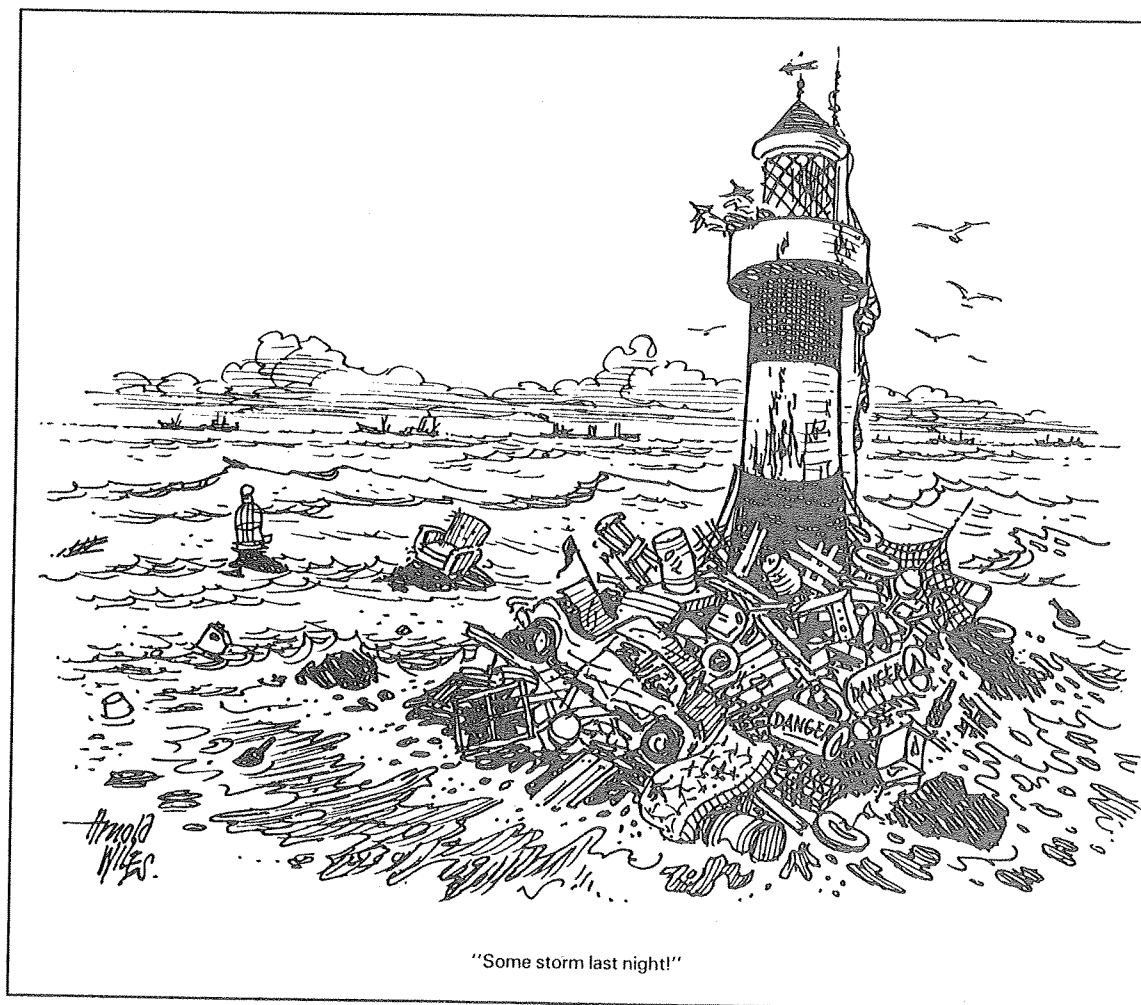


Pointless Pollution

For many years Adopt-A-Beach programs have increased stewardship for coastal resources by recruiting organizations and companies to become caretakers of a particular portion of beach. In New Jersey, Clean Ocean Action, a coordinator of the New Jersey cleanup, uses the adoption concept to educate citizens about marine pollution deposited by sewer systems.

In association with Monmouth Cablevision, Clean Ocean Action created a 22-minute video, *Painting the Town Blue*, to demonstrate how each person contributes to non-point source pollution—or, according to Clean Ocean Action, "pointless pollution."

The video shows how one elementary school class obtained permission from their municipal government, found environmentally safe blue paint, educated the community, and finally stenciled the image of a fish on each storm drain in their town. The brightly colored fish is a reminder that litter deposited in the streets flows through storm drains and into adjacent waterways. Each time it rains, cigarette butts, litter, pet waste, motor oil, anti-freeze, lawn chemicals, and other pollutants also become pointless pollution via storm drains. Clean Ocean Action hopes that their project will insure that nothing more than water enters storm drains. For more information contact Clean Ocean Action, P.O. Box 505, Highlands, NJ 07732 (908) 872-0111.



DETAILED ANALYSIS OF STATE AND INTERNATIONAL BEACH CLEANUPS

Often solutions to the marine debris problem are regional rather than national in scope. For example, data cards from Florida indicate the need for special efforts to combat the dumping by passenger cruise lines. This chapter, *Detailed Analysis of State and International Beach Cleanups*, presents detailed data on a state-by-state basis to help illuminate these regional needs. Much of the information in Chapter 1 appears in more detail, including graphic and tabular presentations of the sources of debris and the locations where debris was found. Detailed information for each country that participated in the 1990 cleanup is at the end of this chapter.

Each separate analysis begins with results of the cleanup, including number of volunteers, miles of beach cleaned, pounds of trash collected, the number of data cards returned to CMC, and a description of cleanup activities written by the state coordinator. Following the cleanup description is the state's percent composition of debris, the state "Dirty Dozen," and a zone-by-zone indication of debris sources showing problem areas—hotspots. One map represents the "ocean-based" sources of trash reported and a second map represents "land-based" sources as well as prevalence of bottles and associated goods. Also included are listings of stranded and/or entangled wildlife reported, debris reported with identifying markings, the most peculiar items noted by volunteers, and information regarding participation in the 1991 International Beach Cleanup. Below is a description of the graphs and tables in this chapter.

Percent Composition of Debris

The pie chart indicates seven major categories of debris: plastic (including Styrofoam®), glass, rubber, metal, paper, wood, and cloth. In all regions that held beach cleanups, plastic consistently continues to make up the majority of trash reported during beach cleanups.

The "Dirty Dozen"

The "Dirty Dozen" is a listing of the twelve most prevalent debris items reported during each state's cleanup. This listing includes the number of items reported, as well as its percentage of the total debris statewide. In 1990 cigarette butts are the item that appears most frequently in the "Dirty Dozen" for all regions.

Debris Hotspots

These two maps identify problems in each state that are traceable to particular source groups, indicating areas with a higher percentage of these types of debris than the state as a whole. Analysis is broken down into two categories: *Ocean-Based Debris Hotspots* and *Land-Based and Bottles and Associated Goods Hotspots*. Ocean-based debris includes commercial fishing gear, recreational fishing and boating gear, operational wastes from cargo and freight vessels, and galley wastes from ships. Land-based debris includes sewage-associated wastes and medical wastes. Bottles and associated goods are also included in this map, although they could come from either land-based

or ocean-based sources. Table 2 presents a listing of debris items within each source category.

Stranded and/or Entangled Wildlife

Too often wildlife are the victims of improperly discarded debris. Beach cleanup volunteers encounter incidents of wildlife entangled in various forms of debris. In addition, many animals are found dead on the beach, sometimes in alarming numbers. Reports of stranded or entangled wildlife are listed as they were noted by beach cleanup volunteers.

Traceable Debris

During the 1990 National Beach Cleanup, volunteers were asked to indicate any debris that had identifying markings that indicate a source of that particular item. Volunteers reported such items as balloons with campaign slogans, cruise line debris, and plastic strapping bands with shipping company names. Much of this trash includes a "return address" and information that makes it possible to contact the source. CMC will contact each of the identified sources to request their help to eliminate marine debris. A listing of all sources identified can be found in Appendix 2, *Traceable Debris Reported During the 1990 Beach Cleanup*.

Most Peculiar Items

Volunteers report finding just about everything imaginable during the beach cleanup and they were asked to note the most peculiar items found. Items such as a life-sized inflatable female doll, a plastic bottle reading "Do Not Rinse Under Penalty of Federal Law," and enough major appliances to furnish several houses, were reported by surprised beach cleanup volunteers.

1991 International Beach Cleanup

Lastly, this chapter includes plans from each state about their 1991 beach cleanup, including the cleanup date, and the address and telephone number for each state's coordinator. Contact the coordinator if you would like to participate in or help organize a cleanup during fall 1991.



ALABAMA

The 1990 Alabama Coastal Cleanup succeeded beyond our wildest dreams! We were hoping for 1,000 volunteers this year; we got 2,618. Our cleanup area expanded from 52 miles in 1989 to 62 miles. The new areas included the west end of Dauphin Island in Mobile County and the area around the Fairhope public pier in Baldwin County. Approximately 37 tons of trash were collected from coastal Alabama.

Among the more interesting items found was a French wine bottle, a VCR tape, aluminum siding, and a toilet. While there were numerous reports of dead fish, no stranded or dead turtles or marine mammals were observed.

John E. Marshall
Phillip Hinesley

Cleanup Date:
September 22, 1990

Results:
2,618 volunteers
62 miles cleaned
74,000 pounds of debris
299 data cards

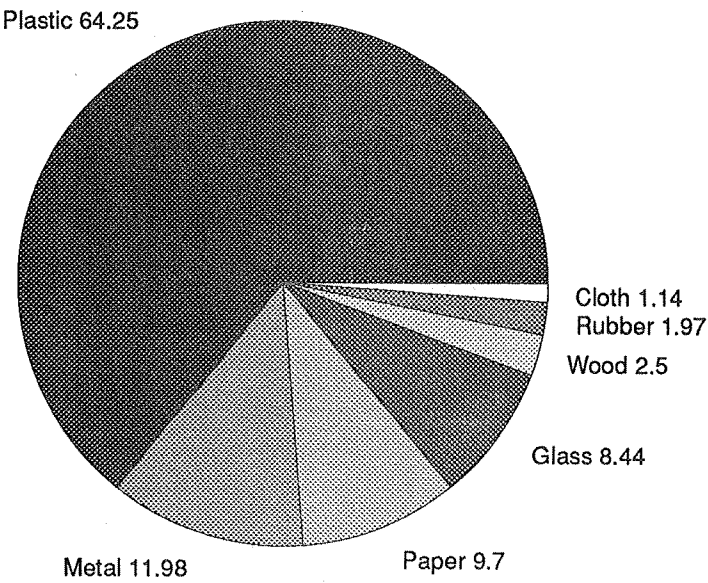
Coordinated by:
John E. Marshall
Alabama Department of
Environmental
Management
2204 Perimeter Road
Mobile, Alabama 36615

Phillip Hinesley
Alabama Department of
Economic and Community
Affairs
10936-B, U.S. Highway 98
Fairhope, Alabama 36532
(205) 479-2336

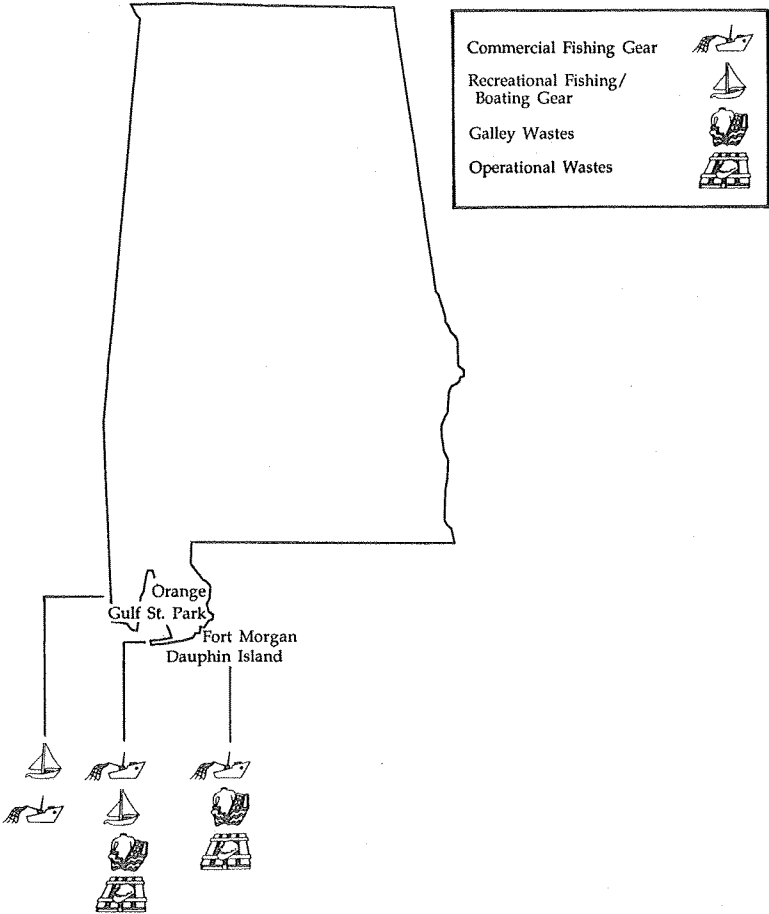


Cleanup volunteers along Dauphin Island collect and record debris from the Mobile County shoreline.

PERCENT COMPOSITION OF ALABAMA'S BEACH DEBRIS:



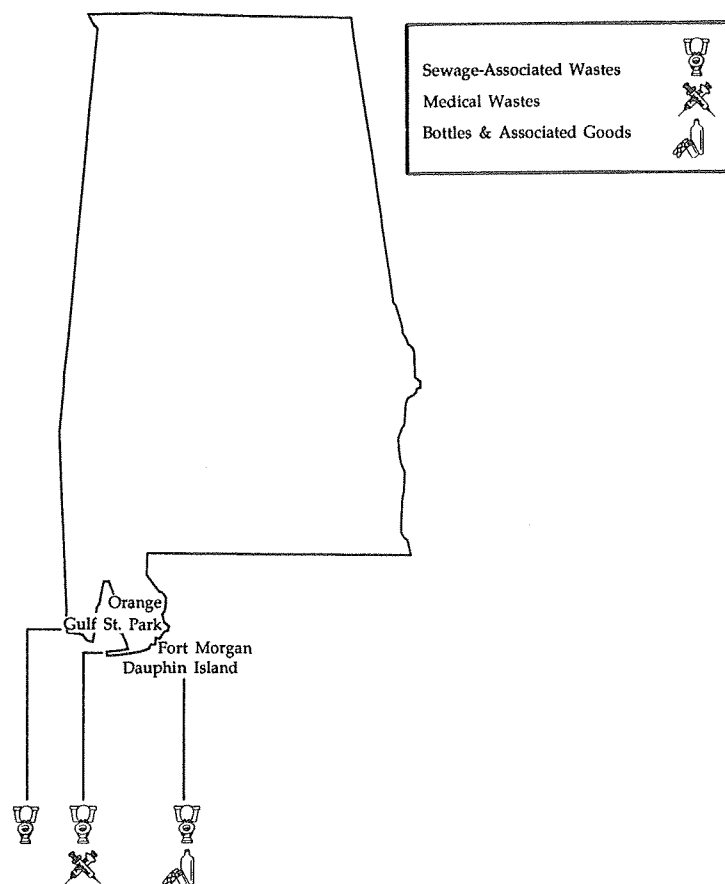
ALABAMA'S OCEAN-BASED DEBRIS HOTSPOTS:



ALABAMA'S DIRTY DOZEN:

	Total Number Reported	Percent of Total Debris Collected
1. plastic caps/lids	4,089	6.92
2. foamed plastic pieces	4,006	6.78
3. cigarette filters	3,844	6.50
4. plastic pieces	3,235	5.47
5. plastic beverage bottles	2,768	4.68
6. paper pieces	2,600	4.40
7. metal beverage cans	2,529	4.28
8. glass beverage bottles	2,527	4.28
9. foamed plastic cups	2,269	3.84
10. plastic cups/utensils	1,752	2.96
11. glass pieces	1,654	2.80
12. metal bottle caps	1,640	2.77
TOTAL	32,913	55.69

ALABAMA'S LAND-BASED DEBRIS AND BOTTLES/ASSOC. GOODS HOTSPOTS:



STRANDED AND/OR ENTANGLED WILDLIFE REPORTED:**Debris Related**

Small fish in plastic bottle

Other Reports1 dead seagull
30 dead fish**TRACEABLE DEBRIS REPORTED:****Location****Type of Debris****Source Indicated**Dauphin Island
Ft. Morgan3 plastic postcards
hard hat
hydraulic drumU.S. Army Corps of Engineers
Shell Oil Company
Vickers
Denison HFO-HF2 Cinn.Hilacron P19
Vickers 1-286-5-H-29505
Arco Oil & Gas
Flora Bama LoungeGulf Shores
Orange Beachhard hat
plastic cup**MOST PECULIAR DEBRIS ITEMS REPORTED:**

Dauphin Island

rain suit, unknown "vinyl contraption", small squares of "insulboard", old piece of rug, roofing tiles, VCR tape, bookcase, aluminum siding, styrofoam life raft - three plastic bricks attached, 12-volt car battery, refrigerator door, antique bottles, long shell bullets, two medical bandages, ping pong paddle, vacuum cleaner attachment, drilling component, life vest light, piece of fiberglass boat, douche, boat seat, blue jeans

Ft. Morgan

piece of garden hose, toilet paper holder, rusty refrigerator

Gulf Shores

bottoms of cut-off jeans, marijuana pipe

Gulf State Park

golf ball, condom wrapper, full jar of mustard, asbestos tile

Orange Beach

roll of masking tape, rain gutter, new pen

FOR INFORMATION ON ALABAMA'S 1991 BEACH CLEANUP CONTACT:Phillip Hensley
Weeks Bay Estuarine Reserve
19836-B US Highway 98
Fairhope, AL 36532
(205) 928-3625**CLEANUP DATE: September 21, 1991**

ALASKA

Volunteers in at least seven Alaska coastal communities turned out this spring to help rid the state's shores of marine debris. It was the third annual cleanup since local, state, and federal organizers joined efforts in 1988.

The cleanups were held in May, the month proclaimed by Alaska Governor Steve Cowper as Marine Litter Cleanup Month. Volunteers from Juneau, Homer, Soldotna, Kenai, Ketchikan, Petersburg, and Thorne Bay held cleanups. Results of the cleanups were tabulated on data cards supplied by the Center for Marine Conservation.

Organizers of the statewide cleanup include the Alaska Coastal Management Program, the Alaska Sea Grant College Program, Juneau Litter Free, Inc., and the U.S. Forest Service. The 1990 cleanup was the first year statewide organizers joined with Alaskans for Litter Prevention and Recycling (ALPAR), a major non-profit, industry-funded group that promotes community cleanups and recycling efforts across the state. ALPAR, through its network of roadside cleanup organizers, helped promote coastal cleanups and supplied garbage bags to beach cleanup volunteers.

Although Alaska is making progress with its beach cleanups, the state's geography, huge area, and remote shores make large scale cleanups difficult. And while most states conduct cleanups in the fall, Alaska chooses to hold cleanups in the spring, when weather along the coast is improving. September cleanups cannot be done safely in Alaska because winter storms begin to pound the coast.

Alaska organizers will continue to encourage other Alaska communities to hold beach cleanups, and fine-tune existing cleanup procedures. One area that needs improvement is on-site organization of cleanups to ensure that data cards are correctly and completely filled out.

For 1990-91, organizers want to encourage more of the state's young people to take part in cleanups. Organizers have developed a packet of beach cleanup materials for educators using materials supplied by CMC and publications produced by the Alaska Sea Grant College Program. The packet provides information and valuable lesson ideas and activities for elementary teachers and students. Announcements of the packet have been sent to elementary science teachers throughout the state. Among the requests: the Southeast Alaska Island School District has ordered 30 packets for their 17 elementary schools. Organizers also plan to increase exposure to beach cleanups through advertising in major Alaska newspapers, beginning in early spring 1991.

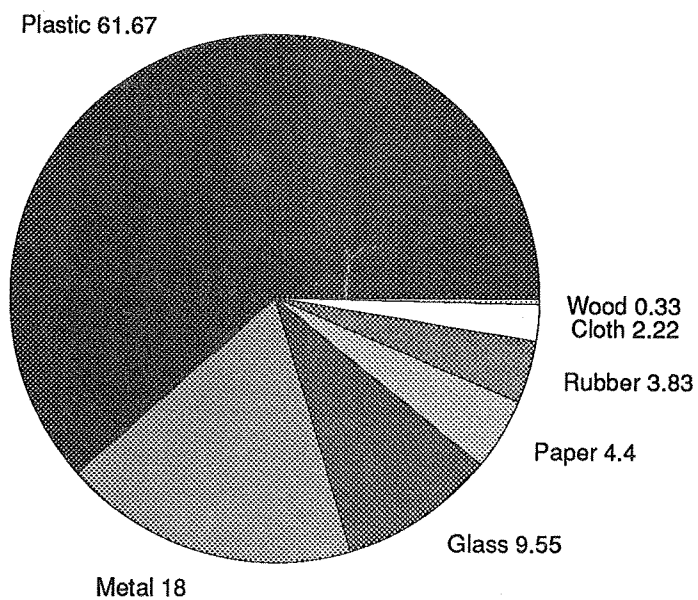
Doug Schneider

Cleanup Date:
May 1990

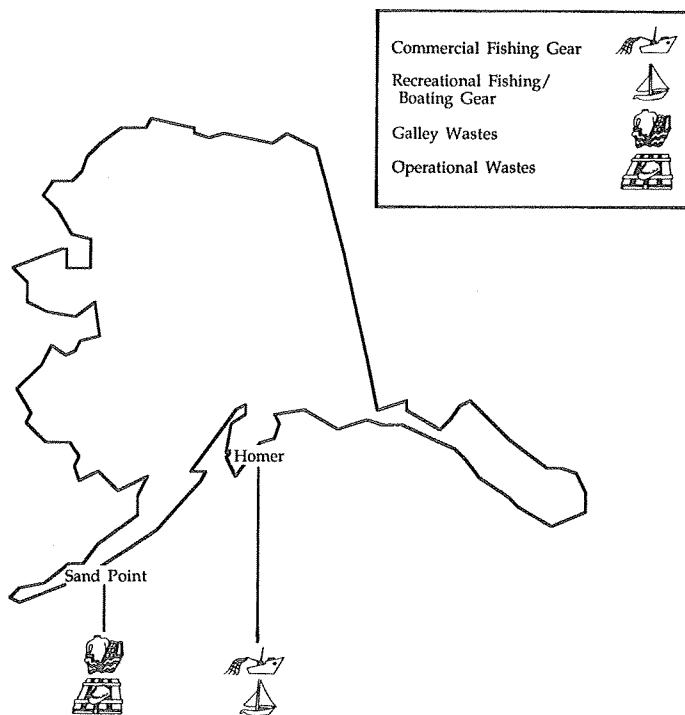
Results:
unable to determine number
of volunteers, miles cleaned
and pounds collected
28 data cards

Coordinated By:
Doug Schneider
Alaska Sea Grant
University of Alaska
Fairbanks
138 Irving II
Fairbanks, Alaska
99775-6285
(907) 474-7086

PERCENT COMPOSITION OF ALASKA'S BEACH DEBRIS:



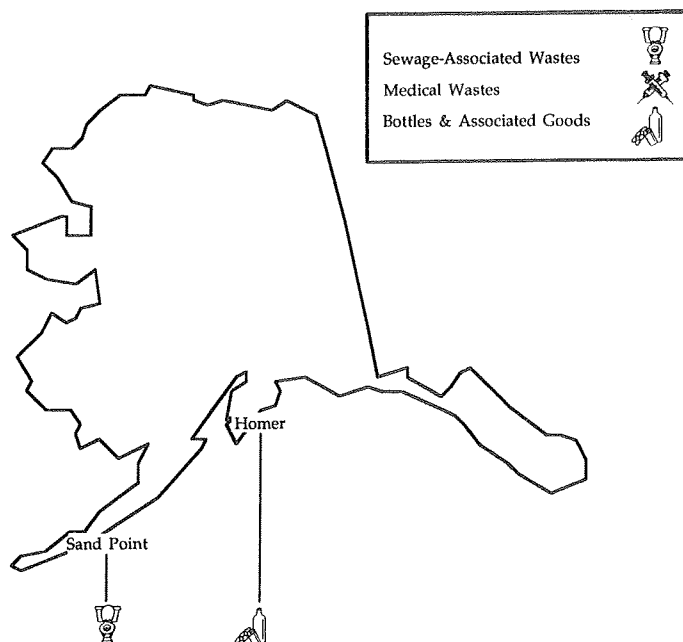
ALASKA'S OCEAN-BASED DEBRIS HOTSPOTS:



ALASKA'S DIRTY DOZEN:

	Total Number Reported	Percent of Total Debris Collected
1. metal beverage cans	212	10.02
2. plastic trash bags	172	8.13
3. miscellaneous plastic bags	142	6.71
4. plastic rope	140	6.62
foamed plastic cups	140	6.62
5. foamed plastic pieces	123	5.81
6. plastic pieces	121	5.72
7. glass pieces	118	5.57
8. miscellaneous metal cans	81	3.83
9. long plastic sheeting	60	2.84
10. short plastic sheeting	58	2.74
11. glass beverage bottles	57	2.69
12. plastic caps/lids	55	2.60
TOTAL	1,534	72.49

ALASKA'S LAND-BASED DEBRIS AND BOTTLES/ASSOC. GOODS HOTSPOTS:



STRANDED AND/OR ENTANGLED WILDLIFE REPORTED:

None reported

TRACEABLE DEBRIS REPORTED:

None reported

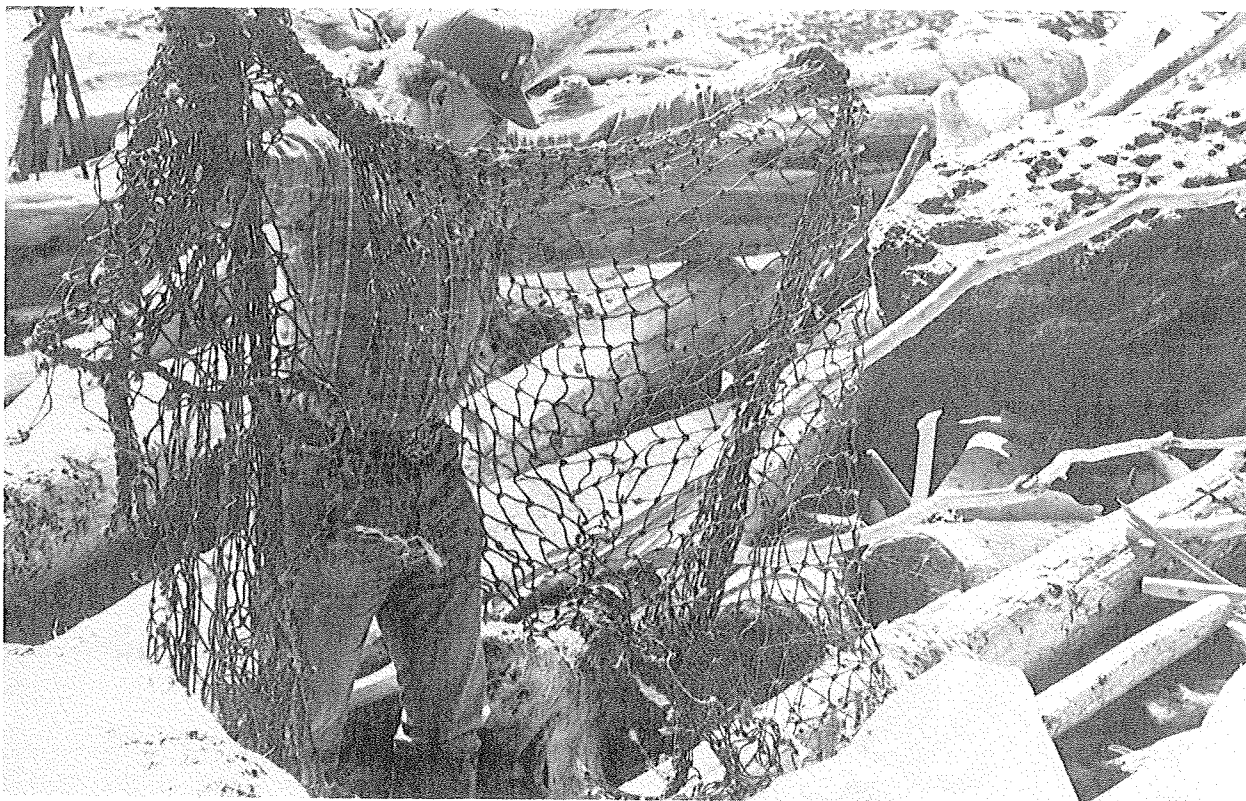
MOST PECULIAR DEBRIS ITEMS REPORTED:

Homer baton, picture frame

Sand Point electric switch, old pillow, part of a crashed airplane

FOR INFORMATION ON ALASKA'S 1991 BEACH CLEANUP CONTACT:

Not available at this time.



A volunteer unravels a net, which some marine animals never escape from.



CALIFORNIA

We at the California Coastal Commission are thrilled at the continuing success of the Coastal Cleanup and our year round Adopt-A-Beach program. This year's annual cleanup again set records for participation and trash removed from California's shores: More than 16,000 volunteers turned out for the September 22 cleanup, breaking last year's record of 10,007 participants. They collected more than 306,000 pounds of trash, including nearly 47,000 pounds of material that was recycled.

Volunteers rid the beaches of the all-too-familiar trash roll-call-of-shame: styrofoam, plastic strapping bands, fishing line, netting and six-pack rings (all of which endanger marine wildlife through ingestion and entanglement), bottles, cans, disposable diapers, syringes, and old mattresses. Rangers suspended from ropes even recovered an almost complete car from the beach below a cliff in Big Sur.

By focusing on recycling, the cleanup pointed the way to the long term solution of the debris problem. The entire cleanup was conducted using bags made of 100% recycled plastic. The bags were made by the firm "Bags Again" and provided courtesy of the Council for Solid Waste Solutions. The used bags, along with other plastic found during the cleanup, were collected by Bags Again to be reprocessed and recycled into new bags.

In Alameda and Contra Costa County, 1,375 old tires were removed and taken to a Central Valley Plant for use as fuel for energy production. Volunteers collected thousands of pounds of aluminum, glass, and plastic for recycling.

A number of special cleanups provided variety across the state. A huge "on the water" cleanup by boaters in Newport Bay netted thousands of pounds of floating trash; divers cleaned up under water in Monterey, and a group of naturalists did a cleanup in the buff on a nude beach in Santa Cruz.

The September Coastal Cleanup was certainly the biggest, but by far not the year's only effort toward a cleaner coast. Our Adopt-A-Beach program sustains public education, awareness, and involvement in marine pollution and coastal conservation issues throughout the year.

None of these achievements would have been possible without the hundreds of organizations that support and take part in Adopt-A-Beach and the Coastal Cleanup. Our thanks to all of the park and beach staff who work with the cleanup groups, and to the County Coordinators who organize the statewide effort (see Appendix 1). A special thanks to our statewide sponsors: California State Parks Foundation, California Department of Conservation Division of Recycling, Center for Marine Conservation, Council for Solid Waste Solutions, Office of Coastal Resource Management, NOAA, Safeway, the Richard and Rhoda Goldman Fund, and the Society of the Plastics Industry.

Jack Liebster

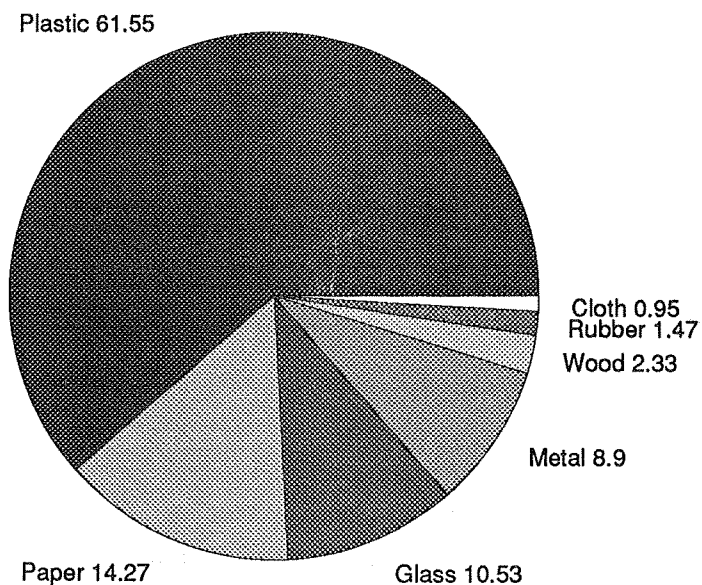
Cleanup Date:
September 22, 1990

Results:
16,122 volunteers
368 miles cleaned
306,000 pounds of debris
2,197 data cards

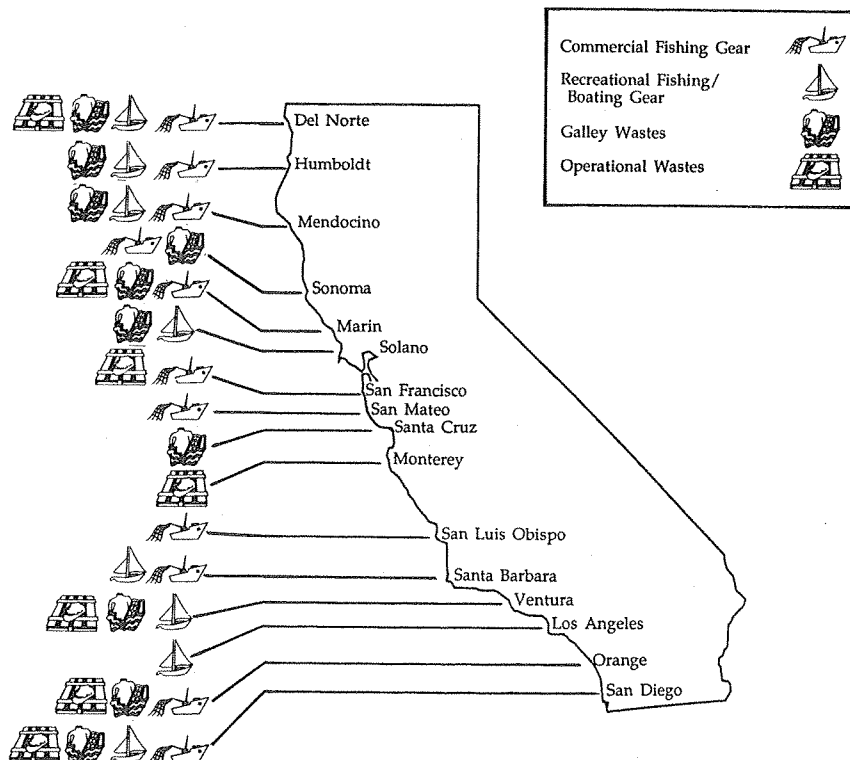
Coordinated By:
Jack Liebster
California Coastal
Commission
45 Freemont Street, Suite
2000
San Francisco, CA 94105
(415) 904-5214

Data Collection
Coordinated By:
Maria Brown
Center for Marine
Conservation
312 Sutter St., Suite 606
San Francisco, CA 94108
(415) 391-6204

PERCENT COMPOSITION OF CALIFORNIA'S BEACH DEBRIS:



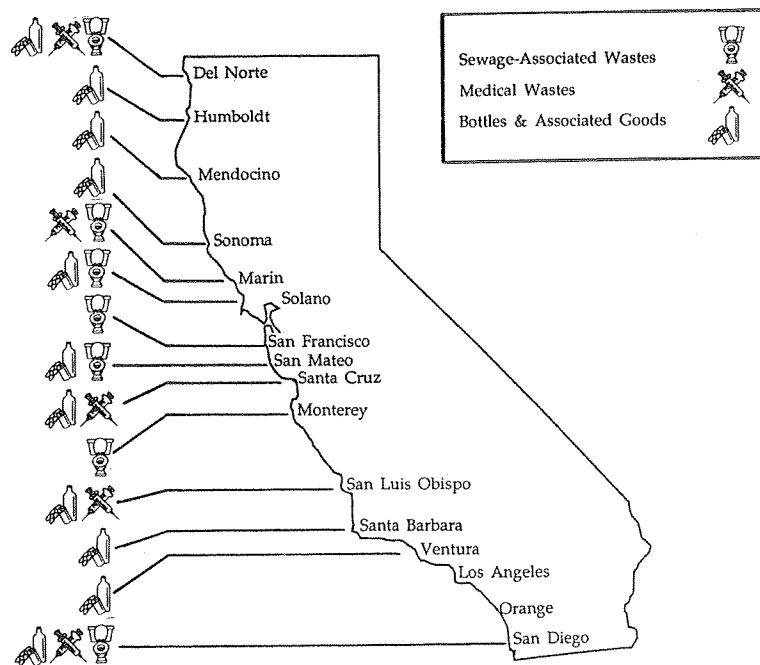
CALIFORNIA'S OCEAN-BASED DEBRIS HOTSPOTS:



CALIFORNIA'S DIRTY DOZEN:

	Total Number Reported	Percent of Total Debris Collected
1. cigarette filters	103,802	16.42
2. foamed plastic pieces	58,671	9.28
3. paper pieces	47,829	7.57
4. glass pieces	42,589	6.74
5. plastic pieces	41,981	6.64
6. plastic food bags/wrappers	31,003	4.90
7. plastic straws	21,510	3.40
8. metal bottle caps	19,582	3.10
9. plastic caps/lids	19,475	3.08
10. glass beverage bottles	18,832	2.91
11. foamed plastic packaging	15,780	2.50
12. miscellaneous paper	15,643	2.47
TOTAL	436,287	69.00

CALIFORNIA'S LAND-BASED DEBRIS AND BOTTLES/ASSOC. GOODS HOTSPOTS:



STRANDED AND/OR ENTANGLED WILDLIFE REPORTED:

Debris Related

Dead seagull entangled in six pack ring
 Dead seagull in fishing line
 Dead fish entangled in a mess of fishing line
 Seagull in blue plastic bag
 Mouse trapped in bottle - released
 3 birds entangled in fishing line
 Dead bird in plastic shopping bag
 3 seagull carcasses entangled in fishing line
 Dead sea lion entangled in plastic gill net
 Fishing net wrapped around seal pup
 Dead seagull tangled in fishing line
 Crab in pen top
 Seagull bodily injured, feet entangled in six pack ring - released but unable to fly
 Crab entangled in fishing line
 Dead cormorant, fishing line in beak
 Bird with plastic entangled on right foot
 Mollusks trapped in plastic - released

Other Reports

3 cormorants
 11 dead seals
 4 dead ducks
 70 dead birds
 94 dead seagulls
 32 dead shore birds
 4 western pond turtles
 1 dead sea otter
 1 dead baby shark
 1 dead whale
 11 dead sea lions
 6 dead fish
 1 dead seal with 3 bullet wounds
 1 dead lobster
 2 dead stingrays
 1 dead shark
 2 dead rats
 3 dead turtles
 1 sand shark
 1 dead bird covered with oil
 1 Seagull covered in oil, taken to Humane Society
 1 Sea lion with bullet wound

TRACEABLE DEBRIS REPORTED:

Location	Type of Debris	Source Indicated
Sonoma	plastic bag	Meatball Bait, San Francisco
	shipwreck debris	EmCee Fishing Boat
Marin	plastic strapping band	Gamma Grip
San Mateo	ashtray	Winchell's Donuts
	letters/memos	Citicorp Insurance
	letters/memos	Sterling Software
	gift brochure	Citibank
Santa Cruz	plastic bag/dried mangos	Philippine Profood Int'l. Corp.
	styrofoam container	Banh Heo Con Queen Bakery
	corned beef can	AFCO Shortland Cannery, New Zealand
Monterey	USSR basic course book	DLI/FLC
	shipping crate piece	Bellingham
San Luis Obispo	25 liter metal can	Perolum Products, England
	plastic spool	Ultra Cleary Fishing Line Hoagee Glendale, CA 91204
	business card	Jeff's Custom Detailing Livermore, CA 415-455-4298
Ventura	shipping label	Western Oyster Growers Association
	rubber hose	Hewitt-Robbins, Inc., Buffalo, NY
	plastic bait bags	Channel Islands Packers
Los Angeles	irrigation control cover, valve & lid	Carson Industries
	plastic meter tags, #2683225/#2693956	So Cal Edison
	plastic seal #67630	PSE
	plastic shampoo bottle	Admiral Cruises
	plastic cap	Admiral Cruises

TRACEABLE DEBRIS REPORTED (cont.):

Location	Type of Debris	Source Indicated
Orange	plastic bag	David Peeke Perg
	plastic crate	CHB Foods
San Diego	plastic light sticks	U.S. Navy
	shopping cart	Vons

MOST PECULIAR DEBRIS ITEMS REPORTED:

Del Norte	seat cover from a car
Humboldt	bed springs, piece of hemp rope with unusual plant growing out of it, rusted barbell, bike pump, oyster tray, boat deck scrubbing brush
Mendocino	rug, one "Nike"
Sonoma	4x4x2 piece of foam, ear plug, street sign, "plastic looking device with a hole in the middle", wood captain's chair, marine toilet, baseball, "Odor Eater", "Teenage Mutant Ninja Turtle" stamper, frying pan
Marin	piece of neoprene from wetsuit, wallpaper, pacifier, "Dijon" mustard, medical gauze, boat door, mattress, plastic capsule with silver Jesus inside, 35 cents, electric switch, piece of kayak, huge candle, coat hanger, "petrified penis", cat scratching post, Christmas tree bag, luggage tag, molded plastic chair seat, leather slipper, cigarette lighter with fake \$100 sticker, truck bumper with fog lamp, sleeping bag
San Francisco	full beer bottle, rug, toilet lid hinge, cooking grill, life preserver, "Tupperware" with marinated tomatoes, marble piece, police line, table cloth, stand-up fridge, pornographic book, car grille, old small freezer, artificial rock, chunk of terra cotta, plastic flower, necktie, bed springs, carts, velcro, band-aids, couch, polyfoam strap, ear plugs
Alameda	toilet, shopping cart, ten-key machine, bed, fishing reel, car clutch
San Mateo	large pieces of a boat, dip stick, salad fork, paint brush, parts of a radio, parts of a Hibachi, door hinge, violin bridge, vacuum cleaner hose, batteries, plastic flower, sleeping bag, mannequin foot, lawn mower handle, fire hose, foam bed, earring, metal serving spoon, metal cutter, single HP razor, car battery, ladies old fashioned garter, water ski tow line, spotted necktie, wood cabinet, sun hat, plastic wand, long wire with small plastic flag on one end, marble, jack crank handle, foam mattress, truck mudflap
Santa Cruz	windshield wiper, bong, pillow, working alarm clock, bathroom scale, plastic flower pot, pocket knife, boat oar, pacifiers, hub cap, wallet, dog leash, bicycle, steel cable, 12-pack of beer, silver spoon, wet suit sleeve, 1972 quarter, car part, cart, bandaid, hibachis, pink fake fingernails, dog "rawhide" bone, car parts, trash can lid, alcohol, potato peeler, artist's knife, roof tile, 1966 10k class ring, siamese twin featured porno magazine, coat hangers, vibrator, racquetball glove and goggles, teddy bear, rocket head, top to a tea kettle, plastic portion of a Christmas light, surfboard section, very large railroad tie bolt, backpack with clothes, camera, binoculars and Bible in it, two old water heaters, large carton for new heater, manhole cover, paper money, fire extinguisher, movie ticket, smack ball paddle, glue, old fish in butcher paper, champagne bottle with two glasses and a pair of nylons, license, half of a wood guitar, football

MOST PECULIAR DEBRIS ITEMS REPORTED (cont.):

Monterey	onion bag with 5' of rope attached, paintbrush, candle, barbecue grill, horseshoes, piece of the road, surfer's wetsuit, piece of a car, 18 paper stars, shorts, toothpaste tube, sleeping bag with three pillows, spare tire on rim, spray paint can, burned wreath, antennae, car hose, wire rack, cassette tape, "K-Y" jelly, road sign, porcelain plate, 5 unopened beer cans, surfboard, leash, 40-gallon hot water heater, plastic eye glass frame, raid, hard plastic cylinder, pacifier, two small crosses covered with aluminum foil, plumbing bracket, discarded dress, spark plug, R-48 foam insulation, twisted 3/8 rebar and galvanized pipe with elbow, fittings, engine block to Volkswagen car, shopping bag made from recycled plastic, Christmas tree, barbed wire, kazoo, leather sport glove, turkey basting device, broken furniture, washing machine, "Casio" watch - still running, refrigerator, "Sopu" mix - still in package, tiles, windshield wiper blade, two chopsticks, survey maker, coat hangers, hair curler, "Union 76" ball, bed springs, battery, refrigerator door, three "Snuff" containers, piece from a wetsuit
Santa Barbara	flute, package of "calimari", carpet, mini animal clip, top of a wetsuit, camper shell, coat hanger, car mat, fence post, shopping cart, fiberglass shed cover
Ventura	Toyota hub cap, disc camera, diesel oil filter, "hobo" encampment, three ring binder, eyeglasses, plastic flower, prom bow, two full wine coolers, can opener, roof tile, stove, car seat, fender to a car, mattress, deck of cards, blue rubber insole of athletic shoe, car seat, sleeping bag, jacket, electric sanding disc, boat antenna, rubber hosing, motorcycle batteries, toothbrushes, glass lens, marijuana, silver ring, frying pan, cassette tape, baby bottle, car seat, "marstin matic" electrical control panel, crutch top, couch, plastic squid, swimming suit, piece of scuba tank, saw blade, piece of ceramic pot, mouth retainer, barbecue grill, unopened wine cooler, muffler, data card, camera, weight belt, miniature Bible, unopened after dinner mints, prescription drugs, tide marker, picture of fishing boat, plastic champagne glass, brass lab valve, swim fin, plastic inhaler, wrapping bow, nickel, roll-up window shade, computer ribbon spool, hospital band, watch
Los Angeles	medicine bottles, "Recycle" label, piece of surfboard, doorknob, broomstick, boat railing, cork screw, can opener, batteries, shoe polish, flare, terra cotta pipe, remote control airplane fuselage, bed springs, "Gucci" watch, metal fork, clothespin, surgical tubing, blood-soaked cloth, pacifiers, part of a tennis racket, coat hanger, baby bottle, picture of a toilet, sunglasses, car antenna, sleeping body, walkman earphone, full bottles of beer, pocket knife, surfboard, toaster, driver's license
Orange	baby bathtub, football, road barrier, basketball, disposable baby bottle, house mat, beach cleanup data card, Volkswagen hub cap, large easy chair, bag of vitamins, propane tank, thermos, car window, tupperware container, "E.T." hand, clipboard, clothespin, "Summer's Eve" douche bottle, clothes hangers, car windshield, bicycle stand, two big water heaters, big black three foot tub, hat, large tray, dog chew toy, boxing glove, putty knife, lawn chair, angelfood cake pan, money, toilet bowl cleaner jar, pacifier, scrubbing brush
San Diego	washing machine, laundry basket, old drugs, hip plate, medical guide pin, car parts, "sex lubricant", windshield wiper blade, 1/2 of a surfboard, hand of "Ewok" doll, sunglasses, a douche and the box, baggies for drugs, nail polish brush, eye dropper, grocery cart, pliers, "I Love a Clean San Diego County" sticker, can of chewing tobacco, 1 lb. package of macaroni and cheese, coathangers, door, toaster oven, sunglasses, pillow, bicycle wheel, full champagne bottle, hammer head, pacifiers, football, photograph, barbecue pan, job application form, baggie of marijuana, road hazard flashing sign, "Zig Zag" cigarette papers, horseshoe, surfboard, rubber rug, salsa, can of tuna, paint brush handle

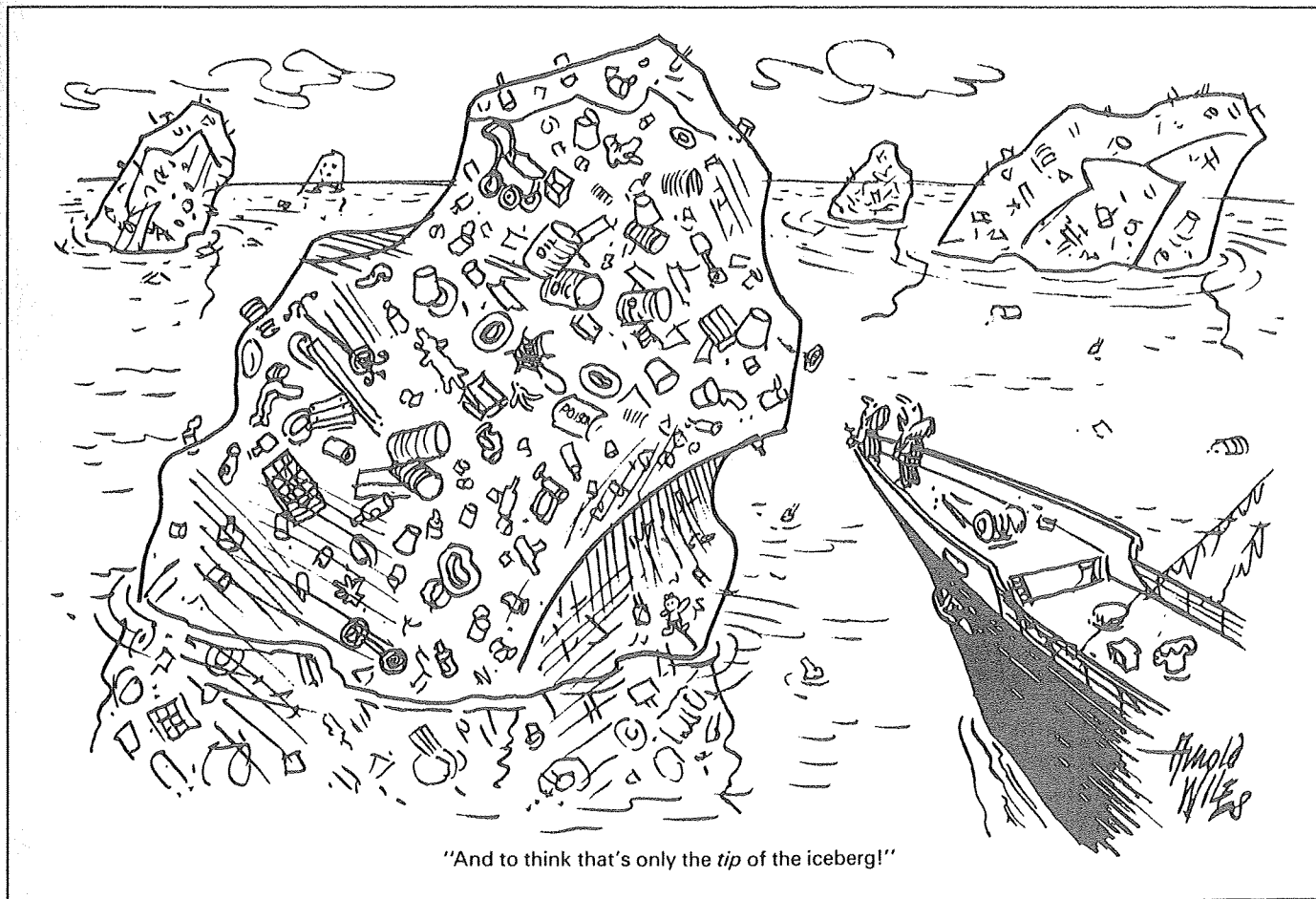
FOR INFORMATION ON CALIFORNIA'S 1991 BEACH CLEANUP CONTACT:

Public Information Department
California Coastal Commission
45 Freemont, Suite 2000
San Francisco, CA 94105
(415) 904-5200

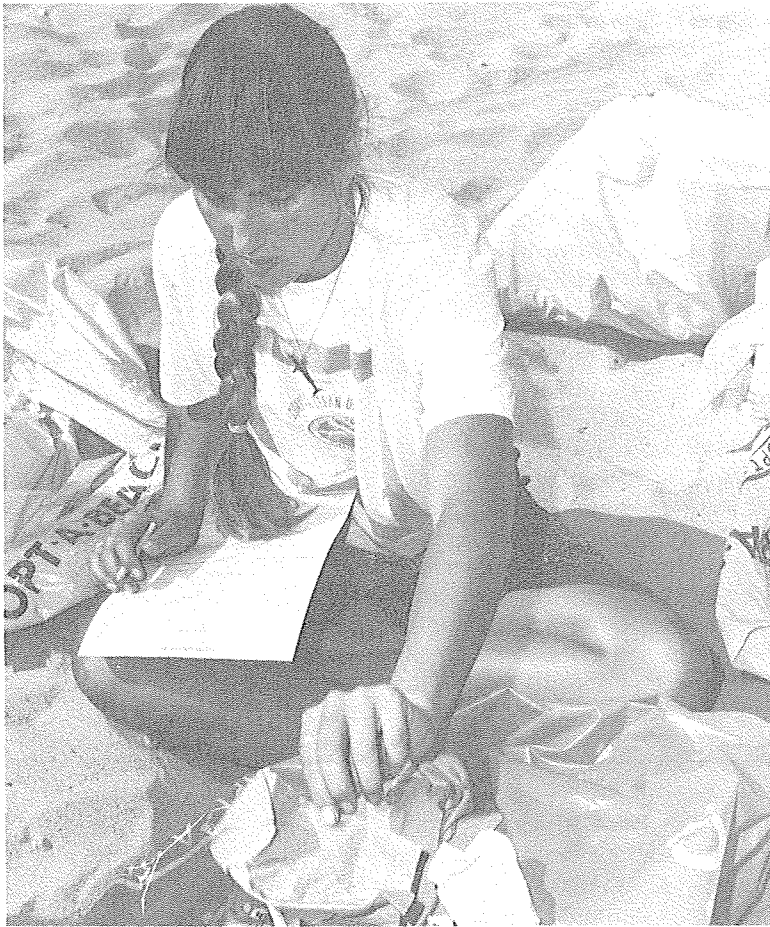
For information on data collection contact:

Maria Brown
Center for Marine Conservation
312 Sutter Street, Suite 606
San Francisco, CA 94108
(415) 391-6204

CLEANUP DATE: September 21, 1991



"And to think that's only the *tip* of the iceberg!"

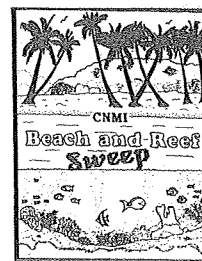


Woman works on a data card during the National Beach Cleanup.



Governor Pete Wilson, Venice Beach.

COMMONWEALTH OF THE NORTHERN MARIANA ISLANDS



Over 600 concerned local residents gathered an estimated seven tons of garbage from Wing Beach to Obyan on Saturday, February 2 as part of the Commonwealth of the Northern Mariana Islands' (CNMI) first annual Beach and Reef Sweep. A total of sixteen beach areas measuring approximately thirteen miles long, three underwater reef diving sites in Lau Lau Bay, Obyan, and the Grotto were cleaned by volunteers from local businesses, youth groups, public and private schools, dive operations, and various government agencies.

The turnout was incredible - a lot more people than we expected came to help out. It just goes to show that there are a lot of people out there who really care about protecting the environment and keeping our island clean and who are also willing to actually do something about it. To me, the event had a significant impact on people's awareness of the whole marine debris problem. Some of the kids were really amazed at how beautiful a beach looks when it's clean.

A number of local businesses also helped support the cleanup by providing food, refreshments, and supplies for a free barbecue which was held at American Memorial Park immediately after the cleanup.

The February island-wide Beach and Reef Sweep, coordinated by the Coastal Resources Management Office and the Division of Fish and Wildlife with assistance provided by the Center for Marine Conservation, was the kickoff event for the on-going Adopt-a-Beach program whereby groups and individuals can get involved in a long term solution to protecting our island environment and marine coastal resources.

Larry Lee

Cleanup Date:
February 2, 1991

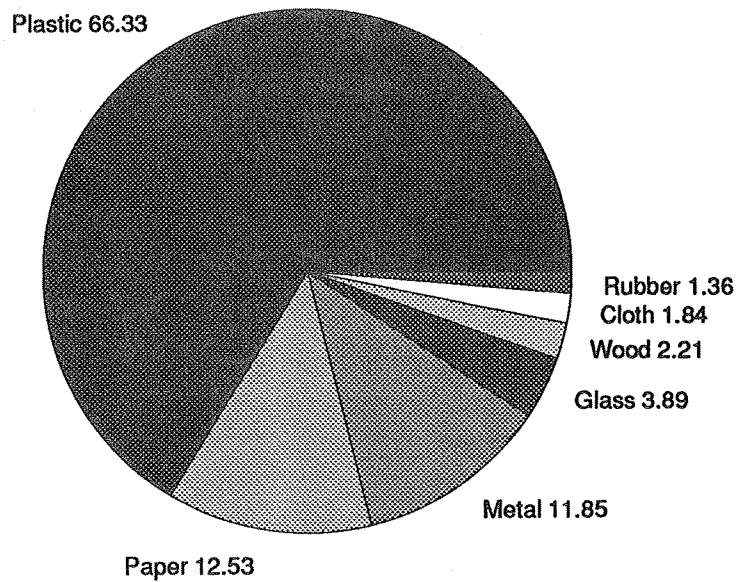
Results:
614 volunteers
13 miles cleaned
14,300 pounds of debris
18 data cards

Coordinated By:
Larry Lee
Coastal Resources
Management
Office of the Governor
Saipan, MP 96950
(609) 234-6623

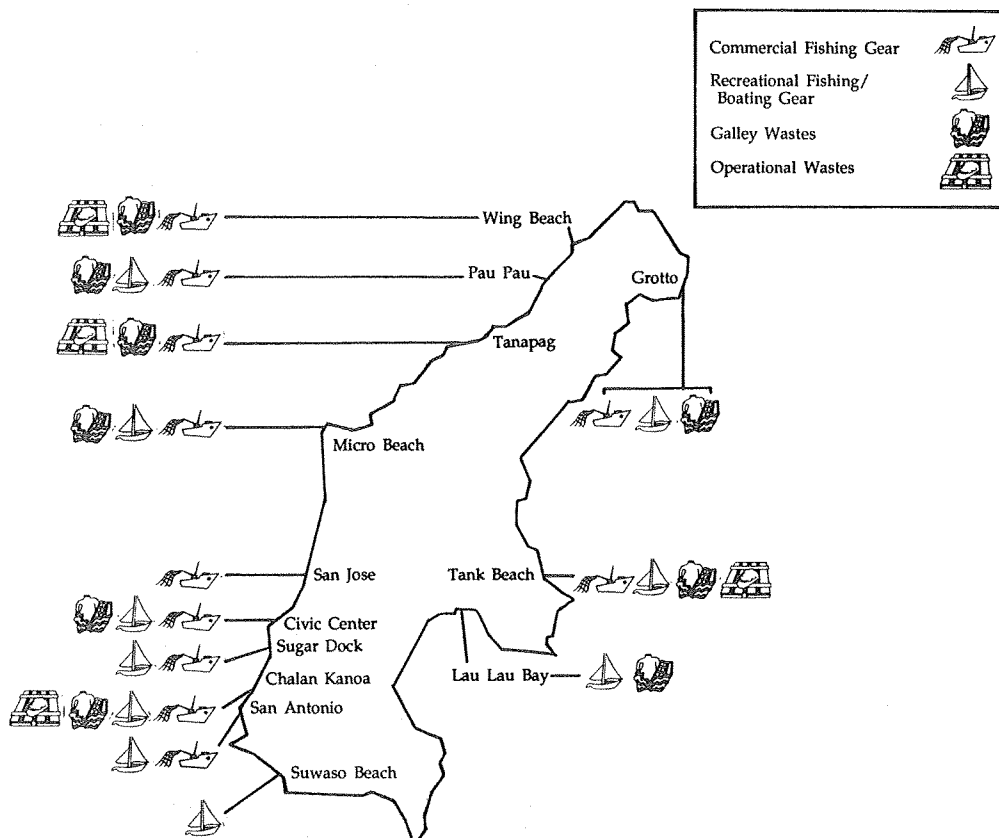


Underwater cleanup taking place in the Northern Mariana Islands.

PERCENT COMPOSITION OF COMMONWEALTH OF N. MARIANA ISLANDS' BEACH DEBRIS:



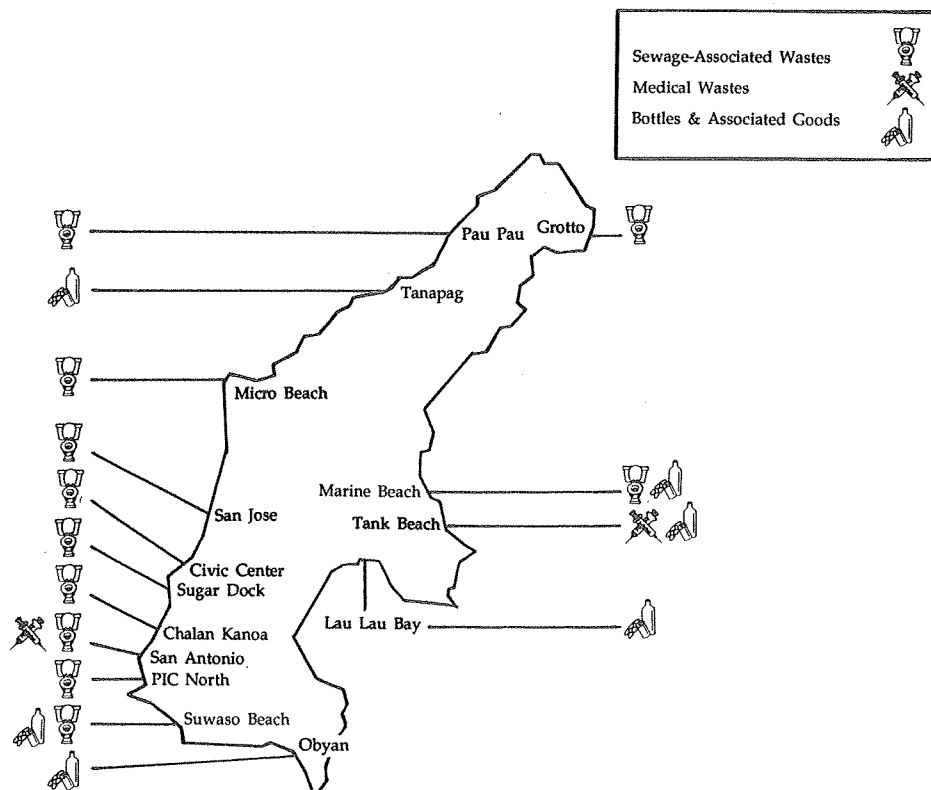
COMMONWEALTH OF NORTHERN MARIANA ISLANDS' OCEAN-BASED DEBRIS HOTSPOTS:



COMMONWEALTH OF NORTHERN MARIANA ISLANDS' DIRTY DOZEN:

	Total Number Reported	Percent of Total Debris Collected
1. plastic beverage bottles	428	13.32
2. plastic food bags/wrappers	411	12.79
3. plastic six-pack holders	297	9.24
4. plastic pieces	266	8.28
5. miscellaneous plastic bags	212	6.60
6. metal beverage cans	165	5.13
7. paper plates	158	4.92
8. paper pieces	122	3.80
9. glass beverage bottles	106	3.30
10. metal bottle caps	93	2.90
11. foamed plastic cups	77	2.40
12. plastic straws	59	1.84
TOTAL	2,394	74.49

CNMI'S LAND-BASED DEBRIS AND BOTTLES/ASSOC. GOODS HOTSPOTS:



STRANDED AND/OR ENTANGLED WILDLIFE REPORTED:

Debris Related

None Reported

Other Reports

1 dead dog
1 dead seagull

TRACEABLE DEBRIS REPORTED:

None Reported

MOST PECULIAR DEBRIS ITEMS REPORTED:

Lau Lau Beach	lawn mower, sink
Micro Beach	"Playboy" magazine, tractor tire
Tank Beach	T.V. set, scuba wet suit
Civic Center	pieces of broken jet ski, linoleum tile

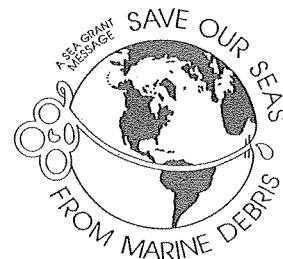
FOR INFORMATION ON C. N. MARIANA ISLANDS 1991 CLEANUP CONTACT:

Larry Lee
Coastal Resources Management Office
Office of the Governor
Saipan, MP 96950
(670) 234-6623

CLEANUP DATE: COASTWEEKS 1991 (September 21 - October 14)



Thumbs up for a successful Beach and Reef Sweep in the Northern Mariana Islands.



CONNECTICUT

This year, Beach Sweep '90 volunteers picked up and catalogued an incredible ten tons of trash on Connecticut coastline, persisting in spite of heavy rains much of the day. There were approximately 751 volunteers conducting the beach debris survey and cleanup, the largest so far in Connecticut's history. Along with volunteers in other states, the Connecticut volunteers bagged trash and recorded information on the types and number of debris items they found on beaches in 22 towns from Greenwich to Stonington.

Connecticut's total this year was way up from the 1989 figure of three tons, in spite of bad weather. Reasons for this include two hundred more volunteers this year, and the participation of several more towns. In addition, for the first time, river mouths and fragile salt marshes were cleaned by volunteers in boats at both ends of the state. Many of the marshes had never been cleaned before, and had accumulated large piles of debris that were difficult for volunteers to remove. Two tons of debris were removed from Greenwich marshes alone! Another first was the cleanup of Indian lands owned by the Mashantucket (Pequot Indian) Land Trust, also accessed by boat.

Unusual finds this year included a four-foot high pile of lumber, day-glo fingernails, Dracula teeth, a red teddy, 9x10 rug, car batteries, screened window, plastic pellets, car fender, leather jacket, \$5, Coleman lantern, plastic lips, cocaine bags, 1 Playboy magazine (1981) in excellent condition, an unopened case of soda, several syringes, and a 20-foot electrical cable. Animals found included a mole in a beer bottle, a dead deer, many dead sea gulls, the head of a swan, and two dead fish. Among the most abundant items were thousands of ubiquitous cigarette butts. "Tell people not to use the beach for an ashtray," complained volunteers. Contrary to popular misconception, butts are not biodegradable. Other plentiful items included plastic and styrofoam pieces.

Volunteers included several classes of school children, college students, adults from environmental organizations, clubs and community service groups, the Boy and Girl Scouts of America, families, and a variety of interested others. A logo was donated by graphic designers at Ink Tank Designs in Fairfield, and trash bags were donated by the makers of GLAD bags, First Brands Corp.

Peg Van Patten

Cleanup Date:
September 22, 1990

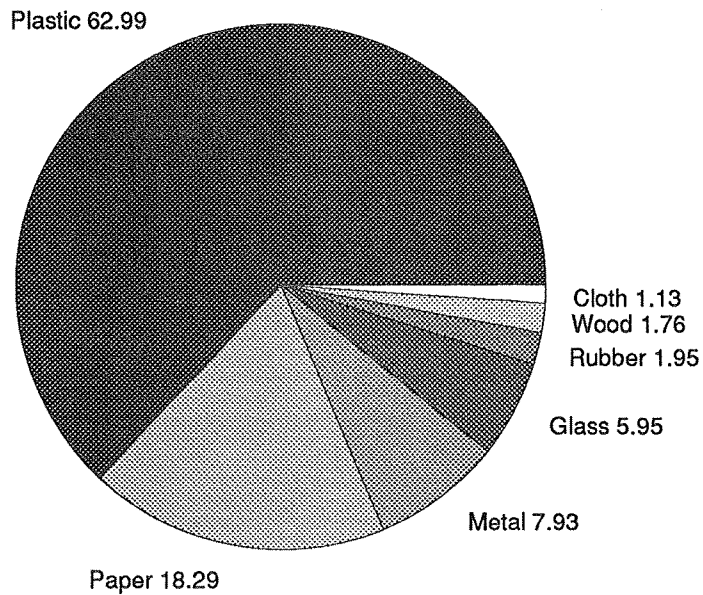
Results:
751 volunteers
41 miles cleaned
20,130 pounds of debris
265 data cards

Coordinated by:
Peg Van Patten
Connecticut Sea Grant
University of Connecticut
Avery Point
Groton, Connecticut 06340
(203) 445-3446

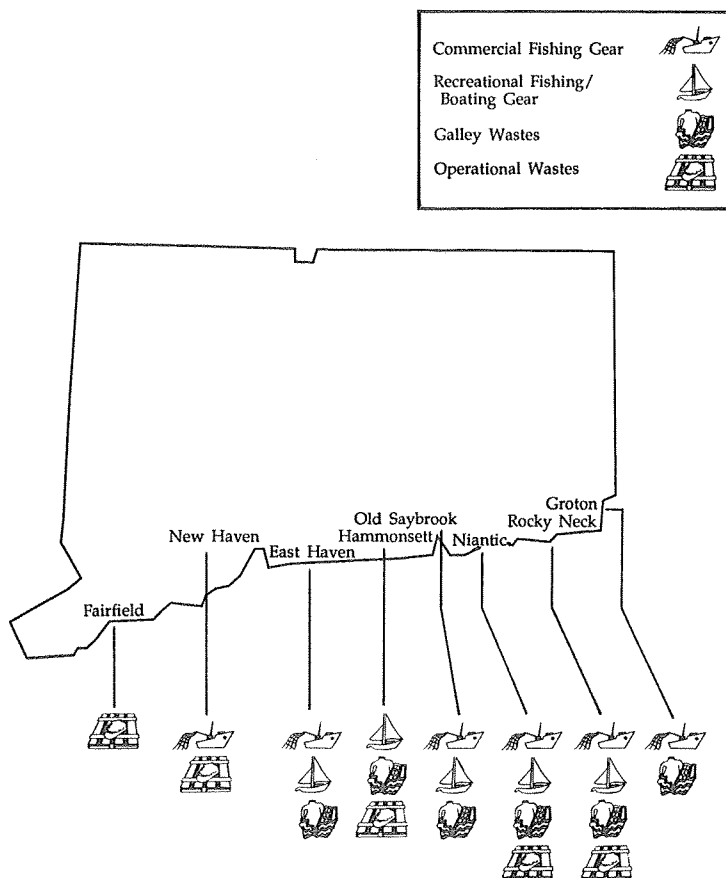


Assorted trash found at
Milford Point.

PERCENT COMPOSITION OF CONNECTICUT'S BEACH DEBRIS:



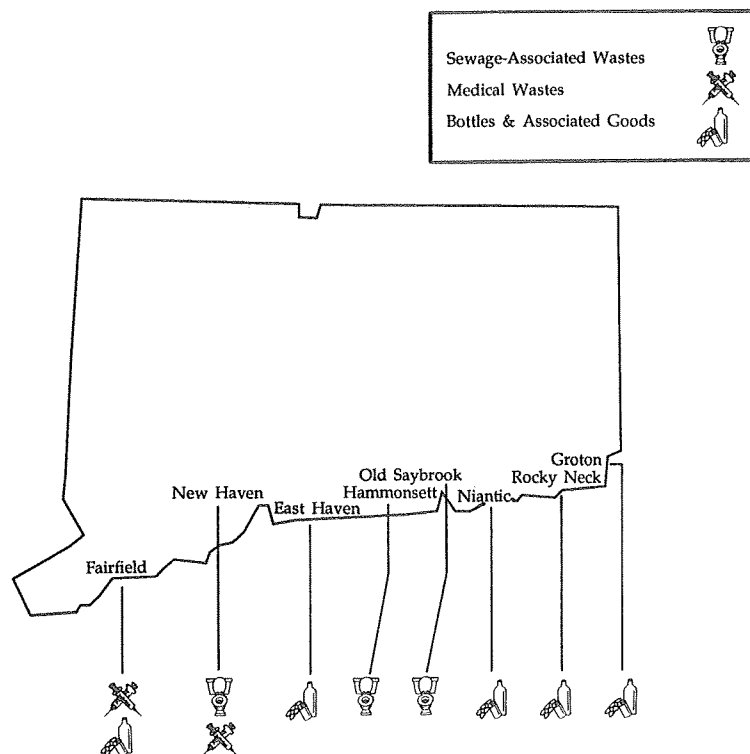
CONNECTICUT'S OCEAN-BASED DEBRIS HOTSPOTS:



CONNECTICUT'S DIRTY DOZEN:

	Total Number Reported	Percent of Total Debris Collected
1. cigarette filters	8,518	10.99
2. plastic pieces	8,164	10.53
3. miscellaneous paper	5,775	7.45
4. paper pieces	5,720	7.38
5. foamed plastic pieces	5,552	7.16
6. plastic cups/utensils	3,256	4.20
7. glass pieces	3,119	4.02
8. plastic food bags/wrappers	2,782	3.59
9. plastic caps/lids	2,680	3.46
10. plastic straws	2,554	3.29
11. metal beverage cans	1,824	2.35
12. foamed plastic cups	1,787	2.31
TOTAL	51,731	66.73

CONNECTICUT'S LAND-BASED DEBRIS AND BOTTLES/ASSOC. GOODS HOTSPOTS:



STRANDED AND/OR ENTANGLED WILDLIFE REPORTED:**Debris Related**

Fish trapped in hot dog wrapper
Crab entangled in fishing line
Ray entangled in fishing line
Dead swan entangled in rope

Other reports

1 mole living in bottle
1 dead deer
20 dead seagulls
1 dead squirrel
1 dead dog fish

TRACEABLE DEBRIS REPORTED:

Location	Type of Debris	Source Indicated
Old Saybrook Fairfield	plastic salmon tag balloon	N. B. Aquaculture Fifth Presbyterian Church

MOST PECULIAR DEBRIS ITEMS REPORTED:

Groton	blanket, dental floss, motorcycle shock, wallet, electrical cable, 15 vodka bottles, coupling, \$5, bicycle tire, railroad nails, toilet bowl brush, large piece of carpet, diving boot, 2x3 fish container, mylar wine cobbler bladder with wine, 16'FG boat, telephone cable, sign
New London	machine equipment, fake fingernails, "crack" bottle, battery, golf ball, cushion from boat cabin, flare, felt frisbee, deck fender, hearing aid, chewing tobacco, sneaker with roots growing through it, "Coleman" lantern stand, skate
Rocky Neck	briefcase
Niantic	hibachi, medical arm band, two golf balls, flip flop, shotgun shell, brush, medical waste, railroad electrical parts, brand new candle in wrapper
Old Saybrook	fake wood furniture, "Recycle" hat, "Reebok" shoe, croquet wicket, hula hoop
Hammonsett	pair of glasses, air hose to truck, can of snuff, metal beer can with duct tape around it, leather jacket, lawn chair
East Haven	cocaine bags, "For Sale" sign, 1981 "Playboy" magazine in a plastic bag - brand new condition, screen window, dog vertebrae, toothbrush, contraceptive sponge
Milford	broken bowling ball, car jack, umbrella, fender, "dracula" teeth, lip gloss applicator
Fairfield	cocaine bottle, hairbrush, plastic tag with I.D. number, "crack vials", metal stick with rubber stamper on the end, plumbing, two turkey basters, golf tee,

FOR INFORMATION ON CONNECTICUT'S 1991 BEACH CLEANUP CONTACT:

Cleanup Coordinator
Connecticut Sea Grant Program
University of Connecticut
Marine Science Institute, Avery Point
Groton, CT 06340
(203) 445-3459

CLEANUP DATE: September 21, 1991



DELAWARE

Enthusiasm was the buzz word as Delaware held its fourth annual coastal cleanup, Get the Drift and Bag It, on Saturday, September 29, 1990 from 9 a.m. to noon. Approximately 3,500 volunteers cleaned 35,000 pounds of trash from beaches bordering the Atlantic Ocean, the Delaware River and Bay, and inland riverways. The project was co-sponsored by the Department of Natural Resources and Environmental Control and the DuPont Company.

Locations were expanded and volunteers cleaned 72 miles of accessible shoreline. Overall, the majority of the trash was found in areas that had not been cleaned in previous years.

Volunteers, ranging from scout troupes to senior citizen organizations, families, churches and 600 DuPont employees, participated. The Delaware National Guard helped participants with bags and heavy items at bay locations.

This year's campaign broadened its mission by promoting recycling as a practical means to reduce solid waste in our environment and alleviate the burden placed on our landfills. Plastic litter was collected, separated, and taken to central locations in each county by the Delaware Automobile and Truck Dealers Association. The 5,000 pounds of waste collected was then taken by DuPont for reprocessing by ARW Polywood. Eventually the plastics collected will return to the state in the form of park benches to serve as a reminder of the importance of recycling in solving the solid waste problem.

But finding more trash continues to send a message to us that our work is not done, even after four cleanups. Everyone needs to keep up the pressure that litter injures wildlife, spoils our beaches, and threatens boater safety.

The DuPont Company again co-sponsored the event with a \$20,000 contribution. The project has been an example of the partnership required between government, industry, and the general public enabling citizens to actively participate in protecting our environment. The grant was used by the Department to fund promotional and educational support for the cleanup.

The Mobil Chemical Company and First Brands Corporation supplied the trash bags. Browning-Ferris Industries donated labor and vehicles for collecting full trash bags from locations. Playtex Corporation donated gloves and Faber Castell supplied the pencils.

Nancy Rolli

Cleanup Date:
September 29, 1990

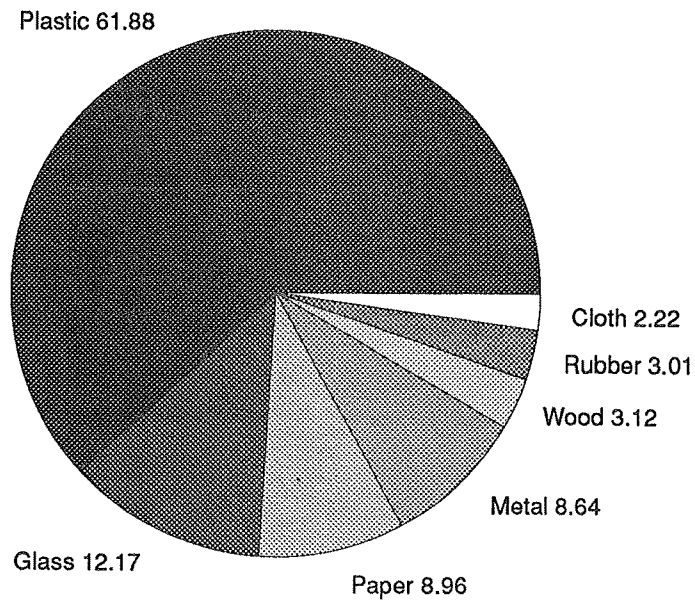
Results:
3,500 volunteers
72 miles cleaned
35,000 pounds of debris
706 data cards

Coordinated by:
Nancy Rolli
Anne Fitzgerald
Delaware Department of
Natural Resources and
Environmental Control
89 Kings Highway
P.O. Box 1401
Dover, DE 19901
(302) 736-4506

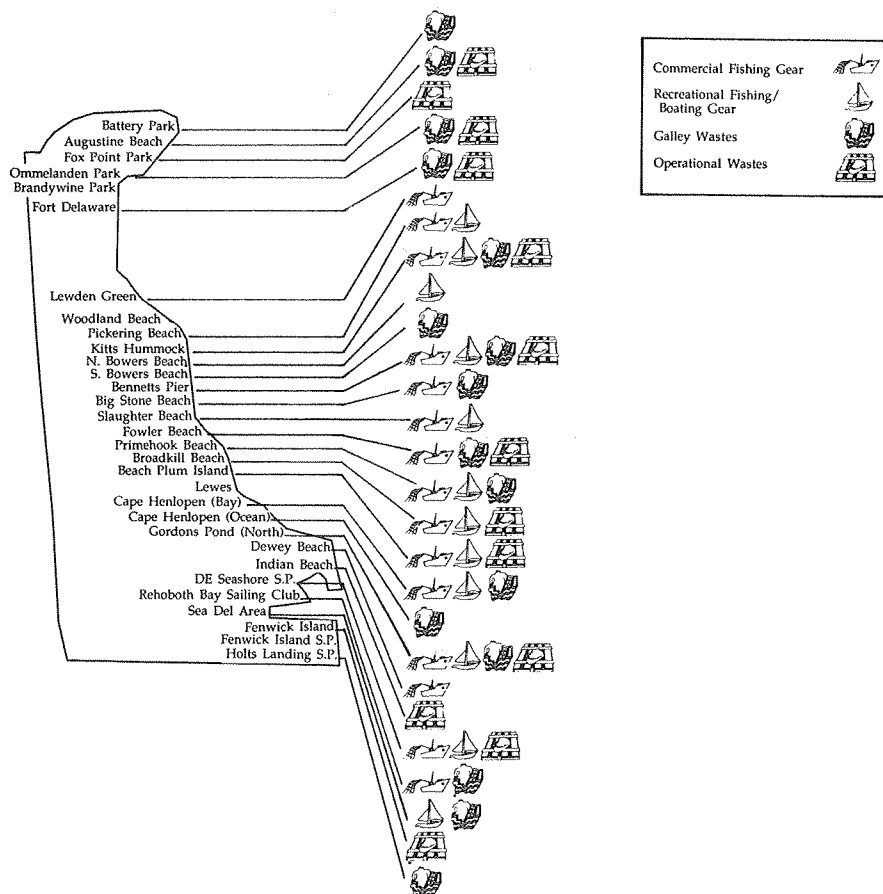


Frank N. Aronhalt, Edwin H. Clark, II, and Thomas R. Carper load plastic waste for shipment to the reprocessor.

PERCENT COMPOSITION OF DELAWARE'S BEACH DEBRIS:



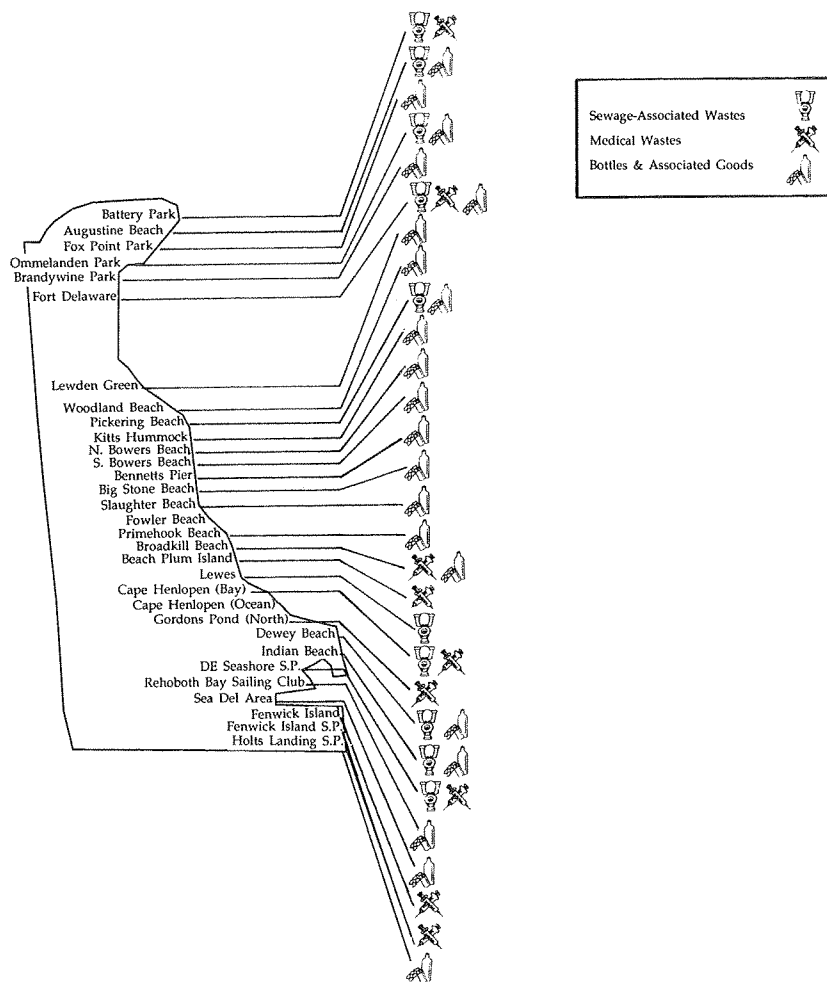
DELAWARE'S OCEAN-BASED DEBRIS HOTSPOTS:



DELAWARE'S DIRTY DOZEN:

	Total Number Reported	Percent of Total Debris Collected
1. cigarette filters	17,634	14.44
2. glass pieces	9,510	7.79
3. plastic pieces	7,943	6.50
4. foamed plastic pieces	6,401	5.24
5. paper pieces	5,938	4.86
6. plastic food bags/wrappers	5,652	4.63
7. plastic straws	5,191	4.25
8. plastic caps/lids	4,735	3.88
9. metal beverage cans	4,317	3.54
10. glass beverage bottles	3,387	2.77
11. lumber pieces	2,947	2.41
12. foamed plastic cup	2,902	2.38
TOTAL	76,557	62.70

DELAWARE'S LAND-BASED DEBRIS AND BOTTLES/ASSOC. GOODS HOTSPOTS:



STRANDED AND/OR ENTANGLED WILDLIFE REPORTED:**Debris related**

Frog entangled in plastic fishing line
2 dead blue crabs entangled in fishing net

Other Reports

2 dead turtles
14 dead seagulls
1 dead catfish
3 dead sand sharks
1 dead bird

TRACEABLE DEBRIS REPORTED:

Location	Type of Debris	Source Indicated
Battery Park	plastic bracelet plastic strapping band	Vintage Transport News Journal
Augustine Beach	oil container	Citgo
Ommelanden Park	55 gallon drum paper bag plastic bucket	DuPont Ricci Bros. Sand Company Philadelphia Sticky Bun Smear (Brokay Products, Inc.)
Lewes	drum w/phosphoric acid	Delaware Supply Company 1820 S. 4th Street Philadelphia, PA
Cape Henlopen (B)	part of plastic label plastic square lid large oil container	Dryden Oil Co. SEDCO Texaco
Kitts Hummock	balloon	Mahaffy Realty
Primehook Beach	balloon plastic cup	Exxon Royal Caribbean
Gordon's Pond	balloon	Re-Elect Glendenning

MOST PECULIAR DEBRIS ITEMS REPORTED:

Battery Park	cigar mouth pieces, rubber plant, umbrella handle, plastic leaves, bicycle pedal, toilet seat, "Weeble Wobble", drug vials
Augustine Beach	turkey basters, organic plastic ring, "MasterLock"
Fox Point Park	snow ski, bottle of nitric acid, motorcycle, pick-up truck bed, railroad plate with spike in it, old typewriter, radio equipment
Ommelanden Park	toothbrush, ladder, party ball, metal bucket for petroleum, kitchen sink, skateboard, fire extinguisher
Brandywine Park	umbrella, vacuum cleaner, auto battery, curler, insulator
Fort Delaware	motorcycle helmet
Lewden Green	flower pots, bicycle, window
Woodland Beach	car jack handle
Kitts Hummock	shotgun casings, plastic "TV Guide" adhesive backed promotion, motorcycle, electrical outlet box
North Bowers Beach	stove, bed spring, living room rug, metal plow blade, fireworks

MOST PECULIAR DEBRIS ITEMS REPORTED (cont.):

South Bowers Beach	building insulation, siding
Big Stone Beach	surgical mask
Slaughter Beach	pair of sandals
Fowler Beach	plastic bike seat, toy baby bottle, asphalt and tire pieces
Primehook Beach	flip flop sandal
Broadkill Beach	huge clump of white wax weighing three to four pounds, air conditioning grate, piece of synthetic piling cover used by "Durec"
Beach Plum Island	tinsel, metal trowel
Lewes	condom wrapper, entire bag of trash, flip flops, cork screw, 100 gold coins
Cape Henlopen	"Stop Littering" sign, crib spring, computer card, rubber sheets, "Mickey Mouse", lipstick, arrow, tar paper, gasoline container
Gordon's Pond (North)	rusted anchor chain, glass vial, brand new leather sandal
Gordon's Pond	toothbrush, political campaign balloon
Rehoboth Beach	plastic sea shell, plastic banana key chain, POW-MIA bracelet, flip flops, raft, baby bottle, lei, pacifier
Del Seashore State Park	sunglasses, cigar case, tinsel, shotgun shells, step from a dock, anchoring material, beach umbrella, Christmas tinsel, two whiskey bottles, contraceptive, paint thinner, spot light, oar blade, dog chewing bone, plastic holly leaves, batteries, food baster, "crack" smoking items, plastic red lips
Rehoboth Bay Sailing Club	welcome mat, plastic flowers
Bethany Beach	plastic squeeze bottle, shotgun shells
South Bethany	charcoal grill
Fenwick Island	plastic dress slipper
Fenwick Island State Park	lawn chair, shotgun shells, caulking tube, cigar case.
Holts Landing State Park	barnacle covered coke can

FOR INFORMATION ON DELAWARE'S 1991 BEACH CLEANUP CONTACT:

Nancy Rolli
Delaware Dept. of Natural Resources and Environmental Control
89 Kings Highway
P.O. Box 1401
Dover, DE 19901
(302) 736-4506

CLEANUP DATE: September 21, 1991

DISTRICT OF COLUMBIA

In compliance with the Nature Company's mission statement to "give our customers an experience which makes them feel good about themselves and the world in which they live," the Washington, DC Georgetown store participated in the 1990 National Beach Cleanup. Although Washington, DC has no "beaches," we were able to work on the local stretch of the Chesapeake and Ohio (C&O) Canal towpath which flows into the Potomac River.

At 9 a.m. on Sunday, October 7, the Nature Company staff met Betsy Schrader from the Center for Marine Conservation. While we waited for everyone to arrive we watched *The Rotten Truth*, an amusing and informative tape on recycling produced by the Children's Television Network.

Armed with pencils and data cards we headed to the loading dock of the Georgetown canal barge, run by the National Park Service. In the past, park rangers supplied trash bags and trash collection services including support for recycling of glass, aluminum, and plastics. Unfortunately a minor inconvenience intervened (i.e. a federal government shutdown) and no green ranger uniforms were to be seen. Luckily we came prepared with our Hefty bags.

The area we patrolled had very little trash from the water. Rather, it was the commuters, tourists, and nature lovers who disposed the majority of the debris. Most of what we found came from local sources including items such as newspaper pieces, beer and soda bottles, and food wrappers. As we inched our way to the Potomac, however, the debris composition began to include possessions from some of Washington's homeless citizens. After two hours and 30 bags, we deposited our trash for collection and stowed our recyclables for a later pick-up.

Shaded by a tree, Betsy talked to us about the effects of debris on marine life and inland waters. Refreshed in body by the shade and in mind by our activity, we returned to the store with a much lighter step, knowing we left our environment a little cleaner than we had found it.

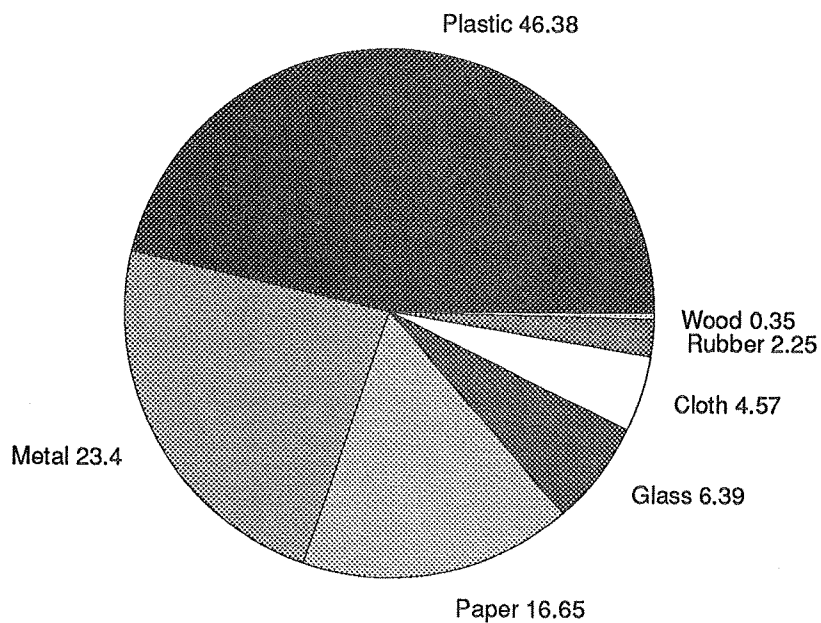
Liza Gookin

Cleanup Date:
October 7, 1990

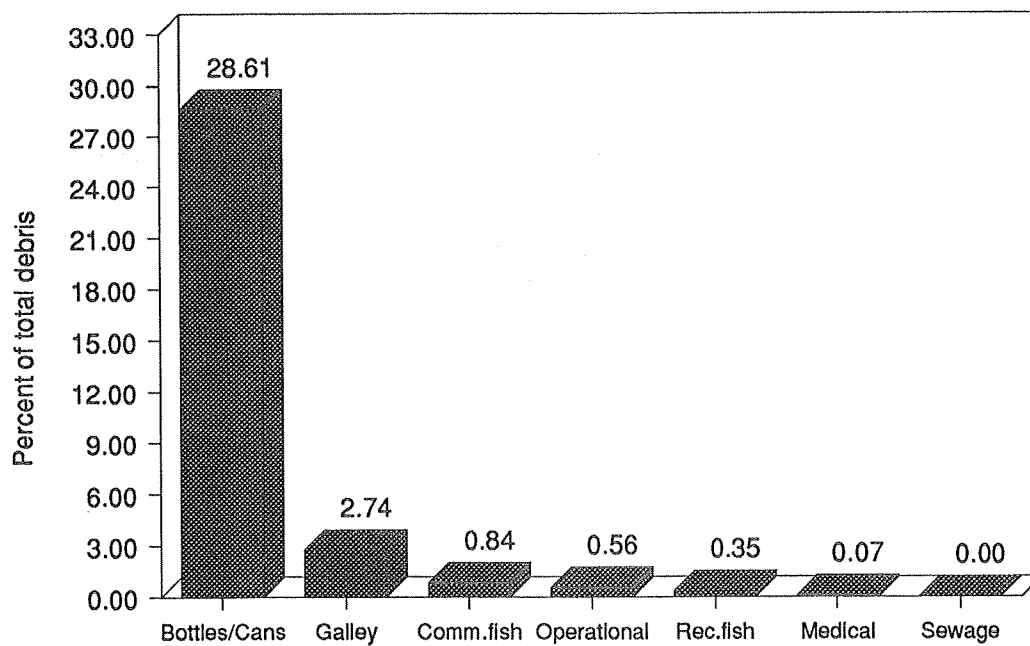
Results:
7 volunteers
unable to determine miles
cleaned and pounds
collected
7 data cards

Coordinated By:
Liza Gookin
The Nature Company
1323 Wisconsin Ave., NW
Washington, DC 20007
(202) 333-4100

PERCENT COMPOSITION OF DISTRICT OF COLUMBIA'S BEACH DEBRIS:



MAJOR TYPES AND SOURCES OF DISTRICT OF COLUMBIA'S BEACH DEBRIS:



DISTRICT OF COLUMBIA'S DIRTY DOZEN:

	Total Number Reported	Percent of Total Debris Collected
1. metal beverage cans	229	16.09
2. plastic food bags/wrappers	130	9.14
3. cigarette filters	119	8.36
4. six-pack holders	78	5.48
5. paper pieces	65	4.57
clothing	65	4.57
6. newspapers	50	3.51
7. cardboard	49	3.44
8. glass beverage bottles	45	3.16
9. foamed plastic packaging	42	2.96
10. glass pieces	39	2.74
11. foamed plastic pieces	38	2.67
12. plastic trash bags	31	2.18
TOTAL	980	68.87

STRANDED AND/OR ENTANGLED WILDLIFE REPORTED:

None reported

TRACEABLE DEBRIS REPORTED:

None reported

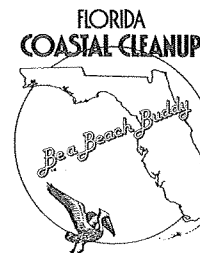
MOST PECULIAR DEBRIS ITEMS REPORTED:

C & O Canal pocketbook

FOR INFORMATION ON THE DISTRICT OF COLUMBIA'S 1991 BEACH CLEANUP CONTACT:

Liza Gookin
The Nature Company
1323 Wisconsin Avenue, NW
Washington, D.C. 20007
(202) 333-4100

CLEANUP DATE: COASTWEEKS 1991 (September 21 - October 12)



FLORIDA

The fourth statewide Florida Coastal Cleanup held on September 22 was a huge success, and set records for volunteer participation. Nearly 18,500 volunteers cleaned 1,050 miles of coast and collected approximately 200 tons of debris. In terms of both miles covered and numbers of volunteers, this was the largest single cleanup of the 1990 National Beach Cleanup, surpassing the record set by Florida in 1989.

The Florida Coastal Cleanup would not have been possible without the hard work and assistance of many people throughout the state. The cleanup's huge success is a tribute to the 72 local coordinators who did a tremendous job of local organizing. Additionally, although organized primarily by CMC staff, members of federal and state government agencies, private industry, and civic environmental organizations served on the Cleanup's Steering Committee.

The major sponsors for CMC's Florida Coastal Cleanup include: the Knight Foundation, Florida Department of Environmental Regulation Coastal Zone Management Section, Florida Department of Natural Resources, Society of the Plastics Industry, Dunspaugh-Dalton Foundation, Publix Super Markets Inc., Southern Bell, the National Association for Plastics Container Recovery, and Cowles Charitable Trust.

Governor Bob Martinez was present in the Miami area and presented the Center for Marine Conservation with a proclamation in support of this and future cleanups. He was accompanied by EPA Administrator William Reilly. Additionally, Senator Bob Graham participated at a cleanup site on Tampa Bay while Governor-elect Lawton Chiles contributed his time in the Daytona Beach Shores area.

Interesting statewide figures include:

- Dead animals: 20 turtles, 29 birds, and an assortment of fish, rays, crabs.
- Entangled animals: of the dead animals listed above, 4 fish, 7 birds, and 2 crabs were found entangled in monofilament fishing line or fishing nets.
- Pounds of monofilament line: 279 pounds, equivalent to 30,076 feet.
- Cruise line debris: 30 items from 8 cruise line companies.
- Foreign items: 78 items from 27 countries.
- Medical wastes: 169 syringes, and other medical waste items.
- Much of the glass, aluminum, and plastic containers were recycled.

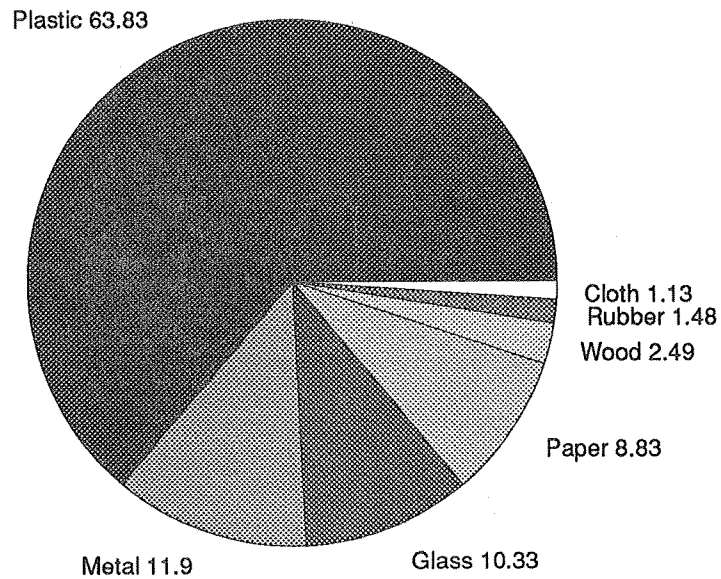
Heidi Lovett and Gina Ruiz

Cleanup Date:
September 22, 1990

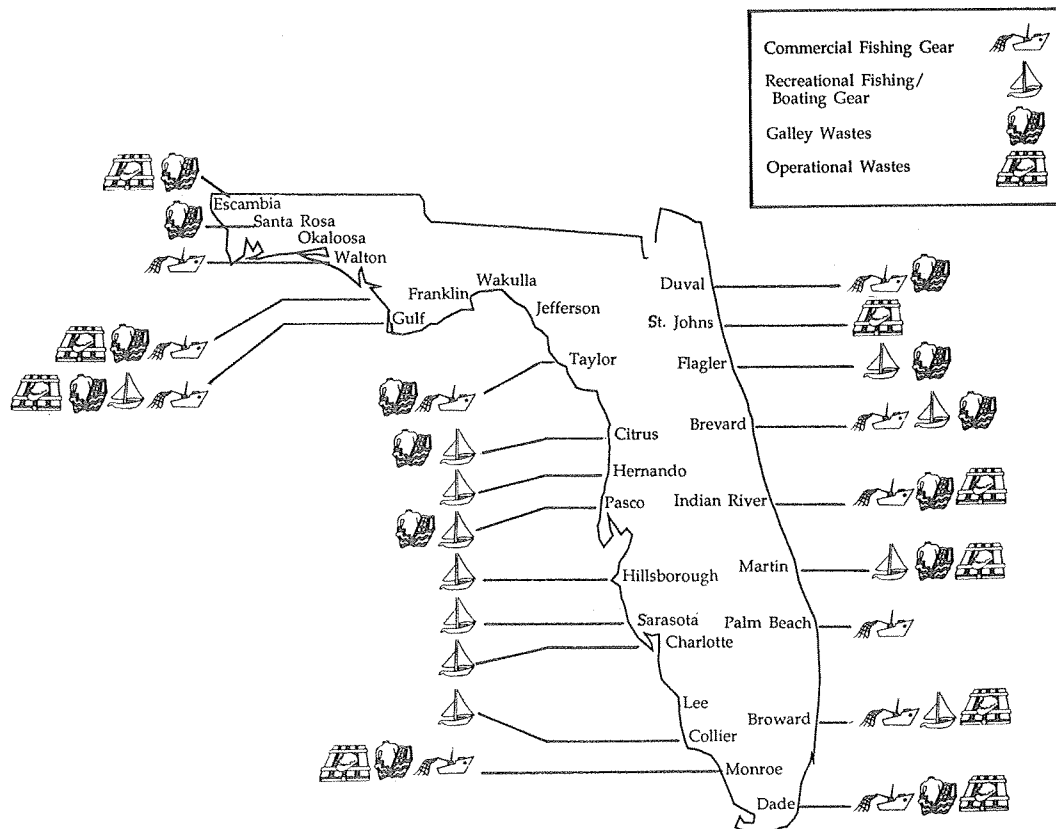
Results:
18,413 volunteers
1,050 miles cleaned
399,666 pounds of debris
3,458 data cards

Coordinated by:
Heidi Lovett and
Gina Ruiz
Center for Marine
Conservation
1 Beach Drive SE, Suite 304
St. Petersburg, FL 33701
(813) 895-2188
1-800-CMC-FLORida

PERCENT COMPOSITION OF FLORIDA'S BEACH DEBRIS:



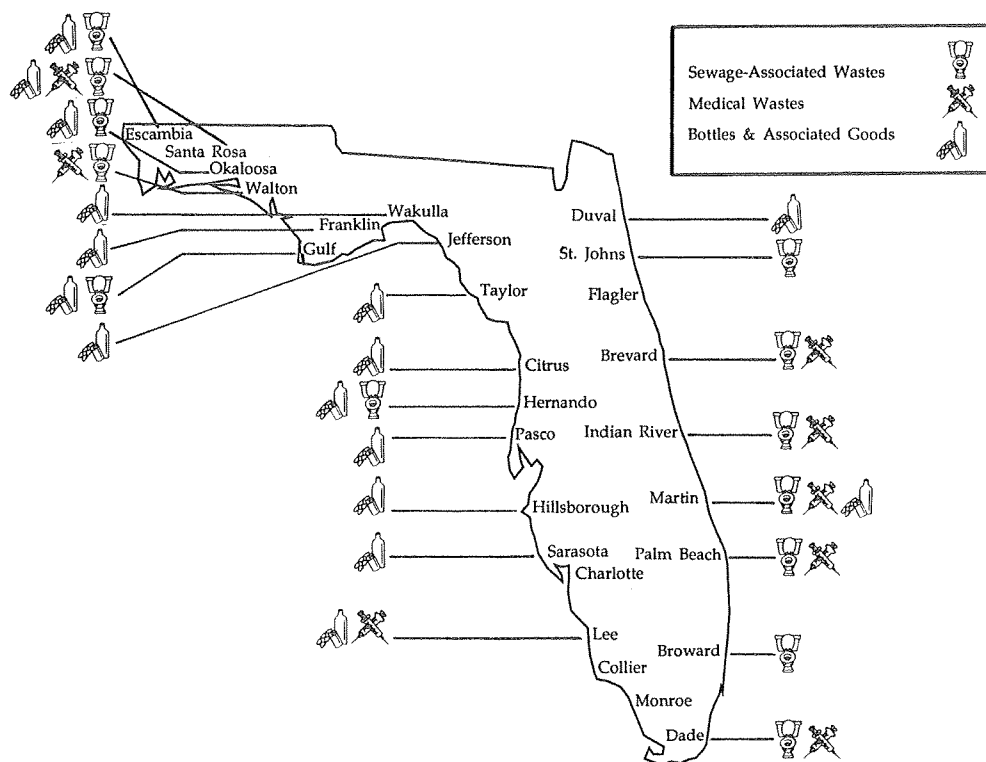
FLORIDA'S OCEAN-BASED DEBRIS HOTSPOTS:



FLORIDA'S DIRTY DOZEN:

	Total Number Reported	Percent of Total Debris Collected
1. cigarette filters	77,486	11.05
2. plastic pieces	44,393	6.33
3. glass beverage bottles	44,211	6.30
4. foamed plastic pieces	42,909	6.12
5. metal beverage cans	40,747	5.81
6. plastic straws	29,231	4.17
7. paper pieces	28,672	4.09
8. plastic caps/lids	28,198	4.02
9. foamed plastic cups	27,016	3.85
10. plastic food bags/wrapper	27,012	3.84
11. plastic cups/utensils	22,676	3.23
12. plastic beverage bottles	17,035	2.77
TOTAL	429,586	61.25

FLORIDA'S LAND-BASED DEBRIS AND BOTTLES/ASSOC. GOODS HOTSPOTS:



STRANDED AND/OR ENTANGLED WILDLIFE REPORTED:**Debris Related**

Seagull entangled in fishing line & hook
Stranded sea turtles
Live periwinkles trapped in jar
Dead crab entangled in rope
Dead fish in monofilament line
Turtles trapped in plastic
Heron with weight on leg attached to
fishing line - released by local
fishermen and surfer
Barracuda entangled in six pack holder
Dead hawk entangled in fishing line
Dead egret fishing line around head
Jellyfish caught in glass
Fish tangled in fishing line
Clown fish in beer can - released
Crab in aluminum can
2 fish in a crab trap
Brown pelican with fishing line
Snail caught in fishing line
Several small crabs trapped in beverage
cans - released
Horseshoe crab entangled in fishing line
Fish in six pack holder
Dead crab in ice bag
Crab in glass bottle
Small tern, legs entangled in fishing line
Several catfish entangled in fishing line

Other Reports

218 dead fish
19 dead birds
3 dead tortoises
6 dead seagulls
6 dead turtles
56 dead crabs
1 dead shark
1 dead manta ray
4 dead sea turtles
7 dead jellyfish
1 dead shore bird
1 dead cat
1 dead pelican
1 dead duck
2 dead squirrels
5 hammerhead sharks
1 dead rat
1 dead cockatoo
1 dead snake
2 dead eels
2 dead clams
1 jellyfish covered in oil
1 crab trapped in tar ball

TRACEABLE DEBRIS REPORTED:

Location	Type of Debris	Source Indicated
Duval	plastic bag	Comfort Inn
	plastic bottle	Buck Honing Oil
Volusia	plastic bait bag	Plantation Fisheries, Tavernier, FL (305)852-2561
Brevard	suntan lotion bottle	West Indies Island
	plastic shampoo bottle	Royal Caribbean
Indian River	plastic corrosive, ACK-100, "Hydrazine"	Drew Ameroll Marine Div., New Jersey
	plastic shampoo bottle	Holiday Inn
	shoe polish applicator	Royal Caribbean
St. Johns	balloon	Carnival Cruise
	2 plastic shampoo bottles	Royal Caribbean
St. Lucie	plastic wrist band	Holiday Isle
	baseball hat	Sarasota Anglers Club
	3 balloons	Carnival Cruise, "The Fun Ships"
	plastic bottle chloride solution MFD 1/89 lot 27616	Chemical Commodities Agencies, Inc. 27447 Pacific Street, Highland, CA 92346
	20 gal plastic bag	Hedwin Corporation

TRACEABLE DEBRIS REPORTED: (cont.)

Location	Type of Debris	Source Indicated
St. Lucie (cont.)	crate	Napa Central West Produce
	plastic strapping band	Tropical Shipping
	plastic bottle	Lockheed
	plastic shampoo bottle	Sheraton
	shoe polish container	Twin Craft-Montreal Canada
	plastic cup	1989 Pine Fest, Jensen Beach
	3 plastic shampoo bottles	Royal Caribbean
	Vidal Sassoon shampoo bottle	Premier
	plastic cup	Carnival
	plastic conditioner bottle	Royal Caribbean
	plastic cup	Royal Caribbean
	styrofoam	Skyward
Martin	plastic cup	Holiday Inn
	plastic container	Royal Caribbean
	plastic cup	Fantasy
Palm Beach	balloon	Citicorp
	paper cup	BP
	emergency water ration	U.S. Coast Guard
	plastic cup	Norwegian
	2 cosmetic bottles	Royal Caribbean
Broward	2 plastic shampoo bottles	Royal Caribbean
	plastic conditioner bottle	Royal Caribbean
	(Cruise Care Conditioner)	
	plastic medical bag	Plantation General Hospital
	rat trap poison	Yankee Clipper Hotel
	5 gal drum cleaning fluid	U. S. Government
	low temp. grease container	Clyton Dewandre Co., Ltd., Rugby B7, England
	calorie counter	Executive Limousine
	paper envelope	Esso/Exxon, International
Dade	oil drum	Texaco Oil
	envelope	Government of Jamaica
	alligator juice sipper	Miami SeaQuarium
	ice bucket	Cheeca Lodge
	plastic bait bag	Plantation Fisheries
	plastic shampoo bottle	Royal Caribbean
	plastic cup	Carnival ("The Fun Ships, Carnival, Celebration, Festival, Holiday, Jubilee, Mardi Gras, Tropical")
	4 plastic cups	Commodore
	plastic bag	Windjammer
	beverage holder	Sea Escape
Monroe	plastic mail envelope	NOAA
	hard hat	Marathon Oil/Sun Strand
	reel oil bottle	Garcia
	cologne bottle	Royal Caribbean
	plastic shampoo bottle	Royal Caribbean
Sarasota	meter tag	Florida Power & Light
	road barricade	Bob's Barricades, (800)432-5013
Hillsborough	"For Rent" sign	realtor (813)254-7757
	"For Sale" sign	realtor (813)677-2912
	letterhead paper	Shoe Works, Carol Wood
	letterhead paper	Bronson Marine Industries, West Osborne Tampa, FL.
	plastic cup	Holiday Inn
Pinellas	coupons	City Lights Nightclub
	balloon	Human Health Care
	styrofoam cups	Howard Johnson

TRACEABLE DEBRIS REPORTED: (cont.)

Location	Type of Debris	Source Indicated
Pasco	degreaser bag, 1 gallon	NOVA Towncey Chemicals
Jefferson	wooden crate	Morgan City, LA
	paper bait cartons	Transflow Bait, Panacea, Florida
Franklin	55 gal drum	Exxon Oil Company
Gulf	plastic coated wire & cable	St. Joe Telephone Company
Bay	ID bracelet	Miracle Strip Amusement Park
	balloon	"Mike Ross" campaign
	plastic sign	"Glen Hess" campaign
	paper envelope	Sailors Supply Company
	2 liter jug	Swanee Swifty Two (boat)
Walton	steak stake	Sandcastle Beach Resort
	receipt - last name Bueff	Holiday Inn
Okaloosa	hospital band	Humana Hospital
	invoice	Wills Kustom Painting, 16 Hydac Rd., Ft. Walton, FL
	plastic strapping band, #N471783	Nedlloyd Lines
Lee	plastic shampoo bottle	Holland American
Santa Rosa	plastic bottle	Princess
	plastic cup	Holiday Inn
	plug #552-12 volts, pat. 3218415	Florida Dept. of Transportation
	cap	Shiker II Fishing Team

MOST PECULIAR DEBRIS ITEMS REPORTED:

Duval	pant leg, fake fingernail, shotgun cartridge, hard plastic paddle with duct tape, firecracker, boat seat, flip flops, metal sign post
St. Johns	muffler, bottle with a Naval list of which crew members go on which life boat, hunting arrow, styrofoam wreath with plastic flowers, velcro fly, wet suit part, rusted lawn chair, fire extinguisher, rug, surfing leash, turtle egg, heavy swing arm off of a truck, gun shell, shoe sole, half a bottle of whiskey, broom
Flagler	vial, plastic oil filter, rubber gloves, socks
Volusia	toy car, orange mat, firecracker, brick, car cable, muffler pieces, 2' steel rod, rubber truss, tongue depressor, refrigerator, paint brush handles, metal toilet paper holder, toothbrush, plastic plant leaf, corn pad, rubber arrow, comb, plastic foot pad for inside shoe, shock, swimming goggles, double noose, nail polish, pacifier, hair brush handle
Brevard	headlight, 4' pipe and gaff hooks
Indian River	sink, "bong", canister of chlorofluoropropylene, refrigerant - 50 lbs, black nylon cloth, budgeting box, toothbrush & toothpaste, beach umbrella, 2 lounge chairs, 2 foam rubber cushions, roof tile, wooden paddle, 2 life jackets, toilet bowl, can of acetone, piece of rug, plastic mask, clothes hanger, kitchen knife, automobile parts, grill of an air conditioner, champagne cork, 2 1/2 gallon gas tank, flare, plastic cross
St. Lucie	mud flap, hair curler, rubber boat, 3 toothbrushes, chair, mop, flip flop, ship oil filter, 2 bullets, air conditioner vent, boat key, light bulb socket, brick, battery, hypodermic needle cover, "Today" sponge, car battery, shotgun shell, dog toy, rubber snake, spear gun band, hub cap

MOST PECULIAR DEBRIS ITEMS REPORTED: (cont.)

Martin	electronics encased in styrofoam, old typewriter, 2 1/4 lbs of marijuana, political campaign brochure, small whiskey bottle, watch, vacuum cleaner tubing, car speaker cover, "potty", pewter bowl, cement hammer, quarter, curler, grocery cart, lipstick tube, flower pot, old lounge chair, lawn chairs, toothbrushes, broken metal table, decorating ribbon, dishwasher, liter of vodka, pair of new shoes, engine block, anchor, opal and diamond ring, insulin, exhaust pipe, milk crate, frisbee, crutches, battery cable, hair curler, belt
Palm Beach	kilo of marijuana, "Jovan" musk oil, cassette tape, hair curlers, vial with illegal substances, boat brushes, phone cable, garter belt, sole of a shoe, sock, ice cube tray, "crack" vial, voodoo doll, baby doll, glass pipe for "crack", plastic dog's head, shark tooth, garter, pillow, heel of a shoe, plastic cow, kitchen sink, folding aluminum table
Broward	paddle boat, light switch, toilet float, shower curtain rod, 4 lb plastic weight, shorts, soles of shoes, plastic baby bottle, watch, lawn chairs, plastic water gun, enema bottle, sewing needle, measuring cup, ribbon, two bags of cocaine, air conditioner filter, typewriter, set of ear plugs, plastic hanger, plastic flowers, barbecue fork, spermicide applicator, gauze pad, bottle of medical waste, vitamin pills, hair curler, toothbrushes, part of a ship, car batteries, keys, wheel hub, hangover medicine, seat from a boat, unopened beers, car bumper, food stamp application form, liquor bottles, trap, irrigation piping, floor tile, shotgun shells, arm rest from boat, candles, small orange plastic flare launcher, button, cargo net, \$12, bottle of urine, super ball, batteries, anchor, coat hanger, razor, car stereos, pacifiers, kiddies pool, ventilation bucket, refrigerator door, smoker's pipe, surf board wax, diaphragm, sunglasses, wallet with credit cards, seat cover, dress, pornographic magazine, "Chapstick", lipstick, tennis ball, belts, metal car strip, Bible and wooden cross, vacuum cleaner hose, door, voodoo doll, carpet, car seat, metal from a car, zipper, remote cable for camera, engine piece, bucket, sign that said "Discharge of Oil Prohibited", joints, scissor handles, rear end of a car, antique bottle, toothpaste, douche still in carton, earphone headset, student ID, windshield wiper, complete medical kit, piece of carpet, box of new condoms, restaurant food price board, speaker cover, clothespin, plasma bag, cigar holder, protective masks, birthday ribbons, distributor cap
Monroe	refrigerator, bed bunk, toilet bowl, water faucet (cold), chess pawn, hair curler, vacuum cleaner hose, shotgun shell, sewing machine cover, two funeral wreaths, "Bocci" ball, note in a bottle, toupee
Collier	wind propeller, clip on bow tie, beach chair, plastic leaf, boat top, car shock, fridge, broken tennis racket, telephone marker disc, rug, piece of a muffler, bike bell
Lee	lipstick tube, air filter, windshield wiper, septic tank cover, car doorknob, bike pedal, fake foot, full can of beer, hairbrush, boat wreckage, eyeglasses, refrigerator, chain link fence, water heater, surfboard, \$1, ball point pen, rug, ball hat visor, cement salt, tape, metal lampshade, lawn chairs, Christmas holly, grate, crowbar, dog leash
Charlotte	pen, tiles, metal box for a Navy PA system - serial number LBAD#16, shopping cart, battery, two rugs, slipper, car seat cover, T-shirt that said "Anchor Air Conditioning", trailer hitch, rubber alligator, boat ramp, tennis ball, polaroid film, two odor eaters, door from fridge, wooden flooring, cap gun cartridges, wrapping paper and bow, beach towel, snow scraper
Sarasota	anchor, saw blade, furniture, cowboy boots, air filter, finger splint, oil filter, telephone cord, butter knife, "Yield" sign, toilet, bed spring, pink plastic flamingo, fan blade, ice pick, brush, house door, electric cable, bucket handle, fire extinguisher, real estate signs, flower pot, broom, old gun, GTE wire flags, jeans, softball, barbecue rack, rubber football, children's bike handlebars, urinated bed pillows, baseball hats, derelict boat, full can of beer

MOST PECULIAR DEBRIS ITEMS REPORTED: (cont.)

Hillsborough	furniture, car gas tanks, carpeting, vacuum hose, auto air conditioning hose, fence post, sheet, rugs, car seat, pliers, vibrator, birth control pills, full cans of beer, two hand grenades, chair, coil spring from couch, key holder, advertising logo, model airplane wing, carpet, douche bottle, mop, dog toy, reading glasses, ladder, table, hospital patient ID wrist band, electric light socket, flag pole, car battery, muffler, cake pan, earring, toilet, rat trap, bird house, "For Rent" sign, trash can, wheel rim, baby bottle nipple, toy trucks, quilt, "Blistex", bicycle peddle, kitchen sink, anchor, upholstery material, exhaust pipe, ladder, tire rim, welcome mat, "Whirl Pool" washer box, football, boat windshield, tool box, barbecue grill, curtains, trash can lid, bar bell, Christmas tree lights, seat, bag of marijuana, steering wheel, record: "You're No Good" by Linda Ronstadt, headlights, drug "bong", tent, Halloween "Jack o'Lantern", bed springs, painting, wood sign "Drop off here", baby bottle, file cabinet, fan, vehicle bumper
Pinellas	car horn, doll arm, recliner, curtain hook, blanket, \$3, end of a baton, toothbrushes, television, bicycle rims, shotgun casings, fake fingernail, fire extinguisher, lottery tickets sealed in bag, "Pizza Hut" shirt, battery, lawnchair, hub caps, Auto windshield, hospital ID wrist band, strainer, homemade grill, working watch, boat seat, "Penthouse" magazine, shower curtain, sheet, foam mattress, carts, carpet sample, surgical mask, plant pots, key, two broken shuffleboard packs, air fresheners, shoulder pad, oar, deck wood, door hinge, ice bucket from hotel, tupperware container, bumper, cone divider chain, venetian blind, car muffler, teapot, vibrator, toilet paper holder, 1/2 of a skateboard, medical arm band, oil filter, transmission part, package of "Bologna", boat hatch cover, tablecloth, funeral arrangements, chair, bed comforter, contact lens case, bike derailleur, dress, oil filter, sail, plastic "Garfield", tow bar, 12 ft grill, headboard, car seat, car cover, whiskey bottle, candle, battery, small bottle inside larger bottle, watch
Hernando	plastic car part
Nassau	douche bottle, fireworks, blanket, sheet
Pasco	mattress, carpet, car seat cover, oil filter, propane tank, roof tile, camouflage jacket, air conditioning vent, swing set, carpet padding, trash can lid, garment bag, mirror, old clock, caulking tube, toilet plunger, grill
Citrus	"Manatees" sign, styrofoam horse, television, metal trailer steps, patio umbrella, hula hoop, lawn chairs, full bottle of "Pepsi", kitchen sink, boat cushion, model "A" car horn, ear plug, comb, building blocks, football, wader overalls, bed sheet, toothbrush, "Love bug" screen, washing machine agitator, ladies' wallet, television, bed pans, refrigerator grill cover
Taylor	"HOAA radio sonde" mailing label, Lego, antique bottle, battery, flood lights, wash tubs, baby toys, boat hull
Jefferson	oil tank, whiskey bottle
Wakulla	dredge sleeve, car fender, salad bowl, boat windshield, welcome mat, steering cover, nylon book bag full of books, credit card, headlight, bicycle wheel, back of television, wire junction box, exhaust pipe, piece of "bong", \$1, radio
Franklin	reflectors, tool belt, plastic swimming pool, lawn chair
Gulf	doll furniture, part of blanket, yellow ribbon, small rowboat, large screw
Bay	fire extinguisher, can of unopened tuna, seats, toilet plunger, athletic supporter, oil lamp, bean bag, washing machine, refrigerator, television set, motor oil, fence, brush, arm rest, dust pan

MOST PECULIAR DEBRIS ITEMS REPORTED: (cont.)

Walton	rubber worm
Okaloosa	toy boat, chain link fence, carts, full alcoholic beverages, ball of yarn, blanket, sheet, pink cadillac toy car, Florida license plate-Brevard county with May 90 tag, firecracker, golf tee, ceramic cup - "I'm 40 and proud of it", shotgun shell, small plastic hamburger
Santa Rosa	motor boat propeller, gas pedal, diving mask, car window, lawn chairs, oil filter, headlight, 12 volt flasher, Christmas bulb, birthday candles, kite, belt, top to a barbecue grill, crate, boot, Florida drivers license, wallet, suitcase, home-made paddle, laundry basket, disconnect notice from Gulf Power, pillow, neon light, old straw hat, boat paddle, gas can, toothbrush
Escambia	campground grill, cart, toy soldier, neatly wrapped package, \$33, shotgun shell, Pepsi machine cooler, bar stool, pillow, can of paint, bamboo flag pole, boat side, cutting board

FOR INFORMATION ON FLORIDA'S 1991 BEACH CLEANUP CONTACT:

Heidi Lovett
Center for Marine Conservation
One Beach Drive SE, Suite 304
St. Petersburg, FL 33701
(813) 895-2188

CLEANUP DATE: September 21, 1991



A pelican's nest, 30-inches across, composed primarily of wire. Other items found making up the nest include: a fishing pole, monofilament line, copper tubing, sticks and plastic.

GEORGIA

BeachSweep in Georgia is quite different from the beach cleanup efforts in many other states. The majority of Georgia's barrier islands are only accessible by crossing the sounds and coastal estuaries by boat. As a result of the relative isolation of these islands, the beaches are largely undeveloped, quite pristine, and undisturbed. This isolation also presents several logistical problems for beach cleanups, including getting volunteers to and from the islands and bringing the litter back to the mainland for proper disposal.

The University of Georgia Marine Extension Service, with help from the Georgia Sea Grant College Program, has taken a leading role in organizing Georgia's beach cleanup both by bringing together a number of state and federal agencies, civic groups, and environmental groups, and by providing boat and personnel for this effort. Groups that took an active role in BeachSweep '90 included the Sierra Club, the Georgia Conservancy, U.S. Fish and Wildlife Service, the National Park Service, the National Marine Sanctuary Program, Keep America Beautiful Organizations, Boy Scouts, and several coastal municipalities.

It is truly amazing to travel back to these remote beaches after a thorough cleaning in 1988 (Hurricane Hugo thwarted most of BeachSweep '89) and see the amount of trash that was on the beach. It is quite apparent on these islands that receive relatively minor human visitation, that the major source of this beach litter comes from boats and ships. There seems to be fewer pieces of plastics on the remote beaches than in the last two years. Perhaps we are observing the MARPOL Treaty at work.

Despite the wet, the sunburns, the bug bites, and sandspur wounds, BeachSweep '90 volunteers left the barrier islands as ambassadors for stewardship of our coastal resources. They obviously felt good about their efforts and committed to doing more to conserve, preserve, and protect the environment.

The Sierra Club Coastal Group has instituted an area recycling program that was included for the Ossabaw Island cleanup. The donated clear Glad Bags made the separation of glass, aluminum, and plastics much easier. As a next step to proper disposal, recycling and reuse of litter is an important consideration for BeachSweep.

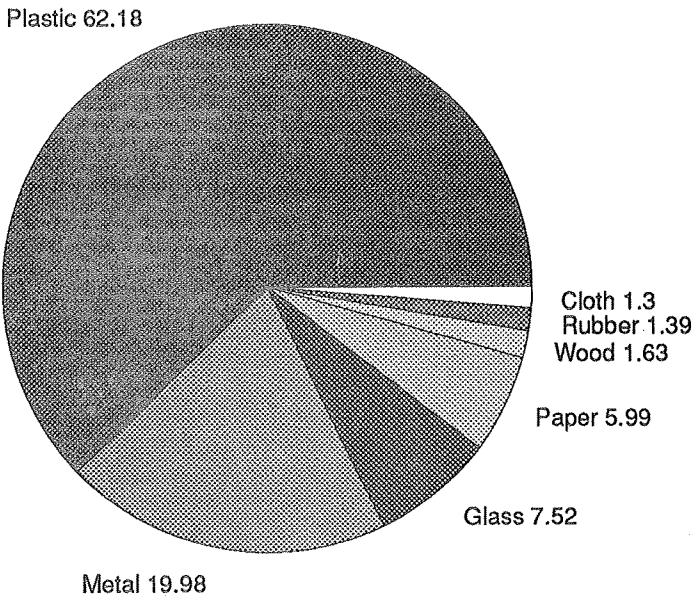
Jay Calkins

Cleanup Date:
September 22, 1990

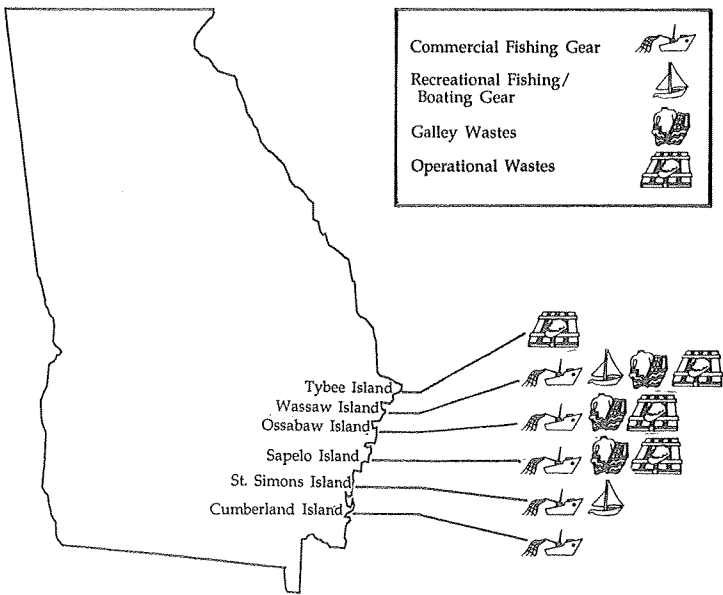
Results:
200 volunteers
25 miles cleaned
16,000 pounds of debris
79 data cards

Coordinated by:
Jay Calkins
University of Georgia
Marine Extension Service
P.O. Box 13687
Savannah, Georgia 31406
(912) 356-2496

PERCENT COMPOSITION OF GEORGIA'S BEACH DEBRIS:



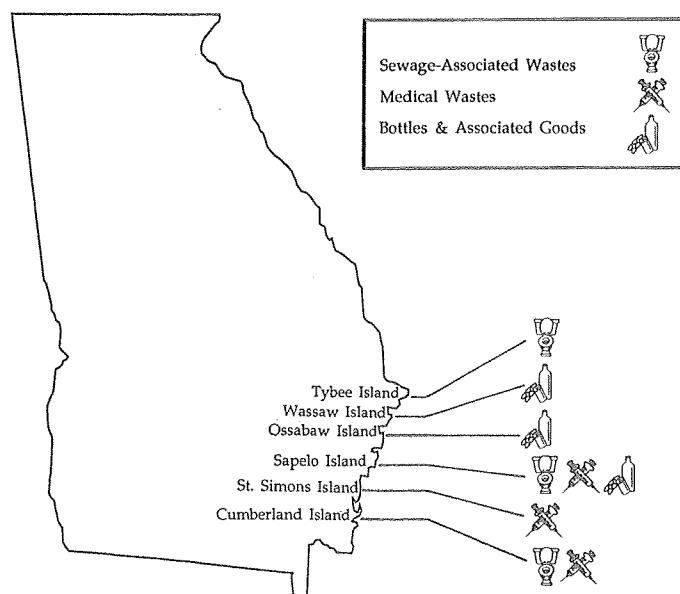
GEORGIA'S OCEAN-BASED DEBRIS HOTSPOTS:



GEORGIA'S DIRTY DOZEN:

	Total Number Reported	Percent of Total Debris Collected
1. metal beverage cans	3,308	16.42
2. cigarette filters	2,540	12.61
3. foamed plastic pieces	1,817	9.02
4. foamed plastic cups	887	4.40
5. plastic food bags/wrappers	841	4.18
6. glass beverage bottles	810	4.02
7. plastic pieces	777	3.86
8. plastic straws	713	3.54
9. plastic beverage bottles	703	3.49
10. plastic cups/utensils	565	2.81
11. paper pieces	518	2.57
12. plastic caps/lids	488	2.42
TOTAL	13,967	69.35

GEORGIA'S LAND-BASED DEBRIS AND BOTTLES/ASSOC. GOODS HOTSPOTS:



STRANDED AND/OR ENTANGLED WILDLIFE REPORTED:

None reported

TRACEABLE DEBRIS REPORTED:

Location	Type of Debris	Source Indicated
Wassaw	plastic cup	Emerald Princess

MOST PECULIAR DEBRIS ITEMS REPORTED:

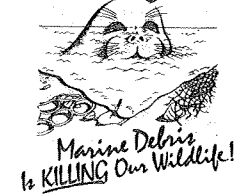
Tybee Island	masking tape, coffee pot, pair of thongs, ladder, jewelry (ring) box, TV, "No Dumping" sign
Wassaw Island	old rusty oil cleaner, Italian "exotic" beverage carton, radio tube, "Dr. Scholls" foot pad, douche bottle
Ossabaw Island	refrigerator drawer
Sapelo Island	guitar back, radio antenna
St. Simons Island	pacifier, large bottle with live sea objects, 24" plastic disc shaped antenna, housing weather observing/reporting electronic circuitry. Point of origin not detectable, but markings were in English (USA)

FOR INFORMATION ON GEORGIA'S 1991 BEACH CLEANUP CONTACT:

Larry Sheffield
29 Bluff Drive
Savannah, GA 31406
(912) 238-2429

CLEANUP DATE: September 21, 1991

Get The Drift & Bag It!



HAWAII

On Saturday, October 20, 1990, Hawaii's beaches and shorelines were cleaned and surveyed for ocean debris and trash. Seventy-five tons of debris were cleaned from 170 beach areas on the islands of Oahu, Maui, Molokai, Kauai, Hawaii, and even the uninhabited island of Kahoolawe. This beach cleanup, themed "Get the Drift and Bag It," was designed to focus public attention on the problem of marine debris and its impact on aquatic and terrestrial wildlife.

More than 6,680 volunteers participated in the cleanup. The tons of debris consisted of plastic, styrofoam, fishing nets, and lines which have been known to kill marine animals in Hawaii including Hawaiian monk seals, green sea turtles, and birds. On the uninhabited island of Kahoolawe, the cleanup was again conducted on Kanapou Bay. Here, approximately seven tons of pure marine drift was collected, consisting predominantly of plastic, and airlifted off the beach.

Community organizations, military personnel, conservation groups, Boy and Girl scouts, school groups, dive clubs, commercial and leisure fishing organizations, ocean sports enthusiasts, recreational clubs, businesses, and tourists all pitched in to make this "Get the Drift and Bag It" cleanup a big success.

The cleanup was coordinated by the following organizations: Community Work Day Program, State Litter Control Office, County of Hawaii Department of Parks and Recreation, Pacific Whale Foundation, and the Maui Community Work Day Program. The "Get the Drift and Bag It" cleanup was sponsored by the Governor's Advisory Committee on Litter Control.

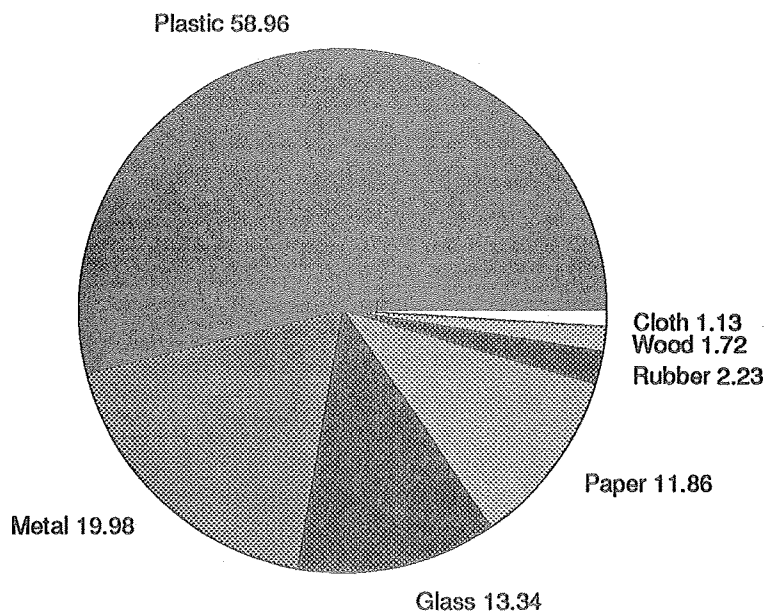
John Yamauchi

Cleanup Date:
October 20, 1990

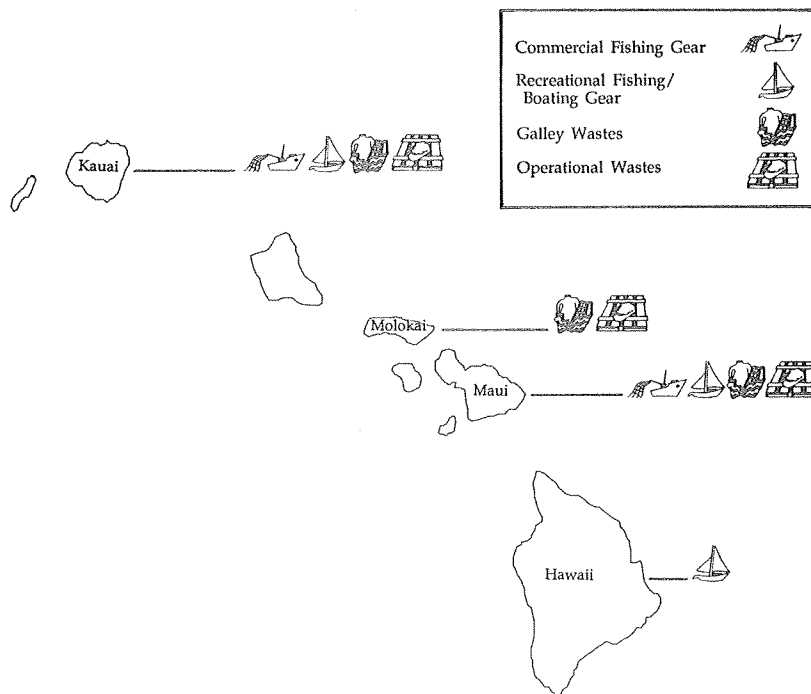
Results:
6,680 volunteers
184 miles cleaned
150,743 pounds of debris
1,234 data cards

Coordinated by:
John Yamauchi
Hawaii State Litter Control
Office
205 Koula Street
Honolulu, HI 96813
(808) 548-3400 or 548-6444

PERCENT COMPOSITION OF HAWAII'S BEACH DEBRIS:



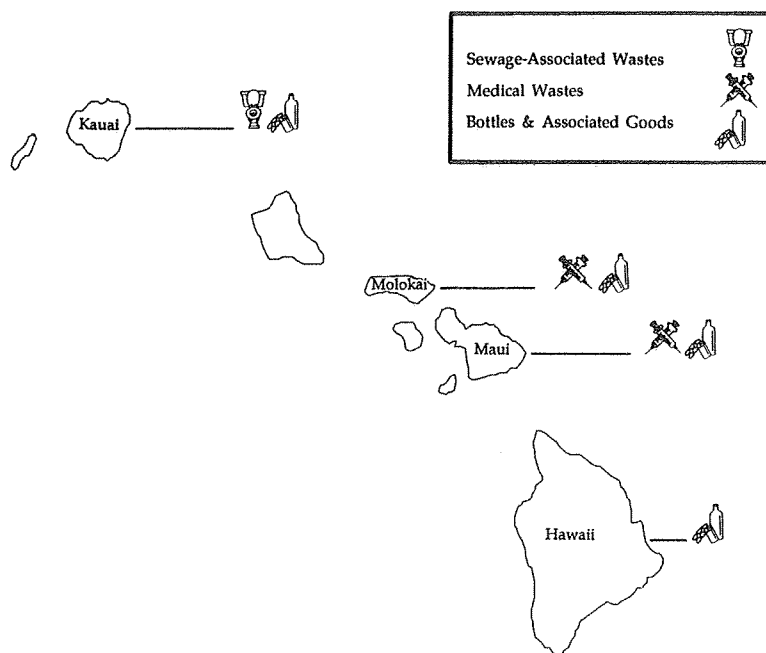
HAWAII'S OCEAN-BASED DEBRIS HOTSPOTS:



HAWAII'S DIRTY DOZEN:

	Total Number Reported	Percent of Total Debris Collected
1. cigarette filters	45,829	13.60
2. plastic pieces	22,169	6.58
3. glass pieces	21,797	6.47
4. paper pieces	18,060	5.36
5. glass beverage bottles	17,877	5.30
6. foamed plastic pieces	14,625	4.34
7. plastic food bags/wrappers	13,764	4.08
8. metal beverage cans	11,280	3.35
9. metal bottle caps	10,104	3.00
10. plastic straws	10,071	2.96
11. plastic caps/lids	9,250	2.80
12. foamed plastic cups	8,125	2.77
TOTAL	202,951	60.20

HAWAII'S LAND-BASED DEBRIS AND BOTTLES/ASSOC. GOODS HOTSPOTS:



STRANDED AND/OR ENTANGLED WILDLIFE REPORTED:

Debris Related

Entangled crabs
Medium sized fish tangled in wire
Eel entangled in fishing line with hook
Hammerhead shark entangled in copper wire
Puffer fish with fishing net in its mouth
Hammerhead shark with hook and line in mouth
Crab entangled in string
Green sea turtle with fishing line around front flipper
Various starfish and shellfish entangled in fishing net

Other Reports

5 dead fish
3 dead birds
1 dead lobster
3 dead sharks
2 dead pigeons
1 dead snake
5 dead crabs
1 dead octopus
3 dead jellyfish
1 dead cat
1 dead rooster

TRACEABLE DEBRIS REPORTED:

Location	Type of Debris	Source Indicated
Kauai	tank label	Hawaiian Reef Explorer
Oahu	pen & towel	Sheraton Waikiki
	paper bag	Hawaiian Cement
	yellow plastic barrier tape	Oahu Police Department
	glass bottle	Chugai Pharmaceutical
	plastic bag	Dynamic Supply Company CA 91744
Maui	wire rope	M/V Circay
Hawaii	plastic irrigation tubing	Bay Front Creative Products
	black plastic bag with liquid	Texaco
	large plastic sheet 3' x 3'	Matson Lines
	irrigation tubing	Honora Sugar Company
	irrigation tubing	Hamukua Sugar Company
	gallon oil container	Texaco

MOST PECULIAR DEBRIS ITEMS REPORTED:

Kauai	saw blade, 10x2 heavy wire cable, \$7, car keys, lighter fluid, plastic tape cassette cover, aluminum transmission housing for automobile, toothbrushes, baseball, "American Express" credit card embossing machine, mask and snorkel, living room carpet, surfboard, oxygen tank, fire extinguisher, automobile seat, four derelict cars, bed springs, broken vase in bag, hearing aid, 300 lb. (approx.) steel plate with potholes
Oahu	part of a sail, toothbrushes, rubber doll, anchor, shirt, goggles, fender, 1/2 of an Easter egg, ruler, disposable barbecue, chairs, full cans of beer, surfboard tip, corroded "No Swimming" sign, metal springs, champagne cork, child seat, "Kim Chee" in a bottle, carpet, sewing machine cone, gas powered garden blower, "Dom Perignon" bottle (empty), bent crowbar, purse full of old credit cards, flashlights, screen attached to 2x4, mattresses, skateboard, baby high chair, hubcaps, part of a sander blade, "Litter Bugs Me" bag, car sun visor, Easter grass, toilet bowls, rubbish can cover, pink hair curler, two parts of rusted wheel barrel, tire rim, sewer lid, starter solenoid, part of fan, part of a laser gun, folding chain, batteries, metal curtain rod, auto windshield wipers, rusted coffee grinder, snorkel and dive fins, coin covered with marine growth, swimming trunks, steering wheel, hotel key and door pass, headlight to a car, glass pipe for drugs, metal fork, old fashioned sunglasses, full container of "Vaseline", map of Waikiki, part of a boat, velcro, rake, garden hose, manifold cover, chemical packet, golf clubs, car stereo, small engine, drip irrigation tubing, spark plug, plastic baby swimming pool, 1/2 of bowling ball, auto shock absorber, car tail pipe, huge metal control box with pipe attached, steel reinforcing rod, light fixture, chopsticks, snorkel, broken metal sewerage,

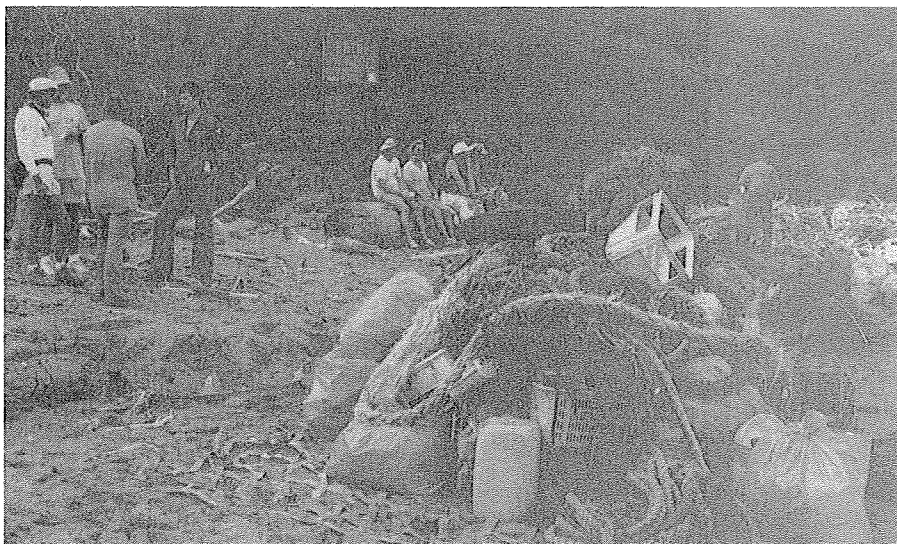
MOST PECULIAR DEBRIS ITEMS REPORTED (cont.):

Oahu (cont.)	pipe, garter belt, spark plugs, sewer pipe, seat to a jet ski, make up applicator, spinnaker head, douche bottle, barbed wire, boat floaters, piece of siding, back pack, cassette tape, pants, wash tub, straw mat, plastic pillow, baby bottle rubber nipple, metal siding, 1/2 of a dollar bill, "Q-Tips" with medicine on them, color TV, tarp, comb, two prescription bottles, big metal door, unopened bottle of "Rose", refrigerator rack, burned recliner, innertube, steering wheel on drive shaft, refrigerator, turpentine, spices, artificial turf, full size cabinet, \$6.06, sprinkler head
Maui	bath brush, airplane stabilizer, car battery, TVs, pillows, bed frames, couch, hot pink dive mask frame, 25 cents, stove parts, spark plug, irrigation pipe, lean-to made of corrugated iron, boat motor, Phil Woods album cover, sleeping bag, toilet seat, on-shore telephone
Hawaii	spaghetti tongs, combs, toothbrushes, perfume sample bottle, Christmas light bulb, radio, auto muffler, skill saw, CB radio, VHS video tape, sealed medical specimen plastic tube, plastic auto bumper, laundry basket, plastic "Stop" sign, Q-tips, fan belt, "all dim slippas", large PVC pipe, car seat, large plastic "Santa" face, gallon can of paint, fire extinguisher, 1/2 of a park bench, jack for a car, barbecue grill

FOR INFORMATION ON HAWAII'S 1991 BEACH CLEANUP CONTACT:

John Yamauchi
Hawaii Litter Control Office
205 Koula Street
Honolulu, HI 96813
(808) 548-3400 or (808) 548-6444

CLEANUP DATE: October 5, 1991



Waiting for the airlift helicopter for trash removal from the uninhabited island of Kahoolawe, Hawaii.



Up, up, and away goes trash from Hawaii's Kahoolawe Island.

ILLINOIS

The Illinois effort was conducted as a cooperative event sponsored by the Aquasphere Project and the Friends of Lincoln Park. The site of the clean up was a three-quarter mile stretch of Chicago beach along the Montrose Avenue Beach area. Connie Robison of the Friends of Lincoln Park and John Greco of the Aquasphere Project coordinated the event which ran from 9:00 AM until 2:00 PM. Information regarding the debris was recorded on data cards. The beach was staked out into ten zones with a team leader keeping track of the debris collected by volunteers (using the CMC data cards). Clean-up teams completing work in zones without a great deal of debris were shifted to other zones to assist with more copious amounts. The majority of debris collected was comprised of glass. The Metro YMCA Scuba council hosted a barbecue lunch for volunteers after the event.

Donations of materials were accepted from Wells Lamont Corp. (gloves), Libra Industries, Inc. (gloves), the Metro YMCA of Chicago (food), Greco Nut & Candy Outlets (food), and the Aquasphere Project. Materials donated through CMC included Faber Castell (pencils), and First Brands (plastic bags).

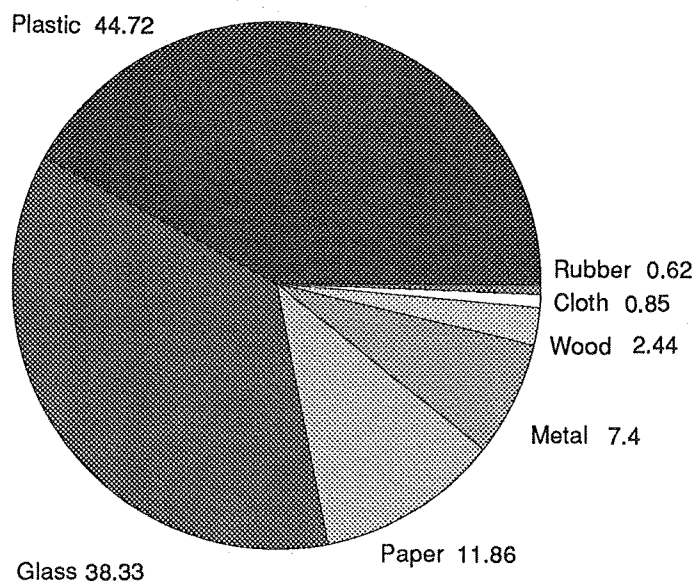
Tim Early

Cleanup Date:
September 22, 1990

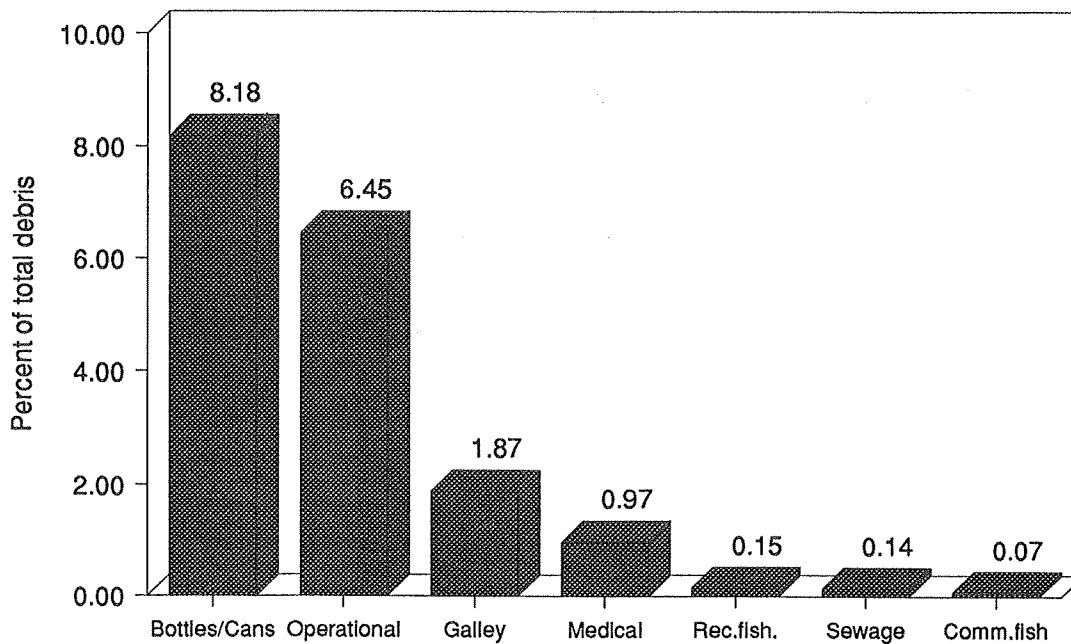
Results:
77 volunteers
0.75 miles cleaned
771 pounds of debris
19 data cards

Coordinated by:
Tim Early
Aquasphere Project
P.O. Box 414
Dolton, IL 60419
(708) 597-2988

PERCENT COMPOSITION OF ILLINOIS BEACH DEBRIS:



MAJOR TYPES AND SOURCES OF ILLINOIS BEACH DEBRIS:



ILLINOIS DIRTY DOZEN:

	Total Number Reported	Percent of Total Debris Collected
1. glass pieces	2,148	29.49
2. cigarette filters	779	10.70
3. plastic piece	584	8.02
4. glass light bulbs	448	6.15
5. plastic straws	355	4.87
6. plastic food bags/wrappers	296	4.06
7. miscellaneous plastic bags	274	3.76
8. foamed plastic pieces	239	4.28
9. paper pieces	188	2.58
10. glass beverage bottles	186	2.55
11. metal bottle caps	168	2.31
12. metal pieces	152	2.09
TOTAL	5,817	79.87

STRANDED AND/OR ENTANGLED WILDLIFE REPORTED:

None reported

TRACEABLE DEBRIS REPORTED:

None reported

MOST PECULIAR DEBRIS ITEMS REPORTED:

Lake Michigan electrical contact box, grill, bottle with plant growing inside

FOR INFORMATION ON ILLINOIS' 1991 BEACH CLEANUP CONTACT:

Tim Early
Aquasphere
P.O. Box 414
Dolton, IL 60419
(708) 396-0999

CLEANUP DATE: COASTWEEKS 1991 (September 21 - October 14)

INDIANA

The Indiana effort was conducted as a cooperative event sponsored by the Aquasphere Project and the Lake County Parks Department. Tim Janowski, superintendent of Wihala Beach Park, and Al Konieczka of the Aquasphere Project, coordinated the event which ran from 9:00 AM until 2:00 PM. Half a mile of beach was cleaned. In Indiana, the debris was sorted and removed to a recycling center by Mr. Tim Janowski. Refreshments were provided by the Aquasphere Project. The majority of debris collected fell into the "plastics" category. Zone captains kept track of debris removed by clean-up volunteers.

Donations of materials were accepted from Wells Lamont Corp. (gloves), Libra Industries, Inc. (gloves), the Metro YMCA of Chicago (food), Greco Nut & Candy Outlets (food), and the Aquasphere Project. Materials donations through CMC included Faber Castell (pencils), and First Brands (plastic bags).

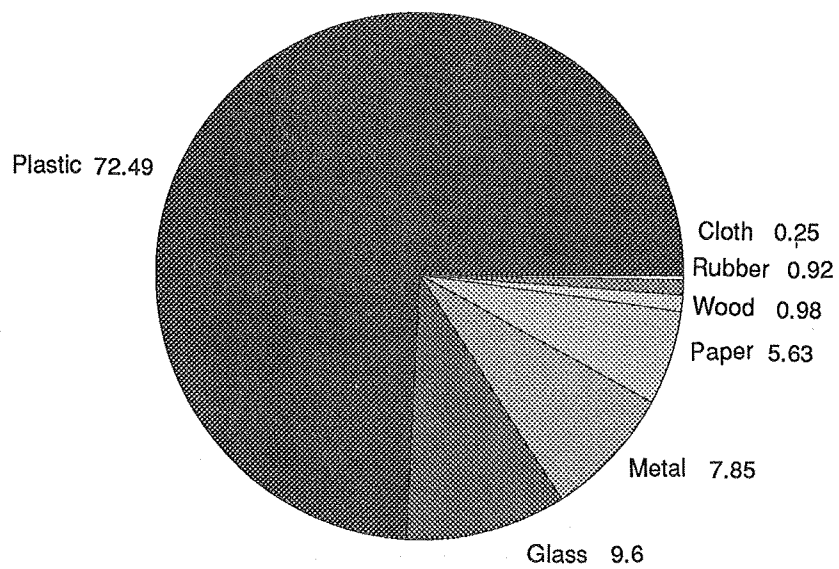
Tim Early

Cleanup Date:
September 22, 1990

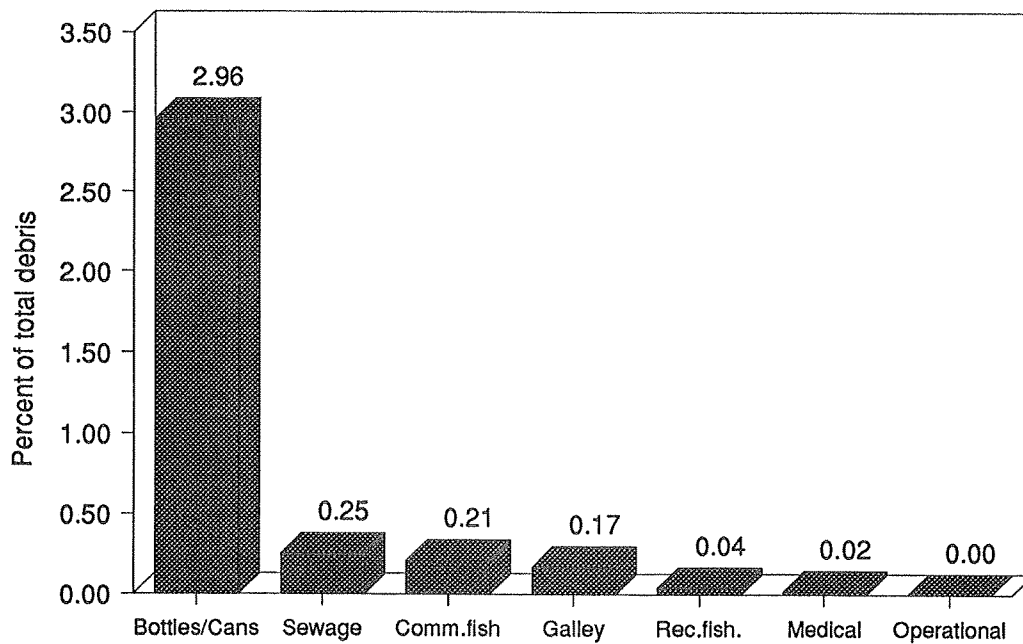
Results:
13 volunteers
0.5 miles cleaned
230 pounds of debris
9 data cards

Coordinated by:
Tim Early
Aquasphere Project
P.O. Box 414
Dolton, IL 60419
(708) 597-2988

PERCENT COMPOSITION OF INDIANA'S BEACH DEBRIS:



MAJOR TYPES AND SOURCES OF INDIANA'S BEACH DEBRIS:



INDIANA'S DIRTY DOZEN:

	Total Number Reported	Percent of Total Debris Collected
1. cigarette filters	2,217	46.27
2. miscellaneous plastic	344	7.18
3. glass pieces	316	6.60
4. paper pieces	290	6.05
5. plastic straws	189	3.94
6. metal bottle caps	185	3.86
7. plastic food bags/wrappers	177	3.69
8. plastic pieces	162	3.38
9. plastic caps/lids	115	2.40
10. foamed plastic pieces	107	2.96
11. glass beverage bottles	102	2.13
12. metal pull tabs	74	1.54
TOTAL	4,278	89.29

STRANDED AND/OR ENTANGLED WILDLIFE REPORTED:**Debris Related**

None reported

Other Reports1 dead seagull
1 dead baby rat**TRACEABLE DEBRIS REPORTED:**

Location	Type of Debris	Source Indicated
Lake Erie	5 balloons	Postier/Beggars Buick Mazda Highway 63 North & 37th Street Rochester, MN 55901 (507)289-3996

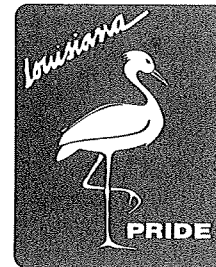
MOST PECULIAR DEBRIS ITEMS REPORTED:

None reported

FOR INFORMATION ON INDIANA'S 1991 BEACH CLEANUP CONTACT:

Tim Early
Aquasphere
P.O. Box 414
Dolton, IL 60419
(708) 396-0999

CLEANUP DATE: COASTWEEKS 1991 (September 21 - October 14)



LOUISIANA

Over 6,000 people spent Saturday, September 22 cleaning beaches and waterways across the state picking up more than 125 tons of trash and debris from 76 miles of beach, inland waterways, and roadside areas, culminating in the state's fifth major beach and waterway cleanup.

Lt. Governor Paul Hardy reported, "We are beginning to see a change in people's attitudes about handling waste in the Gulf of Mexico as these cleanups continue annually. It's still there, but there's less of it now." Hardy is co-chairman of Louisiana Beachsweep along with H. Leighton Steward, CEO, Louisiana Land & Exploration Company.

Leading the beach cleanup was Cameron Zone: 1531 people, 30 tons, cleaning 36 miles, followed by Fourchon Zone: 1162 people, 14.5 tons, cleaning 8 miles. Other zones and beaches reporting were Grand Isle, 900 people, 3 tons, 4 miles; Timbalier Zone: 329 volunteers, 12 miles, 11.2 tons; Acadiana Zone: 434 volunteers, 0.5 tons, 2 miles; Half Moon Island: 18 persons, 1 ton, cleaning 2 miles; Grand Terre Island: 40 persons, 1 ton, cleaning 2 miles.

Major inland waterway cleanup results show cleanups in Acadiana area: 802 volunteers (130 boats), picking up 23 tons, over 157 miles; Rockefeller Wildlife Refuge: 100 volunteers (40 boats), 18 tons, cleaning 346 miles; New Orleans Lake Pontchartrain: 600 people, 20 tons, cleaning 17 miles; Ascension Parish Alligator Bayou: 50 volunteers, 3 tons, cleaning 3 miles; Bayou DeSaird (Monroe): 30 volunteers, 3 tons, cleaning 3 miles; and Baton Rouge University Lakes: 48 people, 3 miles, 3 tons.

Louisiana Beachsweep is sponsored by the Office of Litter Control and Recycling and the Department of Culture, Recreation, and Tourism.

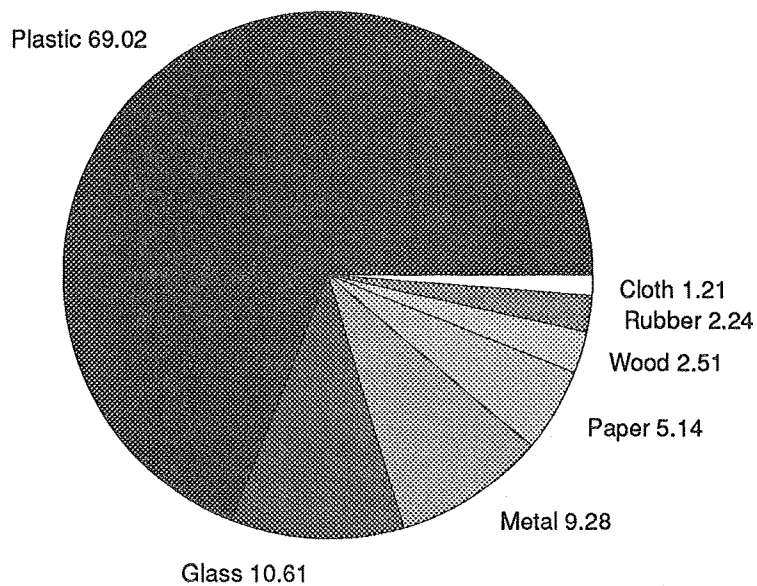
Barbara Coltharp

Cleanup Date:
September 22, 1990

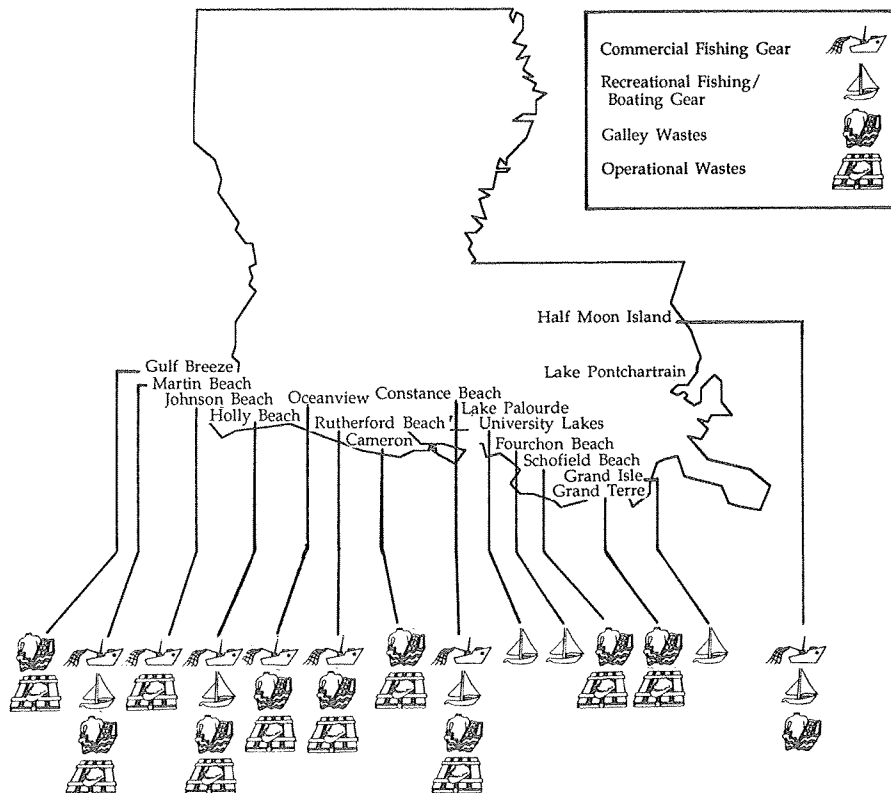
Results:
6,000 volunteers
76 miles cleaned
250,000 pounds of debris
582 data cards

Coordinated by:
Barbara Coltharp
Louisiana Department of
Culture, Recreation and
Tourism
900 Riverside North
P.O. Box 94291
Baton Rouge, LA 70804-9291
(504) 342-8148

PERCENT COMPOSITION OF LOUISIANA'S BEACH DEBRIS:



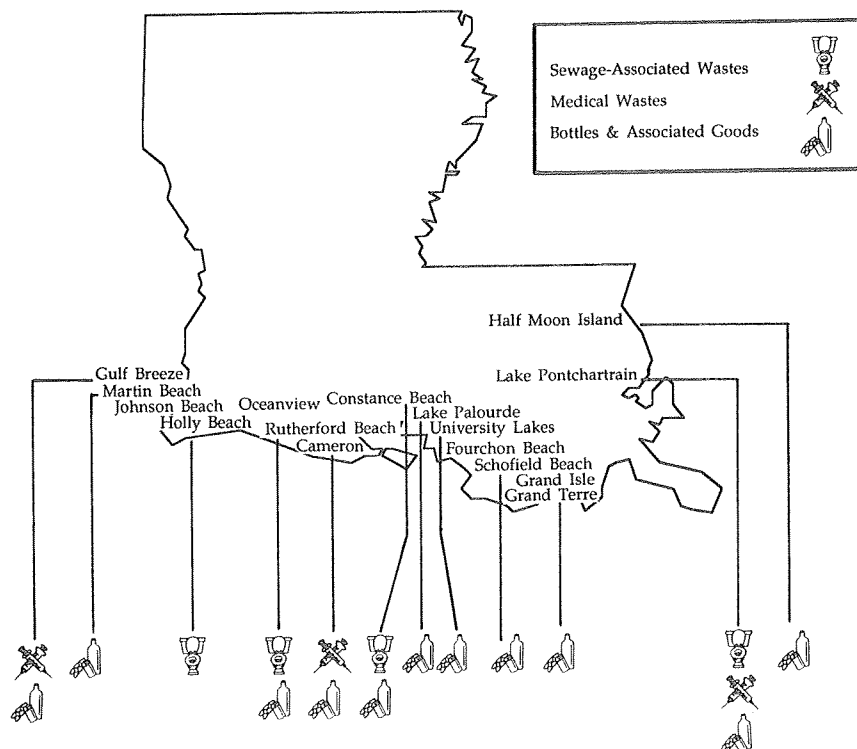
LOUISIANA'S OCEAN-BASED DEBRIS HOTSPOTS:



LOUISIANA'S DIRTY DOZEN:

	Total Number Reported	Percent of Total Debris Collected
1. plastic pieces	10,537	7.79
2. foamed plastic pieces	9,170	6.78
3. plastic caps/lids	8,726	6.46
4. plastic rope	5,621	4.16
5. metal beverage cans	5,535	4.09
6. glass beverage bottles	5,487	4.06
7. plastic milk/water gallon jugs	5,187	3.84
8. foamed plastic cups	4,829	3.57
9. plastic food bags/wrappers	4,020	2.97
10. plastic beverage bottles	3,817	2.96
11. miscellaneous plastic bottles	3,378	2.80
12. glass pieces	2,990	2.21
TOTAL	69,297	51.26

LOUISIANA'S LAND-BASED DEBRIS AND BOTTLES/ASSOC. GOODS HOTSPOTS:



STRANDED AND/OR ENTANGLED WILDLIFE REPORTED:**Debris Related**

Fish entangled in plastic sheet
Fish entangled in rope
Fish with wire and rope wrapped around it
Decomposed turtle with wire noose around neck
Dead water moccasin entangled in fishing line

Other Reports

1 dead rat
2 dead catfish
80 dead fish
4 dead crabs
2 dead sharks
9 dead turtles
4 dead dolphins
1 dead cow

TRACEABLE DEBRIS REPORTED:

Location	Type of Debris	Source Indicated
Lake Pontchartrain	plastic beverage cup	Green Acres Country Club
Grand Isle	plastic salt bag	Morton Salt Co.
	small plastic bag	Conoco
	ice bag	Griffin's Ice, Leesville, LA
	plastic cap	Oil Field Protector Supply, Houston, TX
	life vest	Livingston Oil Well Service
	2 boat salt containers	Cargill Gulf Shore
	hard hat	Texaco
Grand Terre	driftline float	M. V. St. Joseph
	hard hat	Kermit Dixon Chiles Offshore Corporation
	hard hat	Schlumberger
Fourchon Beach	cigarette lighter	P & L Seafood
	plastic grease container	Chevron
	plastic grease container	Shell
	plastic lid	Alliance Plastic Co., Erie, Pennsylvania
	plastic grease container	Exxon
	lubricant spray can	LPS
	1 gal container - SAE40	Shell Oil Rotella
Cameron	3 gal bucket of CFR 3L	Haliburton Services
	55 gal oil drum #HO68-1659	Texaco-Rando
	plastic milk bottle crate	MSB Manufacturing Company, Los Angeles, CA
Holly Beach	large rubber lid	Smithco Industries
	plastic salt bag	Morton Salt Bag
	plastic salt bag	Cargill Gulf Shore
	plastic bag	Elliot Agro-Service, Inc.
		P.O. Box 824, Pineland, TX
	plastic rice bag	KC Trading Inc.
	2 plastic salt bags	Morton Salt
	plastic salt bag	Sealand United Salt Company
	hardhat	Keyes Offshore
	campaign poster	"Cliff Campbell #70 For Sheriff"
	hard hat	Wade Montgomery (Mobile)
	2 plastic lids	Plastican, Inc.
	plastic conditioner bottle	Royal Caribbean
Martin Beach	cardboard box	Royal Pacific
	5 gal. can lid	Exxon

MOST PECULIAR DEBRIS ITEMS REPORTED:

Lake Pontchartrain	4 ft. wooden step ladder, boat ladder, "Mardi Gras" cups
Grand Isle	"Mardi Gras" banner, jar of 15 pickled onions, air conditioner, 1lb fireworks, tobacco, pacifiers, plastic baby arm, wooden handled brush, broom, washing machine agitator, shotgun shells, locks, screws, engine pressure pipe
Grand Terre	brush handle, wooden cabinet door, diver's body suit, shotgun shell, duck decoy, baby doll leg, hair rollers
Fourchon Beach	butane tanks, bedding materials, toy gun holster, socks, wheel hub, x-rated book, earplug, fire extinguisher, dust masks, large gas cylinder
University Lakes	car fan belt, car muffler, axle
Cameron	boat front, wire conduit
Rutherford Beach	needle, window air conditioner
Oceanview	artist's paint brush
Holly Beach	aerosol can of fire extinguishing powder, toilet seat, watch, ping pong ball, tennis ball, douche bag, can of whipped cream
Martin Beach	television antenna

FOR INFORMATION ON LOUISIANA'S 1991 BEACH CLEANUP CONTACT:

Barbara Coltharp
Louisiana Dept. of Culture, Recreation, and Tourism
P.O. Box 94291
Baton Rouge, LA 70804-9291
(504) 342-8148

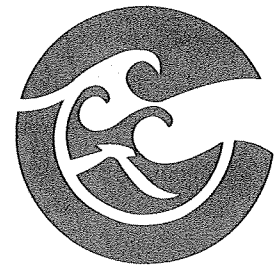
CLEANUP DATE: September 21, 1991



Volunteers at Beach Sweep, Timbalier, wave their arms in support of a successful 1990 campaign.



Beach Sweep volunteer transporting lumber along the beach.



MAINE

Maine's sixth annual Coastal Cleanup attracted more volunteers in 1990, a total of 3,092 pounds of debris collected per mile averaged 157.1, while the number of miles of coastline cleaned rose slightly, from 176 in 1989 to 190.

Unusual finds during this year's cleanup included a kitchen sink, an entire motorcycle, 20 unopened bottles of cough syrup, a tent, eight surfboards, five grocery carts, a snowmobile suit, a broken automobile windshield, a door jamb, a pair of white decontamination overalls, a 1990 time capsule, and a plastic soda bottle containing a postcard from a Russian sailor.

Other puzzling objects found on beaches include many shoes, lots of underwear, washing machine parts, a bag of onions, a car fender, a bathrobe, and jewelry. At one beach volunteers filled seven trash bags with plastic rope, while a group at another beach picked up another 80 pounds. This year, instead of a couple of salmon tags from New Brunswick aquaculture farms, volunteers all up and down the coast found dozens of them.

The weather was somewhat foggy on parts of the coast, but warm. Low tide occurred around midday, giving volunteers plenty of daylight and exposed shore for their cleanup.

Nancy Griffin

Cleanup Date:
September 29, 1990

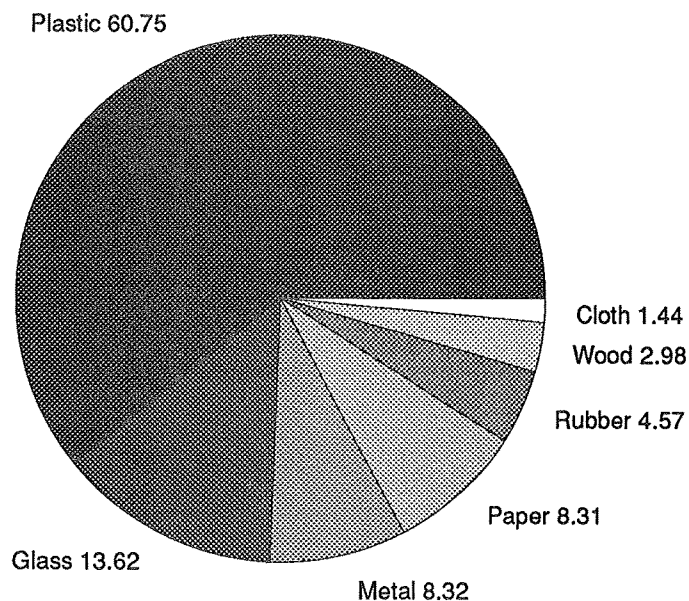
Results:
3,092 volunteers
190 miles cleaned
29,850 pounds of debris
664 data cards

Coordinated by:
Nancy Griffin
Maine Coastal Program
184 State Street
State House Station 38
Augusta, ME 04333
(207) 289-3261

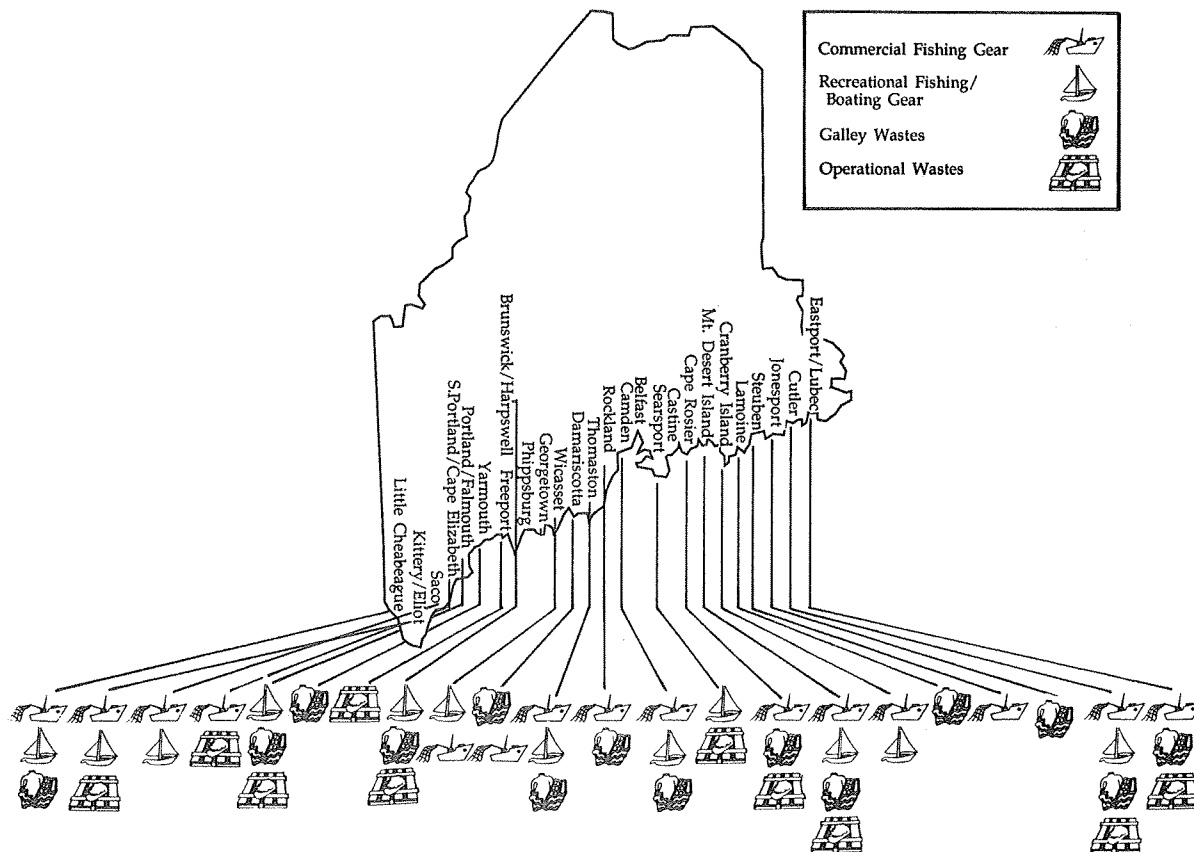


Ingenious volunteers in Maine discover new ways to move debris.

PERCENT COMPOSITION OF MAINE'S BEACH DEBRIS:



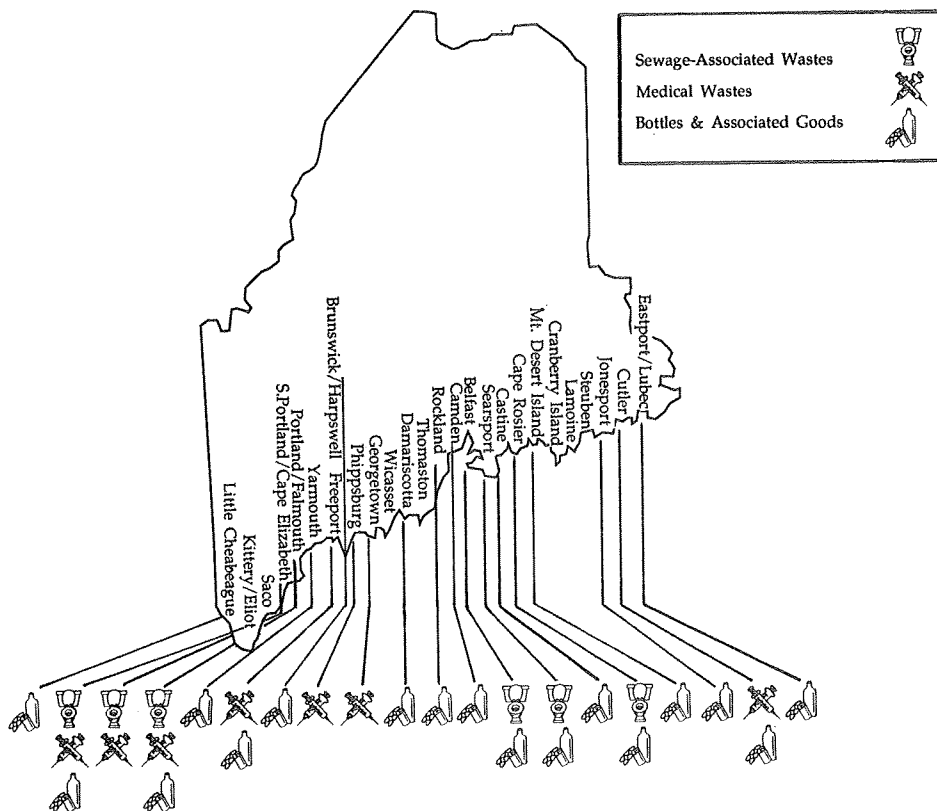
MAINE'S OCEAN-BASED DEBRIS HOTSPOTS:



MAINE'S DIRTY DOZEN:

	Total Number Reported	Percent of Total Debris Collected
1. cigarette filters	17,996	13.84
2. glass pieces	12,218	9.40
3. foamed plastic pieces	9,075	6.98
4. plastic pieces	8,406	6.47
5. plastic rope	6,043	4.65
6. plastic food bags/wrappers	5,849	4.50
7. paper pieces	5,662	4.36
8. miscellaneous rubber	3,921	3.02
9. foamed plastic cups	3,801	3.84
10. miscellaneous plastic	3,308	2.54
11. plastic caps/lids	3,275	2.80
12. glass beverage bottles	3,004	2.31
TOTAL	82,558	63.51

MAINE'S LAND-BASED DEBRIS AND BOTTLES/ASSOC. GOODS HOTSPOTS:



STRANDED AND/OR ENTANGLED WILDLIFE REPORTED:**Debris Related**

Seagull with plastic six-pack ring around neck
Seagull with fish hook in its beak - could not catch

Other Reports

1 dead horse
1 dead dog
1 dead cat
1 dead baby dolphin
2 dead ducks
41 dead seagulls
1 dead bird
5 dead fish
1 dead mouse
2 dead crabs
1 dead buck deer
1 dead porcupine
3 dead seals
5 dead stingrays
1 dead herring gull

TRACEABLE DEBRIS REPORTED:

Location	Type of Debris	Source Indicated
Eastport/Lubec	plastic lobster band	Canadian Lobster Fisheries
	3 plastic lobster bands #S-F 34/90	Canadian Lobster Fisheries
Castine	"For Sale" sign	Singleton Realty
Searsport	strapping labels	Avon Products
	2 plastic fasteners	New Brunswick Aquaculture
	plastic ID strap #1534815	New Brunswick Aquaculture
Camden	plastic tags	New Brunswick Aquaculture
Rockland	Atlantic Silver Salmon band #691383	New Brunswick Aquaculture
	plastic lobster band #DMRSI 079038	Canadian Lobster Fisheries
	plastic salmon band #2902984	New Brunswick Aquaculture
	plastic band	New Brunswick Aquaculture
Thomaston	styrofoam type labels	Very Fine Juice Company, Westford, MA 01886
	plastic lobster bands	Canadian Lobster Fisheries
	scallop labels	C.W. McLoed Fisheries, Nova Scotia, Canada
	plastic band #S-F 34/989-00556	Canadian Lobster Fisheries
Georgetown	plastic band #S-F 34/989-00777	Canadian Lobster Fisheries
	pressure treated lumber	International Paper
Brunswick/ Harpwell	plastic band	Canadian Lobster Fisheries
	plastic band #S-F 34/90-00559	Canadian Lobster Fisheries
	plastic band #S-F 34/?	Canadian Lobster Fisheries
Freeport	pink & red plastic loop	Canadian Lobster Fisheries
Yarmouth	plastic band #2162290	New Brunswick Aquaculture
Portland/Falmouth	strapping band	Catania-Spagna Corporation
South Portland/ Cape Elizabeth	plastic bands	New Brunswick Aquaculture
	#1322882, #27101991, #2711391	
	lobster tag #11654	Canadian Lobster Fisheries
	lobster tag #F186-008963	Canadian Lobster Fisheries
	plastic tag #0551456	Midland Transport
	school picture	Maude Randolph, 627-0871
	plastic lobster tags	Canadian Lobster Fisheries
	#S-F 34/90-00239, #S-F 34/90-01084, #S-F 34/90-01631, #S-F 36/87-033023, #S-F ???-00179, #S-F 34/88-01001, #S-F 36/87-030117	

TRACEABLE DEBRIS REPORTED (cont.):

Location	Type of Debris	Source Indicated
South Portland/ Cape Elizabeth (cont.)	plastic tag #2017384	New Brunswick Aquaculture
	5 plastic tags #S-F 34/8??	Canadian Lobster Fisheries
	plastic tag #S-F 36/89-00083	Canadian Lobster Fisheries
	plastic tag #1855681	New Brunswick Aquaculture
Scarborough	plastic tags #S-F-4A86, #S-F 34/88-01773, #S-F 36/89-00089	Canadian Lobster Fisheries
	lobster strap #S-F 34/89-00007	Canadian Lobster Fisheries
	plastic tags #S-F 34/90-00144, S-F 34/89 007389, #S-F 34/90- 01024, #S-F-485	Canadian Lobster Fisheries
	balloon	"Ecole Scare-Cdeur Mont-Laurier"
	plastic bracelet	Fun Town USA
Kittery/Eliot	plastic strap-orange #000766 S-F4A85	Canadian Lobster Fisheries

MOST PECULIAR DEBRIS ITEMS REPORTED:

Eastport/Lubec	jacket, 4 size "d" batteries, pair flowered slippers, ski, kitchen sink, piece of boat, smashed toilet, propane tank, door
Cutler	can, pot warp, Canadian coast guard sign: "Don't let a good catch be your last reward", broom
Jonesport	men's shorts
Steuben	"Hercules" toy, pot handle
Schoodic Peninsula	door jam
Lamoine	black patent leather shoes, whale-shaped soap
Mt. Desert Island	plastic eggs, vibrator, tent, bucket of salted fish
Castine	realty sign, metal pail, broken windshield, sweater, loaf of bread
Blue Hill/Surry	lamp shade frame, soda bottle with a faded postcard message possibly Russian, blanket, rug, silk flower, metal dredge
Searsport	"Barbie" doll, broom, two tire rims, antique pottery, car jacks, "Avon" bottles
Camden	car side view mirror, beer "Keg", remote control rocket
Rockland	garbage barrel, tent, small rowboat, wash basin, tarp, beach towel, oil bucket, hat, metal spoon, umbrella, thermometer, rubber eyeball
Thomaston	rudder, car headlight, truck tailgate, toothbrush, broken record
Damariscotta	whole car body, wood stove, large fish bins
Georgetown	pornographic pictures, two shotgun cartridges, message in a bottle, sock
Phippsburg	plastic laundry basket, boat seat, car bumper

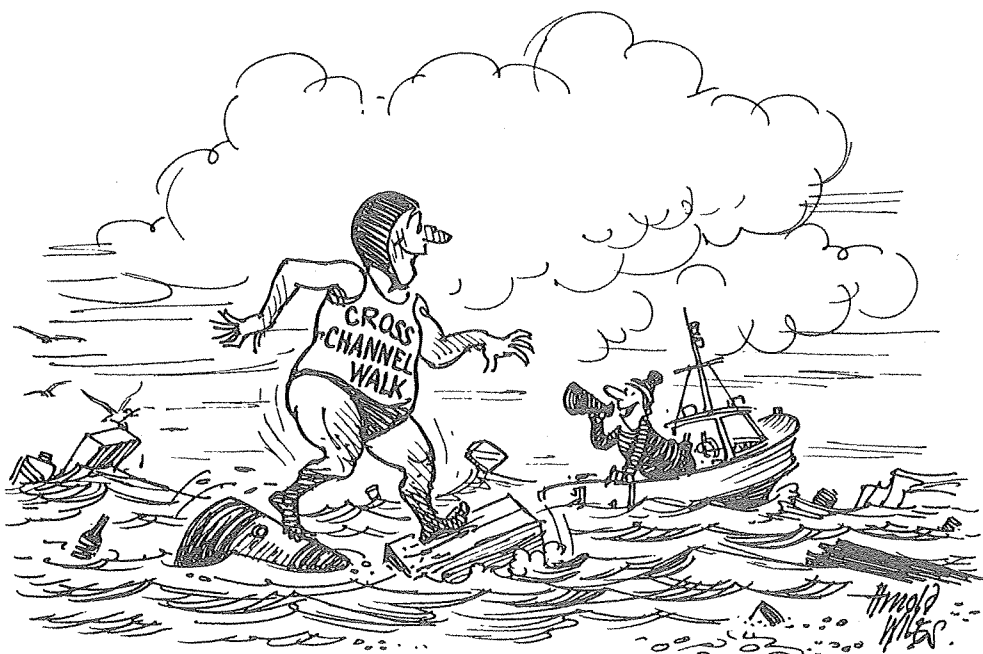
MOST PECULIAR DEBRIS ITEMS REPORTED (cont.):

Brunswick/ Harpwell	sled, lawnchair, shotgun shells, "storage battery", paint can, 1923 coke bottle
Freeport	dock cleat
Yarmouth	engine head
Portland/Falmouth	rudder, sweater, milk crate, kitchen sink, oven rack, full can of beer, motorcycle, 20 bottles of "Robitussin", 1/2 full jug of paint, 1/2 full jug of anti-freeze, diaphragm, sandwich, flip flop, cart, inner fender of a car, "United Way" pin, electronic garage door opener, trash can, blank check, ceiling light panel
South Portland/ Cape Elizabeth	life jacket, thermos, full jar of mayonnaise, part of boat, canteen, mitten, zipper pull, snowmobile suit, 3 lb. bag of onions
Scarborough	batteries, baseball cap, socks, shoelaces, tree stump, two shower curtains, boat oil filter, golf balls, lollipop sticks, rubber hand, one way sign, clothes hanger, "Barbie" bra,
Old Orchard Beach	ear plug, piece of clothes basket, window frame
York	compass, rubber surgical gloves
Kittery/Eliot	lincoln log toy, piece of canoe

FOR INFORMATION ON MAINE'S 1991 BEACH CLEANUP CONTACT:

Coastal Communications Coordinator
State Planning Office
Station 38
Augusta, ME 04333
(207) 289-3261

CLEANUP DATE: September 21, 1991



"Keep it up, Fred! There's plenty more rubbish coming in with the tide!"

MARYLAND

Assateague Island

The September 8, 1990 Beach Cleanup on Assateague Island National Seashore in Maryland was another great day with 250 enthusiastic people. This compares to 179 last year. In Assateague, twenty-two miles of beach were cleaned, 724 bags filled, with a total of 20,000 pounds, compared to 36,000 pounds collected in 1989. By far, the greatest amount of trash was plastic. People were enthusiastic to participate in removing debris from the beach.

This year, the Governor of the State of Maryland was represented by one of his environmental aides, Cecily Majerus. Richard Leader of the Chesapeake Bay Trust also helped out. Sponsors of the beach cleanup were the Committee to Preserve Assateague, Assateague Island National Seashore, Assateague Mobile Sportfishermen's Association, Worcester Environmental Trust, and the National Aquarium in Baltimore, which brought a bus load of people. Other groups that assisted were the Telephone Pioneers, a group from the Calverton School in Huntington, and ten boys from Boy Scout Troop #853 in Annapolis. Some of the local Worcester County schools also had people assisting.

First Brands Corporation provided us with Glad Bags which were a great help in collecting the trash. Thanks to the efforts of Senator Barbara Mikulski, we had a grant to cover our expenses this year, the first time that this has happened. We were able to provide pencils which had "Assateague Beach Cleanup" inscribed on them. We also had 300 clipboards used for writing on the data cards. They will be saved and used in future years. Participants received t-shirts specially designed by Elaine Kasmer and produced by a Worcester County firm, Action Island, Inc. Everyone found it a great experience and a most satisfying one, and they all said they will come back next year.

Judy Johnson

Chesapeake Bay

The 1990 Chesapeake Beach Cleanup was the first opportunity for the Alliance for the Chesapeake Bay to participate in COASTWEEKS. It was envisioned as a way to increase awareness about marine debris littering our shorelines and to increase citizen participation in the restoration of the Bay.

There was a great response to the cleanup; more than 1,600 volunteers from nineteen organizations participated and covered over twenty miles of shoreline. Everyone was full of enthusiasm for the cleanups and even the Governor of Maryland, Governor Schaefer, made a surprise visit to the cleanup on the Anacostia River to lend his support. Thanks to a congressional appropriation secured by Senator Barbara Mikulski, we were able to provide all the cleanup participants with reimbursement for their cleanups, as well as extras such as t-shirts, clipboards, and vinyl gloves.

Participants agreed that beach cleanups are a beneficial and even necessary. One coordinator said, "This activity is stimulating more citizen participation in the restoration of the watershed as well as community self esteem."

Amanda Owens

Cleanup Date:

September 8, 1990

Results:

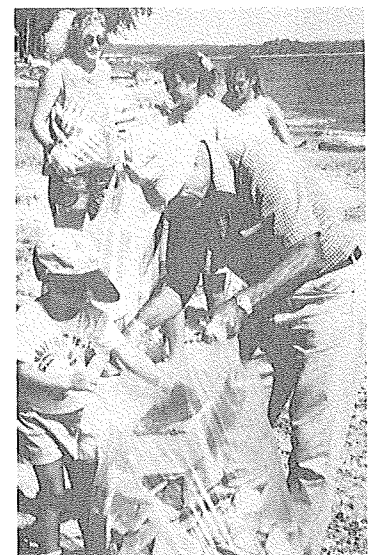
1,664 volunteers
 92 miles cleaned
 34,613 pounds of debris
 231 data cards

Coordinated by:

Judy Johnson
 Committee to Preserve
 Assateague Island, Inc.
 616 Piccadilly Road
 Towson, MD 21204
 (301) 828-4520

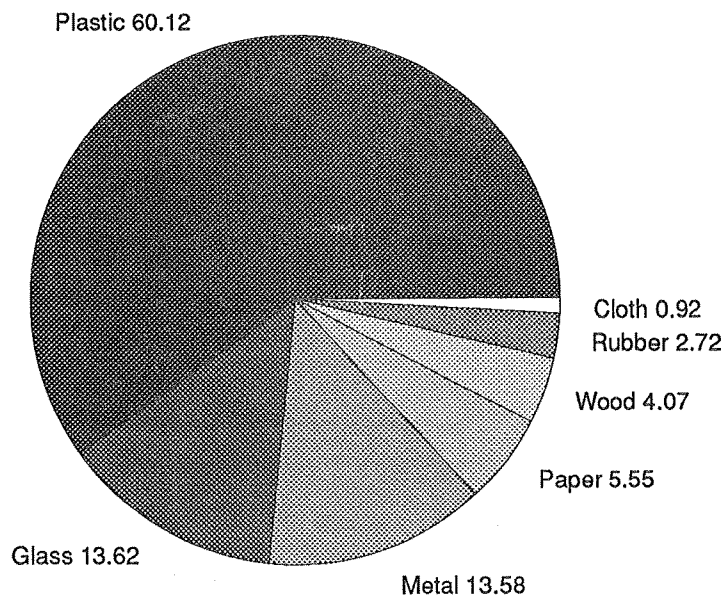
Katie Konopic and

Amanda Owens
 Alliance for the Chesapeake
 Bay, Inc.
 6600 York Road, Suite 100
 Baltimore, MD 21212
 (301) 377-6270

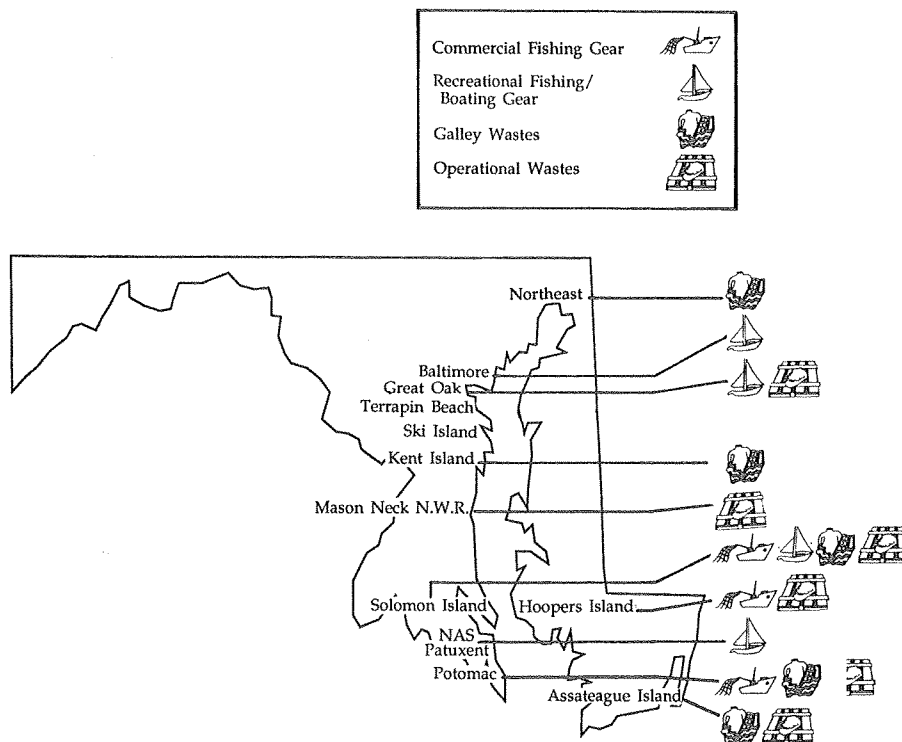


Jeff Carlisle and Billy Tacha deposit pieces of foam that had been part of a boat's hull.

PERCENT COMPOSITION OF MARYLAND'S BEACH DEBRIS:



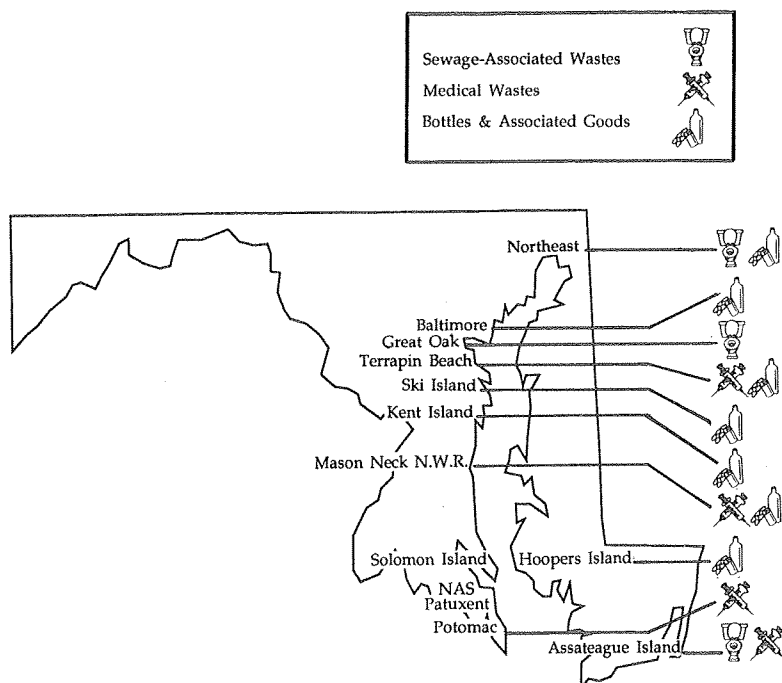
MARYLAND'S OCEAN-BASED DEBRIS HOTSPOTS:



MARYLAND'S DIRTY DOZEN:

	Total Number Reported	Percent of Total Debris Collected
1. glass beverage bottles	5,359	8.07
2. metal beverage cans	5,280	7.95
3. plastic pieces	4,195	6.32
4. foamed plastic pieces	3,911	5.89
5. foamed plastic cups	3,221	4.85
6. plastic caps/lids	2,868	4.32
7. plastic beverage bottles	2,734	4.12
8. plastic food bags/wrappers	2,219	3.34
9. cigarette filters	2,202	3.32
10. glass pieces	2,090	3.15
11. lumber pieces	2,046	3.08
12. plastic straws	2,033	3.06
TOTAL	38,158	57.47

MARYLAND'S LAND-BASED DEBRIS AND BOTTLES/ASSOC. GOODS HOTSPOTS:



STRANDED AND/OR ENTANGLED WILDLIFE REPORTED:**Debris Related**

Crab entangled in fishing line
Bones found in nylon net
Seagull with monofilament fishing cord
around body - unable to fly
2 toadfish trapped in crab pot

Other Reports

1 dead catfish
1 dead snake
5 dead seagulls
1 dead crab
1 dead squirrel
1 dead bird
1 horseshoe crab

TRACEABLE DEBRIS REPORTED:

Location	Type of Debris	Source Indicated
Assateague Island	survey bottle drink box with straw	New York Dept. of Environmental Protection Presidents Enterprises, Taiwan

MOST PECULIAR DEBRIS ITEMS REPORTED:

Baltimore	exhaust pipe, muffler, whiskey bottle, plastic cooler, clothes hanger, bed spring, large broken table
Great Oak	piece of wire fencing, 6 pack beer unopened, small boat
Terrapin Beach	drive shaft
Ski Island	terra cotta pot, birthday candles
Kent Island	stern of a boat
Mason Neck NWR	rubber hotdog, wooden sign "Keep area clean", telephone
NAS Patuxent	whistle, toothbrush, car battery, tennis ball, life preserver
Bladensburg	bicycle, tricycle, suitcases, 25 ft. ladder, football, helmet, two motorcycles, four washing machines, bathtub, refrigerator, air conditioner, sofa bed, 4 mattresses, 15 carts, 8 lawn mowers, picnic table, oven, car front end
Potomac	toothbrush
Solomon Island	foam rubber mattress, boat wreckage, bicycle, 2 plow shares, mattress pad, part of boat window, big plastic tray, chairs, canvas bag, parachute, sonar buoy, warped tennis racket
Assateague Island	pacifiers, refrigerator door, part of a sail boat, swimming flipper, car back window frame, 1/2 of a surfboard, metal hinge, first aid cream, barbecue grill, survey bottle from New York Department of Environmental Protection, full 2 ltr. bottle of coke, rubber car part, fencing, batteries, hockey puck, hearing aid, plastic sunflower, boat seat, curler, dentures, "G.I. Joe", barometer, plastic turtle, kidney belt
Hoopers Island	toy truck, contact lens case

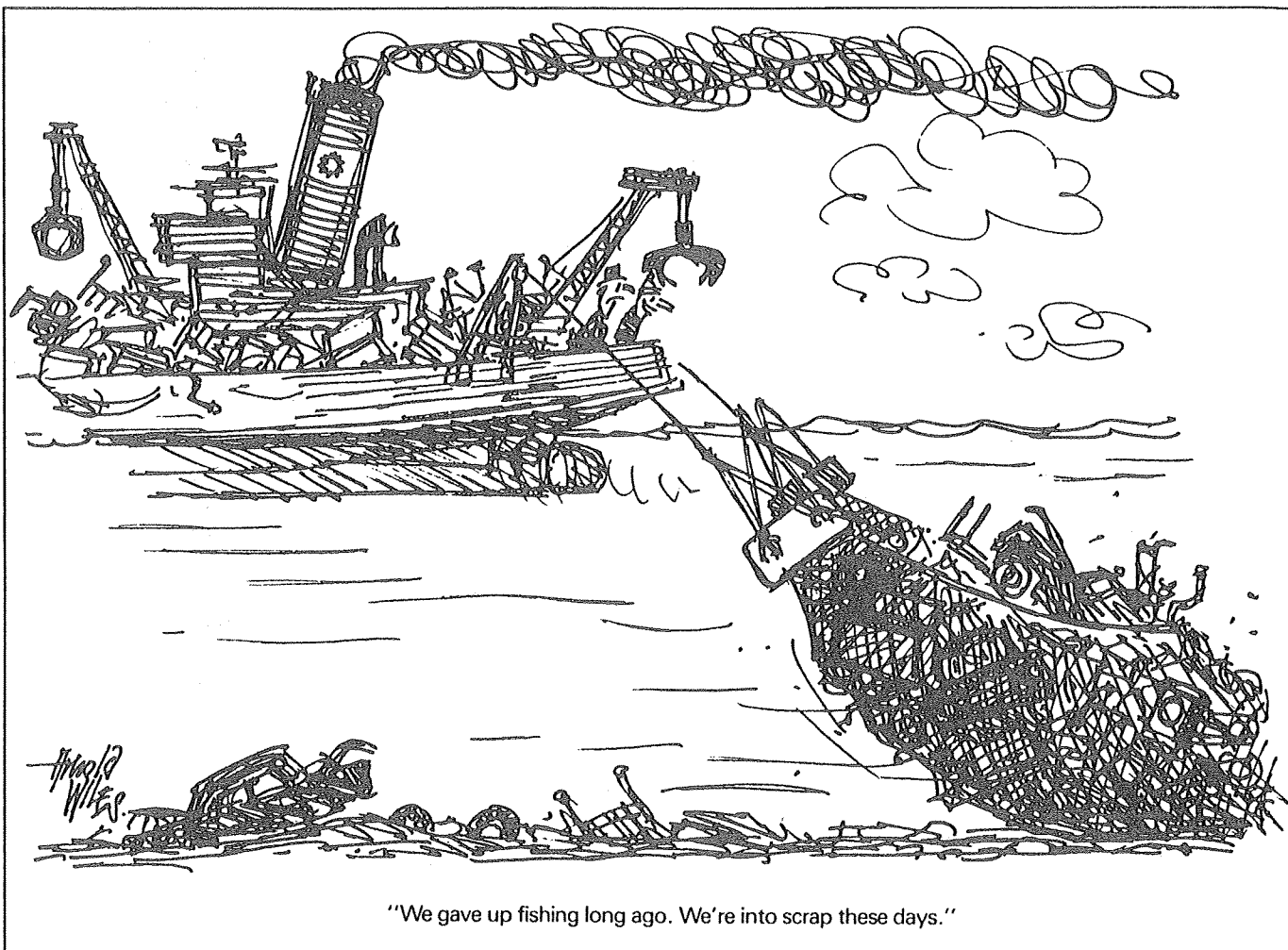
FOR INFORMATION ON MARYLAND'S 1991 BEACH CLEANUP CONTACT:

Judy Johnson
616 Piccadilly Road
Towson, MD 21204
(301) 828-4520

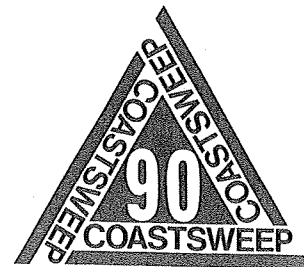
CLEANUP DATES: September 7 and September 14

Amanda Owens
Alliance for the Chesapeake Bay, Inc.
6600 York Road, Suite 100
Baltimore, MD 21212
(301) 377-6270

CLEANUP DATES: COASTWEEKS (September 21 - October 14)



"We gave up fishing long ago. We're into scrap these days."



MASSACHUSETTS

The trash barrels and recycling bins were set out. The gloves and bags unpacked. The student volunteers were ready and waiting to staff the registration desk. But even the best laid plans are at the mercy of Mother Nature.

At 9:57 am on September 15, three minutes before the official start of Massachusetts COASTSWEEP '90, the skies opened up, pouring rain upon the 200 volunteers who had gathered to clean Wollaston Beach in Quincy.

The storm provided a thunderous welcome to Governor Michael Dukakis on his first full day back to the Commonwealth from a trip to Germany. Although the weather was uncooperative, the spirits of the participants never flagged. Members of the Squantum Yacht Club opened the doors to their facility and invited the soaked throng inside for opening festivities, which included talks by the Governor, Commissioner Ilyas Bhatti, Coastal Zone Management Director Jeff Benoit, COASTSWEEP Coordinator Anne Smrcina, and Nancy Russo, meteorologist from WBZ-TV4, one of the COASTSWEEP corporate sponsors. Stop & Shop Supermarkets provided soft drinks and raffle prizes -- 10 canvas shopping bags, one containing a \$100 gift certificate. Harvard Community Health Plan donated 10,000 latex gloves for use in all of the COASTSWEEP cleanups.

Many of the volunteers decided to wait out the storm, contentedly consuming hamburgers and chips provided by the yacht club. When the clouds cleared out by 11:30, there was little evidence that a torrential downpour had just passed through -- other than some wet sand and t-shirts.

About 100 dedicated volunteers at this cleanup site then hit the beach clearing away over 500 pounds of cigarette filters, pieces of glass, plastic straws, rope, bottle caps, and other items of debris. Meanwhile, in other Commonwealth communities, similar cleanups were occurring. Additional cleanups continued throughout the COASTWEEKS time period (September 15-October 6) and even throughout the month of October (the final cleanup was in Dartmouth on October 29). Some 80 cleanups were organized statewide.

Among the noteworthy events during COASTSWEEP were: the highly coordinated cleanup at Duxbury beach expertly organized by Battelle Ocean Sciences which included four-wheel drive transport along the beach, t-shirts, and refreshments; the underwater (scuba) cleanup in Marblehead in conjunction with the land-side cleanup; the Webb State Park cleanup coordinated by the Massachusetts Association of Conservation Commissions which included a day-long party; a cleanup at Washburn Island with transportation provided by the Waquoit Bay Yacht Club; the Uxbridge (an inland community) Student Council's field trip to Horseneck Beach as an environmental service project; and the participation of hundreds of students and entire classes from schools located in coastal communities.

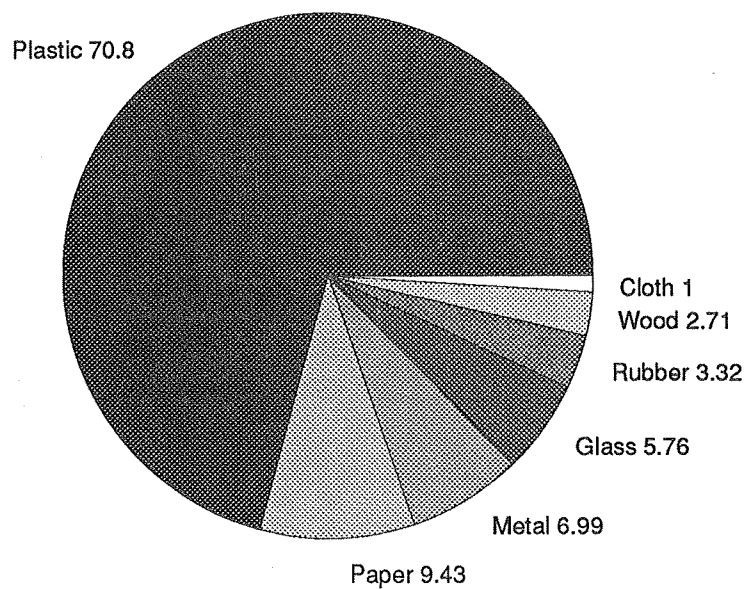
Cleanup Date:
September 15 -
October 6, 1990

Results:
4,200 volunteers
200 miles cleaned
70,000 pounds of debris
1,048 data cards

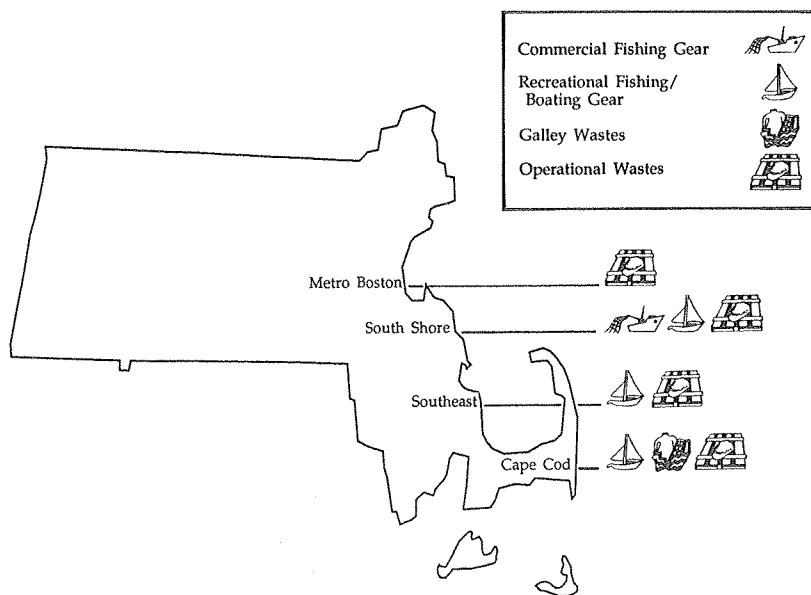
Coordinated by:
Anne Smrcina
Coastal Zone
Management Program
100 Cambridge Street,
20th Floor
Boston, MA 02202
(617) 727-9530

Anne Smrcina

PERCENT COMPOSITION OF MASSACHUSETTS' BEACH DEBRIS:



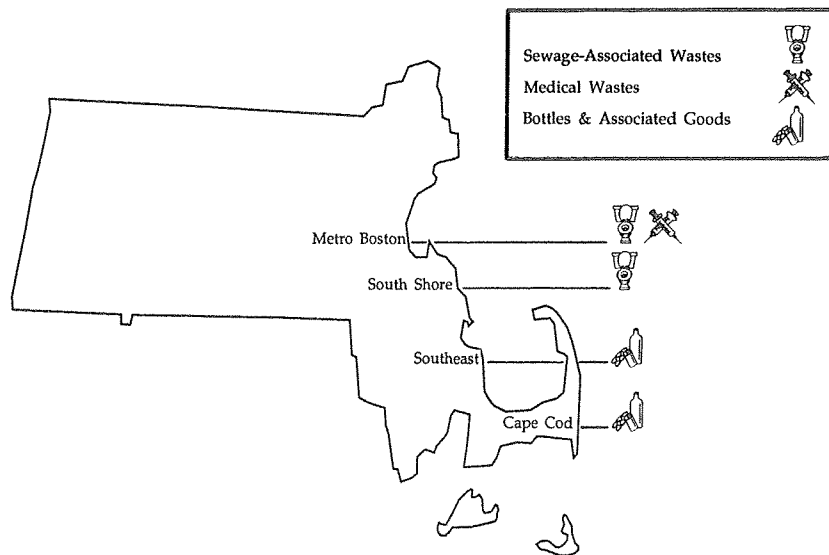
MASSACHUSETTS' OCEAN-BASED DEBRIS HOTSPOTS:



MASSACHUSETTS' DIRTY DOZEN:

	Total Number Reported	Percent of Total Debris Collected
1. cigarette filters	38,071	15.82
2. plastic pieces	19,092	7.94
3. plastic food bags/wrappers	12,432	5.17
4. foamed plastic pieces	12,238	5.09
5. plastic caps/lids	11,503	4.78
6. plastic rope	11,226	4.67
7. plastic straws	11,179	4.65
8. paper pieces	10,627	4.42
9. glass pieces	8,311	3.45
10. plastic cups/utensils	5,901	2.45
11. plastic tampon applicators	5,820	2.42
12. metal beverage cans	5,557	2.31
TOTAL	151,957	63.16

MASSACHUSETTS' LAND-BASED DEBRIS AND BOTTLES/ASSOC. GOODS HOTSPOTS:



STRANDED AND/OR ENTANGLED WILDLIFE REPORTED:**Debris Related**

Dead seagull with plastic in beak
Seagull with lure in mouth - released

Other Reports

17 dead seagulls
9 dead birds
3 dead squirrels
1 dead crab

TRACEABLE DEBRIS REPORTED:

Location	Type of Debris	Source Indicated
North Shore	plastic container	Lome Manufacturing Corp., New York
	green plastic band S-F 34/89 01021	Canadian Lobster Fisheries
Metro Boston	plastic band w/ID #	Atlantic Salmon Fisheries
South Shore	2 plastic strapping bands	Canadian Lobster Fisheries
	balloon	Hard Rock Cafe
	balloon	CR's Market
	balloon	Ambrosino School Committee
	balloon	Las Brisas
	balloon	Manhattan Cable Company
	plastic sheet - 1'	Belzona Molecular
	plastic band	Canadian Lobster Fisheries
	paper cup	Marriott Hotels
	plastic strapping #S-F34-89 00503	Canadian Lobster Fisheries
	Cornell charge card slip	Alison Austin
	strapping piece #S-F 36-89 00027	Canadian Lobster Fisheries
	plastic strip #2374373	New Brunswick Aquaculture
	plastic strapping band	NE Sea Farms
	fish tag #1336878	New Brunswick Aquaculture
Cape Cod	13 magazines	Richard Middleton, P.C.
	plastic strapping #S-F 34-90 00986	Canadian Lobster Fisheries
	plastic strapping #1719730	New Brunswick Aquaculture
	plastic band #S-F 34/89 00168	Canadian Lobster Fisheries
	2 fish tags #920726, #1226948	New Brunswick Aquaculture
	plastic strapping band	Town of Harwich
	plastic seal #057118	Northco Seafoods
	2 tree label tags	Northern Maine Tree Farm, (207) 834-3075
	balloon	Woody's Food & Spirits
	2 balloons	Garrett for Assembly

MOST PECULIAR DEBRIS ITEMS REPORTED:

North Shore	toy hand, prescription bottles, diving sheath, engine, pillow, breathing mask filter, bottle of vodka, birthday candles, hub cap, emergency locator, electric outlet, metal spikes, plastic harmonica, message in a bottle from an eight-year-old, wheel
Metro Boston	shoe soles, wooden ladder, "Ortho" brand full can of spray, metal sign post, birth control pill dispenser, Walkman front, eye glasses, hockey stick, rug, tape measure, sweatshirt, container filled with tobacco, oil filter, piece of paper from "Burger King" that said biodegradable, leather duffle bag, phone book, spray paint can, car lighter, iron rod, telephone book, picket fence, oil drum, salt shaker, vacuum cleaner, harmonica, unopened sardine can, flower holder, nylon jacket, shot gun shells, plastic imitation tree bark, lawn chairs, plastic kite, deck of boat, paint can, ashtrays

MOST PECULIAR DEBRIS ITEMS REPORTED (cont.):

South Shore	wheel base, bedsprings, torque converter, motorcycle license plate holder, stereo speaker, boat seat, recording tape from audio cassette, rug, garden hose, signal horn, pacifiers, baby bottles, birthday candle, a furry styrofoam snake, Hard Rock Cafe balloon - said "Save the Planet", water ski, baseball bat, cylinder block, "Barbie" doll shoe, paint can, watch that still ran, barbecue, rusty knife, "Barbie" doll head, muffler, wall paper remover bottle, antenna, flipper, inflatable ski boat, 4 film containers, balloon "Help make a better community" Bromley Heath dated 1990, saucepan, full bottle of motor oil, pornographic magazine, radio, toy fur whale, skateboard wheels, hubcap
South East	shower head, razor, hanger, firecracker, sneaker sole, bottle of baby oil, flipper, bullet shells, recliner chair remains, blanket, whipped cream aerosol, beach chair, small tray table, boat ladder, socks
Cape Cod	swim goggles, aluminum boat filled with sand, beach chairs, full cans of beer, blue hanger, American flag, mouth retainer, leather belt, welding helmet, flipper, frost free refrigerator, hat from Miami, message in a bottle, large vodka bottle, 3/4 full bottle of "Jim Beam Whiskey", window frame, deck of boat, full pouch of tobacco, new fishing cap, frisbee, bucket seat, yellow rubber boat, hammock, electric curler, detonator, "Rubbermaid" container of butter, well weathered roll of aluminum foil, blue pencil from volunteer, two fire extinguishers, 2 complete drinking glasses, Christmas tree with tinsel, 25 ft. crime scene tape, full container of toilet bowl cleaner, full bottle of apple juice, medical inhaler, car parts, plastic coverall, wire fence, gas canister for grill, dumping permit from Falmouth, 3 ft. piece of wind surfer sail, metal car, rocking chair arm, dart, toy bear with no stuffing

FOR INFORMATION ON MASSACHUSETTS' 1991 BEACH CLEANUP CONTACT:

Anne Smrcina
Coastal Zone Management Program
100 Cambridge St., 20th Floor
Boston, MA 02202
(617) 727-9530

CLEANUP DATE: September 21, 1991



Governor Michael Dukakis and students from Central Middle School in Quincy wait out the storm at the kick-off ceremonies for CoastswEEP '90.



MISSISSIPPI

The Mississippi Marine Trash Task Force with the assistance of 1,863 volunteers conducted a successful Mississippi Coastal Cleanup on September 22. The Task Force comprised representatives from the Bureau of Marine Resources, Chevron U.S.A. Inc., Friends of the Islands, Gulf Islands National Seashore, Hancock Chamber of Commerce, Harrison County Beautification Program, Mississippi-Alabama Sea Grant Consortium, Mississippi Gulf Coast Community College, Pascagoula Keep America Beautiful, Scranton Museum, Keesler Air Force Base, Office of the Secretary of State, National Marine Fisheries Service, BFI Waste Systems, and the Gulf Coast Research Laboratory. Cleanup volunteers collected an estimated 22 tons of trash from 106 miles of Mississippi beaches and shorelines. Areas cleaned included four barrier islands (portion of Gulf Islands National Seashore, National Park Service), two nearshore islands, and mainland shorelines in Mississippi's three coastal counties.

Volunteers spent three hours removing debris from sandy beaches, coastal rivers, and tidal marshes. Their efforts helped to focus local attention on the problems associated with marine debris. Organizers are encouraged by the yearly increase in volunteer participation and the continued decrease in the volume of debris removed from the beaches. In 1990, 415 pounds per mile of trash was removed from Mississippi's shorelines, compared to a high in 1988 of 3,000 per mile. While it is difficult to account for this decrease, it is hoped that the Mississippi Marine Litter Act of 1989 and an increased environmental awareness are paying dividends.

An Adopt-A-Beach program for the Gulf Islands National Seashore barrier islands was extremely successful. Over 40 miles of beach were adopted. This approach lessens the logistical problems for organizers in cleaning the barrier islands located 10-12 miles off the mainland. Gulf Islands National Seashore won the federal division in the 1990 "Take Pride in America" Mississippi Beautification Competition for their Adopt-A-Beach effort.

In addition to the dedication of volunteers and organizers, nearly 50 agencies, businesses, and corporations provided support for the cleanup activities. Support came in the form of cash donations, pencils, food, gloves, transportation, printing, mailing, fuel, drinks, trash bags, and trash disposal. For this support we are most appreciative.

Once again, 94 year-old Margaret "Auntie Litter" Byron served as the cleanup's honorary chair. A post-cleanup party was held at Point Cadet and served to help relax those who worked so diligently on the cleanup. In addition to the 1990 cleanup, several organizations conducted marine debris education programs throughout the year. A combination of such educational efforts will ultimately help solve the marine debris problems.

David Ruple
Mississippi Department of
Wildlife, Fisheries, and Parks

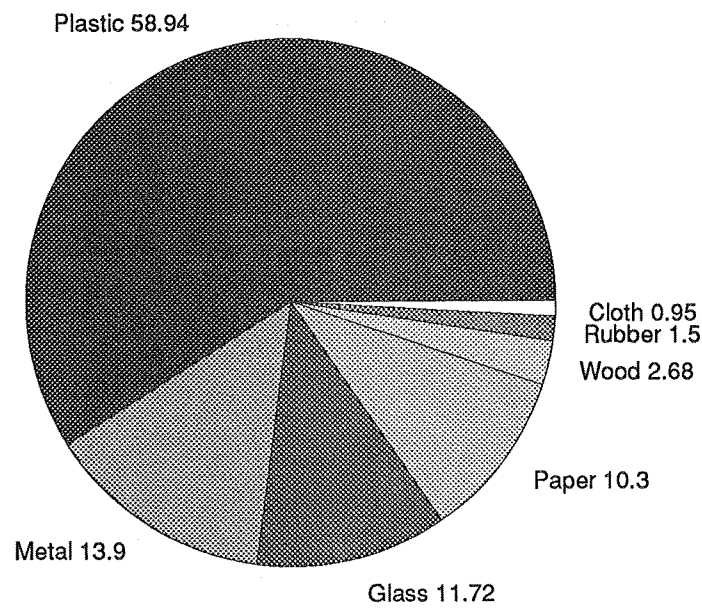
Cleanup Date:
September 22, 1990

Results:
1,863 volunteers
106 miles cleaned
44,000 pounds of debris
610 data cards

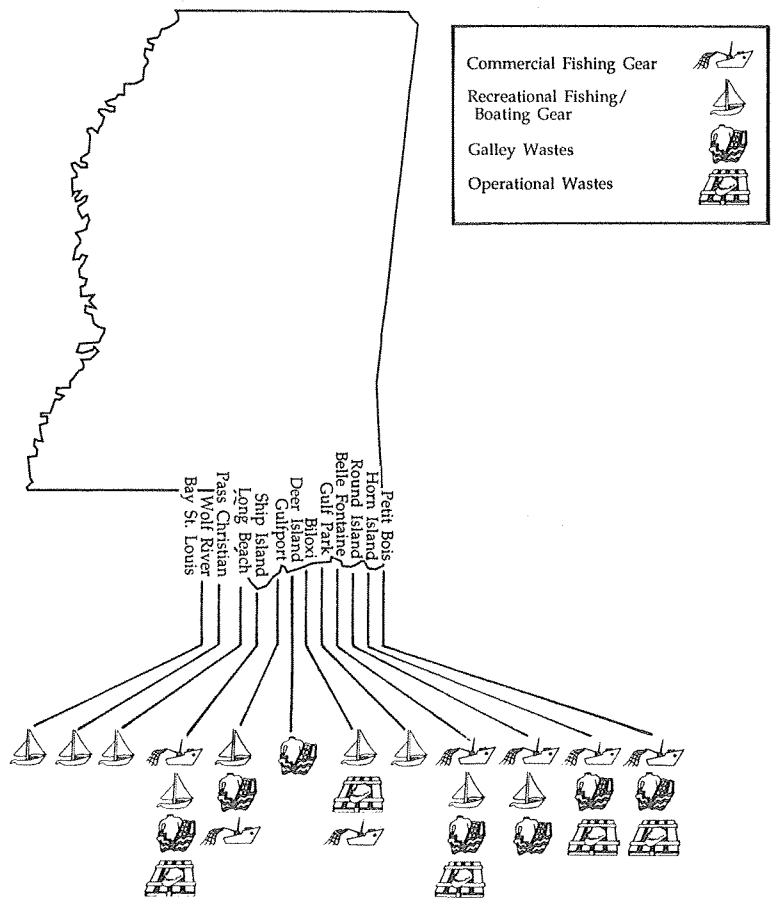
Coordinated by:
Dianne Hunt
Mississippi Department of
Wildlife, Fisheries, and
Parks
Bureau of Marine Resources
2620 Beach Boulevard
Biloxi, MS 39531
(601) 385-5860

Gail Bishop
Gulf Islands National
Seashore
3500 Park Road
Ocean Springs, MS 39564
(601) 875-0074

PERCENT COMPOSITION OF MISSISSIPPI'S BEACH DEBRIS:



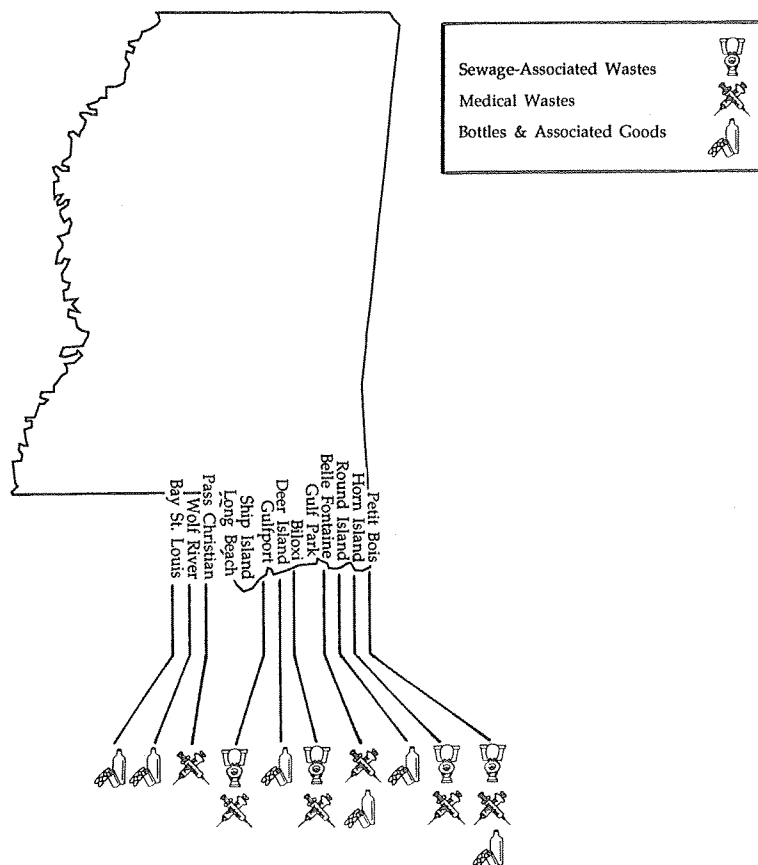
MISSISSIPPI'S OCEAN-BASED DEBRIS HOTSPOTS:



MISSISSIPPI'S DIRTY DOZEN:

	Total Number Reported	Percent of Total Debris Collected
1. metal beverage cans	6,325	6.93
2. cigarette filters	4,710	5.16
3. foamed plastic pieces	4,327	4.74
4. glass pieces	4,038	4.43
5. plastic food bags/wrappers	3,946	4.33
6. plastic pieces	3,940	4.32
7. glass beverage bottles	3,904	4.28
8. plastic caps/lids	3,741	4.10
9. plastic beverage bottles	3,731	4.09
10. paper pieces	3,294	3.61
11. foamed plastic cups	3,282	3.60
12. plastic cups/utensils	2,188	2.40
TOTAL	47,426	52.00

MISSISSIPPI'S LAND-BASED DEBRIS AND BOTTLES/ASSOC. GOODS HOTSPOTS:



STRANDED AND/OR ENTANGLED WILDLIFE REPORTED:**Debris Related**

Seagull entangled in fishing line with
a hook in its neck
Small catfish in beer can

Other Reports

2 dead dolphins
2 dead seagulls
19 horseshoe crabs
1 dead blowfish
6 dead fish
1 dead catfish
1 dead bird
2 dead turtles
3 dead jellyfish

TRACEABLE DEBRIS REPORTED:

Location	Type of Debris	Source Indicated
Gulf Park	sign	Marion Lindsay
Ocean Springs	tag	Boquets Seafood, Chauvin, LA
	tag	D & L Seafood Empire, LA
	tag #LA 100	T. Critanovich Seafood
	plastic bag	Crystal Ice, Gulfport, MS
Biloxi	2 labels	T. Critanovich Seafood, Metairie, LA
	5 plastic cups	Holiday Inn
Bay St. Louis	advertising brochure	Quality Inn
	"For Sale" sign	Mel Frisbee/Cindy Johnson
	metal drink can	YEO's Grass Jelly Drink, YEO Hiap Seng, Ltd. 950 Dunearn Road, Singapore 2158

MOST PECULIAR DEBRIS ITEMS REPORTED:

Petit Bois	lighter fluid, unused motor oil bottle
Horn Island	vinyl floor tile, lawn chair, picture frame, straw hat, propane gas tank, full bottle of beer
Round Island	toilet seat, television, shirt
Belle Fontaine	broken cement bird bath, refrigerator door, small wooden boat
Gulf Park	car parts, metal lawn chair frame, "Timis" pulley
Ocean Springs	fruit crate, car muffler, plastic flowers, life jackets, rocket toy, smoke bomb
Biloxi	car air filter, two egg cartons with eggs in them, empty insulin bag
Gulfport	round television antenna
Ship Island	pillow, shrimp basket, coffee maker, shotgun shells, tennis toothbrush, medicine bottle, two glass test tubes with rubber stoppers, mop wringer
Pass Christian	pacifier, bucket, firework base
Wolf River	dishwashing machine tray

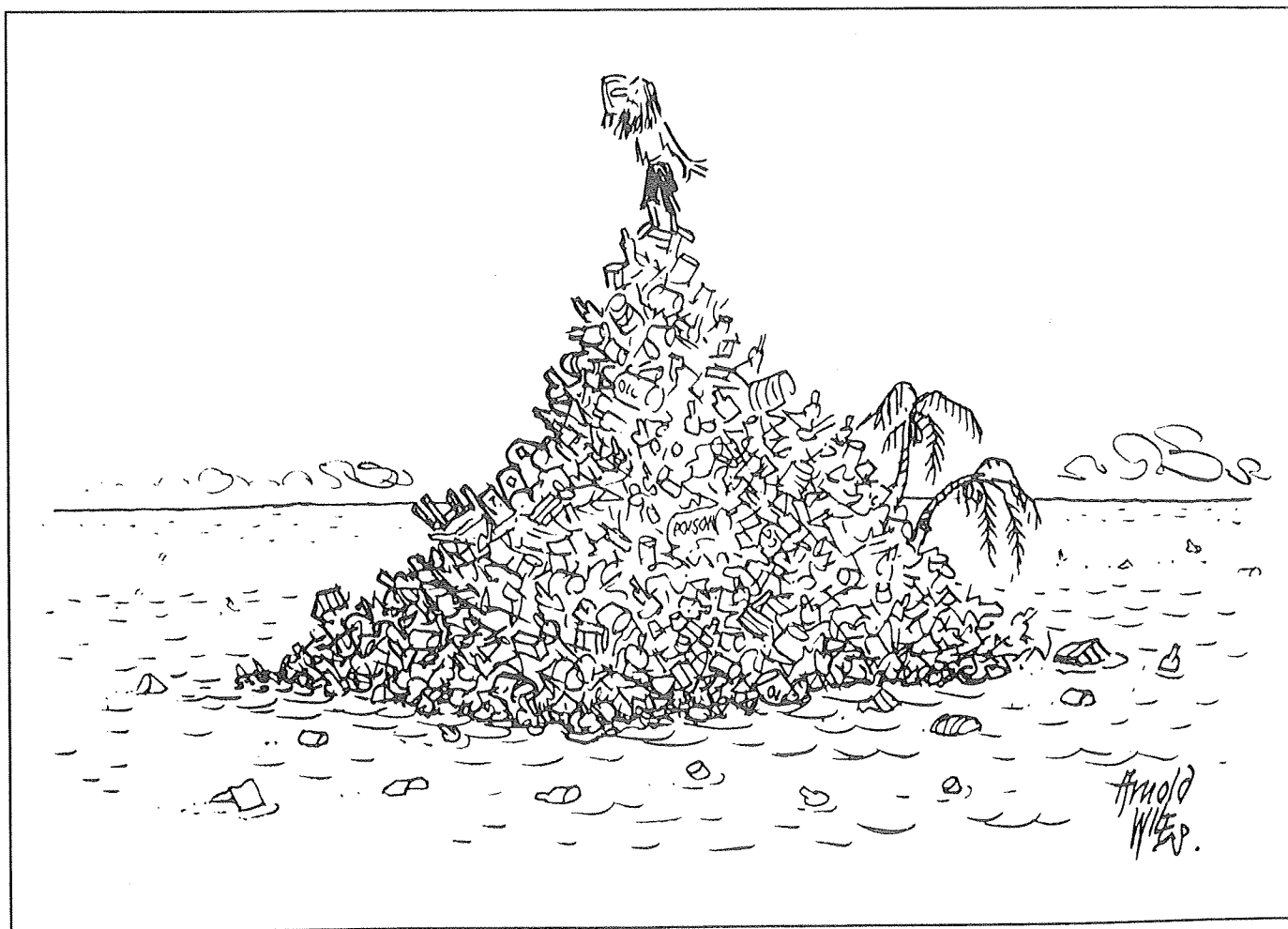
MOST PECULIAR DEBRIS ITEMS REPORTED (cont.):

Bay St. Louis silverware, flip flops, medicine bottle, green toilet bowl, white toilet bowl, chain, muffler,
chair, windshield wiper, battery box

FOR INFORMATION ON MISSISSIPPI'S 1991 BEACH CLEANUP CONTACT:

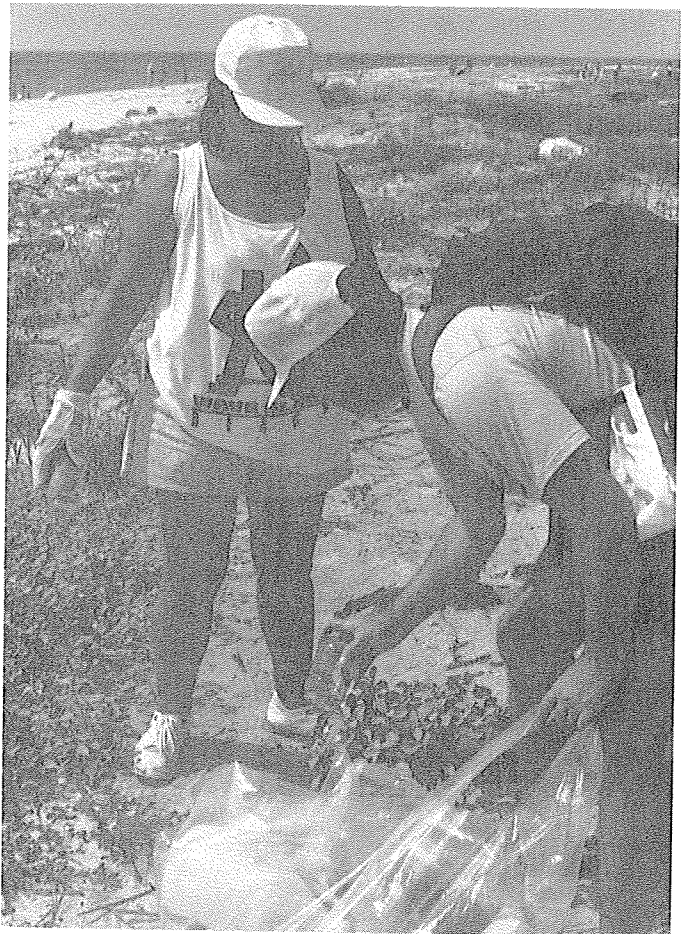
David Ruple
Mississippi Dept. of Wildlife, Fisheries, and Parks
2620 Beach Blvd.
Biloxi, MS 39531
(601) 385-5860

CLEANUP DATE: September 21, 1991





Marines destined for Saudi Arabia practice beach maneuvers to help clean barrier islands during Mississippi's beach cleanups.



Volunteers separating marine debris for recycling at West Ship Island, Gulf Islands National Seashore.

NEW HAMPSHIRE

A cleanup without a hurricane! The New Hampshire, Gulf of Maine Coastal Cleanup was an overwhelming success with 514 participants, almost double last year. Given the extra impetus of Earth Day awareness, there was more involvement by organizations this year. Odiorne Point State Park hosted almost 200 scouts from the Swiftwater Girl Scout Council, in a day-long program and beach cleanup. At other beach sites, the Sierra Club, students from the University of New Hampshire and Rivier College, Rye Elementary School, Exeter Jr. Women's Club, New Hampshire Coastal Program, New Hampshire Yankee, and 4-H Explorers, as well as many, many individuals, picked up five tons of debris, and this year separated aluminum cans for recycling. In addition, due to the initiative of a citizen monitoring program, "The Great Bay Watch," and the Estuarine Research Reserve Program, we were able to start obtaining data from shoreline along the Great Bay as well.

One of the most significant contributions to this year's effort was the donation of dumpsters at every site by Browning Ferris Industries (BFI). BFI collected the debris and gave us the square yard and tonnage figures. We are very grateful to them for their help.

From the rough data tabulated by us, more debris was picked up and the number of individual items more than doubled. This does not indicate any lessening of the litter problem on the beaches. It does indicate to us volunteers worked even harder to pick up many more small items. A number of individuals voiced discouragement at not being able to really completely clean a beach, particularly rocky areas. It is felt that a significant amount of the debris indicates beach user impact. This year once again, plastics came out on top, with the large numbers reflecting quantities of cigarette butts and small pieces of plastic rope. Along the Seabrook and Hampton beaches, firework debris was prevalent, especially paper pieces. Styrofoam pieces, glass pieces, and metal were also among the other "dirty dozen" in our state.

As a result of this year's cleanup, we have groups which want to commit to adopting a beach and working throughout the year to clean up and gather data. Hopefully this will be the pilot program toward a New Hampshire Adopt-A-Beach effort in the future.

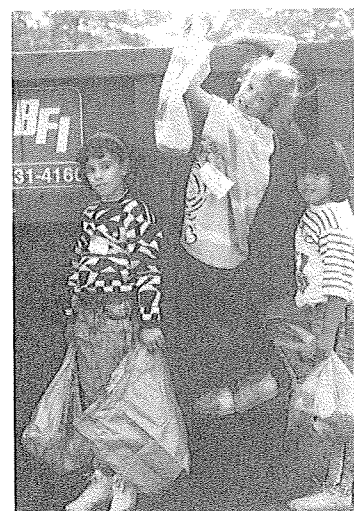
Once again this year, Steve Schuch, Rare Earth Music, gave a "thank you" concert on September 30 at the Visitor Center, Odiorne Point State Park, for everyone who helped with the New Hampshire Coastal Cleanup '90.

Joanne Barrett

Cleanup Date:
September 29, 1990

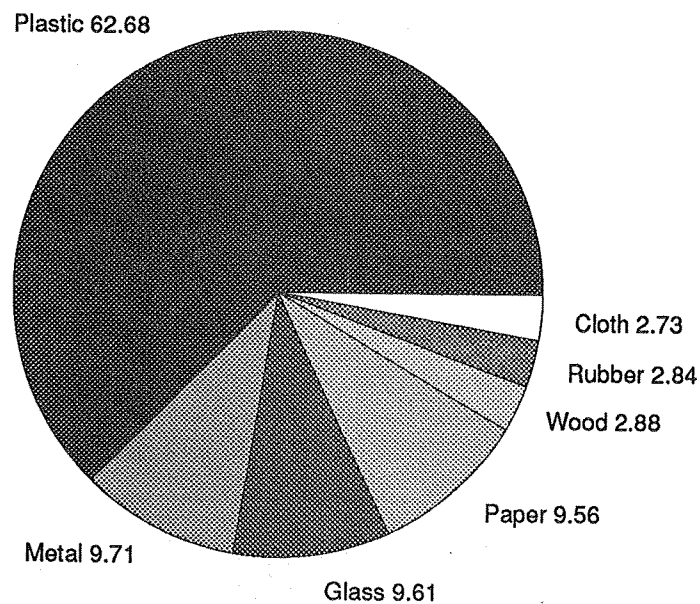
Results:
514 volunteers
14 miles cleaned
10,520 pounds of debris
217 data cards

Coordinated by:
Joanne Barrett
Julia Steed Mawson
Ray Hetchka
UNH Sea Grant
Kingman Farm
University of New
Hampshire
Durham, NH 03824
(603) 436-8043 or
(603) 749-1565

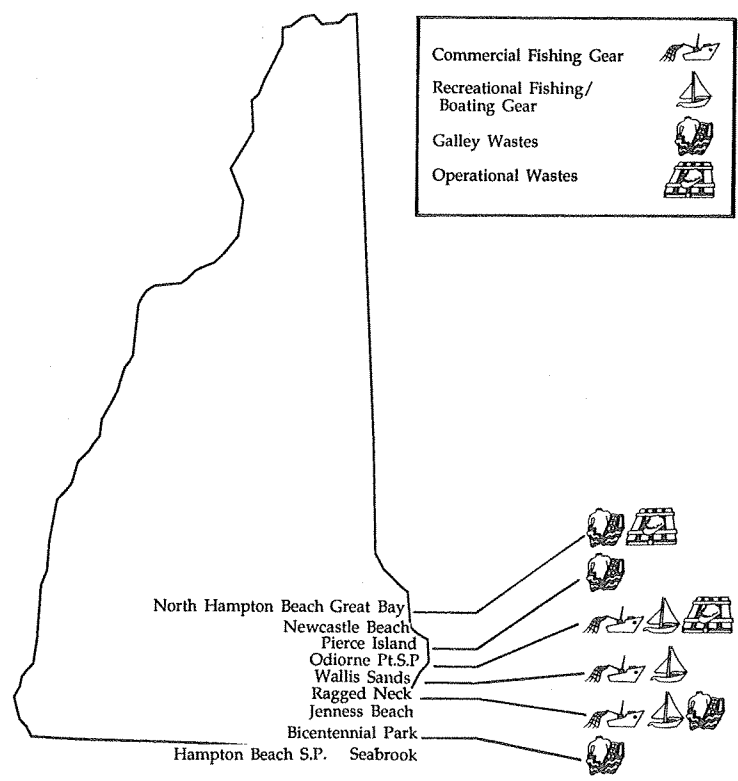


The New Hampshire State Cleanup was better than ever this year, thanks to the help of the Swiftwater Girl Scouts and BFI Industries.

PERCENT COMPOSITION OF NEW HAMPSHIRE'S BEACH DEBRIS:



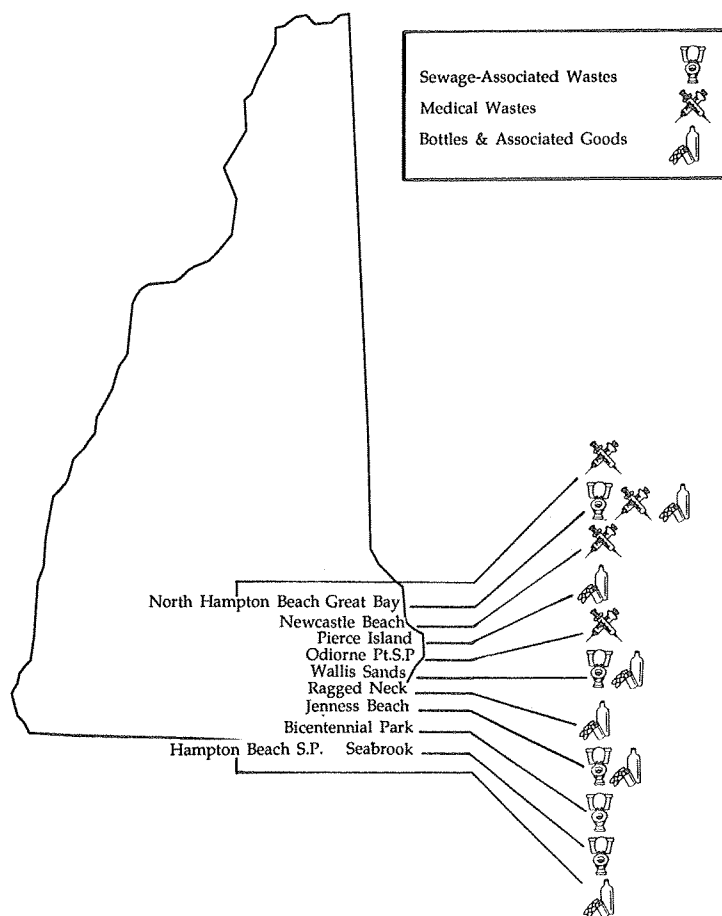
NEW HAMPSHIRE'S OCEAN-BASED DEBRIS HOTSPOTS:



NEW HAMPSHIRE'S DIRTY DOZEN:

	Total Number Reported	Percent of Total Debris Collected
1. plastic rope	4,962	11.98
2. plastic pieces	3,954	9.54
3. foamed plastic pieces	3,401	8.21
4. glass pieces	3,135	7.57
5. paper pieces	2,137	5.16
6. cigarette filters	2,076	5.01
7. plastic cups/utensils	1,582	3.82
8. metal beverage cans	1,519	3.67
9. miscellaneous foamed plastic	1,323	3.19
10. plastic caps/lids	1,256	3.03
11. clothing	1,129	2.73
12. miscellaneous plastic	925	2.23
TOTAL	27,399	66.13

NEW HAMPSHIRE'S LAND-BASED DEBRIS AND BOTTLES/ASSOC. GOODS HOTSPOTS:



STRANDED AND/OR ENTANGLED WILDLIFE REPORTED:

Debris Related

None reported

Other Reports

11 dead seagulls
1 dead beaver
1 dead skate
1 dead bird
1 dead blue fish
1 dead squirrel

TRACEABLE DEBRIS REPORTED:

None reported

MOST PECULIAR DEBRIS ITEMS REPORTED:

Great Bay	full container of shampoo
Newcastle Beach	wrist sweat band, plastic flowered cup, two Band Aids, fireworks rocket
Pierce Island	bullet casing, part of a car, medicine cabinet, sheet, sign post, large van door, disposable full toilet package
Odiorne Point State Park	grill, bicycle handle, piece of toothbrush, broom, sweater, hockey puck, propane tank, shoe heel
Wallis Sands	bullet casing
Ragged Neck	tube of sealant, pair of glasses, candle, exhaust pipe, child's seat, long chain, paint brush
Jenness Beach	lottery ticket, shotgun shell, toothbrush, baseball glove
Bicentennial Park	metal roach clip, top of a battery
Hampton Beach State Park	dart set, nasal inhalation tubes, fireworks

FOR INFORMATION ON NEW HAMPSHIRE'S 1991 BEACH CLEANUP CONTACT:

Julia Steed Mawson or Joanne Barret
Odiorne Point Visitor's Center
c/o University of New Hampshire Sea Grant Program
MEC Administration Building
University of New Hampshire
Durham, NH 03824
(603) 436-8043

CLEANUP DATE: October 5, 1991

NEW JERSEY



Sandy Hook

Clean Ocean Action's Fall Trash Attack unfortunately was rained out this year. Five hundred people were expected to turn out for the event but due to the rain approximately 100 showed for the cleanup. Most of the participants were high school students who organized the event.

Due to the rain there were tons of trash on the beach. Most of the debris came from non-point source or "pointless" pollution such as storm drains or combined sewer overflows (CSO).

Clean Ocean Action is now promoting a project to alert the public to the fact that everything deposited into storm drains leads to waterways. Fish stenciling "how to" kits are available through Clean Ocean Action. This is a great followup activity to a beach cleanup as much of the beach debris that we find comes through the storm drains or CSOs.

Susie Feiring

Long Beach Island

During COASTWEEKS nearly 100 volunteers participated in the beach cleanup on Long Beach Island sponsored by the Alliance for a Living Ocean. Over 50 bags of debris were collected and reported from approximately eighteen miles of coastline. Most of the cleanup activities on September 22 were rained out, but on September 29 more than fifty volunteers accompanied Congressman Jim Saxton on a five-mile beach walk from Beach Haven to Brant Beach. A truck load of trash was collected. The bottles and cans collected were turned in for recycling.

Many of the COASTWEEKS cleanup volunteers are also active participants in the Alliance for a Living Ocean's (ALO) Adopt-A-Beach program. Over 200 ALO members have adopted their own stretch of beach and have accepted responsibility for cleaning up and reporting their findings on a daily or weekly basis throughout the summer. Some continue during the winter as well. ALO's Adopt-A-Beach program won a "Take Pride in America" award in 1989.

COASTWEEKS activities on Long Beach Island were reported with articles and photographs in the *Beach Haven Times*, the *Sandpaper*, the *Atlantic City Press*, and the *Asbury Park Press*.

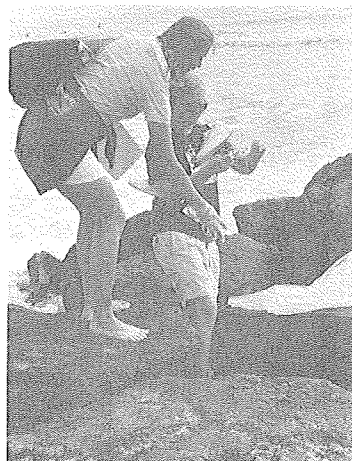
Ginnie Gottshall

Cleanup Date:
September 22, 1990

Results:
200 volunteers
20 miles cleaned
2,000 pounds of debris
79 data cards

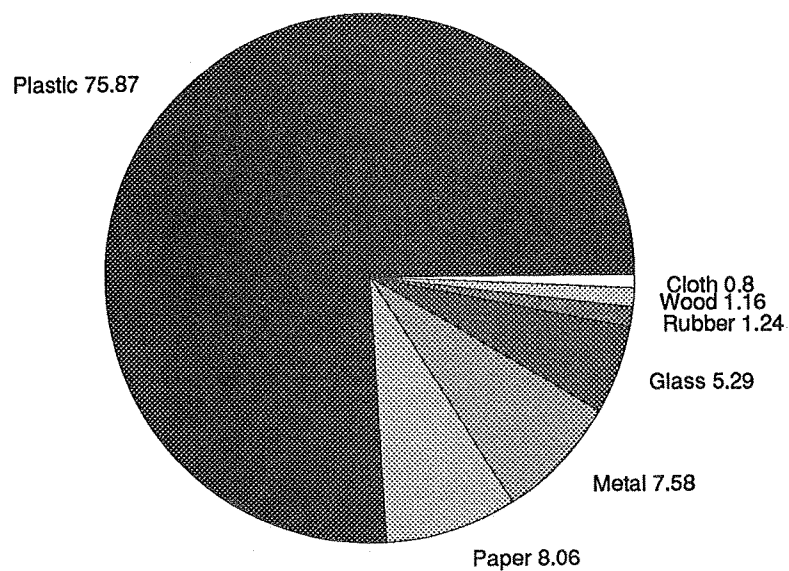
Coordinated by:
Susie Feiring
Clean Ocean Action
Box 505
Building 18 Hartshorne Dr.
Highlands, NJ 07732
(201) 872-0111

Ginnie and Earl Gottshall
Alliance for a Living Ocean
P.O. Box 95
Ship Bottom, NJ 08008
(609) 492-0222

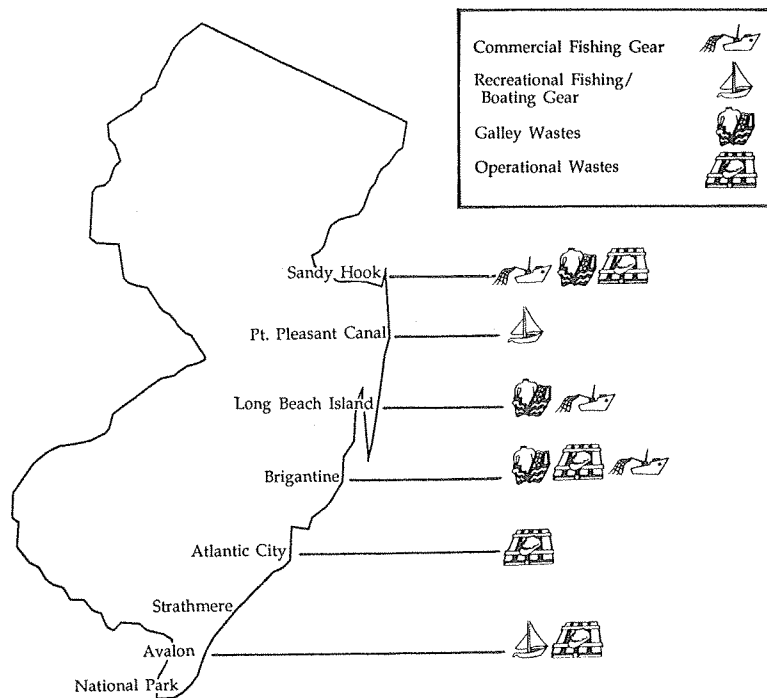


Snarled fishing line pried from the stone jetties of Long Beach Island by Alliance for a Living Ocean (ALO) Board Secretary, Linda Zambito, and ALO President, Rick Mellerup, on National Beach Cleanup Day 1990.

PERCENT COMPOSITION OF NEW JERSEY'S BEACH DEBRIS:



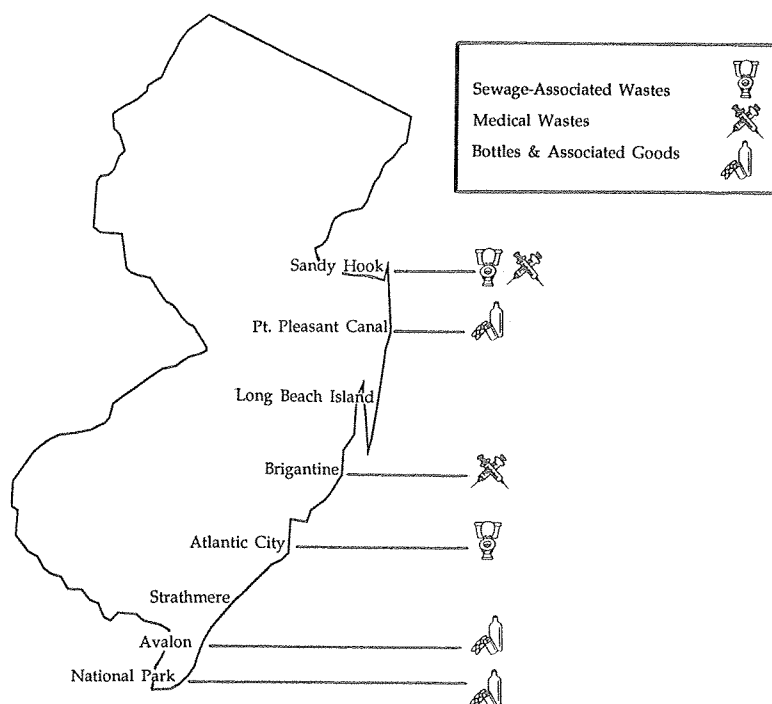
NEW JERSEY'S OCEAN-BASED DEBRIS HOTSPOTS:



NEW JERSEY'S DIRTY DOZEN:

	Total Number Reported	Percent of Total Debris Collected
1. plastic straws	2,348	11.85
2. plastic pieces	1,532	7.73
3. plastic food bags/wrappers	1,442	7.28
4. foamed plastic pieces	1,322	6.67
5. plastic caps/lids	1,197	4.68
6. cigarette filters	1,184	5.98
7. metal beverage cans	1,006	5.08
8. plastic beverage bottles	773	3.91
9. paper pieces	772	3.90
10. glass beverage bottles	724	3.65
11. miscellaneous plastic	628	3.17
12. plastic cups/utensils	607	3.06
TOTAL	13,535	68.32

NEW JERSEY'S LAND-BASED DEBRIS AND BOTTLES/ASSOC. GOODS HOTSPOTS:



STRANDED AND/OR ENTANGLED WILDLIFE REPORTED:**Debris Related**

None reported

Other Reports

2 dead birds
2 dead seagulls
1 dead horseshoe crab

TRACEABLE DEBRIS REPORTED:

Location	Type of Debris	Source Indicated
Long Beach Island	balloon	Pizza Hut
	balloon	Green Acres Manor
	plastic cup	Econo Lodge
Atlantic City	plastic casino cup	Trump Taj Mahal

MOST PECULIAR DEBRIS ITEMS REPORTED:

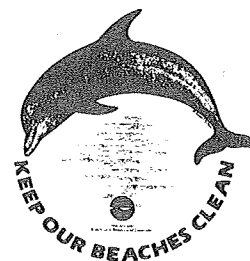
Sandy Hook	crack vial, "GI Joe" face camouflage make-up, dolls leg, side of a boat, cat toy, drum cover, pink plastic carnation, plastic leaf
Long Beach Island	crack vials, hair clip, ice pop holder, lipstick
Brigantine	paint can
Atlantic City	filter

FOR INFORMATION ON NEW JERSEY'S 1991 BEACH CLEANUP CONTACT:

Susie Feiring or Tim Merkel
Clean Ocean Action
Box 505
Building 18, Hartshorne Drive
Highlands, NJ 07732
(201) 872-0111

Ginnie and Earl Gottshall
Alliance for a Living Ocean
P.O. Box 95
Ship Bottom, NJ 08008
(609) 492-0222

CLEANUP DATE: September 21, 1991



NEW YORK

This was clearly by any measure our most successful cleanup ever and Marion Roet was the major factor that made a difference.

We had more people, over 2,800; more beaches, over 50; more tonnage, 42; and we went more miles, 71. We seemed to have reached out to every part of society -- knowing this we will increase the outreach program even more next year.

Recycling was an experiment that some of the beaches tried successfully. Generally the experiment succeeded where recycling already exists in the community. Beaches that coordinated recycling efforts included: in NYC -- Coney Island, City Island, and South Beach; in Suffolk -- Mashomack, Smith Point, and Robert Moses; in Westchester -- Harbor Island and Croton Point; and in Rockland -- Piermont Marsh and Stony Point.

Many beaches this year reported various kinds of construction and demolition debris (C&D) such as wood (especially plywood), metal pipes, and concrete -- and kitchen sinks, possibly from remodeling. This is something new and is an indication that there may be illegal dumping; this information has been given to our enforcement division.

State Senator Owen Johnson, chair of the Senate Environmental Committee, ran the cleanup at Robert Moses State Park -- 150 people came despite the rain on Saturday. Member of Congress Nita Lowey gave her support again this year by visiting all the Westchester Beaches. Representative Nowalk helped the Lake Erie effort. Congressman George Hochbrueckener and Attorney General Abrams both helped clean up at Cedar Beach, despite the rain. Attorney General Abrams and County legislator Harriet Cornell visited Piermont Pier; Assemblyman Joseph Holland helped clean up at Stony Point. Pat Halpin, the Suffolk County Executive, visited the Smith Point cleanup. City Councilman Cerillo worked at New Dorp Beach in Staten Island.

The folks at Twin Island near Orchard Beach, the Bronx, got caught on the island when the tide came in and they had to ford their way back. And at Coney Island, we got the proverbial message in a bottle with a twist -- it was from NYC Department of Environmental Protection -- as part of the floatables study.

Don Riepe and Roberta Weisbrod

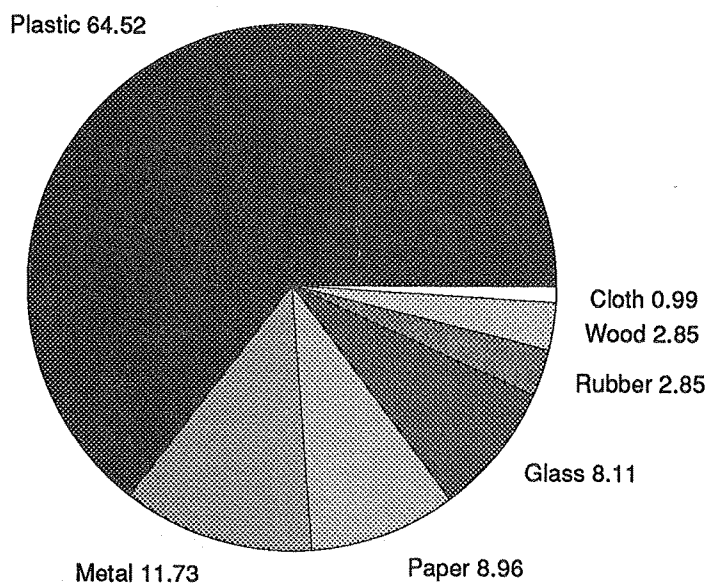
Cleanup Date:
September 23, 1990

Results:
2,800 volunteers
71 miles cleaned
84,000 pounds of debris
688 data cards

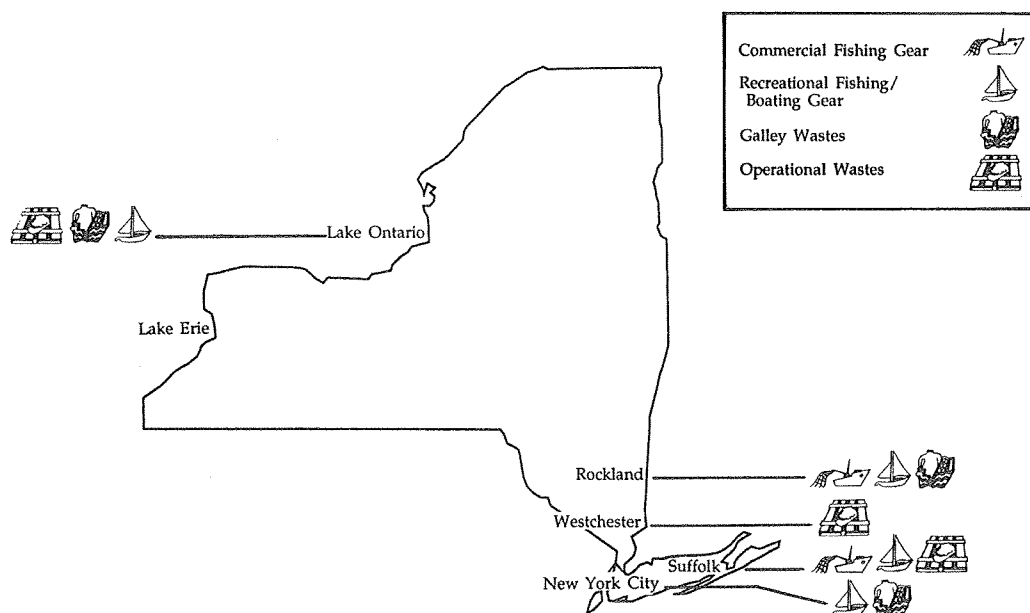
Coordinated by:
Marion Roet and
Roberta Weisbrod
NY Department of
Environmental
Conservation
Hunters Point Plaza
Long Island City, NY 11101
(718) 482-4992

Don Riepe
American Littoral Society
28 West 9th Road
Broad Channel, NY 11693
(718) 634-6467

PERCENT COMPOSITION OF NEW YORK'S BEACH DEBRIS:



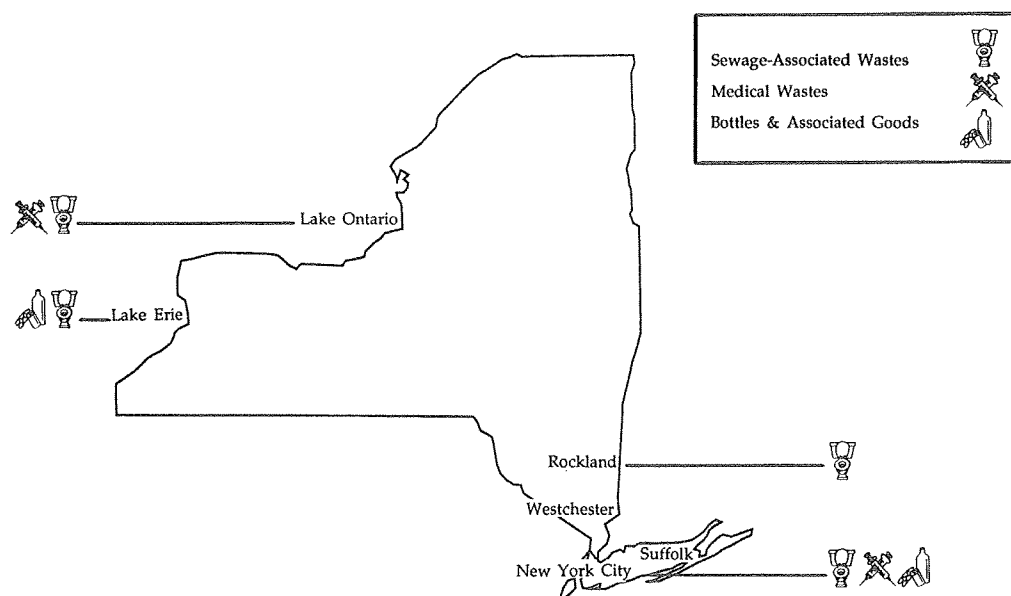
NEW YORK'S OCEAN-BASED DEBRIS HOTSPOTS:



NEW YORK'S DIRTY DOZEN:

	Total Number Reported	Percent of Total Debris Collected
1. cigarette filters	18,416	9.92
2. plastic straws	15,779	8.50
3. plastic pieces	11,522	6.20
4. plastic food bags/wrappers	9,624	5.18
5. foamed plastic pieces	9,460	5.09
6. glass pieces	9,165	4.94
7. plastic caps/lids	7,395	3.98
8. paper pieces	7,118	3.83
9. metal bottle caps	6,967	3.75
10. plastic cups/utensils	6,175	3.33
11. metal beverage cans	5,194	2.80
12. foamed plastic cups	4,828	2.77
TOTAL	111,643	60.12

NEW YORK'S LAND-BASED DEBRIS AND BOTTLES/ASSOC. GOODS HOTSPOTS:



STRANDED AND/OR ENTANGLED WILDLIFE REPORTED:**Debris Related**

2 seagulls entangled in fishing line
Crab & mussels entangled in fishing line
Mussels entangled in cloth
Seagull with balloon fragment in mouth
Seagull wrapped in fishing line
Seagull with bullet wound

Other Reports

9 dead crabs
1 dead duck
23 dead seagulls
1 dead starfish
16 dead horseshoe crabs
17 dead birds
1 dead cormorant
1 dead dog
1 dead sea bird
1 dead crane
1 dead sea horse
1 dead goose
1 dead muskrat
1 dead swan
1 dead lobster
45 dead fish
1 dead raccoon
1 dead rat

TRACEABLE DEBRIS REPORTED:

Location	Type of Debris	Source Indicated
Rockland	styrofoam cup	Texaco Gas Company
Westchester	plastic comb	Davis Studio 914-698-0880
	key chain	Spitzer Hardware, (914) 636-2420
	balloon	Friendly's
New York City	plastic cylinder	HMS Torrington
	cardboard box	Michael Bait & Tackle, 202 Mansion Avenue, Staten Island, NY, 984-9733
	plastic lotion bottle, "TLC"	Polychem Corporation, New Haven, CT
	surgical scrub brush	Kendall Company, Healthcare Products, Mansfield, MA
	5 gal oil can	Texaco
	box	Constant Velocity Products
	plastic bag	Group Banking Corporation
	line holder wrappings	C-Mar Tackle
	plastic bag	Granny's Country Farm
	plastic bag	Saxson Ice Company
	cardboard/food/dishes/ napkins	Nathan's
Nassau	tow float	Berkley Skis
	clam tag	West End Clam, Gulf Street, Linden
	blue & white items	Forest Hill Swim Club, 718-7500
	brown carton	Town of Brookhaven
	plastic wrapper	Acme Tackle Company
	cocktail stirrer	Cunard
Suffolk	plastic net bag	Mastic Seafood, NY
	plastic bag	New York Telephone
Lake Erie	metal drum	Olin Chemical

MOST PECULIAR DEBRIS ITEMS REPORTED:

Rockland	two car mufflers, "Tyvek" protective suit, kitchen chair, floor rug, gas can, sandal, flywheel
Westchester	milk crate, firework fuses, birth control sponge, blue plastic flower, new softball, rug, flare, gun shell, sliding glass door, needle, crack vial
New York City	marble bowling trophy base, steel beam, electrical adapter, bicycle, lawn chairs, 1/2 fiberglass boat, datacard, plastic streamer for store opening, pornographic magazine, sandal, kitchen sink, two Christmas wreaths, rug, contraception foam, fabric blanket, "Andre Agassi" air tech challenge performance sneaker, plug from the motor of a ship, oxygen mask
Nassau	automobile seat, Nassau Coliseum parking ticket, telephone pole, beach chairs, barbecue grill, large aluminum table, plastic seat cover, piece of countertop, shotgun shell, plastic mouse trap, piece of fiberglass boat, piece of jewelry with rhinestones, part of a volleyball net, plastic toy soldier, hair roller, blood glucose, toy kite, part of a ship, flower pot, hairbrush, frisbee, clothespin, hubcap, battery, 1935 Liberty head dime, dental retainer, car bumper, surfboard, down pillow, automotive wiring, complete newspaper dated 9/3/90, comb
Suffolk	74 shotgun shells, crack vials, chain, elaborate hair clip, television set, sail, cooler cover, fly swatter, long knife with no blade, bedsprings, antenna, mattress inner spring, radio antenna, house shutter, car keys, umbrella handle, bottle of "Moet" champagne, knife, hub cap, pacifier, disposable ladies' shaver razor, "Timex" watch still working, candy, tennis ball, boat window, keychain with mirror, corkscrew, alternator, 15 lb. weight, pair of glasses
Lake Erie	paint brush handle, 6'x3' metal door, kitchen sink, coathanger, candy cane, garden rake, shower curtain plastic ring, cassette tape in holder, pacifier, muffler pieces, light switch, "No parking" sign, boat keel, horn signal sounder, large afghan, part of a outboard motor, marijuana, kitchen chair, bed spring, upholstered chair, inflatable raft, door knob, leaf rake, 1/2 a "GI Joe", "Barbie" leg, green flag, bubble blower, propane tank, quarter, plastic Christmas wreath, snow sled, plastic mesh, charcoal grill cover, soles of shoes, windshield wiper, lawn chair frame, propane container

FOR INFORMATION ON NEW YORK'S 1991 BEACH CLEANUP CONTACT:

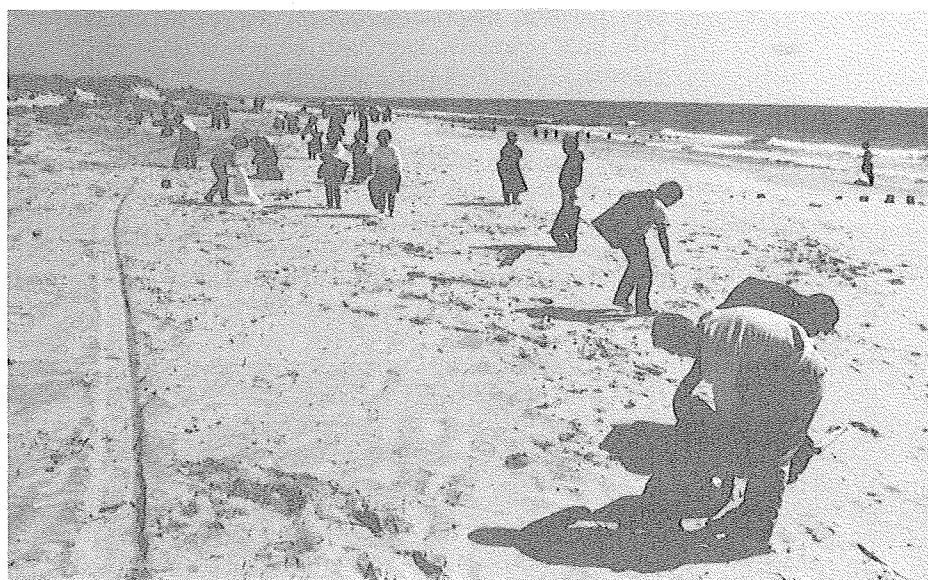
Roberta Weisbrod or Marion Roet
New York State Dept. of Environmental Conservation
Hunters Point Plaza
Long Island City, NY 11101
(718) 482-4992

Don Riepe
American Littoral Society
28 West 9th Road
Broad Channel, NY 11693
(718) 634-6467

CLEANUP DATE: September 22, 1991



Two young volunteers model collected debris at New York's cleanup.



Volunteers from the American Littoral Society cleaning Breezy Point Beach in New York City.



NORTH CAROLINA

North Carolina made a Big Sweep in 1990, bagging 165 tons of trash from our state's beaches, rivers, lakes, streams, and farm ponds.

Expanded media coverage and more than 10,000 volunteers helped make the September 22 cleanup the most successful ever. The 1990 litter totals were double the amount collected in 1989, and the number of volunteers nearly tripled.

In fourteen regions from the southern mountains to the northern coastal plain, coordinators slated approximately 160 areas for cleanup.

Volunteer turnout was heaviest along the beaches and in the Research Triangle Park and Charlotte areas. Torrential rains dampened some efforts in the mountains and northern Piedmont, but the inland cleanups still accounted for half the trash collected. Along the Tar Heel coast, 6,600 of the 10,000 volunteers bagged 81.5 tons of debris.

Unusual finds included an inflatable woman, a two-ton truck, a 1947 Orange Crush bottle, a boarding pass from a Pakistan airlines, an unopened bottle of pickled pigs brains, a band leader's hat, a disassembled houseboat, and a pay phone.

The volume of publicity for Big Sweep '90 was unprecedented. The new four-color logo, printed on 3,000 posters and 2,500 t-shirts, made a huge promotional splash. Also, 12,000 buttons and stickers each were distributed.

The event received a record amount of coverage from radio stations, print media, and television. Five major market TV stations adopted Big Sweep as their station project, airing news features, and public service spots. At least 100 newspapers statewide helped publicize the cleanup.

Interagency cooperation was exemplary. One result of that relationship was the production of Big Sweep's first educational publication. More than 8,000 copies of *Ripples*, an activity guide to litter in the aquatic environment, were distributed for the 9-11 year-old child.

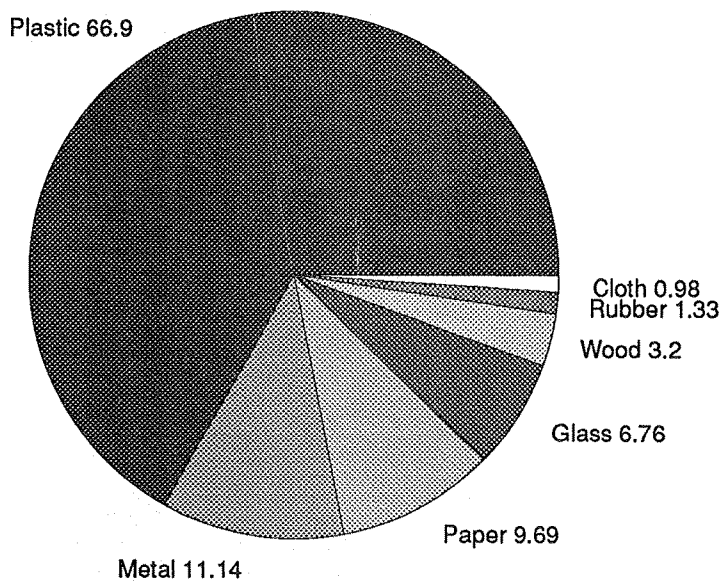
Cleanup Date:
September 22, 1990

Results:
10,000 volunteers
350 miles cleaned
330,000 pounds of debris
1,309 data cards

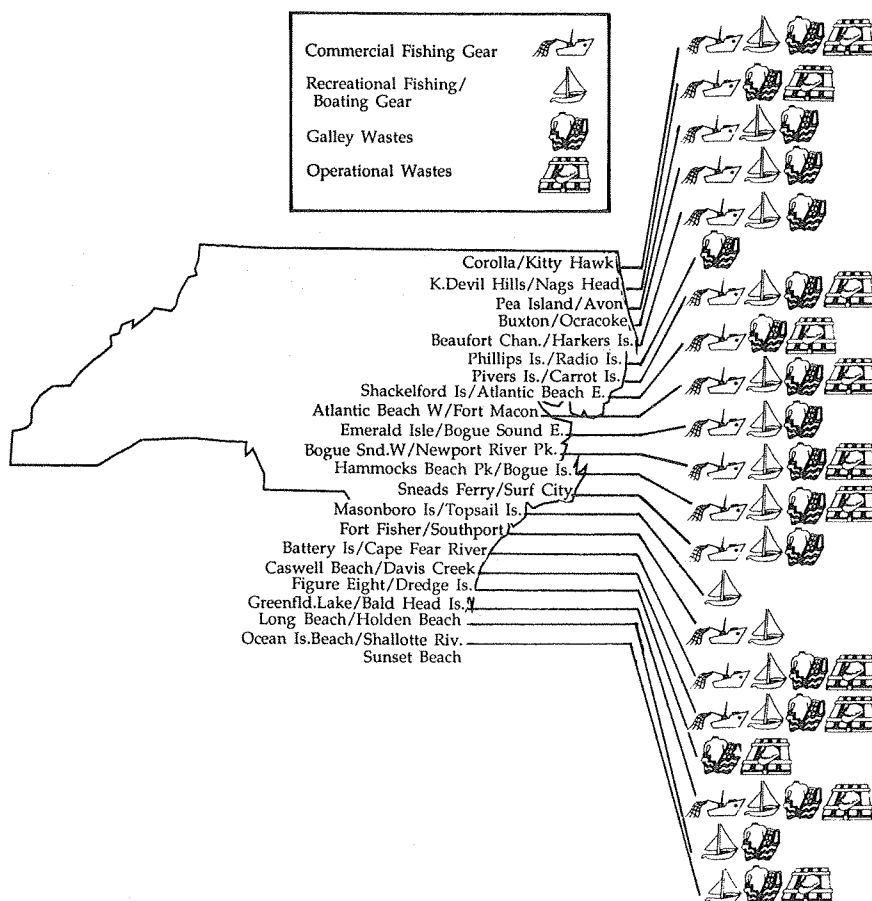
Coordinated by:
Lundie Spence
Kathy Hart
University of North
Carolina
Sea Grant College Program
Box 8605
Raleigh, NC 27695-8605
(919) 737-2454

Lundie Spence
Kathy Hart

PERCENT COMPOSITION OF COASTAL NORTH CAROLINA'S BEACH DEBRIS:



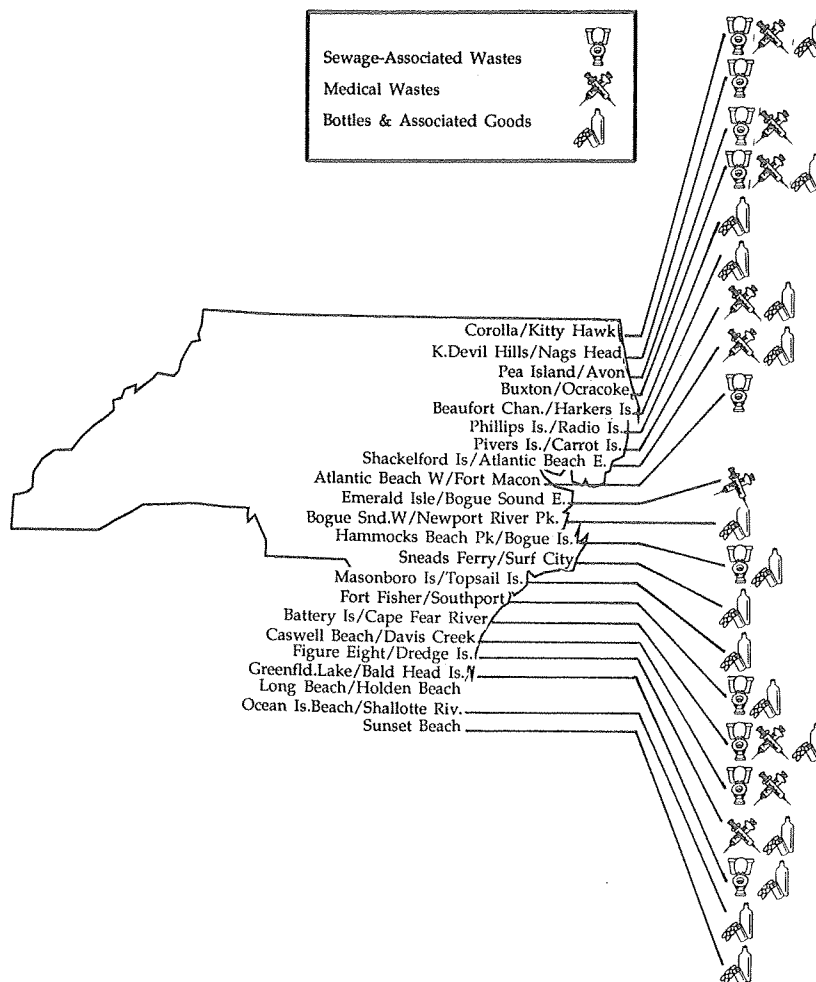
COASTAL NORTH CAROLINA'S OCEAN-BASED DEBRIS HOTSPOTS:



COASTAL NORTH CAROLINA'S DIRTY DOZEN:

	Total Number Reported	Percent of Total Debris Collected
1. cigarette filters	67,375	27.61
2. metal beverage cans	13,957	5.72
3. plastic pieces	11,568	4.74
4. paper pieces	11,495	4.71
5. plastic beverage bottles	11,331	4.64
6. foamed plastic pieces	10,064	4.12
7. glass beverage bottles	9,358	3.84
8. foamed plastic cups	7,203	4.28
9. plastic food bags/wrappers	7,047	3.84
10. plastic caps/lids	6,041	2.96
11. metal bottle caps	5,400	2.21
12. glass pieces	5,344	2.19
TOTAL	166,183	68.11

COASTAL NORTH CAROLINA'S LAND-BASED DEBRIS AND BOTTLES/ASSOC. GOODS HOTSPOTS:



STRANDED AND/OR ENTANGLED WILDLIFE REPORTED:**Debris Related**

Shark in fishing net
Seagull entangled with fishing line
Gull with wing entangled in fishing line
Seagull entangled in fishing rig
Loggerhead turtle hooked and left entangled

Other Reports

1 dead shark
1 dead pelican
3 dead seagulls
5 dead fish

TRACEABLE DEBRIS REPORTED:

Location	Type of Debris	Source Indicated
Avon	balloon	Norfolk ...
Kill Devil Hills	plastic ice bag	Southern Ice Company
Pea Island	plastic bag	Dow
	lidded plastic container, LDP-12	USS Shreveport Medical Dept.
Ocracoke	range marker buoys	Rolyan Buoys 1-800-588-8633
	metal aerosol can, aircraft cleaning compound	U.S. Navy, manufactured by Speer Products Memphis, Tennessee
	plastic standard conductivity solution bottle	U.S. Navy, manufactured by Chemical Commodities Agency, Highland, CA
Carrot Island	ready meal bag	U.S. Military
Wrightsville Beach	paycheck stub	City of Wrightsville
Bald Head Island	55 gallon drum	Mobil Oil Company

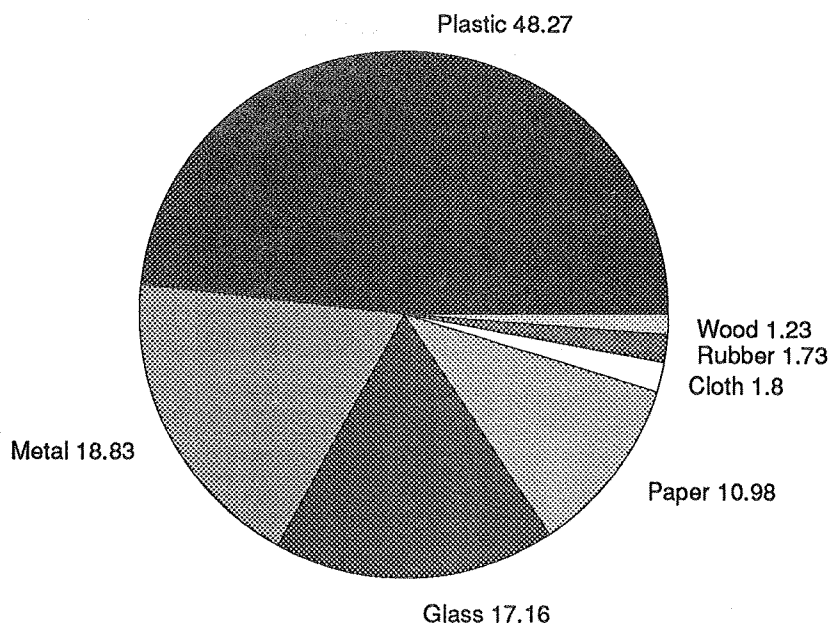
MOST PECULIAR DEBRIS ITEMS REPORTED:

Corolla	wire fence, plastic drain cover
Kitty Hawk	lawn chair, fluorescent light bulb, trash can lid, pink earring, radio, part of a window frame, car headlight, eyeglasses, dive mask, 5 lb. piece of angle iron, hub cap, red and white road barricade, blade
Kill Devil Hills	metal frame of a screen door
Pea Island	combat boot, plastic flowers, football
Avon	label that read "Do not remove under penalty of law", false fingernail, beach chair
Buxton	boot, fencing, doll's leg
Ocracoke	tennis ball
Radio Island	bike, IV needle, tail light, battery, television antenna, washer, freezer, daisy wheel for typewriter, dive knife, military food container, 3 lounge chairs, burned car, muffler, unopened can of "Milwaukee" beer, "Millie Vanilli" record "Girl You Know It's True"
Carpet Island	racquet ball, Navy location marker, toilet seat
Shackelford	wedding announcement, linoleum, ribbons, boat seat, tennis ball

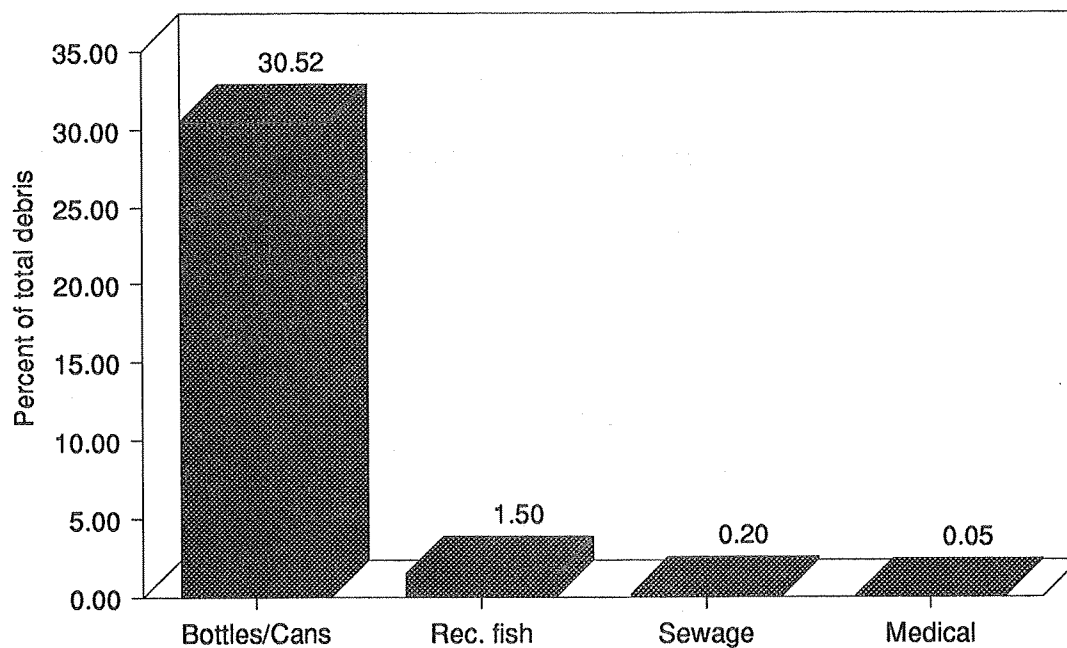
MOST PECULIAR DEBRIS ITEMS REPORTED (cont.):

Atlantic Beach West	restaurant jug of syrup, motorcycle gear shift lever, sliding lock
Fort Macon	pack of rubber bands, surgical mask
Pine Knoll Shores	rusty faucet
Bogue Sound East	carpet, shotgun shell
Hammocks Beach Park	tape player
Snead's Ferry	steel trap, garbage can lid
Surf City	paper nametag of one of the "Big Sweep" volunteers
Masonboro Island	propane tank, rubber glove
Topsail Island	roman candle, alternator, brackets, well strainer
Wrightsville Beach	coathanger, fishing lure, full 4 pack of wine coolers, plastic door mat, shower nozzle, fiberglass seat cover, surfboard wax, shotgun shell, frisbee, class ring, phone jack, metal ID tag for motor, box opener, razor, pool cue tip, very large leather shoe
Carolina Beach State Park	canoe, tub, pillow
Carolina Beach	street sign, matchbox car, spark plug, shaggy carpet, bullet shell
Kure Beach	telephone, pacifier, flip flop, aluminum siding, unopened can of beer, swimming pool
Ft. Fisher State Park	car rim shield, rug, flea collar, car stereo speaker, socks and shirt, door hinge, wet suit pants, barbecue tray, surfboard wax, life preserver
Southport	shotgun shells
Battery Island	swim fins
Cape Fear River	man's watch
Davis Creek	baby clothing
Figure Eight	teddy bear, sandal
Greensfield Lake	blanket, shower cap
Long Beach	fireworks box, metal bed mattress frame, empty box of shotgun shells
Holden Beach	broken outdoor light, pillow, metal "No Trespassing" sign
Sunset Beach	engine block, marine battery, blue jeans, fireworks, make-up mirror

PERCENT COMPOSITION OF INLAND NORTH CAROLINA'S BEACH DEBRIS:



MAJOR TYPES AND SOURCES OF INLAND NORTH CAROLINA'S DEBRIS:



INLAND NORTH CAROLINA'S DIRTY DOZEN:

	Total Number Reported	Percent of Total Debris Collected
1. glass beverage bottles	14,715	10.08
2. metal beverage cans	11,486	7.87
3. cigarette filters	9,705	6.65
4. plastic beverage bottles	9,373	6.42
5. glass pieces	5,958	4.08
6. paper pieces	5,855	4.01
7. plastic food bags/wrappers	5,672	3.88
8. plastic pieces	5,056	3.46
9. foamed plastic pieces	4,996	3.42
10. foamed plastic cups	4,686	3.21
11. metal bottle caps	3,882	2.66
12. metal pull tabs	3,760	2.57
TOTAL	85,144	58.32

STRANDED AND/OR ENTANGLED WILDLIFE REPORTED:

Debris Related	Other Reports
Rat entangled in garbage and covered with oil	1 dead dolphin
Baby copperhead in a plastic bag	2 dead deer
Stranded turtle - it was saved	1 dead dog
	2 dead muskrats
	1 dead bird

TRACEABLE DEBRIS REPORTED:

Location	Type of Debris	Source Indicated
Harris Lake	piece of metal	Atlas Metal Working Co.

MOST PECULIAR DEBRIS ITEMS REPORTED DURING NORTH CAROLINA'S INLAND CLEANUP:

Lake Waccamaw	flower pot, bicycle, propane cylinder, two vaginal sponge contraceptives
Winn's Gutt	tailpipe, pacifier, muffler
Tyndall Ponds	"crack" bottle
Tar River	saw, "hula hoop", baby bottle, propane tank, gas grill, shape of a heart, basketball, car battery, razor, muffler, necktie
Hendrick's Creek	battery, cooler top, cloth flowers, "Jungle gym", silk flowers
Contentnea	spark plug
Neuse River	gun shell casings, front car mat, two propane bottles marked "U.S. Forest Service"
Falls Lake/Sandling	thermos, t-shirt from "Francis Beidler Forest", hospital ID bracelet, bullets, clay pigeons, spark plug

MOST PECULIAR DEBRIS ITEMS REPORTED (cont.):

Harris Lake	television set, 2 lawn chairs, grill, rusted engine part, pink plastic worm, purse, anchor, board with carpet on it, gas grill
Lake Benson	brake fluid, plastic Christmas tree, plastic Easter basket, 6 auto seats, furnace, teddy bear, propane bottle
Lake Jackson	soccer ball, muffler, cassette of "Pavarotti"
Lake Raleigh	bong, television adapter, carpet, bags that read "Don't litter", shoe insoles
Lake Wheeler	1/2 bottle of suntan lotion, sock, plant pot, pillow, grill
Pullen	bike tire, window molding, large wire basket, car seat, hub caps, water hose, skateboard, bread rack, refrigerator rack, 1/2 record
Sycamore Lake	rubber shoe insole, aerosol shaving lotion can
White Lake	scatter rug, stainless steel mixing bowl
Cape Fear River	decontamination kit, baseball hat, 3 "Four Wheeler" magazines, homemade "crack" pipe
Lake Upchurch	playpen with toys, metal signs
Wilson Lake	slippers, rubber raft, golf ball
Bicentennial Park	frisbee, sign, wire fencing, hard boiled egg, head light, a "sump" pump
Peter's Creek	liquor still, adopt-a-highway sign, car muffler, "Zesty cola " can very old, gas tank
High Point	bird feeder, four insulin bottles, car battery, after shave bottle, medicine bottle, three wheeler tricycle, humidifier, newspaper stand, cart, beach chair frame, empty horse wormier syringe, muffler, live bullet, sock, television, gas bottles, two satellite dishes, car fender
High Rock Lake	golf balls, wrenches, car pistons
S. Union County	blue jeans
Yadkin River	lawn chair, shovel head
Lake Norman	5 fireworks launchers, highway light, plastic baseball hat
Sugar Creek	cooler, baby car seat, cart, pay telephone, fender
Big Elkin Creek	flip flop
Lake James	remains of a houseboat
Crawford Branch	gaskets, wipers
Upper Nantahala River	tea kettle, gun case
Needmore Tennessee River	stove drawers, muffler, tail pipe, car wheel

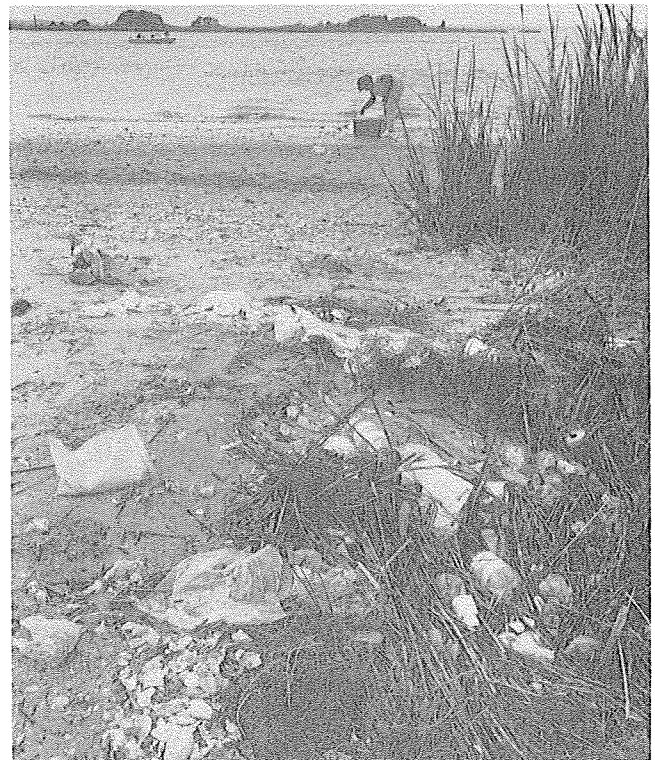
FOR INFORMATION ON NORTH CAROLINA'S 1991 BEACH CLEANUP CONTACT:

Lundie Spence or Kathy Hart
University of North Carolina
Sea Grant College Program
105/1911 Building
Raleigh, NC 27695-8605
(919) 737-2454

CLEANUP DATE: September 21, 1991



These three girls took time out of their busy schedule to participate in the 1990 National Beach Cleanup.



A littered beach shares company with a beachgoer.

OREGON

Cleaner beaches! That's what "Get the Drift and Bag It" volunteers told us after completion of the 1990 event. A record number of beachcombers hit Oregon's beaches on a beautiful fall day and, for the seventh time, made "Get the Drift and Bag It" a success.

Beach cleanups began in Oregon in 1984, when the "Mother of Beach Cleanups" Judie Hansen organized the first cleanup to begin an international trend. This year's cleanup was sponsored by the Oregon Department of Fish and Wildlife and Stop Oregon Litter and Vandalism (a non-profit organization founded by Oregon's famous governor, the late Tom McCall).

This year, volunteers met at 35 locations on the coast to pick up trash. After the two-hour task was completed, they gathered at a number of sites to enjoy a hot dog lunch, provided by still more volunteers.

Since almost 500 more volunteers reported for duty than in 1989, some of the cooks were making quick trips to the nearest participating grocery store to get more supplies.

The day had been preceded by a full week of news stories featuring the cleanup by one of Portland's most popular stations, KATU - Channel 2 (ABC). Channel 2 was also a major sponsor of the event, along with Northwest Natural Gas Co., Oregon State Parks, Oregon Sanitary Service Institute, Sentry Supermarkets, Oregon Telephone Pioneers, United Grocers, and Armour Foods.

The event's best one-liners:

"Someone picked up 1,500 large nails from a campfire site where pallets had been used as fuel."

"Bob Blodgette of Newport dug a huge industrial-sized tire out of the sand with only a clam shovel."

Volunteers were shocked at the thousands of marine birds, mostly common murrelets, that were found dead on the beach. Warm sea temperatures offshore drove food fish too deep for young murrelets to feed successfully.

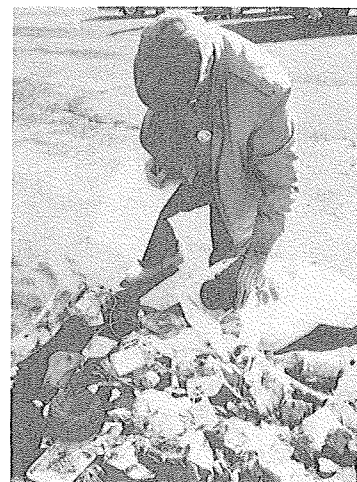
Two meetings are being held in January with the event's leaders to debrief and talk about next year. It will be the first time most of the zone captains have been able to talk with one another about their experiences.

Bill Hastie

Cleanup Date:
October 6, 1990

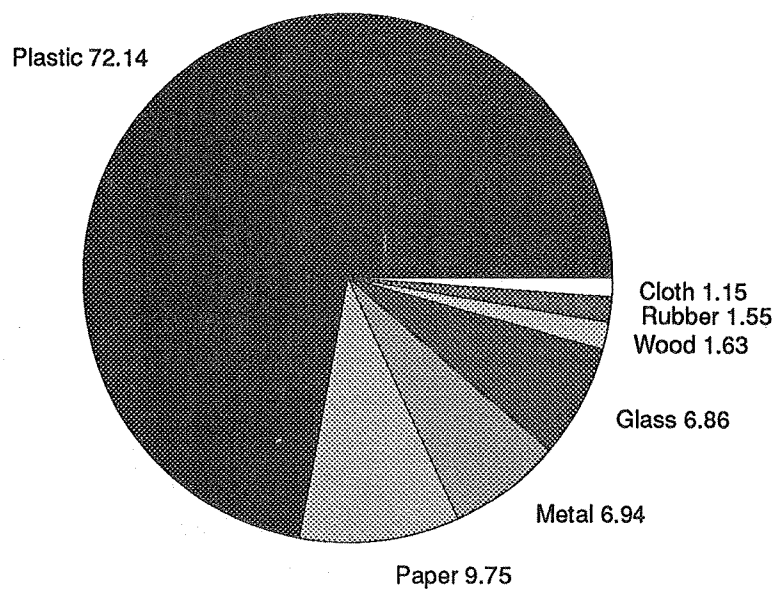
Results:
2,719 volunteers
135 miles cleaned
44,007 pounds of debris
638 data cards

Coordinated by:
Bill Hastie
Oregon Department of
Fish and Wildlife
Marine Science Drive
Building 3
Newport, OR 97365
(503) 867-4741

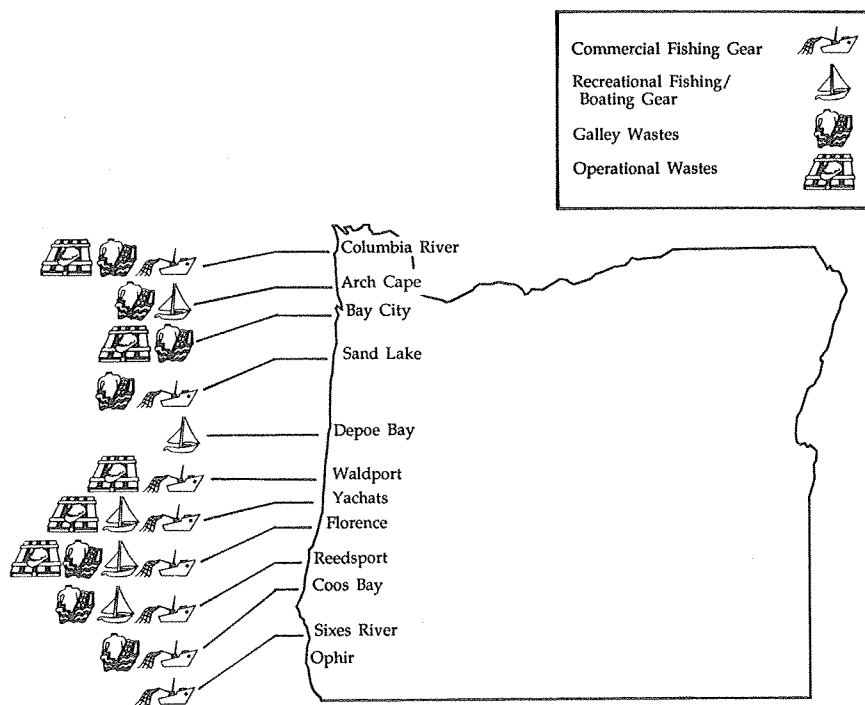


Data collection counts in Oregon.

PERCENT COMPOSITION OF OREGON'S BEACH DEBRIS:



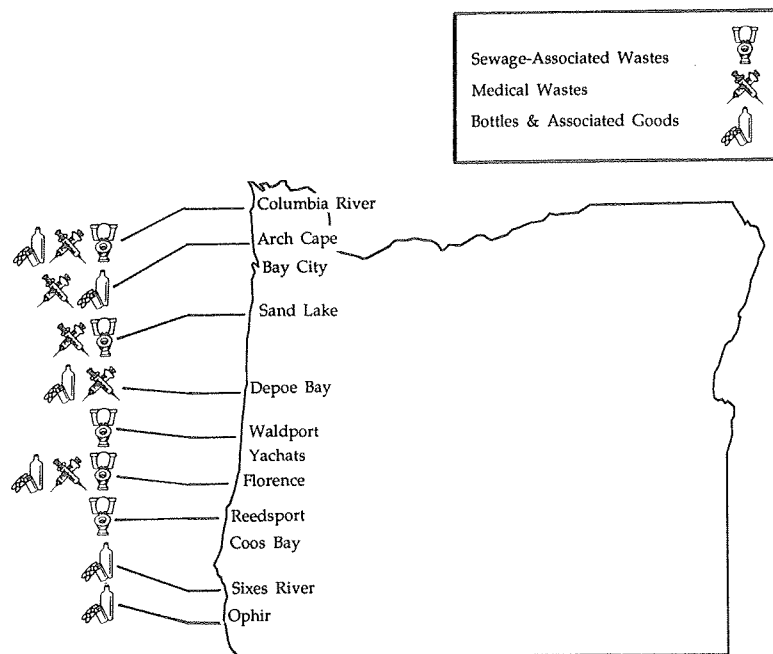
OREGON'S OCEAN-BASED DEBRIS HOTSPOTS:



OREGON'S DIRTY DOZEN:

	Total Number Reported	Percent of Total Debris Collected
1. foamed plastic pieces	12,289	11.11
2. plastic pieces	12,209	11.04
3. cigarette filters	11,393	10.30
4. plastic caps/lids	5,636	5.09
5. plastic food bags/wrappers	5,600	5.07
6. paper pieces	5,236	4.73
7. plastic rope	4,844	4.38
8. glass pieces	4,513	4.08
9. miscellaneous plastic bags	2,903	2.62
10. miscellaneous plastic	2,762	2.50
11. foamed plastic cups	2,703	2.44
12. glass beverage bottles	1,890	1.71
TOTAL	71,978	65.08

OREGON'S LAND-BASED DEBRIS AND BOTTLES/ASSOC. GOODS HOTSPOTS:



STRANDED AND/OR ENTANGLED WILDLIFE REPORTED:

Debris Related

12 birds entangled in net
Bird entangled in fishing line
Small black web-footed bird in plastic cord
Seagull with net around its neck
Stranded seagull
Bird entangled in plastic tissue
Bird trapped in crab trap
Seagull entangled in plastic band
Murre caught up in netting
Bird tangled in plastic bag
Dead bird - feet entangled in fishing line

Other Reports

2184 dead birds
25 dead sea birds
87 dead seagulls
4 dead ducks
1 dead dog
1 dead skunk
5 dead seals
2 dead fish
1 dead shark
1 dead starfish
175 dead cormorants
3 dead jellyfish
4 dead sea lions
1 bird with bullet wound
1 raven covered with oil
1 fish covered in oil

TRACEABLE DEBRIS REPORTED:

Location	Type of Debris	Source Indicated
Columbia River/Arch Cape Bay City/Sand Lake	plastic bottle wooden crate wooden pallet	Joe King Chemical Newport Shrimp Company White Crest Mills
Cascade Head/Depoe Bay Depoe Bay/Waldport	plastic frozen herring bait wooden crate wooden crate large wooden sign	Puget Sound Herring Sales Newport Fish Co. Depoe Bay Fish Co. Depoe Bay Fish Co.
Waldport/Yachats Yachats/Florence	plastic strapping band kite plastic tag #0137201	Furino Western Rivers Girl Scout Council Canadian Customs

MOST PECULIAR DEBRIS ITEMS REPORTED:

Columbia River/ Arch Cape	garbage can lid, plastic rosary, hubcaps, handwarmer, turn buckle, car seats, box springs, roll of wrapping paper, plastic rake, diaphragm, full ketchup bottle, globe from a ship's light, muffler, beer cooler, plastic air mattress, full newspaper "Oregonian" from May 10, 3 ft. orange road marker, gas tank, toothbrushes
Arch Cape/Bay City	tennis ball, baby bib, shotgun shell waddings, bed spring, broken toilet bowl, two rolls of carpet, plastic mattress container, car tire with rim, spark plug, baby bottle with milk
Bay City/Sand Lake	manhole cover, toe of boot, lamp, shoe insole, fish crates, ribbon, shotgun shells, iron railing, door knob, door lock
Sand Lake/Cascade Head	tarp, basketball, car undercarriage, rubber door flapper for boat, baby bottle cap, old waffle iron, kite, 12inch knife, bed springs, shotgun shell, man's house slipper
Cascade Head/Depoe Bay	umbrella, metal tip of garden hose, scouring pads, firework, needle cover, lipstick holder, barbecue grills, shotgun shell, stamp out for shoe soles which made 10 soles, rubber sheet, tape measure, sunglasses, plant pot, propane tank, keys, dishwasher, "Grateful Dead" t-shirt, thread roll, lamp, full sized bedspread, pencil, fiberglass tent, garbage can with no bottom, mattress springs

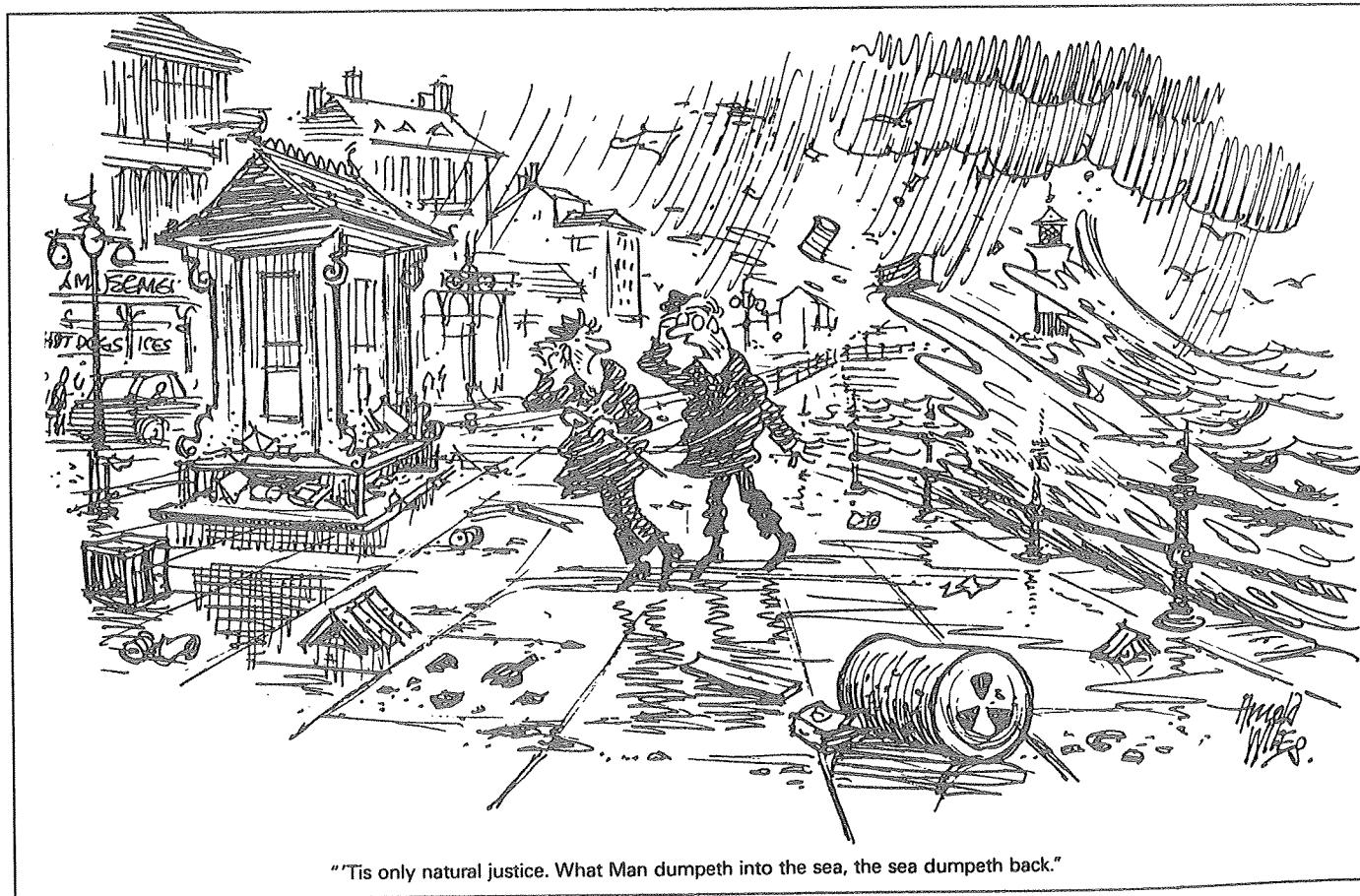
MOST PECULIAR DEBRIS ITEMS REPORTED (cont.):

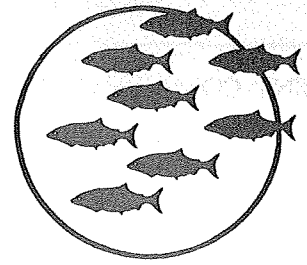
Depoe Bay/Waldport	dishwasher bucket, insole, truck canopy, fiberglass boat stringer, lawn chair, drain tubes, face mask, motorcycle helmet, window frame, boat seat
Waldport/Yachats	Boston Celtics cap with Larry Bird's signature in ballpoint, propane bottle, "Levi" walking shoes, shotgun wad
Yachats/Florence	air freshener, a cap that had two handles each side and a hole in the middle, fire extinguisher, part of an arrow, foil gift-wrap, dog collar, windshield, 2 champagne bottles, pair of glasses, paint thinner
Florence/Reedsport	working compass, bath scrub brush
Coo's Bay/Sixes River	hydraulic jack, stove pipe, paint roller, tennis ball, respirator, couch cushion, tire liner, toilet flapper from boat, teapot, "AX" blade, fire extinguisher
Ophir/CA Border	washing agitator, \$1, oil filter, metal hoop, rusty engine, trash can lid, barbecue grate, GTE frisbee, auto dashboard

FOR INFORMATION ON OREGON'S 1991 BEACH CLEANUP CONTACT:

Bill Hastie
Aquatic Resources Education Program Leader
Oregon Dept. of Fish and Wildlife
Marine Science Drive
Building 3
Newport, OR 97365
(503) 867-4741

CLEANUP DATE: September 28, 1991





PENNSYLVANIA

This was the third annual COASTWEEKS cleanup at Presque Isle State Park. 74 volunteers participated in the three-hour cleanup of 4 miles of beaches. Although many people were from the local community, one group travelled from West Virginia to participate in the Pennsylvania cleanup. Debris totalling 742 pounds of trash were collected and the aluminum cans were separated and recycled. Debris consisted mostly of plastics such as forks, spoons, drinking straws, balloons, and small pieces.

Frances Stein



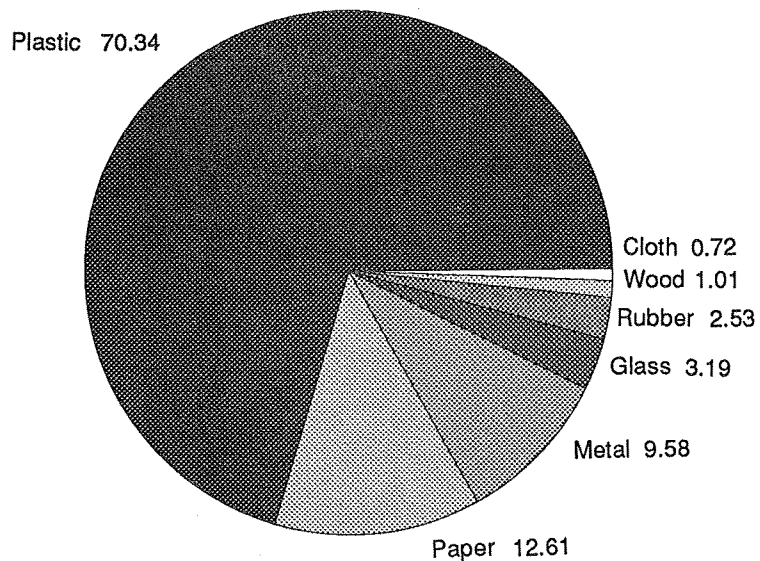
A debris trio of Presque Isle State Park COASTWEEKS volunteers.

Cleanup Date:
September 22, 1990

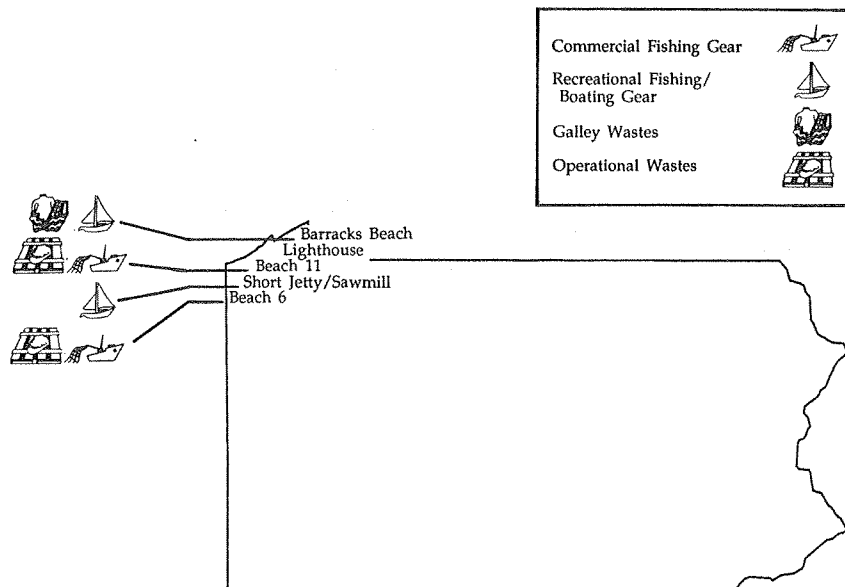
Results:
74 volunteers
4 miles cleaned
742 pounds of debris
26 data cards

Coordinated by:
Frances Stein
Department of
Environmental Resources
Presque Isle State Park
P.O. Box 8510
Erie, PA 16505
(814) 871-4251 or
(814) 838-8776

PERCENT COMPOSITION OF PENNSYLVANIA'S BEACH DEBRIS:



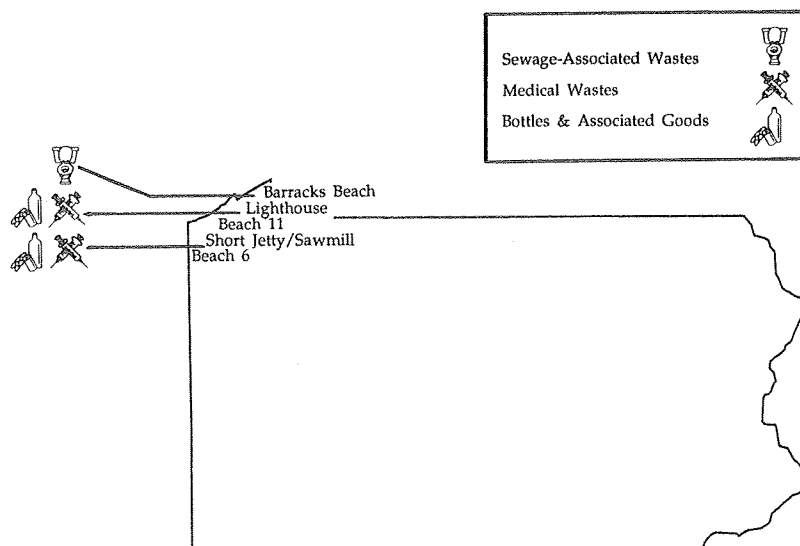
PENNSYLVANIA'S OCEAN-BASED DEBRIS HOTSPOTS:



PENNSYLVANIA'S DIRTY DOZEN:

	Total Number Reported	Percent of Total Debris Collected
1. cigarette filters	995	18.01
2. plastic pieces	897	16.24
3. plastic straws	395	7.15
4. miscellaneous paper	319	5.77
5. plastic food bags/wrappers	307	5.56
6. paper pieces	284	5.14
7. plastic caps/lids	224	4.06
8. foamed plastic pieces	198	3.58
9. metal pull tabs	160	2.90
10. metal bottle caps	149	2.70
11. plastic cups/utensils	110	1.99
glass pieces	110	1.99
12. miscellaneous plastic	107	1.94
TOTAL	4,255	77.03

PENNSYLVANIA'S LAND-BASED DEBRIS AND BOTTLES/ASSOC. GOODS HOTSPOTS:



STRANDED AND/OR ENTANGLED WILDLIFE REPORTED:

None reported

TRACEABLE DEBRIS REPORTED:

None reported

MOST PECULIAR DEBRIS ITEMS REPORTED:

Barracks Beach	glasses, flip flops, computer part
Lighthouse Beach	sunglasses, battery, kite, rusted charcoal grill
Beach 2	eye dropper, furniture, golf tee, tape, rubber ring, blasting cap
Beach 6	sandal

FOR INFORMATION ON PENNSYLVANIA'S 1991 BEACH CLEANUP CONTACT:

Frances Stein
Dept. of Environmental Resources
Presque Isle State Park
P.O. Box 8510
Erie, PA 16505
(814) 871-4251 or (814) 833-9162

CLEANUP DATE: September 28, 1991



PUERTO RICO



The 1990 COASTWEEKS cleanups coordinated by the University of Puerto Rico Sea Grant College Program were a complete success. Volunteers from different organizations cleaned and surveyed ocean debris and trash at ten of our beautiful beaches.

A total of 434 volunteers including 157 SCUBA divers collected tons of marine debris including plastics, foam, fishing nets, and lines which have been known to kill marine animals including leatherback and hawksbill turtles, manatees, and birds. Other marine debris collected consisted of glass bottles, wood pallets, debris from cruise ships, plastic bottles, clothing, refrigerators, and abandoned cars.

The volunteer groups consisted of university students, auto and nautical clubs, government agencies, public schools, tourists, environmental organizations, diving schools, and military groups. These volunteers were assisted by municipal governments, private industry, and governmental agencies who provided transportation, food, and refreshments.

The tremendous success of our cleanup is a tribute to all the volunteers and sponsors who donated their time and resources for the conservation of our most precious natural resource. We hope that these educational activities will help us change the irresponsible attitude of people that dispose of debris on our waters and coastline.

The cleanups were coordinated by the following organizations: Administration de Derecho al Trabajo, Asociacion de Estudiantes de Ciencias Marinas, Chelonia, Army ROTC, Aquatica Dive Shop, Tri Beta Biology Society, Mayaguez Auto Clubs, Boqueroo Nautic Club, Escuela Luis Munoz Marin, Liga Ecologica Puertorriquena.

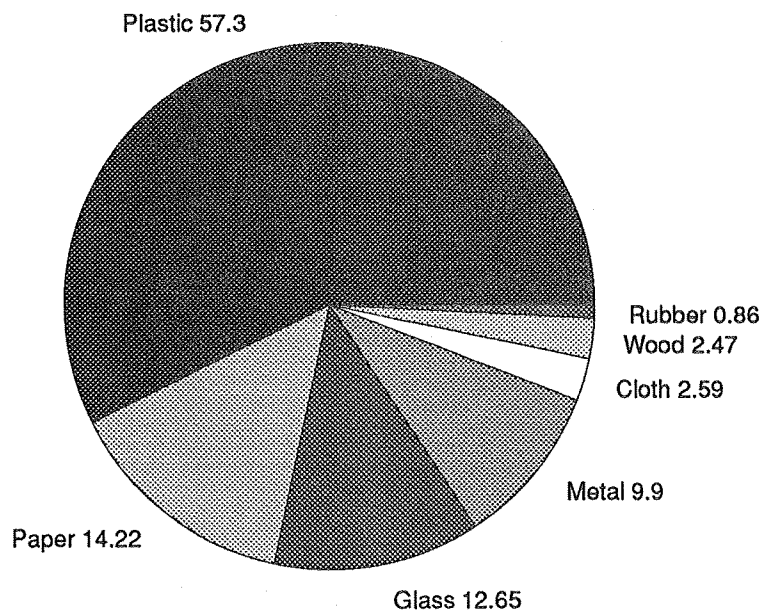
Ruperto Chaparro

Cleanup Date:
September 29-30
October 6-7

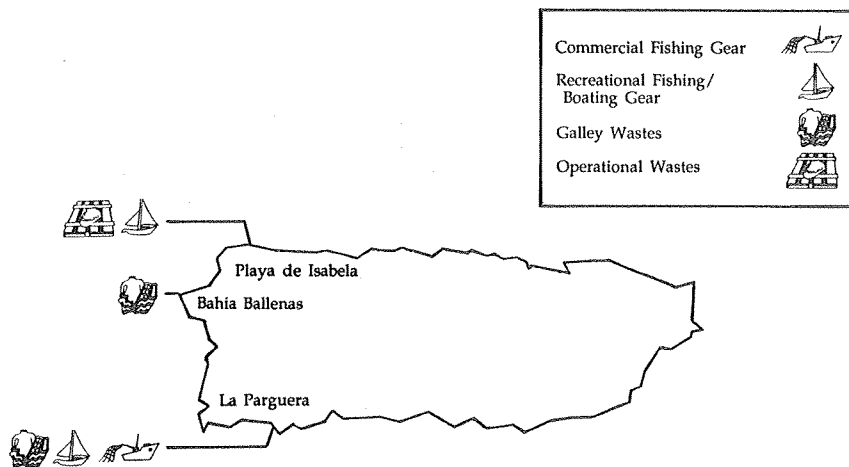
Results:
434 volunteers
17 miles cleaned
22,040 pounds of debris
50 data cards

Coordinated by:
Ruperto Chaparro
University of Puerto Rico
Sea Grant College Program
RUM-UPR P.O. Box 5000
Mayaguez, Puerto Rico 00709
(809) 832-4040

PERCENT COMPOSITION OF PUERTO RICO'S BEACH DEBRIS:



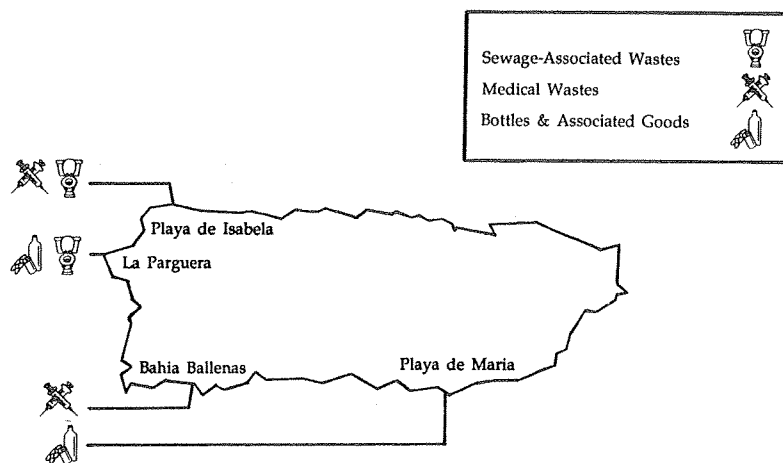
PUERTO RICO'S OCEAN-BASED DEBRIS HOTSPOTS:



PUERTO RICO'S DIRTY DOZEN:

	Total Number Reported	Percent of Total Debris Collected
1. plastic cups/utensils	1,206	9.61
2. glass beverage bottles	983	7.84
3. plastic pieces	733	5.84
4. plastic beverage bottles	586	4.67
5. plastic caps/lids	556	4.43
6. paper pieces	517	4.12
7. plastic trash bags	423	3.37
8. glass pieces	382	3.05
9. metal beverage cans	338	2.69
10. clothing	325	2.59
11. foamed plastic pieces	292	2.33
12. plastic salt bags	282	2.25
TOTAL	6,623	52.80

PUERTO RICO'S LAND-BASED DEBRIS AND BOTTLES/ASSOC. GOODS HOTSPOTS:



STRANDED AND/OR ENTANGLED WILDLIFE REPORTED:

None reported

TRACEABLE DEBRIS REPORTED:

Location	Type of Debris	Source Indicated
Bahia Ballenas	plastic bottle	Princess Cruises

MOST PECULIAR DEBRIS ITEMS REPORTED:

None reported

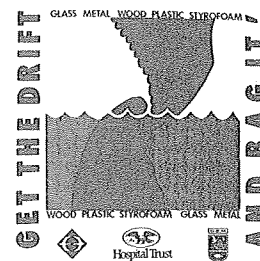
FOR INFORMATION ON PUERTO RICO'S 1991 BEACH CLEANUP CONTACT:

Ruperto Chaparro
University of Puerto Rico
Sea Grant Program
RUM-UPR
P.O. Box 5000
Mayaguez, PR 00709-5000
(809) 832-8045

CLEANUP DATE: September 21, 1991



Some heavy-duty debris collected during Puerto Rico's beach cleanup.



RHODE ISLAND

Thanks to continued and growing help, each year our survey and cleanup efforts have reached more citizens. We started in 1985 with eight sites and a few hundred volunteers; by 1988 we had grown to 500 volunteers with 12,000 - 15,000 pounds of debris collected. In 1989, 800 volunteers picked up 14,000 - 15,000 pounds, and this year we topped 1,000 volunteers at 27 sites with 17,000 pounds of trash removed from 42 miles of our shores.

This year many volunteers remarked on the number of cigarette butts. Perhaps we need to remind smokers that cigarette filters are not biodegradable and to please discard the remains of their smokes in an ashtray. Balloons continue to litter our shorelines in small but significant numbers. While thirteen syringes were found statewide, ten were located in the same place, which indicates a local problem, not medical waste being dumped at sea. Styrofoam, in the form of dock floatation devices, fast food containers, coffee cups, and coolers, washes ashore in bits, pieces, and entire objects. With no deposit law in effect, beverage bottles and cans are still being left on the beaches.

Volunteers came from Girl Scout, Boy Scout, Brownie and Cub Scout troops, civic organizations, municipal conservation commissions, college organizations, high schools, Audubon Society, Rhode Island Hospital Trust bank employees, the Coastal Resources Management Council, and concerned citizens. The Shell Club from one high school, and an ecology club from another, added their number to the beach cleaners.

The data were more accurately recorded this year than ever before, and this accuracy can be attributed to the better organized data forms. Thanks CMC staff!

One volunteer drove from Westchester County, New York, to participate, and then she lent a hand to efforts at two beaches! A beach restricted to piping plover nesting until September 15 gave us an interesting comparison with heavily used beaches. The restricted beach showed significant numbers of plastic bags and cigarette filters. Two groups cleaned salt ponds (embayments behind barrier beaches), but the profile of litter appeared similar to the beach profiles.

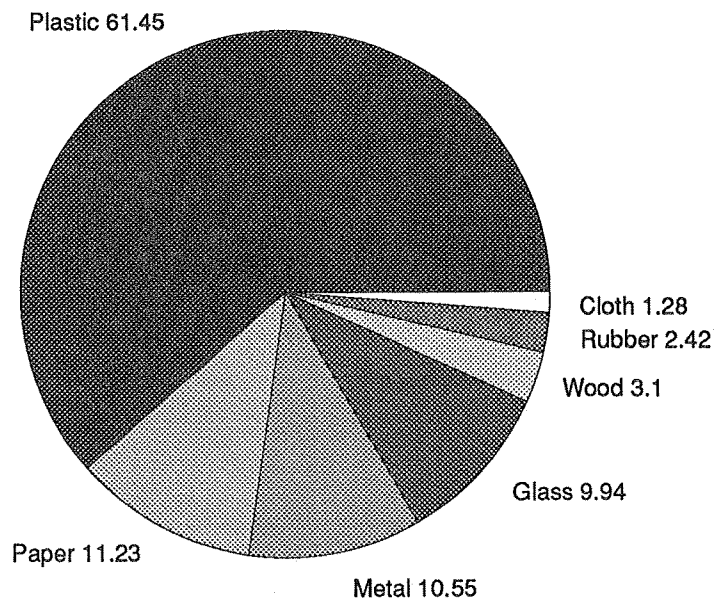
Eugenia Marks

Cleanup Date:
September 22, 1990

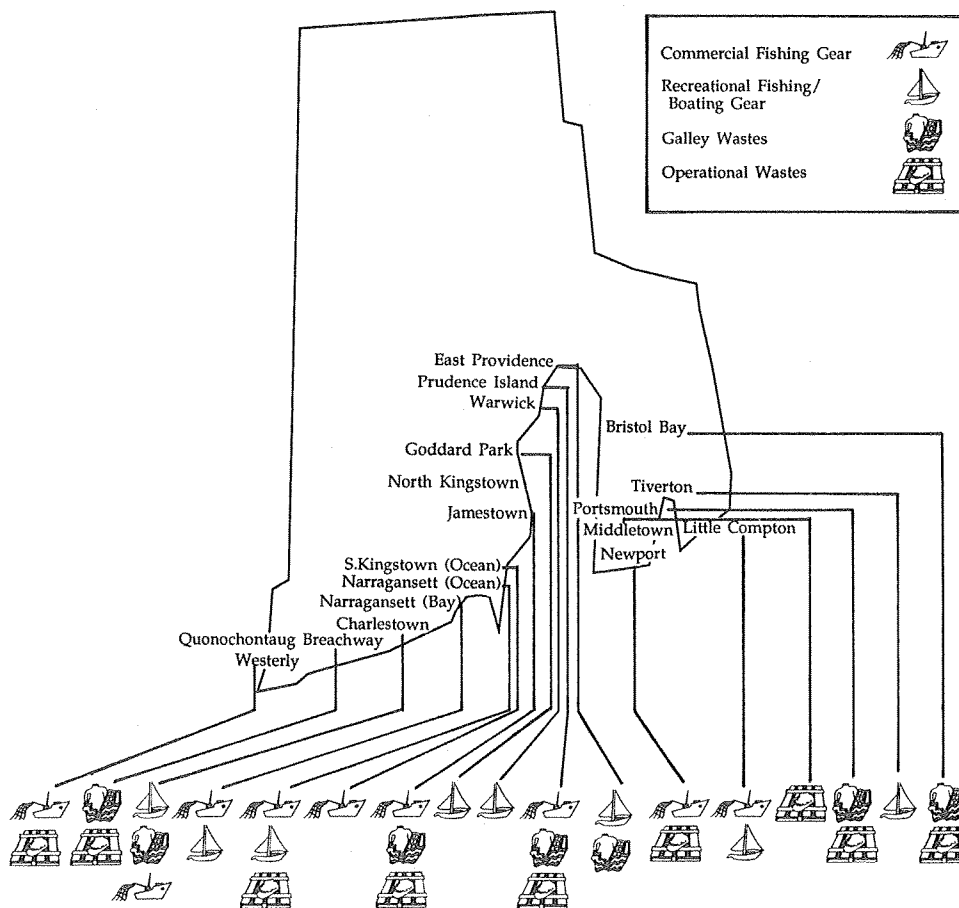
Results:
1,000 volunteers
42 miles cleaned
17,000 pounds of debris
290 data cards

Coordinated by:
Eugenia Marks
Audubon Society of
Rhode Island
12 Sanderson Road
Smithfield, RI 02917
(401) 231-6444

PERCENT COMPOSITION OF RHODE ISLAND'S BEACH DEBRIS:



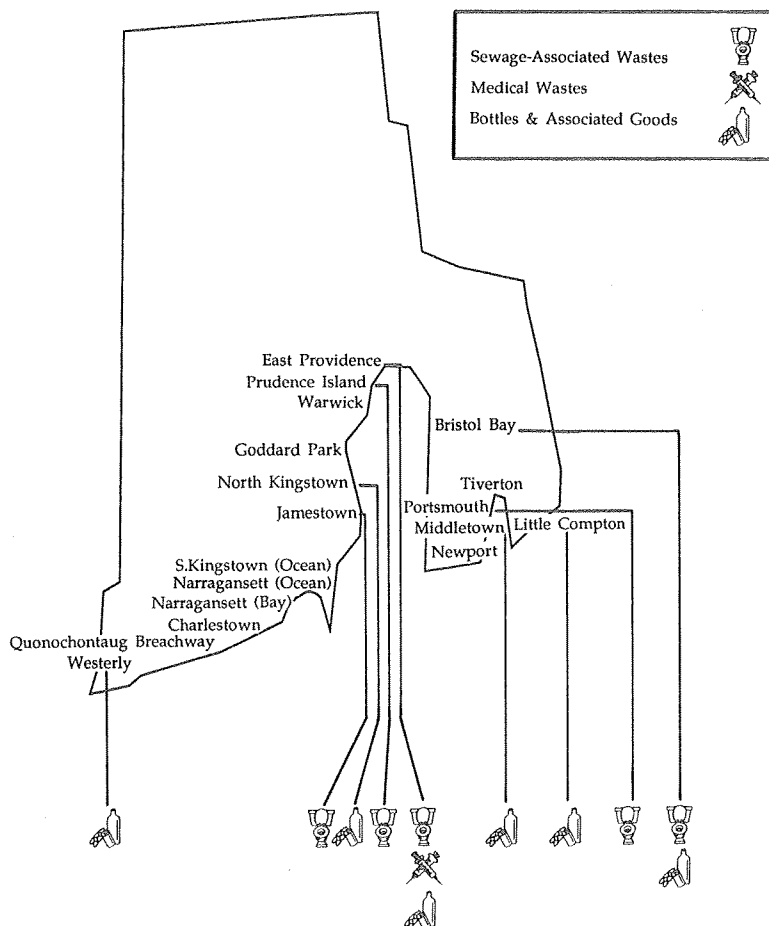
RHODE ISLAND'S OCEAN-BASED DEBRIS HOTSPOTS:



RHODE ISLAND'S DIRTY DOZEN:

	Total Number Reported	Percent of Total Debris Collected
1. cigarette filters	6,093	7.13
2. plastic pieces	4,640	5.43
3. metal beverage cans	4,562	5.34
4. glass beverage bottles	4,547	5.32
5. paper pieces	3,874	4.54
6. plastic food bags/wrappers	3,742	4.38
7. foamed plastic pieces	3,648	4.27
8. foamed plastic cups	3,545	4.15
9. plastic caps/lids	3,445	4.03
10. plastic straws	3,236	3.79
11. glass pieces	3,116	3.65
12. plastic cups/utensils	2,523	2.95
TOTAL	46,971	55.01

RHODE ISLAND'S LAND-BASED DEBRIS AND BOTTLES/ASSOC. GOODS HOTSPOTS:



STRANDED AND/OR ENTANGLED WILDLIFE REPORTED:**Debris Related****Other Reports**

Field mouse living in a beer can
Seagull entangled in fishing line
Horseshoe crabs entangled in plastic
Fishing line with seagull parts - head, body & wing
Dead Possum in a plastic bag
Dead skunk caught in a lobster trap
Seagull caught in plastic holder

8 dead seagulls
2 dead rats
1 dead herring gull

TRACEABLE DEBRIS REPORTED:

Location	Type of Debris	Source Indicated
Little Compton Newport	2 plastic salmon tags tag wooden piece pen	N. B. Aquaculture (Salmon d'Aquaculture DVNB) Merrit Seafood, NC, 1-800-327-1185 George C. Brown & Co. Small Boat Show (Newport)
South Kingstown (Ocean)	crab trap plastic bucket	W. Kowal Trump Castle

MOST PECULIAR DEBRIS ITEMS REPORTED:

Bristol Bay	toilet seat
Tiverton	shovel, muffler
Portsmouth	lady's glove, 3 pieces of lawn furniture, TV table, shower curtain, wax fake teeth, toilet bowl brush, propane tank, 1990 physics book, bike, cue ball, kazoo, 1/2 of wooden floor brush
Middletown	postcard with Australian advertisement, broom, sock, golf ball, "GI Joe"
Little Compton	shotgun shells, white plastic pony with multi-colored mane, fiberglass boat
Newport	large part of boat cabin
East Providence	bathtub, two wigs, old boat motor, 4 abandoned boats
Prudence Island	plastic chair, paint roller, hockey shin guard, "Ace" bandage
Warwick	television set, muffler, stereo speakers, door lock
Goddard Park	heel, socks, blanket, propane tank, Dutch flag, menu from "In Between" restaurant
N. Kingstown	unopened can of "Budweiser", clam rake, splat ball, "Olivetti" copier machine
S. Kingstown Bay	car jack
S. Kingstown	black enamel, shotgun shell, fuel ocean canister (device for testing ocean currents)
Charlestown	two snuff boxes, packet of bologna
Quonochontaug Breachway	hibachi

MOST PECULIAR DEBRIS ITEMS REPORTED (cont.):

Westerly

auto parts, 1/4 of a dollar bill, coat hanger, ski tow rope, working watch, \$5, full beer can, instructions for a heat pump

FOR INFORMATION ON RHODE ISLAND'S 1991 BEACH CLEANUP CONTACT:

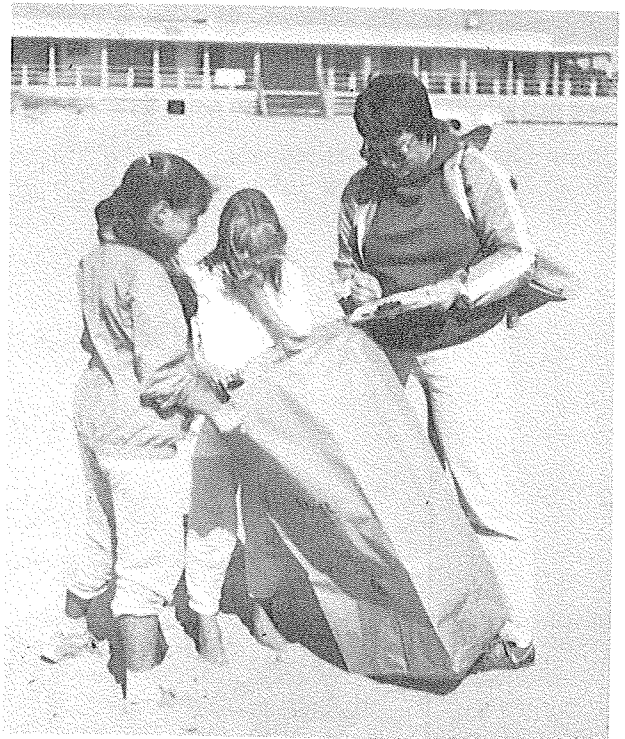
Eugenia Marks
Audubon Society of Rhode Island
12 Sanderson Road
Smithfield, RI 02917
(401) 231-6444

CLEANUP DATE: September 21, 1991





Volunteers carefully remove trash from beach vegetation in Rhode Island.



Girl Scouts learning the value of beach cleanup data collection in Rhode Island.



South Carolina Sea Grant Consortium

SOUTH CAROLINA

Beach Sweep, washed away by Hurricane Hugo in 1989, came back strong in September 1990 as Beach Sweep/River Sweep, the first comprehensive statewide sweep of South Carolina's waterways. In 1990, more people participated in the cleanup than ever before, picking up an unprecedented amount of trash along the state's shores and streams.

Sponsored by the South Carolina Sea Grant Consortium, South Carolina Water Resources Commission, and South Carolina Clean and Beautiful, Beach Sweep/River Sweep '90 had 3,262 participants who used 5,772 bags to pick up an estimated 71,069 pounds of trash -- over 35 tons. In 1988, participants picked up only 15 tons.

Some interesting items found on beaches included: a bag of white powder with razor blade at Edisto Beach; the white powder was cocaine, about \$300-400 dollars worth, according to the police. In Beaufort, a Brazilian suntan lotion bottle was found. There were also tons of lumber found all along the beach and stacked up, probably mostly Hurricane Hugo debris. The huge weight picked up on beaches this year is probably attributed to this debris. On Kiawah Island alone, one thousand pounds of lumber were picked up.

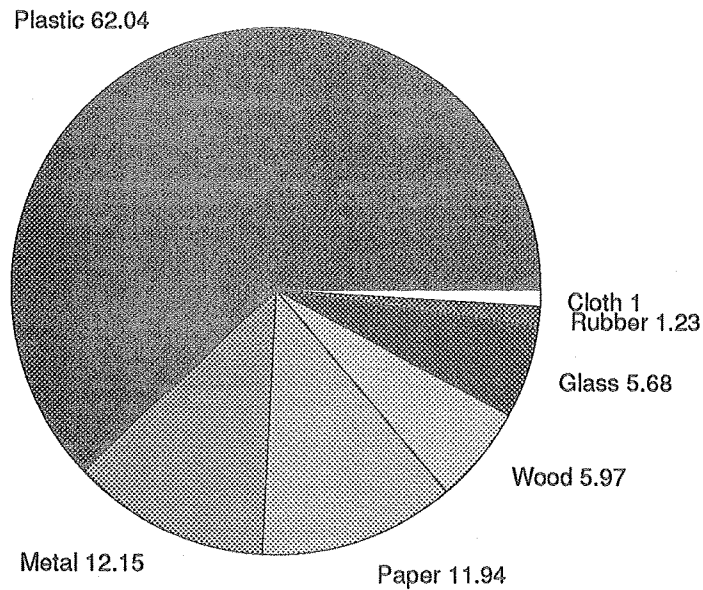
Virginia Beach

Cleanup Date:
September 15, 1990

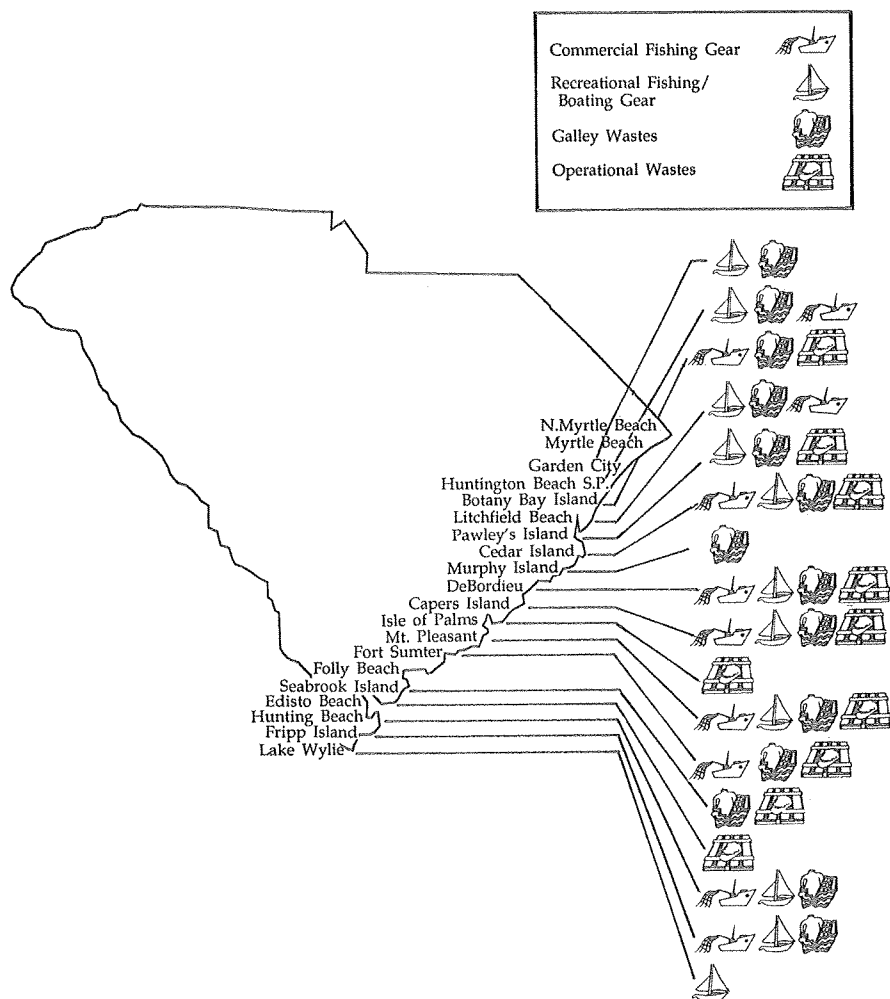
Results:
3,262 volunteers
198 miles cleaned
71,069 pounds of debris
469 data cards

Coordinated by:
Virginia Beach
South Carolina
Sea Grant Consortium
287 Meeting Street
Charleston, SC 29401
(803) 727-2078

PERCENT COMPOSITION OF SOUTH CAROLINA'S BEACH DEBRIS:



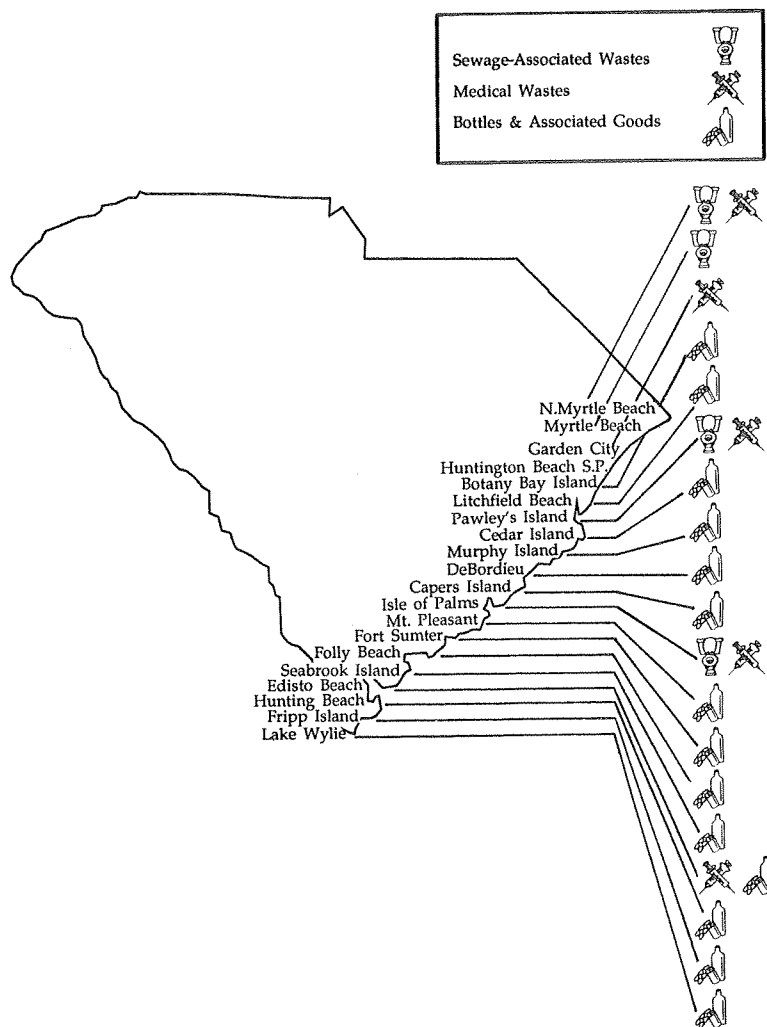
SOUTH CAROLINA'S OCEAN-BASED DEBRIS HOTSPOTS:



SOUTH CAROLINA'S DIRTY DOZEN:

	Total Number Reported	Percent of Total Debris Collected
1. cigarette filters	28,832	25.89
2. metal beverage cans	7,794	7.00
3. paper pieces	6,547	5.88
4. plastic pieces	5,703	5.12
5. lumber pieces	4,523	4.06
6. foamed plastic pieces	4,153	3.73
7. plastic food bags/wrappers	3,875	3.48
8. glass beverage bottles	3,518	3.16
9. plastic beverage bottles	3,345	3.00
10. foamed plastic cups	3,312	2.97
11. miscellaneous paper	3,083	2.92
12. plastic straws	3,083	2.77
TOTAL	77,935	69.97

SOUTH CAROLINA'S LAND-BASED DEBRIS AND BOTTLES/ASSOC. GOODS HOTSPOTS:



STRANDED AND/OR ENTANGLED WILDLIFE REPORTED:**Debris Related**

Dead stingray in shrimp net

Other Reports3 dead fish
2 dead crabs
2 dead turtles
2 dead birds**TRACEABLE DEBRIS REPORTED:**

Location	Type of Debris	Source Indicated
Isle of Palms	plastic bucket large plastic bag balloon	Parker Oil Company, Charles Heights, SC 29418 DuPont Burger King
Fort Sumter	plastic cap styrofoam cup styrofoam cup piece of wood	South Atlantic Life Insurance Texaco BP New South Lumber
Folly Beach	sealed plastic bags	Allied Plastics
Seabrook Island	alcohol pad wrapping	Triad Medical
Fripp Island	metal cylindrical beeper	Daton-Grange, Ft. Lauderdale
Hunting Beach	lotion	Vepe Industrial Almenticia, Brazil
Hilton Head	plastic "Candy Swizzles" wrap	Matt Low Ltd., Stockport, England

MOST PECULIAR DEBRIS ITEMS REPORTED:

North Myrtle Beach	mattress, rug, linoleum, intercom box, billet pump, firecrackers, set of dentures, flip flops, radio/TV, dish drainer, beach chairs, bottom of vacuum cleaner, sprinkler system piece, kite, pan
Myrtle Beach State Park	"National Geographic" magazine, globe ball, pipe with faucet, piece of refrigerator, grate
Garden City	part of an American flag, "Ninja Turtle" toy
Huntington Beach State Park	canvas tarp, bed springs, shotgun shell
Botany Bay Island	metal signal horn, sail bag
Litchfield Beach	large motorboat, trash can, ice scraper
Pawley's Island	window blinds, exhaust pipe, aircraft wreckage
Cedar Island	car vacuum, pink ribbon, glass bottle marked "Federal Law Prohibits Rinsing of This Bottle"
Debordieu	broken surfboard, copper tubing, electric blanket with controls
Cooper's Island	18' abandoned fiberglass boat - license 5C-558JS
Isle of Palms	silk flowers, full can of paint, 1/2 of a rubber ball, small wooden fish, toothpaste, soap dish, plastic measuring cup, sock, two full cans of beer
Mount Pleasant	car radio, 2 abandoned barges, pillow, front piece of "Mercury" motor, life jacket

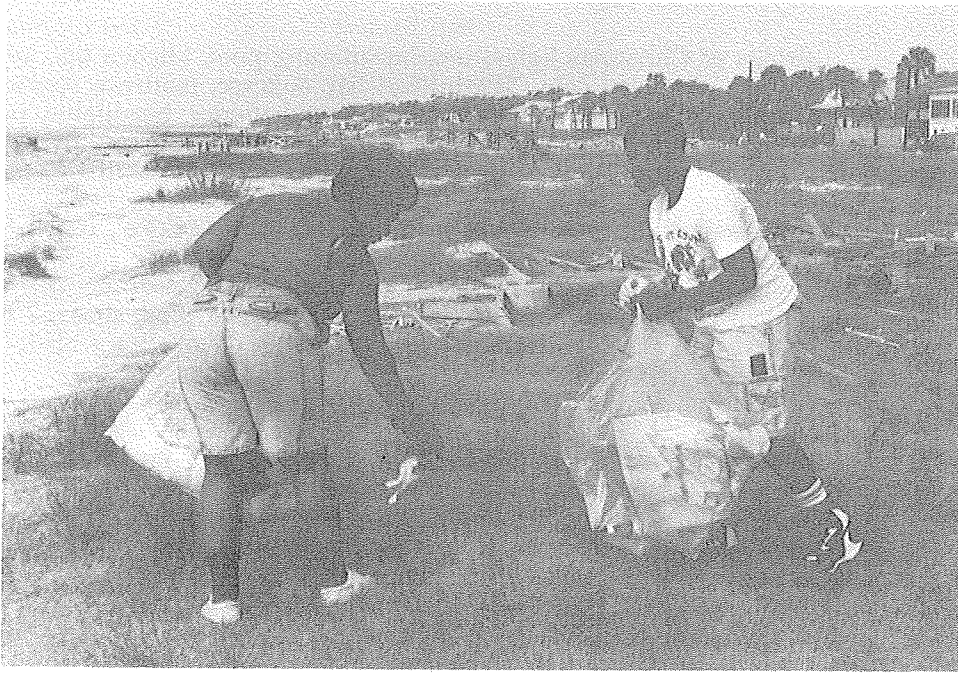
MOST PECULIAR DEBRIS ITEMS REPORTED (cont.):

Fort Sumter	"Coleman" lantern, coffee maker, vacuum, speaker, Christmas tree light, ice cube tray, cloth ice bag
Folly Beach	strings of Christmas lights, mop, swimming pool, kitchen tile, key, beach chair, shoes, Colombian coin, "Earth Day" hat, suitcase, mattress, roofing, light switch, fencing, rugs, glass insulator, street signs, batteries, headlights, padlock, cooler, clock, oil can, gas can, linoleum, seat coverings, trash can, fly swatter, full can of beer
Seabrook Island	mattress, commercial cargo net, unopened can of "Coke", beach chair, unopened bottle of wine
Edisto Beach	broken meter cover, small rusted grill, marijuana pipe, shoes, 2 rusty lounge chairs, contraceptive sponge, plastic bag with drugs, razor blade
Hunting Beach	hairbrush
Fripp Island	used swimsuit, metal cylindrical beeper
Hilton Head	funeral wreath, glue dispenser, shoes, large rug, refrigerator handle

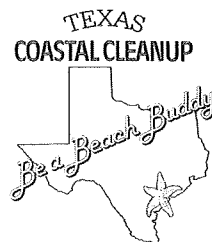
FOR INFORMATION ON SOUTH CAROLINA'S 1991 BEACH CLEANUP CONTACT:

Leigh Handal
South Carolina Sea Grant Consortium
287 Meeting Street
Charleston, SC 29401
(803) 727-2078

CLEANUP DATE: September 21, 1991



Two volunteers clean up Folly Beach.



TEXAS

The Fifth Annual Texas Coastal Cleanup, co-sponsored by the Center for Marine Conservation and the Adopt-A-Beach Program, was held on Saturday September 22, 1990. More than 15,822 Beach Buddies traveled to the coast from all over the state to 15 sign-in areas from Boca Chica near Mexico to McFaddin Beach near Louisiana. Currently, 189 groups have adopted 183 miles of Texas beaches.

In an ongoing effort to promote plastics recycling, the Adopt-A-Beach program and DuPont/Conoco sponsored a plastic recycling project in ten coastal communities. Volunteer Beach Buddies separated plastic trash which will be recycled and made into park benches. Park benches from the plastic trash were dedicated in March of 1991.

In conjunction with the cleanup, the Center for Marine Conservation sponsored a photo contest entitled "The Gulf of Mexico: A Special Place." The three winning photos are on display at the Malaquite Beach Visitor's Center at the Padre Island National Seashore. The Center also sponsored a children's poster contest, entitled "I am a Beach Buddy."

This year volunteers signed huge petitions asking Admiral Kime of the U.S. Coast Guard to support Special Area Designation for the Gulf of Mexico. This would mean no dumping of any trash into gulf waters. In October, petitions from all the Gulf states were presented by the Center to Admiral Kime at a Washington, D.C. press conference. In November 1990, Admiral Kime and Texas Land Commissioner Garry Mauro attended the International Maritime Organization's meeting in London where more than 60 member nations agreed to designate the Gulf of Mexico and the Caribbean Sea Special Area status. Beach Buddies do make a difference!

The Center for Marine Conservation and the Adopt-A-Beach Program would like to extend our thanks to our volunteer area coordinators and Texas Beach Buddies. We would also like to thank DuPont/Conoco for their plastic recycling program, Mobil Oil for donating trash bags, Dow Chemical for donating thank you buttons, Academy Surplus for donating t-shirts, and Texas coastal hotels for giving discounts to Beach Buddies.

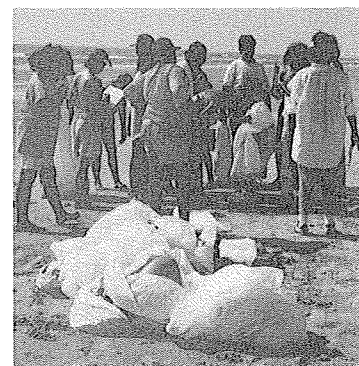
Linda Maraniss
Angela Farias

Cleanup Date:
September 22, 1990

Results:
15,822 volunteers
186 miles cleaned
466,540 pounds of debris
2,598 data cards

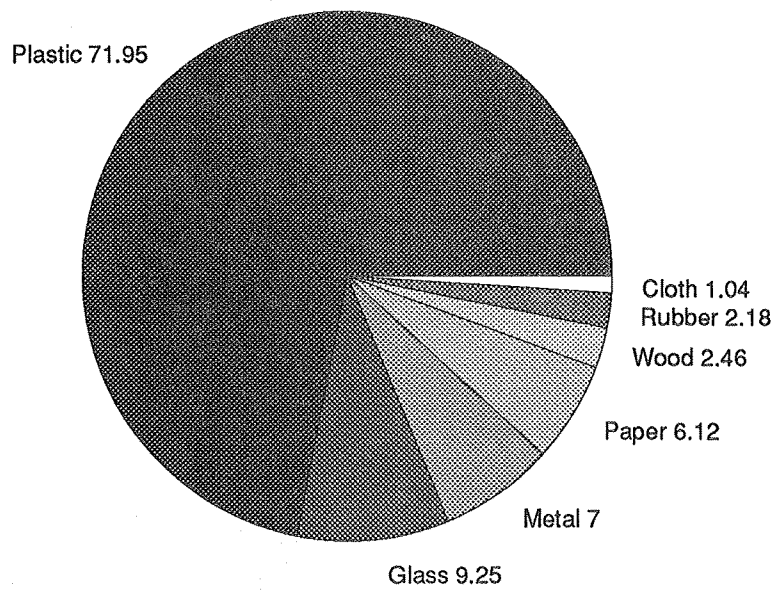
Coordinated by:
Angela Farias
Texas General Land Office
1700 N. Congress Avenue
Austin, TX 78701
1-800-85-BEACH or
(512) 463-5108

Linda Maraniss
Center for Marine
Conservation
1201 West 24th Street
Austin, TX 78705
(512) 477-6424

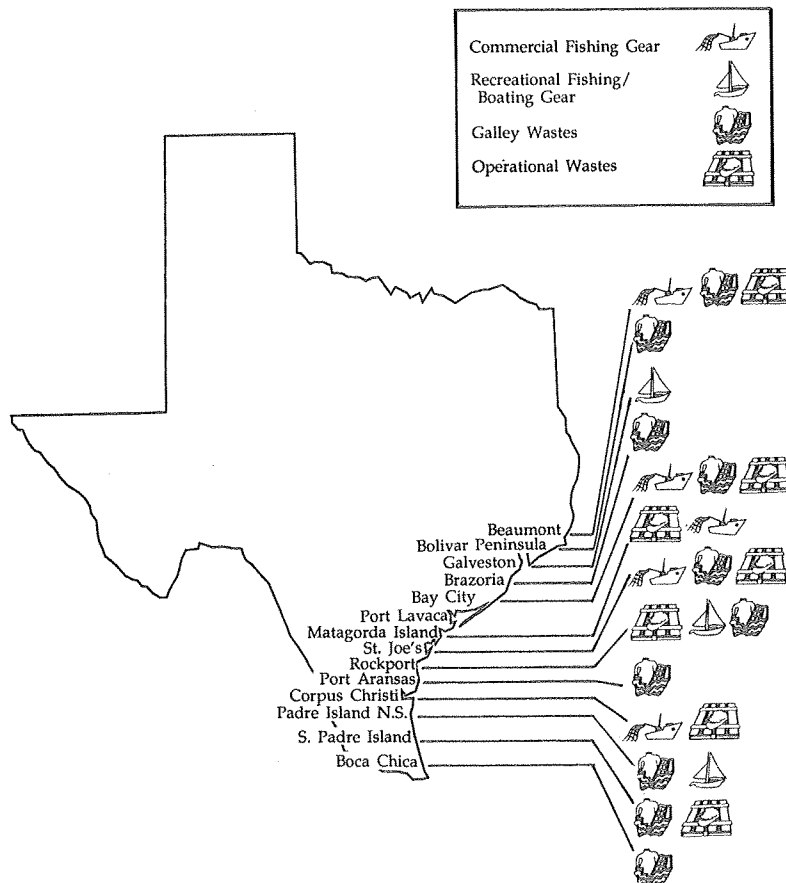


Debris and volunteers pile up
along the beach in Corpus
Christi, Texas.

PERCENT COMPOSITION OF TEXAS' BEACH DEBRIS:



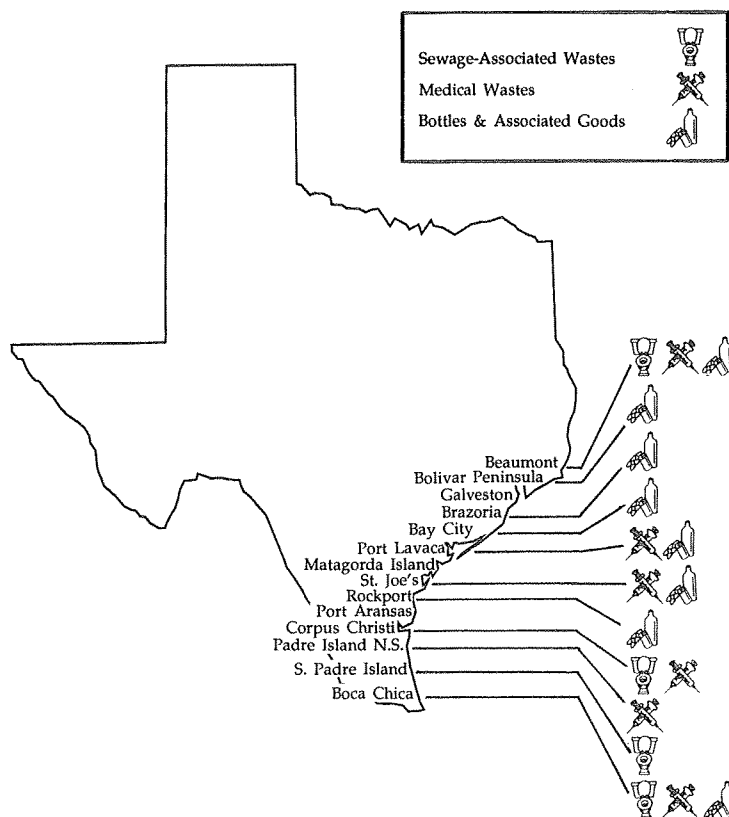
TEXAS' OCEAN-BASED DEBRIS HOTSPOTS:



TEXAS' DIRTY DOZEN:

	Total Number Reported	Percent of Total Debris Collected
1. plastic pieces	45,338	9.46
2. cigarette filters	29,812	6.22
3. plastic caps/lids	28,840	6.02
4. plastic rope	24,537	5.08
5. plastic food bags/wrappers	23,121	4.82
6. glass pieces	22,927	4.78
7. foamed plastic pieces	19,838	4.14
8. metal beverage cans	13,028	2.72
9. plastic straws	12,593	2.63
10. glass beverage bottles	12,277	2.56
11. paper pieces	11,901	2.48
12. miscellaneous plastic bags	11,831	2.47
TOTAL	256,043	53.38

TEXAS' LAND-BASED DEBRIS AND BOTTLES/ASSOC. GOODS HOTSPOTS:



STRANDED AND/OR ENTANGLED WILDLIFE REPORTED:

Debris Related

Fish enclosed in sweater
Hermit crab entangled in fishing line
3' snapper entangled in fishing line
2 crabs trapped in old fishing net - released
Crab entangled in rope
Crab tangled by 30 lb test trundle hook
Dead seagull with fishing line tangled around its legs
Dead fish with plastic bag in gills
Seagull skeleton entangled in monofilament line
Barnacles entangled in plastic string and fishing line
Dead blue heron entangled and hanging from telephone wires
Fish and crabs in plastic rings
Dead fish in six-pack ring
Seagull entangled in nylon rope
Blue heron carcass entangled in plastic rope
Fish entangled in line
Dead fish in plastic bottle
Bones of a small bird in rope and fishing line
Crab entangled in netting

Other Reports

1 dead jellyfish
2 dead dogs
1 dead crab
5 dead seagulls
4 dead birds
4 dead stingrays
1 dead porpoise
1 dead turtle
2 dead goats
1 dead snake
1 dead skate
2 dead sharks
1 dead coyote
23 dead fish
1 pelican with gun shot wound
1 bird covered in oil
5 dead catfish

TRACEABLE DEBRIS REPORTED:

Location	Type of Debris	Source Indicated
Beaumont	plastic lid	Texaco (URSA SP40 2133)
Bolivar Peninsula	paper mailing bag	Esso
	Energol CLO50M 55 gal. drum	BP
	reusable drum cover	Uniroyal Chemical
	plastic container bag	Baldwin Filters
	plastic bag	Laport Ice Company
	plastic bag	Ryder
Galveston	balloon	"Pride of the Mississippi"
	orange plastic from container, #D50002	Ohler Company, Janesville, IA
	plastic barrel	Texaco
	invoice	Central Freight Lines, Inc.
	glass tubing	Fisher Scientific
	plastic container	Fisher Scientific
	salt bag - 50 lbs.	Cargill, Inc./Gulf Shore Salt
	hardhat	Phillips 66
	crate	Southland Corp.
	emergency procedures card	Europa Jet
	plastic cup	San Jacinto S.P.
	plastic beverage container	Fruit Drinks Inc., Puerto Rico
	5 gal. plastic lid	Plastican, Inc., Dallas
	5 gal. chemical container	Mobile
	10 gal rust remover bucket	Banner Lab, Inc.
	plastic oil bucket	Chevron
	plastic shampoo bottle	Princess
	2 plastic shampoo bottles	Holland America

TRACEABLE DEBRIS REPORTED (cont.):

Bay City	part of plastic hardhat red 5 gal. container silicone caulk tube 55 gal. drum 55 gal. barrel hat 5 gal. can	Seaguridad Industries, INFRA USS Samson Pennwall BP North America Shell USCG Florida Sigma Western Oceanic "SS 202" Louisiana Kentwood Penrod Drilling Co. Texas Plastic, Inc., Midland First World Import Co, Bangkok Mission Ice Co. Snyder Company United Salt Corp., Houston, TX 77027 Belzona Molecular 224 Seventh Street, Garden City, NJ 17530
Matagorda Island	hardhat bucket water jug hardhat plastic container green mustard container	
Corpus Christi	plastic ice bags plastic ice bags plastic salt bag plastic cap: "More than 25 years of conservation of man-made resources" plastic salt bag 10 plastic strips 6 x 18 2 egg cartons plastic lid to drum plastic ice bag plastic container 5 gal. lid, 10 gal. lid	
Padre Island National Seashore	shopping bag hardhat plastic salt bag plastic salt bag plastic salt bag plastic circle milk crate chemical waste barrel plastic salt bag plastic bottle plastic bottle	Morton Ship/Shore Salt Snyder Company Adams Garden Poultry Farm, Laferia, Texas Uniroyal Chemicals Jerry Clanton's Ice Plant Pemex Brio Diesel Oil Envasesde Plastico, SA Mexico, Tel 250-6544 World Wide Fliers Mobile United Salt Corp. of Houston Sea & Land United Salt Co. Lagniappe IMUSA Caparra Dairy, Inc. Raychem United Salt Murakami Produce, Ontario Hellenic Chemical Products, Greece Jettica Corporation Bennett Industries Texaco Morton Ship/Shore Salt Bennett Industries
South Padre Island	12" drum lid 12" drum lid 12" drum lid plastic salt bag 50 lbs large plastic lid	

MOST PECULIAR ITEMS REPORTED:

Beaumont	couch, champagne glass, purple condom
Bolivar Peninsula	toilet seat, baseball, ceramic toilet, air conditioning window unit, sauce pan, yard of carpet, garland, cassette tape, short wire radio, 10 gal. water jug, plastic tractor, large electrical switch, \$500, battery, butane tank, ceramic "Florida" mug, refrigerator, pink teddy bear, broken dildo

MOST PECULIAR ITEMS REPORTED (cont.):

Galveston	5 gal. hydraulic acid container, note in a bottle, inflatable shark, hairbrush, part of a car, curler, carpet, commercial mop bucket, plastic butane housing, lawn chair, 2 duck decoys, razor blades, fire hose, Christmas tree, hats, gas mask, car floor board, earring back, unlabeled medicine bottles, house door, 5 unopened packages of "Marlboro" cigarettes, Christmas tree ornament, plastic mermaid's tail, paint bucket with roller, muffler, "Fiesta" price tags, ear plug, barbecue grill, skateboard, "Tenneco Cleanup" form, diaphragm, car seat, bag of onions, piece of dune buggy, champagne bottle, small life raft, poker chip, one "Tenneco" ink pen, "Boom Box", kite, chair leg, two-man tent, baby toilet seat, sofa bed, ping pong ball, car windshield, 1/2 of large trash can, pair of sunglasses
Brazoria	plastic Christmas tree, shotgun shell, pocket knife, "crack" bottle, car axle, enema bag
Bay City	hair perm solution, rollers, trash can, pacifier, air conditioner, laundry basket, obscene message in a bottle, refrigerator, bed spring, paint can, scrubbing brush, rubber baseball
Matagorda Island	telephone dial cover, biological chemical can, wet suit, rubber doormat, picnic table
St. Joe's	"Oscar Mayer" quick lunch packs
Rockport	part of a camper, broom handle, small doll leg, old "Coca Cola" bottle, camera lens and flash, brake parts, silver knife
Port Aransas	"crack" bags, dollar bills, asthma inhaler, "Don't Mess with Texas" sticker, mascara applicator, 1974 Chevy Nova, part of a boat, coat hanger
Corpus Christi	hammer, credit card from Washington State, license plate, hamburger grill, refrigerator door, oil pan, engine block, ball cap, car seat cushion, life vest, king size mattress, coffee maker top, battery, pornographic picture, carpet, "Easy-Off" oven cleaner, pharmaceutical bottle, car panel, old canteen, car hood, shark fin, scuba diver's cable, hinged silver bracelet with onyx stone, 3/4 of \$5, table leg, swimming goggles, toilet seat
Padre Island National Seashore	horse-shoe, refrigerator, carpet, fax machine, drug dispensing bottles, pieces of car seat comforter, battery
South Padre Island	plastic water filter, plastic helmet straps, rug, paint brush, beach towel, life jacket, 4 different lawn chairs, rear end of a car, toilet seat, piece of carpet, water heater, refrigerator door, muffler, hair curler, lamp, washing machine agitator, Coast Guard food package, full can of paint, piece from freezer
Boca Chica	piece of a gun, soap dish, sleeping bag, license plate "178 LZV", 2 mufflers, 2 electronic circuit boards, pair of trousers, diaphragm, washing machine

FOR INFORMATION ON TEXAS' 1991 BEACH CLEANUP CONTACT:

Linda Maraniss
Center for Marine Conservation
1201 West 24th Street
Austin, TX 78705
(512) 477-6424

Adriana Guitierrez
Texas General Land Office
1700 N. Congress Avenue
Austin, TX 78701
1-800-85BEACH or (512) 463-5108

CLEANUP DATE: September 21, 1991

VIRGINIA

Chesapeake Bay

Cleanups were conducted throughout Hampton Rhodes on September 22. According to Debbie Blanton, coordinator of the effort in the city of Hampton, "the cleanup was made possible by 160 volunteers who came to the beaches despite the rain." In addition Robert Dean, overall coordinator of cleanups conducted on the south side, stated "it's not much to ask for people to come out and spend just three hours picking up trash on a single Saturday. What we hope is that if they do, maybe they won't spend time in the future throwing it down."

Assateague Island

Volunteers from the Audubon Naturalist Society played a major role in the third annual cleanup at Chincoteague, held on Saturday, September 15. Over 220 volunteers helped collect twelve tons of trash from nineteen miles of beach on Assateague and Wallops islands along Virginia's Atlantic coast.

A diverse set of people, ranging from toddlers to octogenarians, participated. Many occupations and interest groups were represented, and groups ranged from elementary students to Sea Scouts and a college fraternity. While most participants hailed from Maryland, Virginia, or D.C., seven other mid-Atlantic states from Connecticut to North Carolina were represented.

The townspeople of Chincoteague played an important role this year. Harry Thornton, Chincoteague's mayor, and Kelly Conklin, the town's Chamber of Commerce president, led the local contingent. The Chamber coordinated a table with free coffee, doughnuts, and apples for all to enjoy.

Special attention was given to balloons found along the beach this year. Helium-filled balloons, when released, can drift into the ocean. Marine animals sometimes confuse balloon fragments with food, which can be a fatal mistake. Balloon ingestion is a major cause of death among endangered sea turtles. Over 1,000 balloons were collected from the beach, including one ironically inscribed with a conservation message, "Think Globally, Act Locally."

Ocean Beaches

Cleanup Date:
September 15, 1990

Results:
220 volunteers
20 miles cleaned
25,000 pounds of debris

Coordinated by:
Dr. Joseph Silvio
Audubon Naturalist Society
8940 Jones Mill Road
Chevy Chase, MD
20815
(301) 652-5964

Chesapeake Bay
Cleanup Date:
September 22, 1990

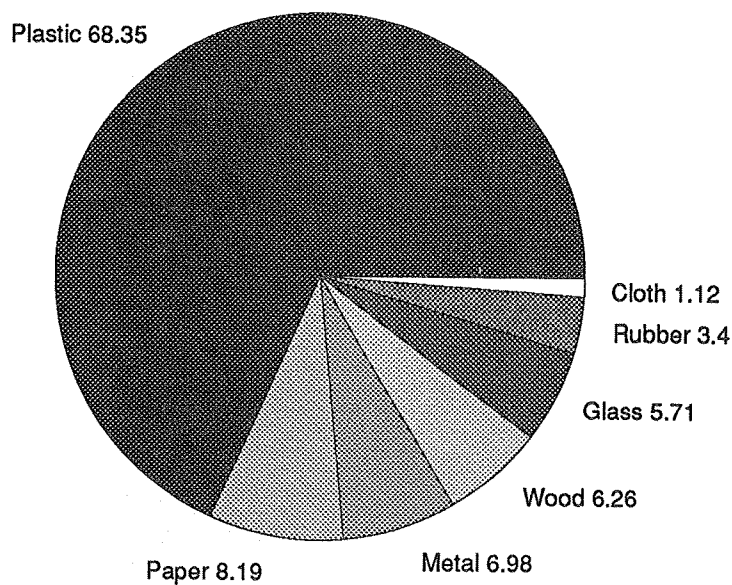
Results:
830 volunteers
27 miles cleaned
9,079 pounds of debris

Coordinated by:
Deborah Blanton
Hampton Clean City
Commission
22 Lincoln Street
Hampton, VA 23669
(804) 727-6394

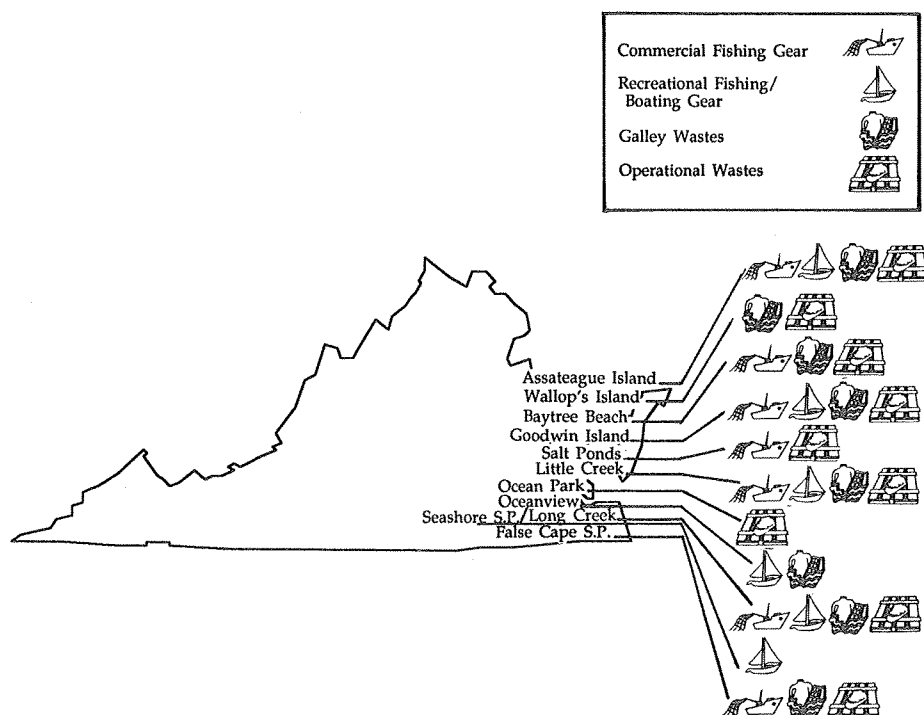
Robert Dean
1204 Shawn Drive
Virginia Beach, VA 23456
(804) 427-6606

**316 Data Cards Returned
from Ocean Beaches and
the Chesapeake**

PERCENT COMPOSITION OF VIRGINIA'S BEACH DEBRIS:



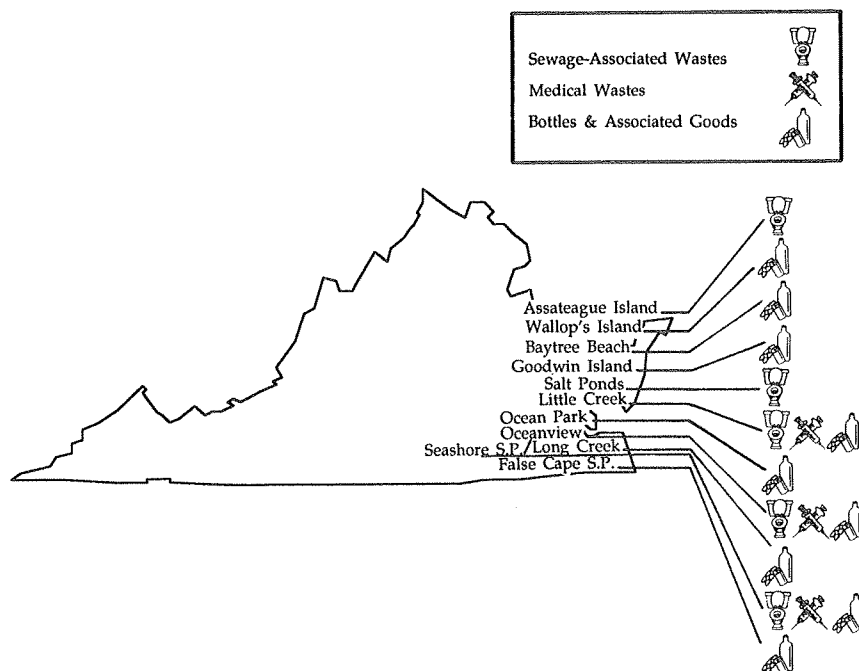
VIRGINIA'S OCEAN-BASED DEBRIS HOTSPOTS:



VIRGINIA'S DIRTY DOZEN:

	Total Number Reported	Percent of Total Debris Collected
1. cigarette filters	13,072	18.47
2. plastic pieces	5,311	7.51
3. foamed plastic pieces	4,563	6.45
4. lumber pieces	3,623	5.12
5. plastic food bags/wrappers	3,081	4.35
6. plastic caps/lids	2,954	4.17
7. plastic straws	2,718	3.84
8. paper pieces	2,709	3.83
9. metal beverage cans	2,464	3.48
10. foamed plastic cups	1,805	2.55
11. plastic cups/utensils	1,754	2.48
12. glass bottles	1,687	2.38
TOTAL	45,793	64.63

VIRGINIA'S LAND-BASED DEBRIS AND BOTTLES/ASSOC. GOODS HOTSPOTS:



STRANDED AND/OR ENTANGLED WILDLIFE REPORTED:

Debris Related

None reported

Other Reports

5 dead crabs
1 dead bottlenosed dolphin
5 dead seagulls
3 dead fish
1 dead shark

TRACEABLE DEBRIS REPORTED:

Location	Type of Debris	Source Indicated
Wallops Island	balloon	Boerger for State Senate
Assateague Island	rubber tube	Development Corporation
	plastic nozzle	Prince George Co. Economic
	hard hat	Great Lakes Dredge/Dock
	balloon	Weyerhaeuser
	balloon	Easton Hospital, "A century of growing and caring"
	balloon	E S Adkins & Co., "Everything needed for building"
	bunch of balloons	Huber Memorial UCC
	2 balloons	Pizza Hut
	2 balloons	Rock-Ola
	balloon	Tom Carter "Leadership for Delaware"
	balloon	Boston's of Rehoboth Beach
	2 balloons	4-H
	balloon	Elmwood Reunion, 10th Anniversary
	balloon	"Whoever finds this please write me ...mie Tennenbaum ...8 47th St. Brooklyn NY 11219"
	balloon	"Kids for Purdy" "Purdy for Sheriff"
	2 balloons	Maryland National Bank, "We want you to grow"
	2 balloons	Q-94 "Richmond's Radio Station"
	balloon	Kid's Fair, "clothing for infants Ocean City, ...Pl." corner of Rt. 50 & Rt. 811, (301)-289-383.
	balloon	Shenanigan's Irish Pub, Ocean City, MD
	balloon	VA Lottery Special Event
	balloon	Sandy & Dwane, 4 August 1990
	2 balloons	Re-elect Glendenning
	balloon	Grottoes Pizza
	balloon	Federal Express
	balloon	Chip 'n Dale rescue rangers
	3 balloons	The original El Torito, Est. 1954 "The fiesta restaurant"
	balloon	Dumbarton Square, Staples Mill Shopping Center
	balloon	Koons
	balloon	GSE since 1953, Windows/Ext.
	2 balloons	"Fahrvergnugen"
	balloon	Del Taco, Mexican cafe
	balloon	B104 - WBSB FM
	balloon	TGI friday's, "The US Bistro"
	balloon	CIGM "It's your country", 92.7 FM Sudbury
	balloon	"If you're not buying Steelcase your not getting you're money's worth"
	balloon	David's Buffet "delicious buffet dining 7 days a wk"
	balloon	Busy Bee, free photo, Sat/Sun
	balloon	"The future party of Freeport"
	balloon	Oxford Landing

TRACEABLE DEBRIS REPORTED (cont.):

Location	Type of Debris	Source Indicated
	balloon	Vote Vincent Orange DC con.chair Sept. 11 1990
	balloon	Boergers - State Senate, Auth. L. Kassell, Treasurer
	balloon	Marine Midland Bank
	balloon	George Washington University
	balloon	Ft. Eustis Federal Credit Union
	balloon	Maryland "You Are Beautiful"
	15 balloons	Chi-Chi's
	balloon	Roman Bistro, Oak & Boardwalk, Wildwood, New Jersey
	balloon	Long & Foster Realty
	balloon	Friends of the Salisbury Zoo
	balloon	Hair Bizz
	balloon	...ter Concepts, 1718 Wheeling Avenue, Glendale, WV 26038
	balloon	Bell Atlantic Mobile System
	balloon	"Think Globally, Act Locally"
	balloon	International Society of SS Comas & Damien
		159-24 102nd Street, Howard Beach, NY 11414
Baytree Beach	plastic scallop bag	Morgan Seafood Company
Buckroe Beach	orange plastic nuclear I.D. tag	Newport News Shipbuilding
Little Creek	metal tag	Precision Tool & Dye Co.
Seashore State Park	plastic bag	Harrison's Boat House

MOST PECULIAR DEBRIS ITEM REPORTED:

Wallops Island	wooden sign "No Trespassing-Private Property", rubber doll's head
Assateague Island	shotgun shells, stamped phone bill, battery operated "warning" light, sonar device, car bumper, sandal, balloon with message - "Think Globally, Act Locally", golf ball, oven door, radio, bar of soap
Grand View	shotgun case
Buckroe	shotgun shells, plastic pizza protector, kitchen sink, "No Trespassing" sign, firecracker, beach chair, bathroom sink, battery cable
Salt Ponds	raincoat, comb, gun shells, hairbrush, thimble, roof tile
Little Creek	hair clips, road barrier
Ocean View	restaurant menu, shorts, rubber teeth, "Gucci" watch, two pairs of socks, two pairs of furniture cushion, 53 fuses
Virginia Beach Resort Area	car battery, golf tee, one "Nike", one full case of "Coors"
Long Creek	two large fiberglass swimming pool filter tanks
Seashore State Park	snorkel, basketball piece

MOST PECULIAR DEBRIS ITEM REPORTED (cont.):

Sandbridge firework, circular saw blade, T-shirt, \$1, shovel handle

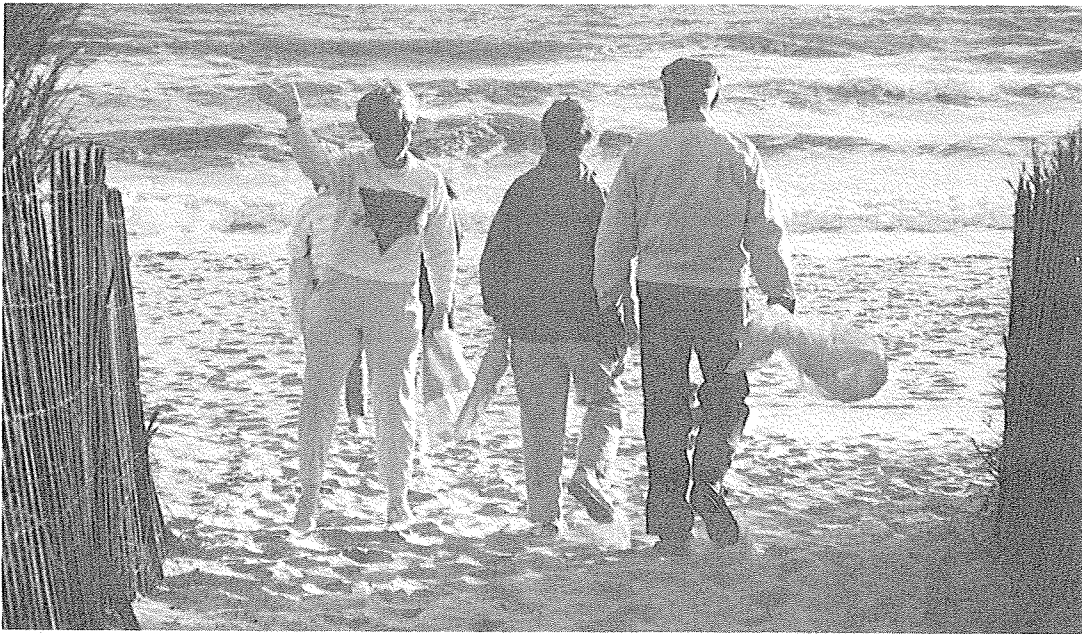
FOR INFORMATION ON VIRGINIA'S 1991 BEACH CLEANUP CONTACT:

Ocean Beaches: Dr. Joseph Silvio
Audubon Naturalist Society
8940 Jones Mill Road
Chevy Chase, MD 20815
(301) 652-5964

Chesapeake Bay: Robert Dean
1204 Shawn Drive
Virginia Beach, VA 23456
(804) 427-6606

or
Center for Marine Conservation
306A Buckroe Avenue
Hampton, VA 23664
(804) 851-6734

CLEANUP DATE: September 21, 1991



Helen Spore, flanked by two volunteers adds another wave to Virginia's Beach Cleanup.

VIRGIN ISLANDS

The largest beach cleanup held in the Virgin Islands in 1990 was at Bluebeards Beach on St. Thomas during COASTWEEKS (9/16/90) organized by Mark Johnson. Approximately 150 volunteers collected 30,000 pounds of trash including a motorcycle that was pulled off the reef. Mark Johnson, with the support of Coral World, established the Coral World's Reef Enhancement Program. Within this Program, four beach/reef cleanups per year are organized and executed. The last one in 1990 was held on December 2. Mark says, referring to the December 2 cleanup, that "as expected, not too much debris was found — a real good sign."

Not only are the beaches cleaned during these events, but also volunteer divers "sweep" the reefs of marine debris. At the September 16, 1990 cleanup held at Bluebeards Beach, prizes were distributed to those who collected the most trash. A beach cleanup was also held on St. Croix during COASTWEEKS and organized by members of the St. Croix Environmental Association (SEA). Wendy's located on St. Croix donated all the garbage bags used in the cleanups held on both St. Thomas and St. Croix.

The Beach Cleanup Coordinator for the Virgin Islands serves as the liaison to beach cleanup organizers from three islands. She provides the organizers with the data cards and pencils, and assists them in publicizing the event, garnering volunteers, and obtaining donations of bags, etc. for the cleanup effort. Her office also serves as a clearinghouse for receiving completed data cards that are forwarded to the Center for Marine Conservation.

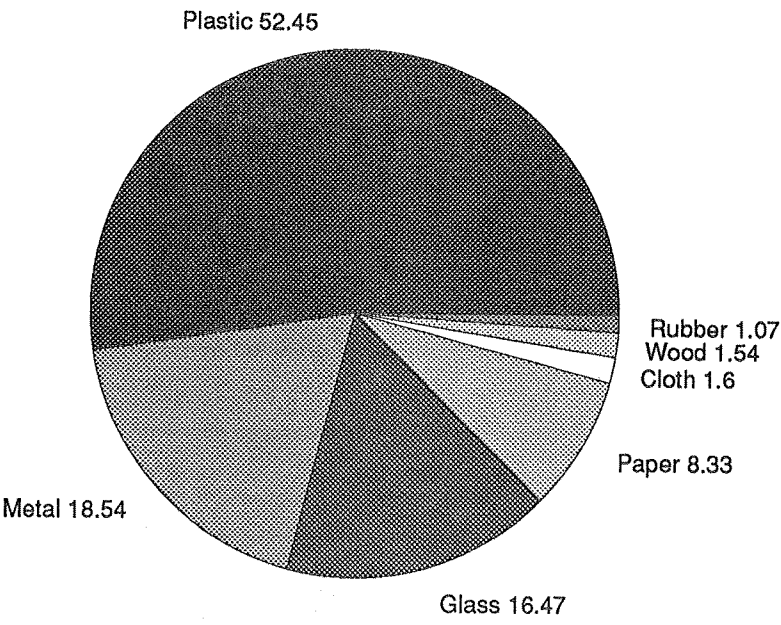
Elba McIntosh

Cleanup Date:
COASTWEEKS 1990

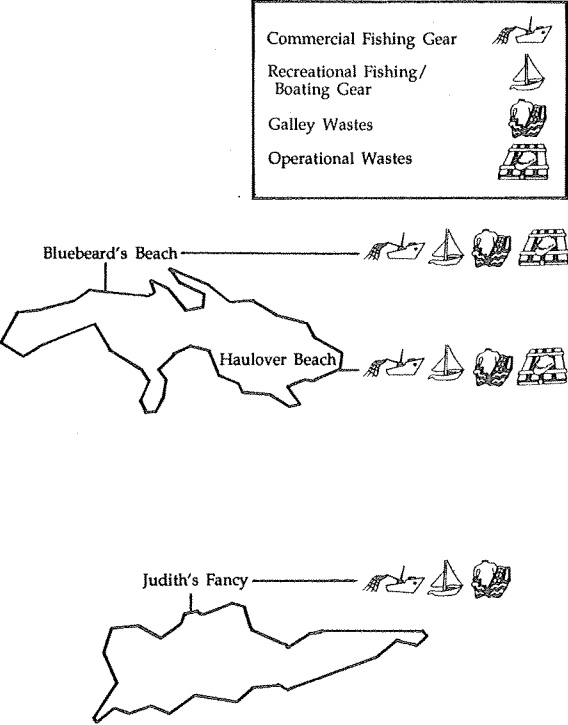
Results:
150 volunteers
0.25 miles cleaned
30,000 pounds of debris
145 data cards

Coordinated by:
Elba McIntosh
Public Information
Specialist
Department of Natural
Resources
45A Nisky, Suite 231
St. Thomas, VI 00802
(809) 774-3320 ext. 132

PERCENT COMPOSITION OF VIRGIN ISLANDS' BEACH DEBRIS:



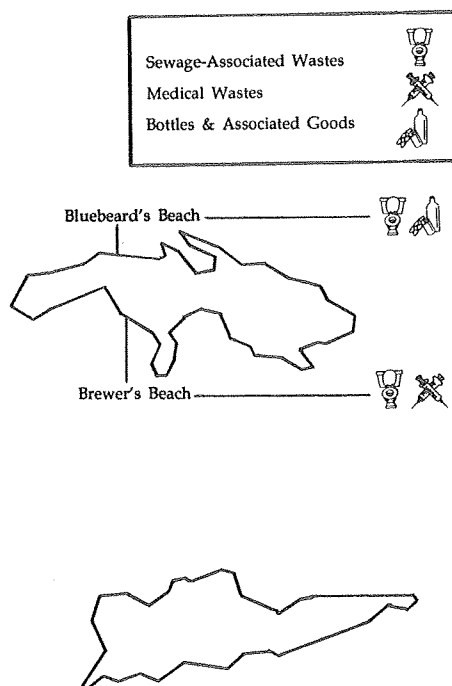
VIRGIN ISLANDS' OCEAN-BASED DEBRIS HOTSPOTS:



VIRGIN ISLANDS' DIRTY DOZEN:

	Total Number Reported	Percent of Total Debris Collected
1. glass beverage bottles	1,863	13.19
2. metal beverage cans	1,166	8.26
3. plastic cups/utensils	1,017	7.20
4. metal bottle caps	857	6.07
5. plastic beverage bottles	733	5.19
6. plastic straws	634	4.49
7. plastic food bags/wrappers	436	3.09
8. plastic caps/lids	422	2.99
9. foamed plastic cups	413	2.92
10. paper pieces	394	2.79
11. plastic trash bags	385	2.72
12. cigarette filters	328	2.32
TOTAL	8,648	61.23

VIRGIN ISLANDS' LAND-BASED DEBRIS AND BOTTLES/ASSOC. GOODS HOTSPOTS:



STRANDED AND/OR ENTANGLED WILDLIFE REPORTED:

Debris Related

Seagull entangled in fishing line

Other Reports

2 dead jellyfish
1 fish covered with tar

TRACEABLE DEBRIS REPORTED:

None reported

MOST PECULIAR DEBRIS ITEMS REPORTED:

Bluebeard's Beach	two shoes, paint can, hydraulic hatch cylinder, car key
Brewer's Beach	car battery, brake shoe, two drive shafts, burned "UVI" sign, jeep wheel, tennis shoe
Judith's Fancy	life vest, unopened "Miller" beer cans, surfboard
Haulover Beach	garbage can lid

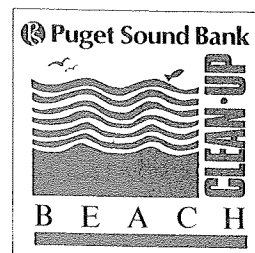
FOR INFORMATION ON VIRGIN ISLANDS' 1991 BEACH CLEANUP CONTACT:

Elba McIntosh
Dept. of Natural Resources
45A Estate Nisky, Suite 231
St. Thomas, VI 00802
(809) 774-3320 Ext. 131 or 132

CLEANUP DATE: COASTWEEKS 1991 (September 21 - October 14)



Diver David Boaz pulls a motorcycle from the reef off Bluebeard's Beach.



WASHINGTON

With the signing of the 1990 Operation Shore Patrol Proclamation, Governor Gardner designated the third weekend in September as "Beach Cleanup Weekend." This year 850 volunteers donated 6,944 hours to gather 30,266 pounds of litter from 60 miles of Washington coastline. Before the conclusion of that weekend they will have traveled a total of 176,394 miles (home-to-home) to support this program.

Once again plastics were at the top of the list with some types of debris traveling a great distance to find our shoreline - China, Italy, Japan, the Soviet Union, and France to name a few. A couch and matching love seat made the survey, along with car door panel and fender, several tires and the proverbial kitchen sink thrown in - if only these items could talk!! Some troublesome litter comes in the form of unidentified waste. This material is handled with special treatment, marked with appropriate "danger" identification tags and reported to the specialized agencies to handle.

The Pacific Northwest Four-Wheel Drive Association has just completed its 19th year as coordinator and has been fortunate to have had the cooperation of several groups and organizations that share our concerns about litter that is creating problems for our resources and the environment. The volunteers were from the Good Sams, Telephone Pioneers, Tribal National, scouting, school, outdoor recreation groups, service clubs and communities, and last but not least, the members, families, and friends of the Four-Wheel Drive community.

The time and effort spent by the co-sponsors, Washington State Parks and Recreation, and Department of Ecology is greatly appreciated as well as those from the local communities, merchants, and service groups that have participated by offering various discounts, door prizes, breakfasts, lunches, and dinners to the volunteers.

Frankie Allen, Dave Harrison, and Linda Jessen, Regional Chairs, did a fantastic job coordinating those hundreds of volunteers, and by all indications everyone is looking forward to 1991.

Arlene Brooks

Fifteen tons of marine debris and litter were gathered from more than 50 Puget Sound beaches during the highly successful 1990 Puget Sound Bank Beach Cleanup Day held on September 15, 1990.

The third annual event drew nearly 2,300 volunteers including over 2,000 Puget Sound Bank employees and their families, and 300 representatives from local clubs, businesses, and organizations. It helped to heighten awareness of the hazards of beach littering and dumping marine debris at sea. The event was praised by news media throughout the region, including *The Morning News Tribune*, which applauded the efforts of the volunteers for the cleanup and concluded with a call to "let a thousand imitators bloom."

David Parent

Ocean Beaches

Cleanup Date:
September 15-16, 1990

Results:
850 volunteer
60 miles cleaned
30,266 pounds of debris

Coordinated by:
Arlene Brooks
Pacific Northwest Four-
Wheel Drive Association
21520 SE 346
Auburn, WA 98002
(206) 833-8747

Joan Hauser-Crowe
Washington State Parks
7150 Clearwater Lane
Olympia, WA 98504
(206) 753-5759

Puget Sound

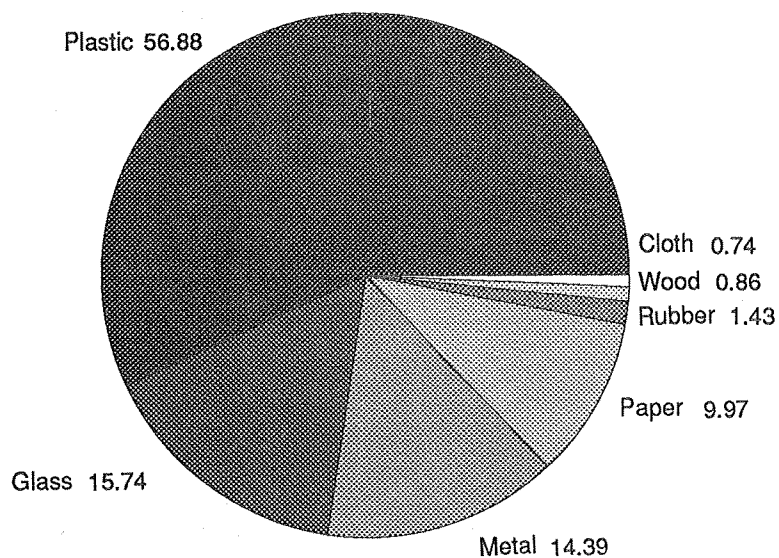
Cleanup Date:
September 15, 1990

Results:
2,288 volunteers
33 miles cleaned
29,400 pounds of debris

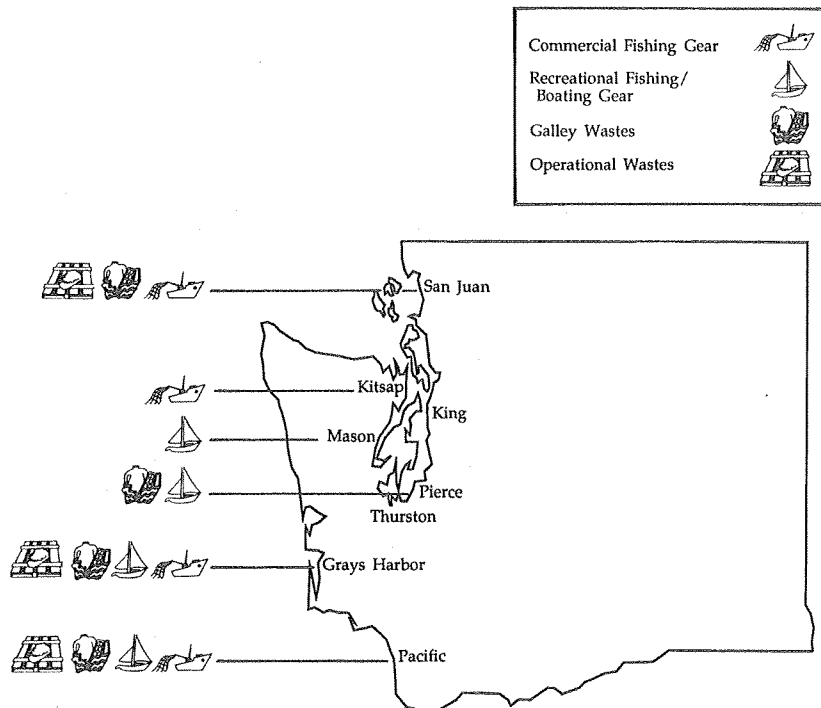
Coordinated by:
David Parent
Puget Sound Bank
1119 Pacific Avenue
Tacoma, WA 98402
(206) 593-3770

**333 Data Cards Returned
from Ocean Beaches and
the Puget Sound**

PERCENT COMPOSITION OF WASHINGTON'S BEACH DEBRIS:



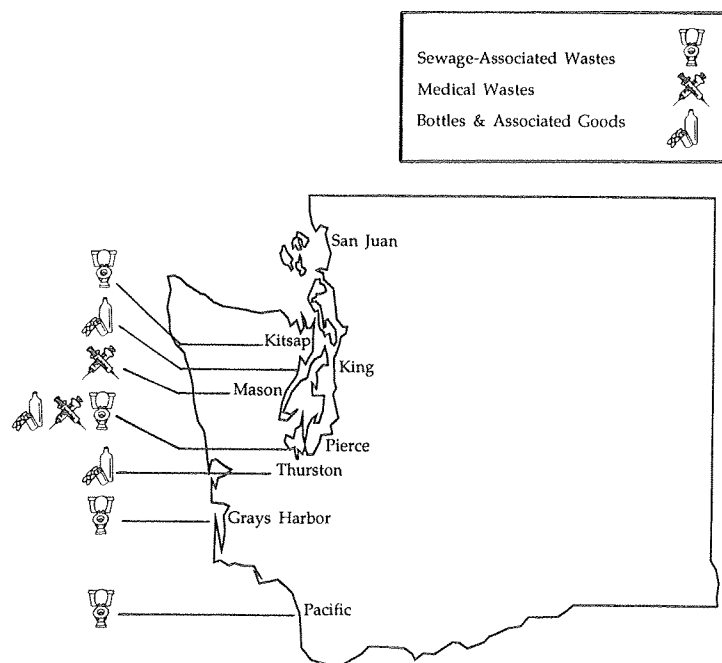
WASHINGTON'S OCEAN-BASED DEBRIS HOTSPOTS:



WASHINGTON'S DIRTY DOZEN:

	Total Number Reported	Percent of Total Debris Collected
1. cigarette filters	13,961	21.16
2. glass pieces	6,896	10.45
3. paper pieces	3,866	5.86
4. metal bottle caps	3,022	4.58
5. metal beverage cans	2,886	4.37
6. foamed plastic pieces	2,841	4.31
7. glass beverage bottles	2,518	3.82
8. plastic food bags/wrappers	2,510	3.80
9. plastic caps/lids	2,378	3.60
10. plastic straws	1,856	2.81
11. metal pull tabs	1,633	2.48
12. plastic beverage bottles	1,450	2.20
TOTAL	45,817	69.44

WASHINGTON'S LAND-BASED DEBRIS AND BOTTLES/ASSOC. GOODS HOTSPOTS:



STRANDED AND/OR ENTANGLED WILDLIFE REPORTED:

Debris Related

Shellfish entangled in audio tape
Fish trapped in metal can - released
Seagull entangled in fishing line - released
Slug trapped in a beer bottle

Other Reports

1 dead crab
1 dead beaver
1 dead duck
2 dead fish
1 dead mouse
1 dead rat
1 dead crow
2 dead birds
1 dead dog
1 dead seal
1 dead cat
1 dead seagull

TRACEABLE DEBRIS REPORTED:

Location	Type of Debris	Source Indicated
Snohomish	large sheets of plastic	Chevron
Pierce	plastic insulation bags	John Manzanville
	dog license tag	Pierce County Humane Society
	MasterCard receipt	James Scheifer Moss
	Quick Bank customer receipt	Sea First Bank

MOST PECULIAR DEBRIS ITEMS REPORTED:

San Juan	full can of beer, pillow.
Snohomish	oil collector, railroad stakes, the word "Vega" from a car, shoes.
King	car parts, live bullet, bed, two garbage cans, coffee maker, china saucer, shoe, pizza cutter, false fingernail, unopened six-pack of beer, candle, "Curio Chest", boat cushion, sun glasses, bicycle frame.
Pierce	fire extinguisher nozzle, court papers, lawn chair, train, "No Admittance - Employees Only" sign, ladder, dog license tag dated 1969, Canadian \$10, antenna, muffler pipe, cheerleader pom pom, megaphone, spark plug, big spring, piece of rug, stereo speaker, orange road cone, bicycle, chain link fence, old restaurant sign, newspaper vending machine, plastic banner, snorkel.
Thurston	\$20, old coat, 1/2 case of "Miller".
Mason	boomerang, tennis shoe, batteries, pony tail holder, cassette tape, hairbrush.
Kitsap	pieces of a staircase, "safe sex" equipment.
Clallam	railroad tie plate.
Gray's Harbor	8' fire hose, bathroom sink.

MOST PECULIAR DEBRIS ITEMS REPORTED:(cont.)

Pacific weather balloon, motorcycle coverall, long plastic tube, marijuana smoking pipe,
 sunglasses, hairbrush.

FOR INFORMATION ON WASHINGTON'S 1991 BEACH CLEANUP CONTACT:

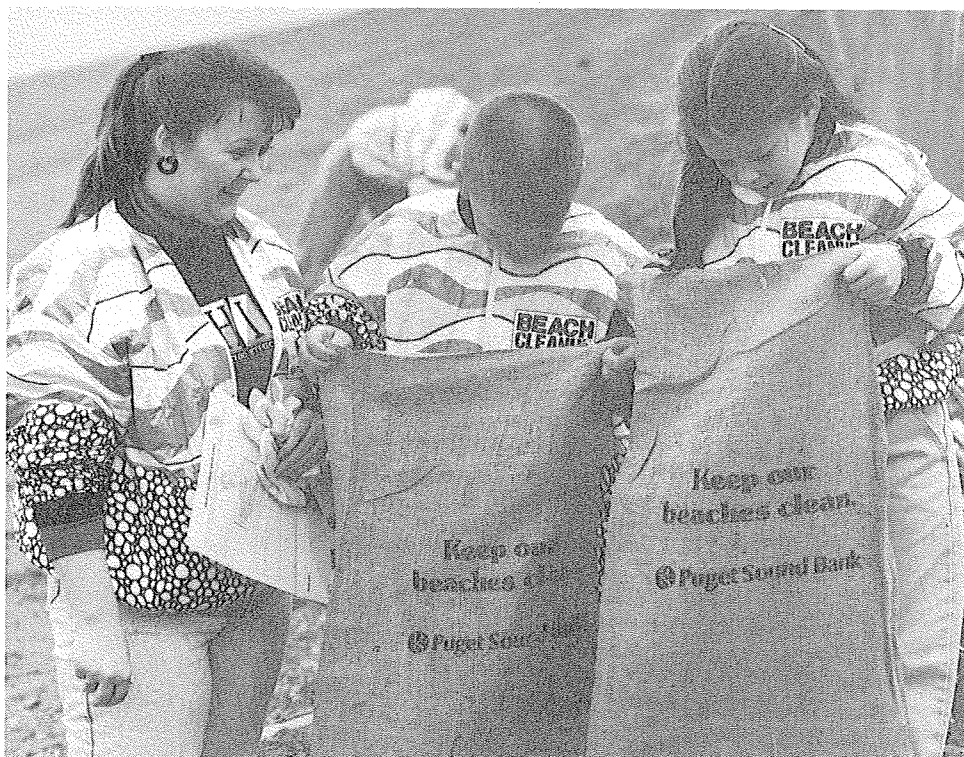
Ocean Beaches: Arlene Brooks
Pacific Northwest 4-Wheel Drive Association
21520 SE 346
Auburn, WA 98002
(206) 833-8747

Joan Hauser-Crowe
Washington State Parks
7150 Clearwater Lane
Olympia, WA 98504
(206) 753-5759

CLEANUP DATE: September 21, 1991

Puget Sound: David Parent
Puget Sound Bank
1119 Pacific Avenue
(206) 593-3770

CLEANUP DATE: September 21, 1991



Volunteers from Puget Sound Bank inspect bags for Clean Commencement Bay in Tacoma, Washington.



A group of volunteers from Puget Sound Bank pull rubbish from the shore.

CANADA

September 29th dawned cool and cloudy on the New Brunswick coastline. Nevertheless, approximately 450 volunteers made it out to the second annual Coastal Cleanup. Armed with gloves, garbage bags, and data cards, they combed beaches from St. Andrews to Dorchester Cape. Participation doubled from the 1989 cleanup, with a good cross-section of the community represented. Pizza Delight donated two slices of pizza to volunteers at Dorchester Cape.

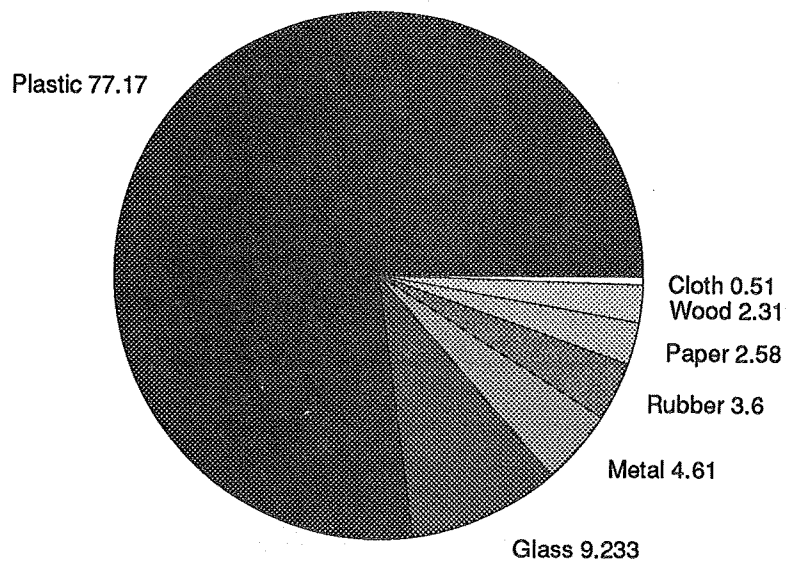
Rose Bennett
New Brunswick Museum

Cleanup Date:
September 29, 1990

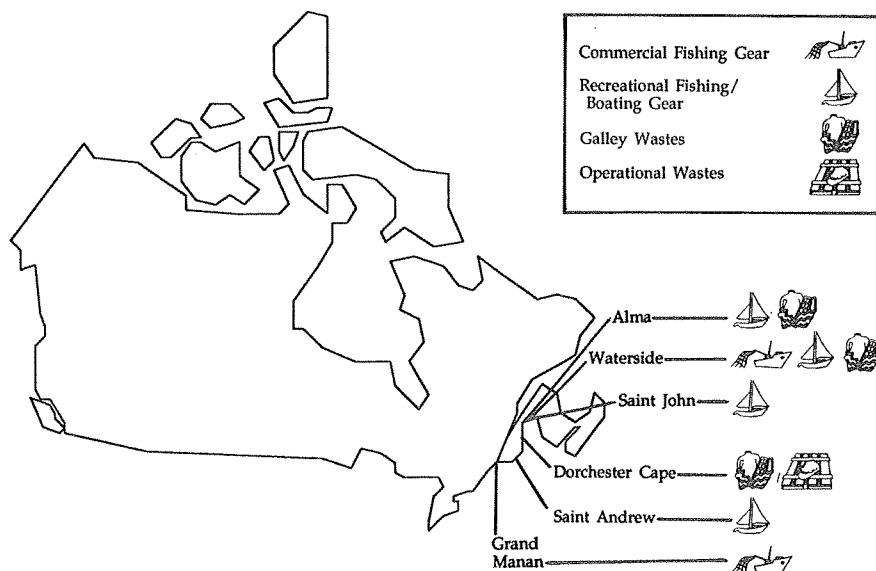
Results:
439 volunteers
14 miles cleaned
24,317 pounds of debris
66 data cards

Coordinated by:
Kim Saunders
New Brunswick Museum
277 Douglas Avenue
St. John, New Brunswick
Canada, E2K 1E5
(506) 658-1842

PERCENT COMPOSITION OF NEW BRUNSWICK'S BEACH DEBRIS:



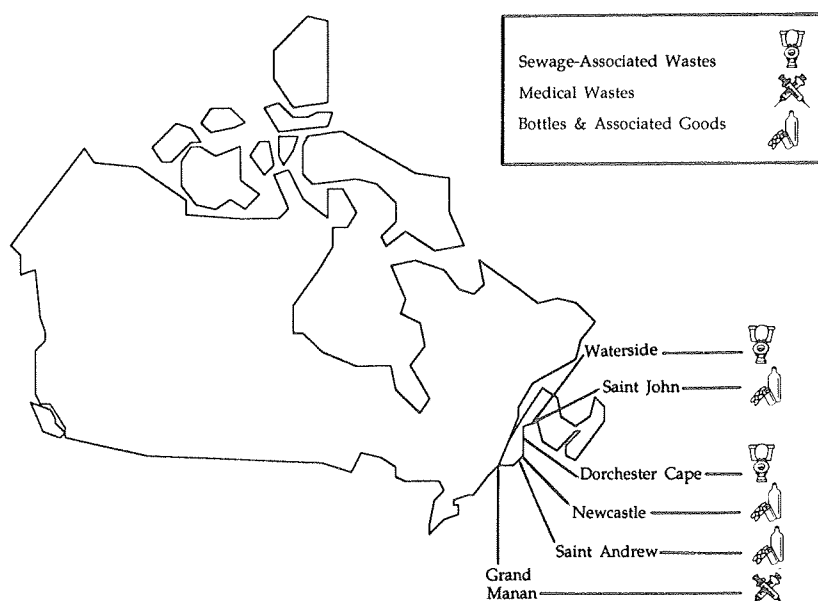
NEW BRUNSWICK'S OCEAN-BASED DEBRIS HOTSPOTS:



NEW BRUNSWICK'S DIRTY DOZEN:

	Total Number Reported	Percent of Total Debris Collected
1. plastic rope	3,752	14.34
2. foamed plastic pieces	3,385	12.94
3. plastic pieces	2,513	9.61
4. plastic caps/lids	1,343	5.13
5. plastic strapping bands	1,267	4.84
6. glass pieces	1,140	4.36
7. foamed plastic cups	1,092	4.17
8. miscellaneous plastic	1,062	4.06
9. glass beverage bottles	1,053	4.03
10. miscellaneous rubber	661	2.53
11. plastic beverage bottles	610	2.33
12. plastic oil/lube bottles	516	1.97
TOTAL	18,394	70.31

NEW BRUNSWICK'S LAND-BASED AND BOTTLES/ASSOC. GOODS HOTSPOTS:



STRANDED AND/OR ENTANGLED WILDLIFE REPORTED:**Debris Related**

2 seagulls caught in rope

Other Reports1 dead seagull
1 dead moose**TRACEABLE DEBRIS REPORTED:**

Location	Type of debris	Source Indicated
Dorchester Cape	top of oil can	IPL
	plastic tag #S-F 34/88 01014	Canadian Lobster Fisheries
	plastic tag #000006SF4187	Canadian Lobster Fisheries
Waterside	4 1/4 gal plastic bucket	Plastican, Inc., Leominster, MA
	baseball hat	Metegham 769-389
	prescription for ephedrine	Alan Swinn
	15ml	
St. Johns	balloon	Carney Hospital, Maine
Alma	balloon	Radio Station WHAI, Grunklin County, 98.3 FM/1240 AM

MOST PECULIAR DEBRIS ITEMS REPORTED:

Grand Manan	brush, blanket, car stereo speaker, plastic flowers, 25 rolls of film, "cling" wrap.
Dorchester Cape	helmet, coffee maker, basket, rubber boot, binoculars, seat belt.
Newcastle	car floor mat.
Waterside	barbecue grill, prescription bottle (sea sickness tablets), one prisoner's slipper, can of explosive black gunpowder.

FOR INFORMATION ON NEW BRUNSWICK'S 1991 BEACH CLEANUP CONTACT:

New Brunswick Museum
277 Douglas Avenue
St. John, New Brunswick
Canada E2K 1E5
(506) 658-1842

CLEANUP DATE: COASTWEEKS 1991 (September 21-October 14)

GUATEMALA

The cleanup on Lake Atitlan, organized by the school of Professional Scuba Divers, was assisted by international organizations such as Agency for International Development, Center for Marine Conservation, and the Association of Professional Scuba Diving Instructors.

Sixty professional divers from the school cleaned 1,200 meters (0.12 miles) at a depth of 10 meters (35 feet). The ground cleanup was done by the Scouts of Soloia. Commissioner of Region 2, Senor Jaime Aguilar, directed additional participants.

Areas were marked with floats and small patrol boats for divers' security. The municipality of Panajachel gave a truck to pick up trash. Participants found objects such as a sunken boat, glass, metal, tires, plastic bottles, etc. They gave diplomas and certificates to all participants for their service to "Sanitary Education." The divers have called the program "Guard the Lakes."

Professional Diving School

Cleanup Date:
September 22, 1990

Results:
60 volunteers
0.12 miles cleaned
8,456 pounds of debris
data cards not returned

Coordinated by:
Cesar Lopez,
Humberto Lau,
Erick Rodriguez, and
Claudia Lopez,
Professional Scuba Diving
School
c/o USAID-Guatemala
APO Miami
American Embassy
Guatemala City, Guatemala

The Center for Marine Conservation worked with organizers in Guatemala to support a beach cleanup on the Pacific Coast of Guatemala on Earth Day 1990. Since the cleanup, organizers incorporated their group to form ARCAS (Wildlife Rescue and Conservation Association). Below is a description of the first cleanup in Guatemala.

On Sunday, April 22, 1990, everything was ready for the beach cleanup. Las Lisas is a village at the Pacific coast, in the district of Santa Rosa, near the Salvadorian border.

We started early in the morning. First, we explained to everybody (local authorities, school teachers, children, and other local volunteers) how important this event was, in order to keep the beach clean for the benefit of people as well as terrestrial and marine fauna. Then, teams were formed of three to four children, supervised by an adult. Each team got a plastic bag to collect the debris. After several hours, approximately three kilometers (approximately two miles) of the beach were cleaned.

After finishing, we had a little celebration: the "pinatas" were opened, and the children got t-shirts that had printed on them "I cleaned up my beach, Las Lisas, April 22." Each one got a coloring-book and crayons, and the teachers got copies of the Teacher's Guide. Then there was music, as well as free lunch for the adults, and sodas for the children; the food was donated by the Las Lisas community.

The event was video-taped, and some of the organizers and participants were interviewed afterwards by TV news reporters. The news was broadcast a few days later on a Guatemalan TV channel. There was also published an article about the beach cleanup in one of the local newspapers, and in the ARCAS newsletter.

Christiane Lehnoff
ARCAS



**Team-work: organizers,
volunteers and school-children.**



**School-children from Las Lisas,
Guatemala participating in the
beach cleanup.**



JAPAN

It was in late July 1990 that I heard from CMC about the International Beach Cleanup through a letter. Even though I never had an experience to coordinate a nationwide cleanup, I decided to join this wonderful international effort for the first time to make our ocean cleaner.

There have been many small local groups who have been involved with beach cleanups in Japan, but each group had not much contact with other groups. No date was fixed for the cleanup. Thus consciousness for global environment was very limited even among those who joined cleanups. Our existing cleanups were much different from the cleanups in the U.S. because cleanups in Japan were conducted in a rather mandatory manner than with volunteer spirit. It was of course far from a fun event, and not many young people showed interest.

To start with I held a press conference. Once Japan's biggest newspaper carried the story about the cleanup, I received letters from all over Japan. Total inquiries about the cleanup were over 700, and as a result about 70 beach cleanups were conducted on September 22 from Hokkaido to Okinawa. For the first participation, I think this is a big success.

I really would like to name all of those who participated in this event because they are the ones who will make a difference in Japan. Japan is sometimes criticized by other countries as an environmental terrorist because of our practice of clearcutting tropical forests in South East Asia, drift net fishing, and exporting public pollution. But I want the world to know there are people who care about the environment and conservation of wildlife in Japan. And it is also true that Japanese consume much less energy compared to the rest of the developed countries. This is something Japan can contribute to the world. Saving energy and not consuming wastefully is much more effective than recycling. Though recycling is of course very important and everyone should recycle whatever he/she can.

We found many motorbikes and bicycles -- in Shonan beach alone, we found over 70 bikes. And countless plastics -- something has to be changed to stop using plastic for packaging and containers. I hear you have recyclable plastic in the U.S. Please let me know who makes it and how it works.

By joining this international beach cleanup, I am hoping that we, the citizens of the world who care for the future of the Earth, can communicate and cooperate more to make the Earth, our only home, more peaceful and healthier. Everything we do is affecting the environment for better or worse, even the war in the Gulf. Really, every bit helps, right?

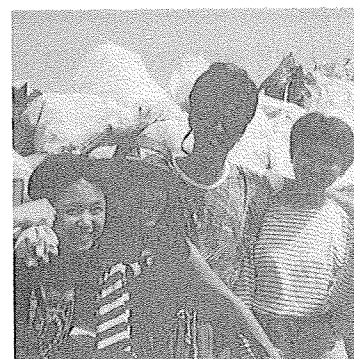
I mean to continue to participate in this event until everyone begins to care for the environment and future of the Earth in Japan no matter how long it takes. To make that happen, JEAN (Japan Environmental Action Network) was formed among the volunteers who joined the cleanup, and fortunately it is making progress and a difference. JEAN is ready to work until we have the healthy Earth back. Thank you!!

Yumi Kikuchi

Cleanup Date:
September 22, 1990

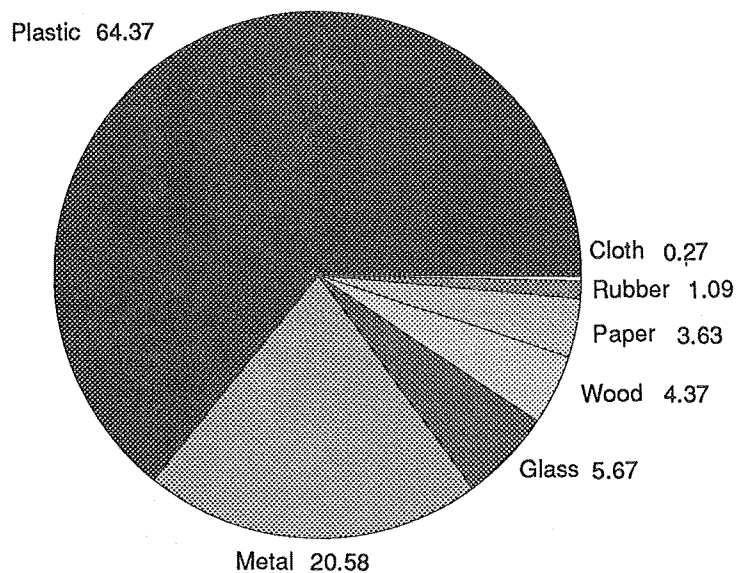
Results:
950 volunteers
43 miles cleaned
119 data cards

Coordinated by:
Yumi Kikuchi
Japan Environmental Action
Network (JEAN)
2-21-17 Azusawa,
Itabashi-ku, Tokyo 174,
Japan
03-5790-0851
03-5790-0852 (fax)

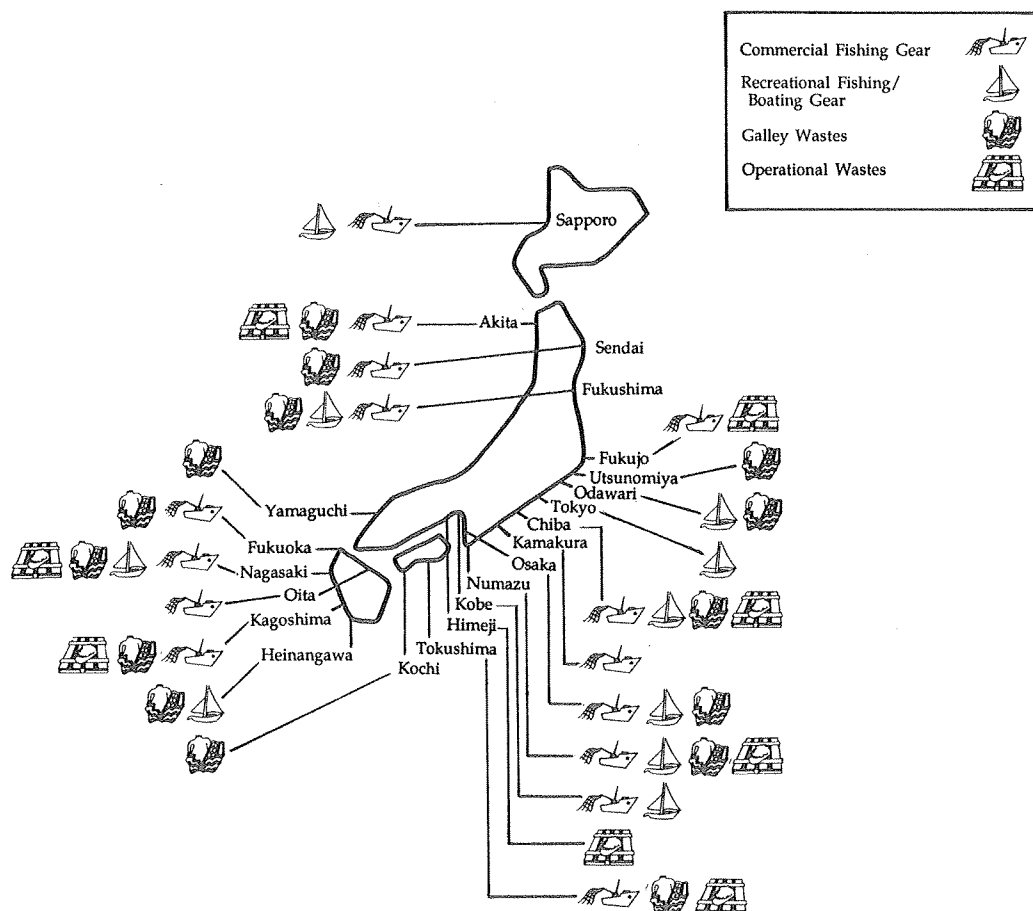


Japanese volunteers smile
success after country's
first Beach Cleanup.

PERCENT COMPOSITION OF JAPAN'S BEACH DEBRIS:



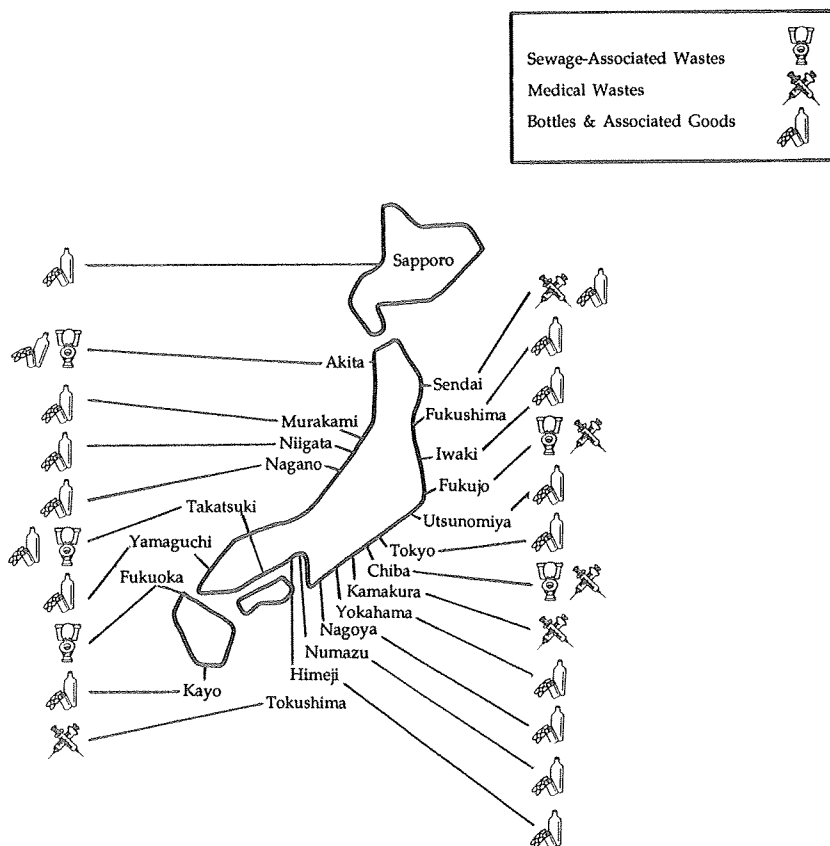
JAPAN'S OCEAN-BASED DEBRIS HOTSPOTS:



JAPAN'S DIRTY DOZEN:

	Total Number Reported	Percent of Total Debris Collected
1. cigarette filters	16,481	15.34
2. metal beverage cans	9,200	8.56
3. metal bottle caps	8,396	7.81
4. plastic pieces	7,904	7.36
5. plastic food bags/wrappers	7,242	6.74
6. miscellaneous plastic bags	5,323	4.95
7. foamed plastic pieces	5,209	4.85
8. lumber pieces	3,420	3.18
9. plastic caps/lids	3,264	3.04
10. plastic beverage bottles	3,252	3.03
11. glass beverage bottles	3,130	2.91
12. miscellaneous plastic bottles	2,266	2.11
TOTAL	75,087	69.89

JAPAN'S LAND-BASED DEBRIS AND BOTTLES/ASSOC. GOODS HOTSPOTS:



STRANDED AND/OR ENTANGLED WILDLIFE REPORTED:**Debris Related**

None reported

Other Reports

1 dead pigeon
1 dead fish
3 dead herons

TRACEABLE DEBRIS REPORTED:

None reported

MOST PECULIAR DEBRIS ITEMS REPORTED:

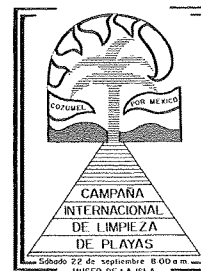
Sapporo	tent stake, car headrest, fishing line, nails.
Sendai	bicycle pedal
Fukujo	plastic bat, bicycle underground, golf tee, motorbike, billboard, shoe polish, washing machine lid, motor scooters, fire extinguisher.
Utsunomiya	barbecue grill
Tokyo	metal parts of a bicycle, curtain, case for a telephone card, 5,000 yen bill.
Chiba	fireworks, polyethylene container for agricultural chemicals, the bald head of "Monchitchi" - a famous stuffed animal, trash from the people who came to collect garbage!
Kamakura	student ID card, cash card, sponge, cover to protect electrical wire, life raft.
Yokohama	gasoline container (with gas in it), helmet, car part, sewer cover, insulator, kerosene, basket, wash basin, futon, electric washing machine.
Nagoya	clothes.
Odawari	golf ball split in half.
Tokushima	refrigerator
Kochi	2 toy boats.
Fukuoka	medical bottles.
Nagasaki	corroded car stereo, beach chair, "fridge" door.
Kagoshima	motorcycle
Akigawa	8 noodle bags, bedspring.

FOR INFORMATION ON JAPAN'S 1991 BEACH CLEANUP CONTACT:

Yumi Kikuchi
JEAN
2-21-17 Azusawa,
Itabashi-ku, Tokyo 174
Japan
Tel. 03-5790-0851
Fax 03-5790-0852

CLEANUP DATE: September 21, 1991

MEXICO



The 22nd of September, 1990, the Cozumel Island Museum participated for the second time in the National Beach Cleanup.

Due to the importance of this activity we invited elementary schools, junior and senior high schools, and the entire community to collaborate in this important event.

The calling up for people and the promotion of this activity was realized by radio, and other press - elaborated by the Museum with the slogan "Cozumel for Mexico." The enthusiastic participation of volunteers made the cleanup possible. The west and the South East sides collected 134 plastic bags which made approximately two tons.

The beaches cleaned by the South East side of the Island were: Mezcalitos, Punta Morena, Fidecaribe, Chen-Rio, Playa Bosh, and Celarain.

And on the west side we cleaned from the "Little Plane" to the mail office beaches.

We hope that our participation will be useful for a better and nicer planet to live in.

Professor Rosalinda Jinich
Director of the Museum of
Cozumel Island

Cleanup Date:
September 22, 1990

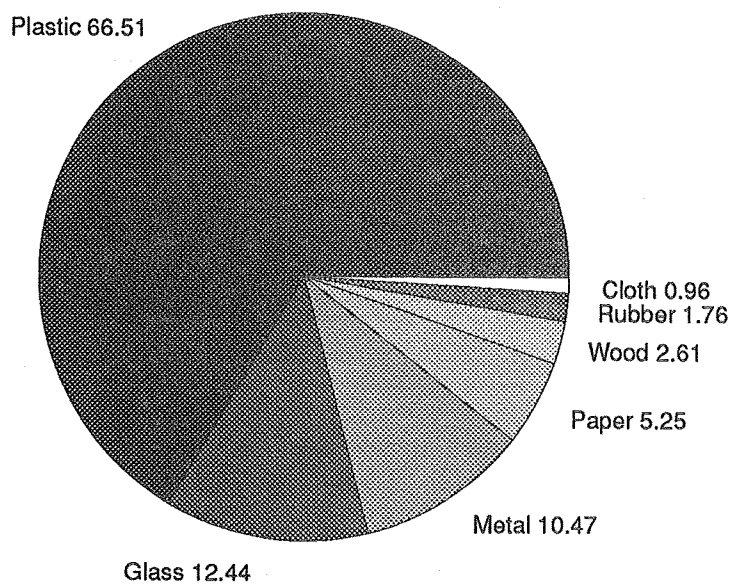
Results:
350 volunteers
7 miles cleaned
4,000 pounds of debris
75 data cards

Coordinated by:
German Mendez
Museo de la Isla de Cozumel
Rafael Melgar Ave.
and 2 North Street
Cozumel, Quintana Roo
C.P. 77000, Mexico

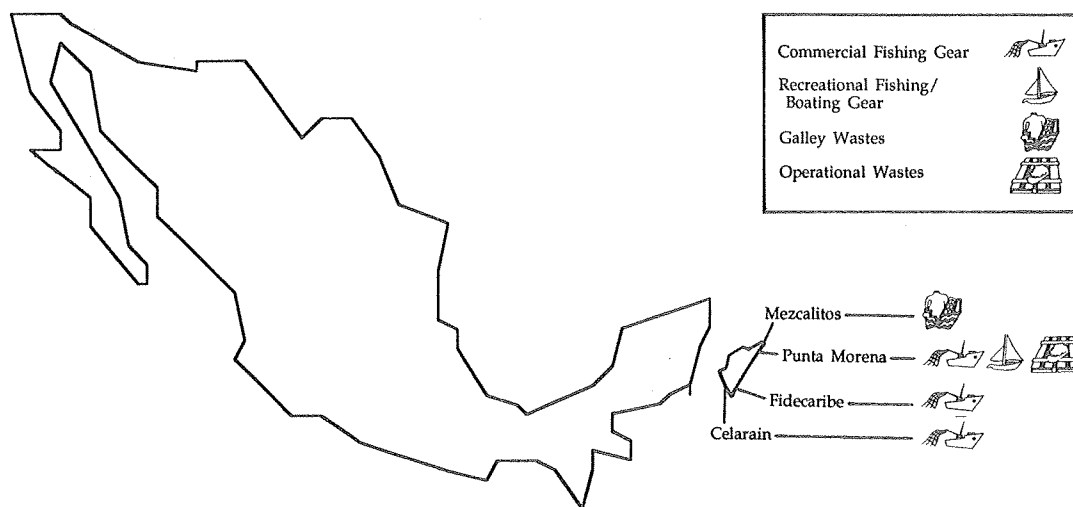


Bagging up the day's work at Cozumel, Mexico's beach cleanup.

PERCENT COMPOSITION OF COZUMEL'S BEACH DEBRIS:



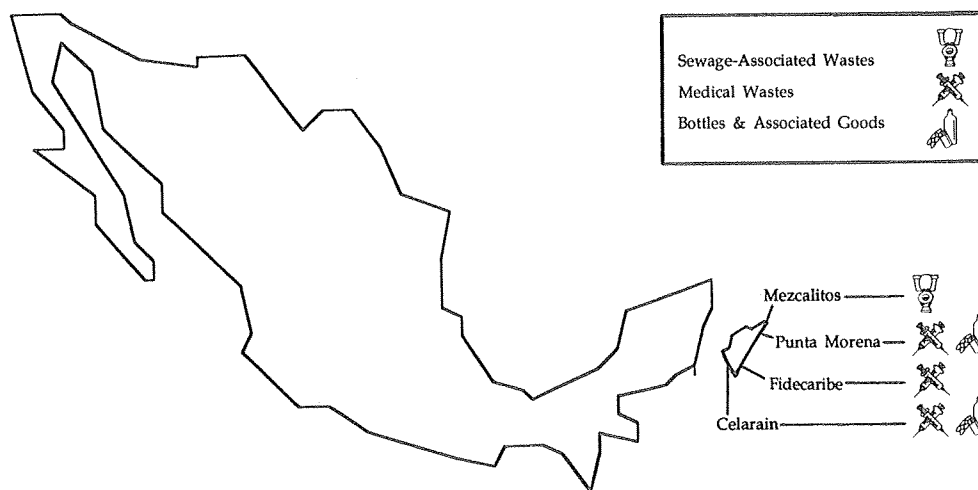
COZUMEL'S OCEAN-BASED DEBRIS HOTSPOTS:



COZUMEL'S DIRTY DOZEN:

	Total Number Reported	Percent of Total Debris Collected
1. plastic pieces	1,540	10.86
2. plastic trash bags	828	5.84
3. glass beverage bottles	780	5.50
4. miscellaneous plastic bags	763	5.38
5. plastic caps/lids	641	4.52
6. metal bottle caps	580	4.09
7. plastic cups/utensils	511	3.60
8. plastic beverage bottles	502	3.54
9. glass pieces	492	3.47
10. plastic bleach/cleaner bottles	487	3.44
11. miscellaneous plastic bottles	338	2.38
12. plastic rope	325	2.29
TOTAL	7,787	54.93

COZUMEL'S LAND-BASED DEBRIS AND BOTTLES/ASSOC. GOODS HOTSPOTS:



STRANDED AND/OR ENTANGLED WILDLIFE REPORTED:

None reported

TRACEABLE DEBRIS REPORTED:

Location	Type of Debris	Source Indicated
Celarain	plastic bottle	Princess

MOST PECULIAR DEBRIS ITEMS REPORTED:

Mezcalitos pieces of shoes, bottle of alcohol

FOR INFORMATION ON COZUMEL'S 1991 BEACH CLEANUP CONTACT:

German Mendez
P.O. Box 396
Cozumel, Quintana Roo
Mexico 77600
011-529-872-1232

CLEANUP DATE: COASTWEEKS 1991 (September 21 - October 12)

CONCLUSION

The goal of the National Beach Cleanup and the National Marine Debris Database is to permanently eliminate trash in the marine environment. The program achieves this goal by coordinating a tremendous public education campaign to increase awareness about the problems caused by trash in the marine environment. Successful public education efforts will result in changes in disposal behavior and a decrease in the amount of trash found on our beaches. Information recorded by volunteers on CMC data cards in the National Marine Debris Database is invaluable to quantify the marine debris problem and identify sources of beach trash.

Information in this report from the last three years of data collection efforts demonstrates that marine debris is a serious problem. Volunteers collected 2.6 million pounds of trash in just three hours from a fraction of the nation's coastlines. Three years of beach cleanup data shows that plastics are still the most prevalent item on our beaches. A slight decrease (5.7%) in the amount of plastics since 1988 however, may be a sign that MARPOL Annex V, and accompanying education about the international law, is working. It is not possible to determine if this decrease will continue. And it is precisely at the beginning of a possible downward trend that we should continue and even expand present efforts to eliminate marine debris.

If for no other reason, continued reports of wildlife entanglement show the need to ensure that no plastic trash enters the marine environment. In the last three years of the National Beach Cleanup, 200 out of 252 wildlife entanglements involved plastic items of some sort. The economic impact of trash on coastal communities and the incidents of vessel disablement, demonstrates direct impacts of marine debris on humans.

Over the past three years the types of items found on our beaches have changed very little. Since 1988 the top 12 items found on U.S. beaches, the "Dirty Dozen," has remained virtually unchanged. In the United States, the Dirty Dozen consists of beverage bottles and other disposable convenience items such as plastic straws and plastic eating utensils. Although the International Dirty Dozen on foreign beaches also represents more than half of the trash reported, the composition of this trash is very different than the U.S. Dirty Dozen. Volunteers in Japan, Canada, and Mexico reported lower percentages of disposable plastics and convenience items such as plastic straws, plastic utensils and foamed plastic packaging, and a higher percentage of lumber and rope.

Sources of marine debris identified by the National Marine Debris Database challenge the notion that industry groups are the major sources of all environmental problems. In fact, the contributions from specific industry groups such as commercial fishing or offshore oil operators over the last three years has either decreased or remained the same. Conversely, the abundance of items which are believed to be deposited by beachgoers such as cigarette butts and paper has increased.

*The goal of the
National Beach
Cleanup and the
National Marine Debris
Database is to
permanently eliminate
trash in the marine
environment*

While many current efforts focus on the ocean sources of debris, the abundance of many items reported in the National Marine Debris Database show the need to identify and eliminate land-based sources as well. In 1988 reports of syringes on New York and New Jersey beaches resulted in accusations of illegal dumping of hospital wastes into the ocean. Further investigation revealed that individuals are discarding syringes into sewers without realizing they can enter the marine environment through antiquated sewer systems. In other cases, these items enter the waterways through storm drain run-off, or are lost during transport to landfills.

The National Beach Cleanup's National Marine Debris Database is a powerful tool to address the marine debris problem. In the past, beach cleanup data has been used to support MARPOL Annex V ratification and Special Area Designation of the Gulf of Mexico and Wider Caribbean. In the future, beach cleanup data will be available to inspire, and in some cases, coerce the sources of debris into implementing solutions. Potential sources of debris should realize that beach cleanup data is effective and that thousands of citizens are willing to point the finger at marine polluters.

Information collected over three years is consistent and informative, and in many cases parallel to rigorous scientific studies. The Database can address the prevalence of individual items such as monofilament fishing line, six-pack rings, and beverage containers. Changes in the abundance of these items over time can provide information about specific legislative programs such as "bottle bill" laws and mandatory use of degradable six-pack rings.

The good news is that there *are* solutions to the marine debris problem. Beach cleanups provide instant education to participants and longterm information to help decisionmakers determine their priorities. As a challenge, everyone who reads this report and all 108,749 1990 participants, should commit to bring one friend to participate in the 1991 International Beach Cleanup. Extra effort to bring one friend out to the beach next September will double the impact of a currently successful program.

In addition, there are many changes individuals and corporations can make that are cost-effective and easy to implement. Below are a few methods applicable to most groups that are potential sources of marine debris.

- Post MARPOL Annex V regulations on ships as required by U.S. Coast Guard Regulations
- Inform passengers, crew, and rig workers about impacts of marine debris and enforce policies to eliminate plastics and marine debris
- Develop shipboard waste management plans as required by the U.S. Coast Guard
- Conduct a vessel recycling program and contribute money generated to a crew recreation fund (see box next page)
- Demand that your marina or port have adequate reception facilities as required by the U.S. Coast Guard
- Encourage ports and terminals to begin a recycling program
- Use non-disposable items such as plates and coffee mugs, on land and at sea; reuse plastic containers, and minimize unnecessary packaging
- Save monofilament fishing line for shore disposal or participate in the Berkley monofilament fishing line recycling program (see box Chapter 1)

- Recreational fishermen and boaters can recover accidentally lost marine debris items—recovery of debris from the water has an additional benefit to boaters: it is a good opportunity to practice "man overboard" drills
- Commercial fishermen can recover lost gear, even if it is not their own
- Participate in beach cleanup programs

Everyone can agree that marine debris should be eliminated. The solution to the problem is equally clear: don't throw trash into the ocean. The solutions above are easy to implement and inexpensive. Individuals cause the marine debris problem and it is up to individuals to make the appropriate changes to solve it. In these days with many complicated problems and few clear solutions it is important to capitalize on every opportunity to make a positive improvement to the marine environment.

American Presidents Line--A Shipping Industry Leader

The President Truman is one of 23 commercial ships owned by American Presidents Line (APL). One former captain of an APL vessel recalls that only twenty years ago ceramic mugs for coffee were tossed overboard after each use. The captain decided to stop the flow of coffee until the crew could practice more responsible habits.

Today, *The President Truman* responds to disposable packaging and new dumping regulations through its solid waste program that can be a model for the entire shipping industry. By recycling glass, aluminum, plastic, paper, and oily rags, *The President Truman* reduces the volume of ship generated waste. Crew members separate the trash and store the recyclable items on board until the vessel docks at port. Compactors condense the plastic to increase storage space.

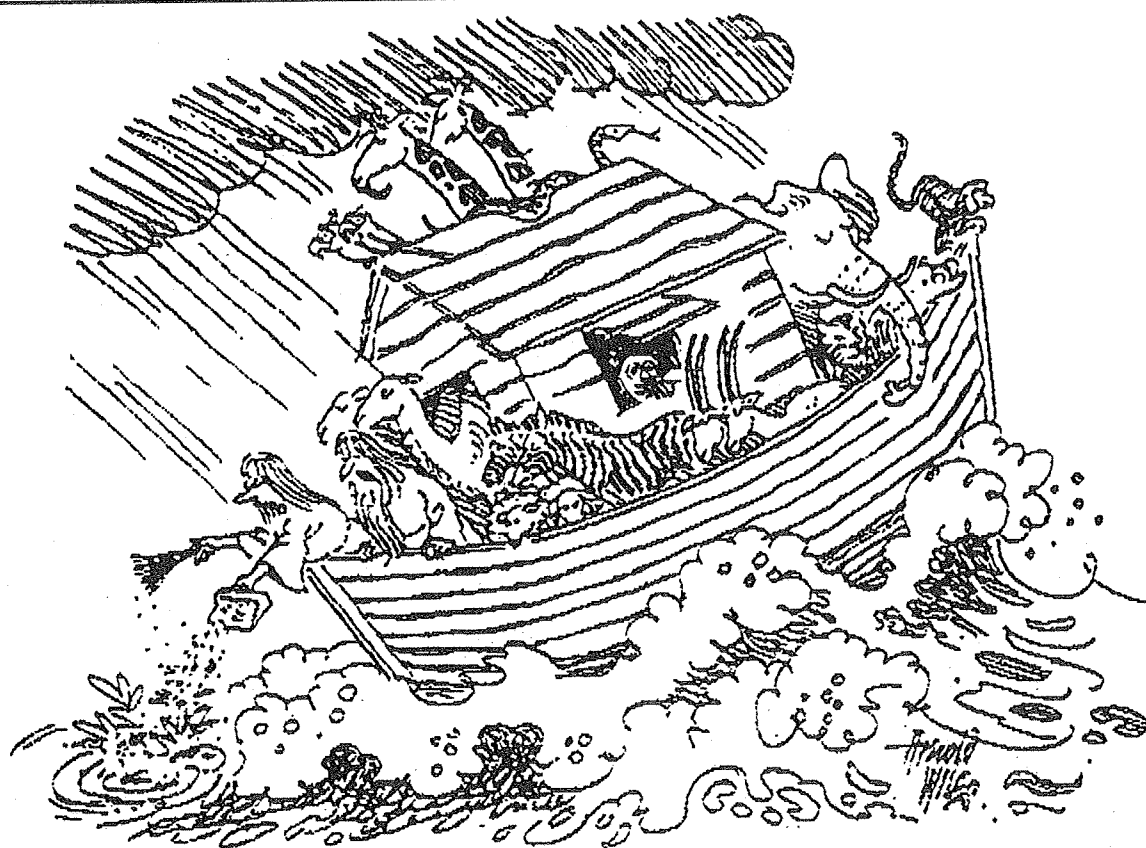
APL returns the proceeds generated from paper, glass, and aluminum recycling to the crew. Most notably, proceeds were used to host a party for homeless children in Asia.

Recreational Boaters on Citizen Pollution Patrol

With financial assistance from the Environmental Protection Agency, the Center for Marine Conservation has started a pilot project to educate boaters about MARPOL Annex V, and to help them learn how to report suspected violations of Annex V's garbage dumping restrictions. The Citizen Pollution Patrol (CPP) is currently being set up in Annapolis, Maryland and the Manasquan Inlet/Barnegat Bay area of New Jersey.

The goals of this concentrated education and activist campaign are to educate large numbers of boaters about the problems of marine debris, and about MARPOL Annex V, and to facilitate boaters' compliance with the law. In addition, the CPP will create a smaller corps of boaters who can pass this information on to other boaters, and who will know how to report suspected violations of MARPOL.

Outreach will occur through boating fairs and trade shows, marina visits, educational lectures, and mass distribution of information designed specifically for boaters. Through a successful education and outreach campaign CPP aims to prevent garbage from entering the water at all, thus reducing the overall need for beach cleanup efforts.



"Good grief, woman! What do you think the seas would be like if everybody did that!"

Appendix 1. Major Sponsors of the 1990 National Beach Cleanup—Presented as Provided by State Coordinators.

NATIONAL SPONSORS

U.S. Environmental Protection Agency
National Oceanic and Atmospheric Administration
The Council for Solid Waste Solutions (a division of
the Society of the Plastics Industry)
The Society of the Plastics Industry
Waste Management Inc.
ARCO Chemical Company
Chevron, USA Inc.
DOW Chemical USA
The Kettering Family Foundation
NAPCOR
PAXON Polymer

NATIONAL IN-KIND DONATION

First Brands Corporation (83,000, 33-gallon trash
bags)
Faber Castell (70,000 pencils)
Southland Corporation (Promotion through 7-Eleven
food stores)
MEM Corporation (Promotion in conjunction with
Fathom cologne)
Professional Association of Diving Instructors
(Promotion and participation of SCUBA divers
worldwide)

REGIONAL SPONSORS

ALABAMA

Corporate Sponsors

Browning Ferris Industries
Band W Supply, Inc.
Exxon Company, U.S. A.
Faber Castell
Frito Lay
LL and E Petroleum Marketing
Mobil Exploration and Production Southeast, Inc.
Pepsi-Cola Buffalo Rock Bottling Company
Resource Consultants, Inc.
Scott Paper Company
Shell Offshore, Inc.
Waste Management Inc.

Governmental Sponsors and Participants

Alabama Army National Guard
Alabama Department of Conservation and Natural
Resources
Alabama Department of Economic and Community
Affairs
Alabama Department of Environmental Management
Baldwin County

ALABAMA (cont.)

Bon Secour National Wildlife Refuge
Town of Dauphin Island
Environmental Protection Agency
Fort Morgan Historical Monument
City of Gulf Shores
Gulf Shores Volunteer Fire Department
Town of Orange Beach

ALASKA

Alaska Sea Grant College Program
Alaska Coastal Management Program
Ketchikan Ranger District of the National Forest
Service
Alaskans for Litter Prevention and Recycling
(ALPAR)

CALIFORNIA

California State Parks Foundation
California Department of Conservation, Division of
Recycling
Center for Marine Conservation
Council for Solid Waste Solutions
The Richard and Rhoda Goldman Fund
Office of Coastal Resources Management, NOAA
Safeway Stores
The Society of the Plastics Industry
Faber Castell

CONNECTICUT

Connecticut Sea Grant College Program, UConn
The Whale Gift Shop (Old Saybrook)
First Brands Corporation
Finasta Supermarkets
Domino's Pizza
Coca-Cola
Ink Tank Designs (Fairfield)
Faber Castell

Zone Captains:

Jane Moffat of the Greenwich Audubon Society
John Toth of Clean Sound, Inc.
Brad Burnham and Rick Schriener of the Long Island
Sound Taskforce
Joan Poarch
Nancy Balcom of the Sea Grant Marine Advisory
Program
Sarah Wade, Dept. of Environmental Protection
Barbara Bloomberg
Maisa Tisdale of Ocean Classroom, Bridgeport
Peter Holm and Sea Explorer Ship 25
Debbie Rooney, Norwalk Maritime Center
Laura Norwitz of Schooner, Inc.

Appendix 1. Major Sponsors of the 1990 National Beach Cleanup—Presented as Provided by State Coordinators (cont.).

CONNECTICUT (cont.)

Marie Saddig
Sue MacDermott
Frank Lusk
Ed Watkins of the Sierra Club
Marjorie O'Toole of the Thames Science Center
Stan Gaby of Mohegan Community College
Joellen Anderson
Bernadette Bode and Cynthia Wyatt of the Mystic
Marinelife Aquarium
Lisa Wahle
Bruce Hyde
Karen Krohn

DELAWARE

DuPont Company
Mobil Chemical Company
First Brands Corporation
Browning Ferris Industries
Playtex Corporation
Faber Castell

DISTRICT OF COLUMBIA

The Nature Company
Faber Castell

FLORIDA

The Knight Foundation
Florida Department of Environmental Regulation
Coastal Zone Management Section
Florida Department of Natural Resources
The Society of the Plastics Industry
Dunspaugh-Dalton Foundation
Publix Super Markets Inc.
Southern Bell
The National Association for Plastics Container
Recovery
Cowles Charitable Trust
First Brands Corporation
Faber Castell

GEORGIA

The Sierra Club
The Georgia Conservancy
U.S. Fish and Wildlife Service
U.S. National Park Service
U.S. National Marine Sanctuary Program
Keep America Beautiful Organizations
Boy Scouts of America
First Brands Corporation
Faber Castell

HAWAII

Community Work Day Program
County of Hawaii Department of Parks and
Recreation
Governor's Advisory Committee on Litter Control
Pacific Whale Foundation
State Litter Control Office
Maui Community Work Day Program
Faber Castell

LOUISIANA

Minerals Management Service
Chevron Oil Co.
Mobil Oil
CNG Producing Company
Dixie Divers of Houma
Shell
Boy Scouts of America
Raceland Junior High School
Thibodaux High School
Ashland Chemical
Koch Oil Company
Amoco
West Thibodaux High School
Girl Scouts and Brownies of America
Nicholls State University
Marine Aquatic Society
Greater Port Lafourche Commission
Lafourche Parish School Board
Pointe Fourchon Inc.
Faber Castell

Cameron Parish

Food Donors

Koch Oil Company
Phillips Petroleum
Lake Charles Diesel
Calcasieu Marine Bank
Jones, Jones & Alexander
Kajon Foods - Orrie Canik
Cam-Mart Shell, Richard Sturlese
Roger Grocery
Cameron Construction Company
Mobil Oil Company
Browns Grocery
T & T Grocery
DeBarge's Convenience Store
H & H Quick Stop
Paul Hannen
Harry Lancon

Services

Cameron Parish Police Jury
Lake Charles American Press

Appendix 1. Major Sponsors of the 1990 National Beach Cleanup—Presented as Provided by State Coordinators (cont.).

LOUISIANA (cont.)

KPLC-TV
Waste Management
Creole Lumber Company
Radio Station Q 101
West Cal. Hospital - Ambulance Service
Holston Ambulance Service
South Cameron Hospital
Cameron Sheriff's Department

Food Preparation

Paul Coreil
Joe Soileau
John Zamora
John Driscoll

Oil Companies Who Cleaned Cameron Beaches

Mobil Oil Company
Shell Oil Company
Fina Oil Company
Arco Oil Company
Chevron Oil Company
Conoco Oil Company

MAINE

Penmor Lithographers
Village Print Shop
C.H. Robinson Paper Company
Randall Landry
Gary Shepard
Maine Media
Sonoco Products
Shop n' Save Supermarkets
Shaw's Supermarkets
Portland Lager Company
WCSH-TV Channel 6
WGME-TV Channel 13
WCBB-TV Channel 10
First Brands Corporation
Faber Castell

MASSACHUSETTS

WBZ-TV4 (NBC)
Stop & Shop Supermarkets
Harvard Community Health Plan
First Brands Corporation
Faber Castell

MARYLAND

U.S. Environmental Protection Agency
Committee to Preserve Assateague Island
Assateague Island National Seashore
Assateague Mobile Sportfishermen's Association

MARYLAND (cont.)

The Worcester Environmental Trust
National Aquarium
First Brands Corporation

MISSISSIPPI

Mississippi Bureau of Marine Resources
Chevron U.S.A. Inc.
Friends of the Islands
Gulf Islands National Seashore
Hancock Chamber of Commerce
Harrison County Beautification Program
Mississippi-Alabama Sea Grant Consortium
Mississippi Gulf Coast Community College
Pascagoula Keep America Beautiful
Scranton Museum
Keesler Air Force Base
Office of the Secretary of State
National Marine Fisheries Service
BFI Waste Systems
The Gulf Coast Research Laboratory
Faber Castell

NEW HAMPSHIRE

Browning Ferris Industries, Inc.
New Hampshire the Beautiful
New Hampshire Yankee
Shop 'n Save Supermarkets
Shaw's Supermarket
Eberle's Inc. Office Supplies
Faber Castell

NEW JERSEY

U.S. Environmental Protection Agency
National Park Service - Gateway Recreational
Area/Sandy Hook
Faber Castell

NEW YORK

Dunkin Donuts
Pizza Hut
WBLI
Mayers Flowers Cottage
Browning Ferris Inc.
CID
Pepsi-Cola
Sorento Cheese
St. Josephs Hospital
Evans Chamber of Commerce
U.S. Environmental Protection Agency
First Brands Corporation
Faber Castell

Appendix 1. Major Sponsors of the 1990 National Beach Cleanup—Presented as Provided by State Coordinators (cont.).

NORTH CAROLINA

Big Sweep Organizers

UNC Sea Grant
Keep America Beautiful
N.C. Division of Water Resources
N.C. Division of Coastal Management
N.C. Wildlife Resources Commission
N.C. Division of Parks and Recreation
Keep North Carolina Clean and Beautiful
N.C. 4-H
N.C. Aquarium
Duke Power
Western North Carolina Development Association
WGH Piedmont in the Triad
WRAL in Raleigh
WSOC in Charlotte
WLOS in Asheville
WWAY in Wilmington
WCTI in New Bern

Big Sweep Contributors

The N.C. Beer Wholesalers Association
Miller Brewing
Winn-Dixie Inc.
Duke Power
Waste Management Inc.
Telecom USA
Texasgulf Inc.
Weyerhaeuser
First Brands Corporation
ALCOA
Faber Castell
The Center for Marine Conservation
CP&L
Highland Press
The N.C. Wildlife Federation
The N.C. Wildlife Resources Commission
Dillard Paper Company
Coleman Envelope and Printing
Paper Stock Dealers Inc.
EDU-PLAY
Petty Enterprises Inc.
Precision Printing
Tom Powell and Associates
S&S Marine Contractors, Inc.
Carteret Clean County
Takeda Chemical Products
Fiddler's Gallery and Framing House of Raeford, Inc.
D-G Enterprises
Wake Soil and Water Conservation District

Big Sweep Coordinators:

Rex Peters
Nancy Cowal

NORTH CAROLINA (cont.)

Diane Warrender
Nancy Pritchett
Jan Manning
Caroline Parker
Anne Moriss
Lois Nixon
Kay Rogers
Linda Ritter
Lynne Leonard
Lucinda Trew
Pat Brinkley
Sarah Humphries

OREGON

Oregon Fish and Wildlife
Stop Oregon Litter and Vandalism
KATU Television
Northwest Natural Gas Company
Oregon Telephone Pioneers
Armour Foods
United Grocers
Oregon Sanitary Services Institute
Sentry Supermarkets
Oregon State Parks
Faber Castell

PENNSYLVANIA

Burger King
First Brands Corporation
Faber Castell

PUERTO RICO

Municipio de Lajas
Municipio de Guanica
Municipio de Cabo Rojo
Borinquen Dairy
Municipio de Isabela
La Playita
El Karakol

RHODE ISLAND

Hospital Trust National Bank
Rhode Island Department of Environmental
Management
Audubon Society of Rhode Island
Faber Castell

SOUTH CAROLINA

Amoco Chemical Company
Beach Cove Resort
Rairfield Ocean Ridge
Rowler Communications
Furling Printing Company

Appendix 1. Major Sponsors of the 1990 National Beach Cleanup—Presented as Provided by State Coordinators (cont.).

SOUTH CAROLINA (cont.)

The Governor's Office
Kiawah Resort Associates
Macalloy Corporation
Mount Gay Rum
Oneita Industries
Planters Lifesavers Company
Post and Courier Foundation
Sonoco Products Company
Silkworm Screen Printers
S.C. Broadcasters Association
S.C. Department of Health and Environmental Control
S.C. Electric and Gas Company
S.C. Shrimpers Association
S.C. State Ports Authority
S.C. Wildlife Federation
Sunbelt Coca-Cola Bottling Company
Toler's Cove Marine
Waccamaw Audubon Society
Waste Management of South Carolina
Westvaco Development Corporation
Wellman, Inc.
Faber Castell

TEXAS

Academy
Amoco
Association of Texas Professional Educators
Boating Trades Association
Browning Ferris Industries
Casa Del Mar Hotel, Galveston
Chevron
Conoco
Dow Chemical
DuPont
Faber Castell
Fondren Foundation
HEB Food Stores
Kwik Kopy Printing, Medical Parkway, Austin
Mobil Oil Company
Moody Foundation
OXY USA Inc.
The Society of the Plastics Industry
Rockwell Fund
Shell Oil Company
Texas State Aquarium
The Trull Foundation
Valley Proud Environmental Council
Whale Gifts Collection

VIRGINIA

Faber Castell
First Brands Corporation

VIRGIN ISLANDS

Coca-Cola
WVGN-FM 105.3
Dive In
Chris Sawyer Dive Center
Ocean Fantasies
Atlantis Submarine
Neptune Fishing Supplies
Island Trader/Nautical Scene
Colombian Emeralds
Eastern Market
St. Thomas Windsurfing Association
Caribbean Boardsailing
St. Thomas Explorers Dive Club
Haagen Das Ice Cream
E.A.S.T.
Faber Castell
Friendly Grocery
For the Birds
George & Roberta Mosa
Kentucky Fried Chicken
Coki Beach Dive Club
Aqua Action
Virgin Islands Dive School
Players
Sea & Ski Powerboats
Daily News
WSTA - Lucky 13
Joe's Discount Liquor
Antilles Ecology Club
Eastwind Watersports
West Indies Boardsailing
U.V.I. Explorers
Wendy's Corp.
DPNR
Howard Dewolf
Barnacle Bills
Cafe Havensight

WASHINGTON

Washington State Parks and Recreation
Washington State Department of Ecology
First Brands Corporation
Faber Castell

CANADA

Faber Castell

JAPAN

Japan Environmental Action Network

GUATEMALA

Center for Marine Conservation
ARCAS

Appendix 2. Traceable Debris Reported During the 1990 Beach Cleanup

Location	Type of Debris	Source Indicated
Alabama		
Dauphin Island	3 plastic postcards	U.S. Army Corps of Eng.
Ft. Morgan	hardhat	Shell Oil Company
Ft. Morgan	hydraulic drum	Vickers Denison HFO-HF2 Cinn. Hilacron P19 Vickers 1-286-5-H-29505
Gulf Shores	hardhat	Arco Oil & Gas
Orange Beach	plastic cup	Flora Bama Lounge
California		
Sonoma	plastic bag	Meatball Bait, San Francisco
Sonoma	shipwreck debris	EmCee Fishing Boat
Marin	plastic strapping band	Gamma Grip
San Mateo	ashtray	Winchell's Donuts
San Mateo	letters/memos	Citicorp Insurance
San Mateo	letters/memos	Sterling Software
San Mateo	gift brochure	Citibank
Santa Cruz	plastic bag/dried mangos	Phillipine Profood Int'l.Corp.
Santa Cruz	styrofoam container	Banh Heo Con Queen Bakery
Santa Cruz	corned beef can	AFCO Shortland Cannery New Zealand
Monterey	USSR basic course book	DLI/FLC
Monterey	shipping crate piece	Bellingham
San Luis Obispo	25 liter metal can	Perolum Products, England
San Luis Obispo	plastic spool	Ultra Cleary Fishing Line Hoagee Glendale, CA 91204
San Luis Obispo	business card	Jeff's Custom Detailing Livermore, CA 415-455-4298
San Luis Obispo	shipping label	Western Oyster Growers Association
Ventura	rubber hose	Hewitt-Robbins, Inc., Buffalo, NY
Ventura	plastic bait bags	Channel Islands Packers
Los Angeles	irrigation control cover valve & lid	Carson Industries
Los Angeles	plastic meter tags #2683225, 2693956	So Cal Edison
Los Angeles	plastic seal #67630	PSE
Los Angeles	plastic shampoo bottle	Admiral Cruises
Los Angeles	plastic cap	Admiral Cruises
Orange	plastic bag	David Peeke Perg
Orange	plastic crate	CHB Foods
San Diego	plastic light sticks	U.S. Navy
San Diego	shopping cart	Vons
Connecticut		
Old Saybrook	plastic salmon tag	New Brunswick Aquaculture
Fairfield	balloon	Fifth Presbyterian Church

Appendix 2. Traceable Debris Reported During the 1990 Beach Cleanup (cont.)

Location	Type of Debris	Source Indicated
Delaware		
Battery Park	plastic bracelet	Vintage Transport
Battery Park	plastic strapping band	News Journal
Augustine Beach	oil container	Citgo
Ommelanden Park	55 gal drum	DuPont
Ommelanden Park	paper bag	Ricci Bros. Sand Company
Ommelanden Park	plastic bucket	Phil. Sticki Bun Smear (Brokay Products, Inc.)
Lewes	drum w/phosphoric acid	Delaware Supply Company 1820 South 4th Street Philadelphia, PA
Cape Henlopen (B)	part of plastic label	Dryden Oil Company
Cape Henlopen (B)	plastic square lid	SEDCO
Cape Henlopen (B)	large oil container	Texaco
Kitts Hummock	balloon	Mahaffy Realty
Primehook Beach	balloon	Exxon
Primehook Beach	plastic cup	Royal Carribbean
Gordon's Pond	balloon	Re-Elect Glendenning
Florida		
Duval	plastic bag	Comfort Inn
Duval	plastic bottle	Buck Honing Oil
Volusia	plastic bait bag	Plantation Fisheries Tavenier, FL 305-852-2561
Brevard	suntan lotion bottle	West Indies Island
Brevard	plastic shampoo bottle	Royal Carribbean
Indian River	plastic corrosive, ACK-100, "Hydrazine"	Drew Ameroll Marine Div. New Jersey
Indian River	plastic shampoo bottle	Holiday Inn
Indian River	shoe polish applicator	Royal Carribbean
St. Johns	balloon	Carnival Cruise
St. Johns	2 plastic shampoo bottles	Royal Caribbean
St. Lucie	plastic wrist band	Holiday Isle
St. Lucie	baseball hat	Sarasota Anglers Club
St. Lucie	3 balloons "The Fun Ships"	Carnival Cruise
St. Lucie	plastic bottle chloride solution MFD 1/89 Lot 27616 75 ml	Chemical Commodities Agencies, Inc. 27447 Pacific Street Highland, CA 92346
St. Lucie	20 gal plastic bag	Hedwin Corporation
St. Lucie	crate	Napa Central West Produce
St. Lucie	plastic strapping band	Tropical Shipping
St. Lucie	plastic bottle	Lockheed
St. Lucie	plastic shampoo bottle	Sheraton
St. Lucie	shoe polish container	Twin Craft-Montreal Canada
St. Lucie	plastic cup	1989 Pine Fest, Jensen Beach
St. Lucie	3 plastic shampoo bottles	Royal Caribbean
St. Lucie	Vidal Sassoon shampoo sample	Premier
St. Lucie	plastic cup	Carnival
St. Lucie	plastic conditioner bottle	Royal Caribbean

Appendix 2. Traceable Debris Reported During the 1990 Beach Cleanup (cont.)

Location	Type of Debris	Source Indicated
Florida (cont.)		
St. Lucie	plastic cup	Royal Caribbean
St. Lucie	styrofoam	Skyward
Martin	plastic cup	Holiday Inn
Martin	plastic container	Royal Caribbean
Martin	plastic cup	Fantasy
Palm Beach	balloon	Citicorp
Palm Beach	paper cup	BP
Palm Beach	emergency water ration	U.S. Coast Guard
Palm Beach	plastic cup	Norwegian
Palm Beach	2 cosmetic bottles	Royal Caribbean
Broward	2 plastic shampoo bottles	Royal Caribbean
Broward	plastic conditioner bottle	Royal Caribbean (Cruise Care Conditioner)
Broward	plastic medical bag	Plantation General Hospital
Broward	rat trap poison	Yankee Clipper Hotel
Broward	5 gal drum-cleaning fluid	U. S. Government
Broward	low temp grease container	Clyton Dewandre Co., Ltd. Rugby B7, England
Broward	calorie counter	Executive Limousine
Broward	paper envelope	Esso/Exxon, International
Dade	oil drum	Texaco Oil
Dade	envelope	Government of Jamaica
Dade	alligator juice sipper	Miami SeaQuarium
Dade	ice bucket	Cheeca Lodge
Dade	plastic bait bag	Plantation Fisheries
Dade	plastic shampoo bottle	Royal Caribbean
Dade	plastic cup	Carnival (The Fun Ships, Carnivale, Celebration, Festivale, Holiday, Jubilee, Mardi Gras, Tropicale)
Dade	4 plastic cups	Commodore
Dade	plastic bag	Windjammer
Dade	beverage holder	Sea Escape
Monroe	plastic mail envelope	NOAA
Monroe	hard hat	Marathon Oil/Sun Strand
Monroe	reel oil bottle	Garcia
Monroe	cologne bottle	Royal Caribbean
Monroe	plastic shampoo bottle	Royal Caribbean
Sarasota	meter tag	Florida Power & Light
Sarasota	road barricade	Bob's Barricades 800-432-5013
Hillsborough	"For Rent" sign	realtor 813-254-7757
Hillsborough	"For Sale" sign	realtor 813-677-2912
Hillsborough	letterhead paper	Shoe Works, Carol Wood
Hillsborough	letterhead paper	Bronson Marine Industries West Osborne, Tampa, Florida
Hillsborough	plastic cup	Holiday Inn
Pinellas	coupons	City Lights nightclub
Pinellas	balloon	Human Health Care
Pinellas	styrofoam cups	Howard Johnson

Appendix 2. Traceable Debris Reported During the 1990 Beach Cleanup (cont.)

Location	Type of Debris	Source Indicated
Florida (cont.)		
Pasco	degreaser bag; 1 gal	NOVA Towncey Chemicals
Jefferson	wooden crate	Morgan City, LA
Jefferson	paper bait cartons	Transflow Bait, Panacea, FL
Franklin	55 gal drum	Exxon Oil Company
Gulf	plastic coated wire & rubber cable	St. Joe Telephone Company
Bay	ID bracelet	Miracle Strip Amusement Park
Bay	balloon	"Mike Ross" campaign
Bay	plastic sign	"Glen Hess" campaign
Bay	paper envelope	Sailors Supply Company
Bay	2 liter jug	Swanee Swifty Tea (boat)
Walton	steak stake	Sandcastle Beach Resort
Walton	receipt - last name Bueff	Holiday Inn
Okaloosa	hospital band	Humana Hospital
Okaloosa	invoice	Wills Kustom Painting 16 Hydac Road Ft. Walton Beach, FL
Okaloosa	plastic strapping band #N471783	Nedlloyd Lines
Lee	plastic shampoo bottle	Holland American
Santa Rosa	plastic bottle	Princess
Santa Rosa	plastic cup	Holiday Inn
Santa Rosa	plug #552-12 volts patent #3218415	Florida Dept. of Transport.
Santa Rosa	cap	Shiker II Fishing Team
Georgia		
Wassaw	plastic cup	Emerald Princess
Hawaii		
Kauai	tank label	Hawaiian Reef Explorer
Oahu	pen & towel	Sheraton Waikiki
Oahu	paper bag	Hawaiian Cement
Oahu	yellow plastic barrier tape	Oahu Police Department
Oahu	glass bottle	Chugai Pharmaceutical
Oahu	plastic bag	Dynamic Supply Company, California 91744
Maui	wire rope	M/V Circay
Hawaii	plastic irrigation tubing	Bay Front Creative Products
Hawaii	black plastic bag w/liquid	Texaco
Hawaii	large plastic sheet 3 x 3	Matson Lines
Hawaii	irrigation tubing	Honoraa Sugar Company
Hawaii	irrigation tubing	Hamukua Sugar Company
Hawaii	gallon oil container	Texaco
Indiana		
Lake Erie	5 balloons	Postier/Beggars Buick Mazda Highway 63 North & 37th St. Rochester, MN 55901 (507) 289-3996

Appendix 2. Traceable Debris Reported During the 1990 Beach Cleanup (cont.)

Location	Type of Debris	Source Indicated
Louisiana		
Lake Pontchartrain	plastic beverage cup	Green Acres Country Club
Grand Isle	plastic salt bag	Morton Salt Company
Grand Isle	small plastic bag	Conoco
Grand Isle	ice bag	Griffin's Ice, Leesville, LA
Grand Isle	plastic cap	Oil Field Protector Supply Houston, Texas
Grand Terre	life vest	Livingston Oil Well Service
Grand Terre	2 boat salt containers	Cargill Gulf Shore
Grand Terre	hardhat	Texaco
Grand Terre	driftline float	M. V. St. Joseph
Grand Terre	hardhat	Kermit Dixon
Grand Terre	hardhat	Chiles Offshore Corporation
Fourchon Beach	cigarette lighter	Schlumberger
Fourchon Beach	plastic grease container	P & L Seafood
Fourchon Beach	plastic grease container	Chevron
Fourchon Beach	plastic lid	Shell
Fourchon Beach	plastic grease container	Alliance Plastic Company
Fourchon Beach	lubricant spray can	Erie, Pennsylvania
Fourchon Beach	1 gal container - SAE40	Exxon
Fourchon Beach	3 gal bucket of CFR 3L	LPS
Cameron	55 gal oil drum #HO68-1659	Shell Oil Rotella
Cameron	plastic milk bottle crate	Haliburton Services
Holly Beach	large rubber lid	Texaco-Rando
Holly Beach	plastic salt bag	MSB Manufacturing Company
Holly Beach	plastic salt bag	Reserve, Los Angeles, CA
Holly Beach	plastic bag	Smithco Industries
Holly Beach	plastic rice bag	Morton Salt Bag
Holly Beach	2 plastic salt bags	Cargill Gulf Shore
Holly Beach	plastic salt bag	Elliot Agro-Service, Inc.
Holly Beach	hardhat	P.O. Box 824
Holly Beach	campaign poster	Pineland, TX
Holly Beach	hardhat	KC Trading Incorporated
Holly Beach	2 plastic lids	Morton Salt
Holly Beach	plastic conditioner bottle	Sealand United Salt Company
Martin Beach	cardboard box	Keyes Offshore
Martin Beach	5 gal can lid	Cliff Campbell #70 For Sheriff
		Wade Montgomery/Mobile
		Plastican Incorporated
		Royal Caribbean
		Royal Pacific
		Exxon
Maine		
Eastport/Lubec	plastic lobster band	Canadian Lobster Fisheries
Eastport/Lubec	3 plastic lobster bands	Canadian Lobster Fisheries
	#S-F 34/90	
Castine	"For Sale" sign	Singleton Realty
Searsport	strapping labels	Avon Products
Searsport	2 plastic fasteners	New Brunswick Aquaculture

Appendix 2. Traceable Debris Reported During the 1990 Beach Cleanup (cont.)

Location	Type of Debris	Source Indicated
Maine (cont.)		
Searsport	plastic ID strap #1534815	New Brunswick Aquaculture
Camden	plastic tags	New Brunswick Aquaculture
Rockland	Atlantic Silver Salmon band #691383	New Brunswick Aquaculture
Rockland	plastic lobster band #DMRSI 079038	Canadian Lobster Fisheries
Rockland	plastic salmon band #2902984	New Brunswick Aquaculture
Rockland	plastic band	New Brunswick Aquaculture
Thomaston	styrofoam type labels	Very Fine Juice Company Westford, MA 01886
Thomaston	plastic lobster bands	Canadian Lobster Fisheries
Thomaston	scallop labels	CW McLoed Fisheries Nova Scotia, Canada
Thomaston	plastic band #S-F 34/989-00556	Canadian Lobster Fisheries
Georgetown	plastic band #S-F 34/989-00777	Canadian Lobster Fisheries
Georgetown	pressure treated lumber	International Paper
Brunswick/Harpswell	plastic band	Canadian Lobster Fisheries
Brunswick/Harpswell	plastic band #S-F 34/90-00559	Canadian Lobster Fisheries
Brunswick/Harpswell	plastic band #S-F 34/?	Canadian Lobster Fisheries
Freeport	pink & red plastic loop	Canadian Lobster Fisheries
Yarmouth	plastic band #2162290	Canadian Lobster Fisheries
Portland/Falmouth	strapping band	New Brunswick Aquaculture
S. Portland/Cape Eliz.	plastic bands #1322882, #27101991, #2711391	Catania-Spagna Corporation New Brunswick Aquaculture
S. Portland/Cape Eliz.	lobster tag #11654	Canadian Lobster Fisheries
S. Portland/Cape Eliz.	lobster tag #F186-008963	Canadian Lobster Fisheries
S. Portland/Cape Eliz.	plastic tag #0551456	Midland Transport
S. Portland/Cape Eliz.	school picture	Maude Randolph 627-0871
S. Portland/Cape Eliz.	plastic lobster tags #S-F 34/90-00239, #S-F 34/90-01084, #S-F 34/90-01631, #S-F 36/87-033023, #S-F ???-00179, #S-F 34/88-01001, #S-F 36/87-030117	Canadian Lobster Fisheries
S. Portland/Cape Eliz.	plastic tag #2017384	New Brunswick Aquaculture
S. Portland/Cape Eliz.	5 plastic tags #S-F 34/8??	Canadian Lobster Fisheries
S. Portland/Cape Eliz.	plastic tag #S-F 36/89-00083	Canadian Lobster Fisheries
S. Portland/Cape Eliz.	plastic tag #1855681	New Brunswick Aquaculture
Scarborough	plastic tags #S-F-4A86, #S-F 34/88-01773, #S-F 36/89-00089	Canadian Lobster Fisheries
Scarborough	lobster strap #S-F 34/89-00007	Canadian Lobster Fisheries
Scarborough	plastic tags #S-F 34/90-00144, #S-F 34/89 007389, #S-F 34/90-01024, #S-F-485	Canadian Lobster Fisheries
Scarborough	balloon	Ecole Scare-Cdeur Mont-Laurier
Scarborough	plastic bracelet	Fun Town USA
Kittery/Eliot	plastic strap - orange #000766 S-F 4A85	Canadian Lobster Fisheries

Appendix 2. Traceable Debris Reported During the 1990 Beach Cleanup (cont.)

Location	Type of Debris	Source Indicated
Maryland		
Assateague Island	survey bottle	NY Dept. of Env. Protection
Assateague Island	drink box with straw	Presidents Ent., Taiwan
Massachusetts		
North Shore	plastic container	Lome Manufacturing Corp. New York
North Shore	green plastic lobster band #S-F 34/89 01021	Canadian Lobster Fisheries
Metro Boston	plastic band w/ID number	Atlantic Salmon Fisheries
South Shore	2 plastic strapping bands	Canadian Lobster Fisheries
South Shore	balloon	Hard Rock Cafe
South Shore	balloon	CR's Market
South Shore	balloon	Ambrosino School Committee
South Shore	balloon	Las Brisas
South Shore	balloon	Manhattan Cable Company
South Shore	plastic sheet - 1' long	Belzona Molecular Working Surface
South Shore	plastic band	Canadian Lobster Fisheries
South Shore	paper cup	Marriott Hotels
South Shore	plastic strapping band #S-F 34/89 00503	Canadian Lobster Fisheries
South Shore	Cornell charge card slip	Alison Austin
South Shore	strapping piece #S-F 36/89 00027	Canadian Lobster Fisheries
South Shore	plastic strip #2374373	New Brunswick Aquaculture
South Shore	plastic strapping band	NE Sea Farms
South Shore	fish tag #1336878	NB Aquaculture (Salmon D'Aquaculture DU N-R)
Cape Cod	13 magazines	Richard Middleton, PC
Cape Cod	plastic strapping band #S-F 34/90 00986	Canadian Lobster Fisheries
Cape Cod	plastic strapping band #1719730	New Brunswick Aquaculture
Cape Cod	plastic band #S-F 34/89 00168	Canadian Lobster Fisheries
Cape Cod	2 fish tags #920726, #1226948	New Brunswick Aquaculture
Cape Cod	plastic strapping band	Town of Harwich
Cape Cod	plastic seal #057118	Northco Seafoods
Cape Cod	2 tree label tags	Northern Maine Tree Farm (207) 834-3075
Cape Cod	balloon	Woody's Food & Spirits
Cape Cod	2 balloons	Garrett for Assembly
Mississippi		
Gulf Park	sign	Marion Lindsay
Ocean Springs	tag	Boquets Seafood, Chauvin, LA
Ocean Springs	tag	D & L Seafood Empire, LA
Ocean Springs	tag #LA 100	T. Critanovich Seafood
Ocean Springs	plastic bag	Crystal Ice, Bulport, MS
Biloxi	2 labels	T. Critanovich Seafood Metaire, LA
Biloxi	5 plastic cups	Holiday Inn

Appendix 2. Traceable Debris Reported During the 1990 Beach Cleanup (cont.)

Location	Type of Debris	Source Indicated
Mississippi (cont.)		
Bay St. Louis	advertising brochure	Quality Inn
Bay St. Louis	banker "For Sale" sign	Mel Frisbee/Cindy Johnson
Bay St. Louis	metal drink can	YEO's Grass Jelly Drink YEO Hiap Seng Ltd 950 Dunearn Road Singapore 2158
New Hampshire		
Odiorne Point SP	2 plastic salmon bands	New Brunswick Aquaculture
Jenness Beach	green lobster tag #S-F 34/89 00273	Canadian Lobster Fisheries
Bicentennial Park	2 plastic salmon bands	New Brunswick Aquaculture
New Jersey		
Long Beach Island	balloon	Pizza Hut
Long Beach Island	balloon	Green Acres Manor
Long Beach Island	plastic cup	Econo Lodge
Atlantic City	plastic casino cup	Trump Taj Mahal
New York		
Rockland	styrofoam cup	Texaco Gas Company
Rockland	plastic comb	Davis Studio 914-698-0880
Westchester	key chain	Spitzer Hardware 914-636-2420
Westchester	balloon	Friendly's
New York City	plastic cylinder	HMS Torrington
New York City	cardboard box	Michael Bait & Tackle 202 Mansion Avenue Staten Island, NY 984-9733
New York City	plastic lotion bottle TLC	Polychem Corporation New Haven, CT
New York City	surgical scrub brush	Kendall Co. Healthcare Prod. Mansfield, MA
New York City	5 gal oil can	Texaco
New York City	box	Constant Velocity Products
New York City	plastic bag	Group Banking Corporation
New York City	line holder wrappings	C-Mar Tackle
New York City	plastic bag	Granny's Country Farm
New York City	plastic bag	Saxson Ice Company
New York City	cardboard, food dishes, napkins	Nathan's
Nassau	tow float	Berkley Skis
Nassau	clam tag	West End Clam Gulf Street, Linden
Nassau	blue & white items	Forest Hill Swim Club 718-7500
Nassau	brown carton	Town of Brookhaven
Nassau	plastic wrapper	Acme Tackle Company
Nassau	cocktail stirrer	Cunard
Suffolk	plastic net bag	Mastic Seafood, NY
Suffolk	plastic bag	New York Telephone
Lake Erie	metal drum	Olin Chemical

Appendix 2. Traceable Debris Reported During the 1990 Beach Cleanup (cont.)

Location	Type of Debris	Source Indicated
North Carolina (Coastal)		
Avon	balloon	Norfolk ...
Kill Devil Hills	plastic ice bag	Southern Ice Company
Pea Island	plastic bag	Dow
Pea Island	lidded plastic container #LDP-12	USS Shreveport Medical Dept.
Pea Island	range marker buoys	Rolyan Buoys 1-800-588-8633
Ocracoke	metal aerosol can	US Navy Manufactured by
	aircraft cleaning compound	Speer Products, Memphis, TN
Ocracoke	plastic standard conductivity solution bottle	US Navy Manufactured by Chem. Commodities Agency Highland, California
Carrot Island	ready meal bag	US Military
Wrightsville Beach	paycheck stub	City of Wrightsville
Bald Head Island	55 gal drum	Mobil Oil Company
North Carolina (Inland)		
Harris Lake	piece of metal	Atlas Metal Working Co.
Puerto Rico		
Bahia Ballenas	plastic bottle	Princess
Rhode Island		
Little Compton	2 plastic salmon tags	New Brunswick Aquaculture (Salmon d' Aquaculture DVNB)
Newport	tag	Merrit Seafood, NC 1-800-327-1185
Newport	wooden piece	George C. Brown & Co.
Newport	pen	Small Boat Show (Newport)
S. Kingstown (Ocean)	crab trap	W. Kowal
S. Kingstown (Ocean)	plastic bucket	Trump Castle
Oregon		
Columbia River/Arch Cape	plastic bottle	Joe King Chemical
Bay City/Sand Lake	wooden crate	Newport Shrimp Company
Bay City/Sand Lake	wooden pallet	White Crest Mills
Cascade Head/Depoe Bay	plastic frozen herring bait	Puget Sound Herring Sales
Depoe Bay/Waldport	wooden crate	Newport Fish Company
Depoe Bay/Waldport	wooden crate	Depoe Bay Fish Company
Depoe Bay/Waldport	large wooden sign	Depoe Bay Fish Company
Waldport/Yachats	plastic strapping band	Furino
Yachats/Florence	kite	Western Rivers Girl Scouts
Yachats/Florence	plastic tag #0137201	Canadian Customs
South Carolina		
Isle of Palms	plastic bucket	Parker Oil Company
		Chas. Heights, SC 29418
Isle of Palms	large plastic bag	DuPont
Isle of Palms	balloon	Burger King
Fort Sumter	plastic cap	South Atlantic Life Insurance
Fort Sumter	styrofoam cup	Texaco
Fort Sumter	styrofoam cup	BP

Appendix 2. Traceable Debris Reported During the 1990 Beach Cleanup (cont.)

Location	Type of Debris	Source Indicated
South Carolina (cont.)		
Fort Sumter	piece of wood	New South Lumber
Folly Beach	sealed plastic bags	Allied Plastics
Seabrook Island	alcohol pad wrapping	Triad Medical
Fripp Island	metal cylindrical beeper	Dalton-Grange Ft. Lauderdale
Hunting Beach	Lotion	Vepe Industria Almenticia Brazil
Hunting Beach	disinfectant	"Granporden" Mexico Tel: 4580016
Hilton Head	plastic wrapper "Candy Swizzles"	Matt Low Ltd Stockport, England
Texas		
Beaumont	plastic lid (URSA SP40 2133)	Texaco
Beaumont	paper mailing bag	Esso
Bolivar Peninsula	Energol CLO 50M 55 gal. drum	BP
Bolivar Peninsula	reusable drum cover	Uniroyal Chemical
Bolivar Peninsula	plastic container bag	Baldwin Filters
Bolivar Peninsula	plastic bag	Laport Ice Company
Bolivar Peninsula	plastic bag	Ryder
Galveston	balloon	"Pride of the Mississippi"
Galveston	orange plastic piece of container #D 5000 2	Ohler Company, Janesville IA
Galveston	plastic barrel	Texaco
Galveston	invoice	Central Freight Lines, Inc.
Galveston	glass tubing	Fisher Scientific
Galveston	plastic container	Fisher Scientific
Galveston	salt bag - 50 lbs.	Cargill, Inc./Gulf Shore Salt
Galveston	hardhat	Phillips 66
Galveston	crate	Southland Corporation
Galveston	emergency procedures card	Europa Jet
Galveston	plastic cup	San Jacinto State Park
Galveston	plastic beverage container	Fruit Drinks Inc., Puerto Rico
Galveston	5 gal. plastic lid	Plastican, Inc., Dallas
Galveston	5 gal. chemical container	Mobil
Galveston	10 gal. rust remover bucket	Banner Lab, Inc.
Galveston	plastic oil bucket	Chevron
Galveston	plastic shampoo bottle	Princess
Galveston	2 plastic shampoo bottles	Holland America
Bay City	part of plastic hardhat	Seaguridad Industries, INFRA
Bay City	red 5 gal. container	USS Samson
Bay City	silicone caulk tube	Pennwall
Bay City	55 gal. drum	BP North America
Bay City	55 gal. barrel	Shell
Bay City	hat	USCG Florida
Bay City	5 gal. can	Sigma
Matagorda Island	hardhat	Western Oceanic
Matagorda Island	bucket	S.S. 202
Matagorda Island	water jug	Louisiana Kentwood
Matagorda Island	hardhat	Penrod Drilling Company
Matagorda Island	green mustard container	First World Imports Co. Bangkok

Appendix 2. Traceable Debris Reported During the 1990 Beach Cleanup (cont.)

Location	Type of Debris	Source
Texas (cont.)		
Matagorda Island	plastic container	Texas Plastic, Inc., Midland
Corpus Christi	plastic ice bags	Mission Ice Company
Corpus Christi	plastic ice bags	Snyder Company
Corpus Christi	plastic salt bag	United Salt Corporation Houston, TX 77027
Corpus Christi	plastic cap: "More than 25 years of conservation of man made resources"	Belzona Molecular 224 Seventh Street Garden City, NJ 17530
Corpus Christi	plastic salt bag	Morton Ship/Shore Salt
Corpus Christi	10 plastic strips 6 x 18	Snyder Company
Corpus Christi	2 egg cartons	Adams Garden Poultry Farm Laferia, Texas
Corpus Christi	plastic lid to drum	Uniroyal Chemicals
Corpus Christi	plastic ice bag	Jerry Clanton's Ice Plant
Corpus Christi	plastic container	Pemix Brio Diesel Oil
Corpus Christi	5 gal. lid, 10 gal. lid	Envasesde Plastico SA Mexico Tel 250-6544
PINS	shopping bag	World Wide Fliers
PINS	hardhat	Mobil
PINS	plastic salt bag	United Salt Corp. of Houston
PINS	plastic salt bag	Sea & Land United Salt Co.
PINS	plastic salt bag	Lagniappe
PINS	plastic circle	IMUSA
PINS	milk crate	Caparra Dairy, Incorporated
PINS	chemical waste barrel	Raychem
PINS	plastic salt bag	United Salt
PINS	plastic bottle	Murakami Produce
PINS		Ontario, British Columbia
PINS		Hellenic Chemical Products
PINS		Greece
South Padre Island	12" drum lid	Jettica Corporation
South Padre Island	12" drum lid	Bennett Industries
South Padre Island	12" drum lid	Texaco
South Padre Island	plastic salt bag 50 lbs.	Morton Ship/Shore Salt
South Padre Island	large plastic lid	Bennett Industries
Virginia		
Wallops Island	balloon	Boerger for State Senate
Assateague Island	rubber tube	Development Corporation
Assateague Island	plastic nozzle	Prince George Co. Economic
Assateague Island	hardhat	Great Lakes Dredge/Dock Co.
Assateague Island	balloon	Weyerhaeuser
Assateague Island	balloon	Easton Hospital "A century of growing and caring"
Assateague Island	balloon	E.S. Adkins & Co. "Everything needed for building"

Appendix 2. Traceable Debris Reported During the 1990 Beach Cleanup (cont.)

Location	Type of Debris	Source
Virginia (cont.)		
Assateague Island	bunch of balloons	Huber Memorial UCC church school
Assateague Island	2 balloons	Pizza Hut
Assateague Island	2 balloons	Rock-Ola
Assateague Island	balloon	Tom Carter "leadership for Delaware"
Assateague Island	balloon	Boston's of Rehoboth Beach 240 Rehoboth..... 302-227-6...
Assateague Island	2 balloons	4-H
Assateague Island	balloon	Elmwood Reunion - 10th Aniversary
Assateague Island	balloon	Whoever finds this please write me ...mie Tenenbaum ...8 47th St. Brooklyn NY 11219
Assateague Island	balloon	"Kids for Purdy"
Assateague Island	2 balloons	Maryland National Bank "We want you to grow"
Assateague Island	2 balloons	Q-94 "Richmond's radio St."
Assateague Island	balloon	Kid's Fair, clothing for infants Ocean City, ...Pl. corner of Rt.50 & Rt. 811 301-289-383.
Assateague Island	balloon	Shenanigan's Irish Pub Ocean City, MD
Assateague Island	balloon	VA lottery special event
Assateague Island	balloon	Sandy & Dwayne, 4 Aug 1990
Assateague Island	balloon	Re-elect Glendenning
Assateague Island	2 balloons	Grottoes Pizza
Assateague Island	balloon	Federal Express
Assateague Island	balloon	Chip 'n Dale rescue rangers
Assateague Island	3 balloons	The original El Torito, Est. 1954 "The fiesta restaurant"
Assateague Island	balloon	Dumbarton Square, Staples Mill Koons
Assateague Island	balloon	GSE since 1953, Windows/Ext. Fahrvergnugen
Assateague Island	2 balloons	Del Taco, Mexican cafe
Assateague Island	balloon	B104 - WBSB FM
Assateague Island	balloon	TGI friday's, "The US Bistro"
Assateague Island	balloon	CIGM "It's your country" 92.7 FM Sudbury

Appendix 2. Traceable Debris Reported During the 1990 Beach Cleanup (cont.)

Location	Type of Debris	Source
Virginia (cont.)		
Assateague Island	balloon	"If you're not buying Steelcase you're not getting your money's worth"
Assateague Island	balloon	22-3700, 227-4..., 489-7545, 631-9040, 265-817.
Assateague Island	balloon	David's Buffet "delicious buffet dining 7 days a week"
Assateague Island	balloon	Busy Bee, free photo, Sat/Sun
Assateague Island	balloon	"The future party of Freeport"
Assateague Island	balloon	Oxford landing
Assateague Island	balloon	Vote Vincent Orange DC Com. chair Sept 11 1990
Assateague Island	balloon	Boergers - State Senate
Assateague Island	balloon	Auth. L. Kassell, Treas.
Assateague Island	balloon	Marine Midland Bank
Assateague Island	balloon	George Washington University
Assateague Island	balloon	Ft. Eustis Fed. Credit Union
Assateague Island	15 balloons	Maryland "You Are Beautiful"
Assateague Island	balloon	Chi-Chi's
		Roman Bistro
		Oak & Boardwalk
		Wildwood, New Jersey
Assateague Island	balloon	Long & Foster Realty
Assateague Island	balloon	Friends of the Salisbury Zoo
Assateague Island	balloon	Hair Bizz
Assateague Island	balloon	...ter Concepts
		1718 Wheeling Avenue
		Glendale, WV 26038
Assateague Island	balloon	Bell Atlantic Mobile System
Assateague Island	balloon	"Think Globally, Act Locally"
Assateague Island	balloon	International Society of SS Comas & Damien
		159-24 102nd Street
		Howard Beach, NY 11414
Baytree Beach	plastic scallop bag	Morgan Seafood Company
Buckroe Beach	orange plastic nuclear ID tag	Newport News Shipbuilding
Little Creek	metal tag	Precision Tool & Dye Co.
Seashore State Park	plastic bag	Harrison's Boat House
Washington		
Snohomish	large sheets of plastic	Chevron
Pierce	plastic insulation bags	John Manzville
Pierce	dog license tag	Pierce County Humane Soc.
Pierce	MasterCard receipt	James Scheifer Moss
Pierce	Quick Bank customer receipt	Sea First Bank
Canada (New Brunswick)		
Dorchester Cape	top of oil can	IPL
Dorchester Cape	plastic tag #S-F 34/88 01014	Canadian Lobster Fisheries
Dorchester Cape	plastic tag #000006SF4187	Canadian Lobster Fisheries
Waterside	4 1/4 gal. plastic bucket	Plastican, Inc. Leominster, MA

Appendix 2. Traceable Debris Reported During the 1990 Beach Cleanup (cont.)

Location	Type of Debris	Source
Canada (cont.)		
Waterside	baseball hat	Metegham 769-389
		Arcadian Nets Travels, Ltd.
Waterside	prescription for ephedrine 15 ml	Alan Swinn
St. Johns	balloon	Carney Hospital, Maine
Alma	balloon	Radio Station WHAI
		Grunklin County,
		98.3 FM/1240 AM
Mexico (Quintana Roo)		
Celarrain	plastic bottle	Princess

Appendix 3. Foreign Debris Items Reported During 1990 Beach Cleanups.

State	Sources	Type of Debris Item	Other Remarks
Alabama	United Kingdom (England)	1 metal tag	
	USSR (Russia)	1 aerosol can	
Alaska	None reported		
California	Argentina	1 plastic barrel	65 gal apple juice
	New Zealand	1 can	corned beef
	Phillipines	1 plastic bag	dried mango
	United Kingdom (England)	1 metal can	25 liter
	USSR (Russia)	1 basic course book	
Connecticut	None reported		
Delaware	Canada	1 plastic seal	
	Italy	1 container	milk
District of Columbia	None reported		
Florida	"Arabia"	1 bottle	white liquid
	Argentina	1 plastic bottle	water
	Australia	1 glass bottle	
	Belgium	1 plastic bottle	vitamin C
	Brazil	1 tube	ointment
		1 plastic container	"Agostini"
		1 metal can	pesticide
	Canada	1 plastic inner seal	
		1 glass bottle	water
		1 glass bottle	beer
		1 metal buoy	
		1 wood crate	
		1 glass bottle	
	China	1 explosive	
	Colombia	1 plastic bag	"La Espiga"
		1 plastic bottle	fidrolis fluid
		1 plastic crate	vegetables
	Cuba	1 plastic cap	
		1 plastic piece	cigar holder
	Denmark	1 plastic container	milk
	Dominican Republic	1 bottle	
	Finland	1 plastic bottle	
		1 medical drugs	
	France	2 plastic bottles	motor oil
		1 plastic bottle	shampoo-"Timotei"
		1 cardboard box	"Parmalat"
		1 cigarette lighter	
		1 plastic container	aspirin
		1 metal can	sunscreen
		1 plastic bottle	detergent
		1 metal can	shoe polish
		1 bag	wine
		1 plastic bag	

Appendix 3. Foreign Debris Items Reported During 1990 Beach Cleanups (cont.)

State	Sources	Type of Debris Item	Other Remarks
Florida (cont.)	Germany	1 metal can	sardines
		1 paper carton	"Turk Mati"
		1 plastic bottle	
		1 plastic cap	fuse
		1 battery	
		1 aerosol inhaler	
		1 plastic bottle	vitamins
		1 plastic bottle	liquid cleaner
		1 metal tube	cream
		1 plastic bottle	"Reisse-Dragee" pills
	Greece	1 metal can	insecticide
		1 plastic bottle	cleaner
	Guatemala	1 plastic strapping band	
	India	1 paper packet	cigarettes
	Iraq	1 metal container	fuel
	Italy	1 plastic bottle	mineral water
		1 plastic bottle	"Balsono"
	Jamaica	1 envelope	government
		1 plastic container	shampoo
		1 glass bottle	beer
	Japan	1 wrapper	
		1 bag	"gummie bears"
		1 bag	
		1 aerosol can	
		1 light bulb	40 watt
		1 aluminum container	
	Malaysia	1 metal can	beer
	Mexico	1 metal can	beans
		1 metal can	cosmetic aerosol
		1 plastic bag	
		1 plastic bottle	
		1 paper packet	seasoning
	Norway	1 plastic bag	smoked salmon
		2 paper bags	
	Spain	1 glass bottle	wine
		1 paper carton	"Tetra Birk"
		1 plastic top	
		1 plastic container	
		1 glass bottle	
	Thailand		
	United Kingdom (England)	1 plastic container	"Heath English Toffee"
		1 metal can	ant & roach spray
		1 glass container	perfume
		1 metal can	deodorant
	USSR (Russia)	1 metal cannister	gas
		5 metal cans	
	Venezuela	1 wiring covered w/styrofoam	
		1 container	powdered milk
		1 glass bottle	liquor
		1 glass bottle	beer
		1 plastic bottle	hand cleaner
		1 aluminum can	beer
		1 glass bottle	cologne

Appendix 3. Foreign Debris Items Reported During 1990 Beach Cleanups (cont.)

State	Sources	Type of Debris Item	Other Remarks
Florida (cont.)	Yugoslavia	1 plastic inner seal 1 cap	
Georgia	Italy Venezuela	1 paper container 1 plastic bottle	beverage water
Hawaii	Japan	1 plastic bottle	
Louisiana	Argentina Canada China Dominican Republic Germany India Israel Japan Korea Malaysia Mexico "Orient" Singapore Spain Taiwan Thailand Trinidad USSR (Russia) Venezuela Viet Nam	1 paper container 1 metal pipe 1 plastic bottle 1 plastic jar 1 plastic bag 1 plastic container 1 metal can 1 plastic container 1 plastic bottle 1 plastic bottle 1 plastic wrapper 1 glass bottle 2 beverage cans 1 plastic container 1 plastic container 1 glass bottle 1 metal can 1 plastic bag 6 plastic bottles 1 plastic bottle 1 plastic container 1 plastic bottle 1 aluminum can 1 paper packet 4 paper containers 1 cardboard container 1 paper carton 1 plastic container 1 plastic container 3 plastic bags 1 plastic bag 1 metal can 1 plastic package 1 glass bottle 1 plastic bottle 1 plastic bottle 1 metal can 1 bottle 1 plastic container 1 glass bottle 1 glass jar 1 plastic container	juice "PCC Sealant" hydraulic fluid noodles talcom powder peanuts milk powder lotion coconut oil butter "Chili Garlic Sauce" "Coke" soda "Boss/Snyder" dishwashing liquid oil sauce soy sauce beverage fruit drink drink juice toilet bowl cleaner cookies food fruit drink sour mustard liquor lotion cleaner juice liquor "Flying Lion" fish sauce tile cleaner

Appendix 3. Foreign Debris Items Reported During 1990 Beach Cleanups (cont.)

State	Sources	Type of Debris Item	Other Remarks
Maine	Canada	1 plastic bottle	
		1 glass bottle	soda
	France	2 plastic band	
		2 glass pieces	china
	Mexico	2 paper wrappers	candy
		1 plastic bottle cap	
Maryland	Indonesia	1 wooden crate	
Massachusetts			
	Belgium	1 metal can	whipping cream
	Demark	1 plastic carton	milk
	Japan	1 paper label	"Taisho Pharmeceutical Co."
Mississippi	"Arabia"	1 glass bottle	
	Netherlands("Holland")	1 plastic carton	
	Singapore	1 metal can	"Soya Soda"
		1 metal can	drink
	Viet Nam	1 glass bottle	milk
		1 plastic bag	salt
New Hampshire			
	None reported		
New Jersey	None reported		
New York	Japan	1 metal tube	
	Poland	1 plastic cap	sylica gel
	Sweden	1 glass bottle	
North Carolina			
(Coastal)	Italy	1 sandal	
	Japan	1 plastic bottle	toilet cleaner
		1 metal tube	toothpaste
North Carolina			
(Inland)	None reported		
Oregon	"Arabia"	1 plastic bottle	
	"Asia"	1 plastic lid	
	China	1 metal can	
		1 paper label	bug spray
		1 cardboard packaging	
		1 plastic bottle cap	
		1 paper carton	
	France	1 plastic container	milk
		1 glass	fluorescent light bulb
		1 glass bottle	vinegar
	Egypt	1 glass bottle	
	Japan	1 rice bowl	
		5 plastic bottles	
		1 glass bottle	"Fanta"
		2 plastic bottle	detergent
		1 plastic can	

Appendix 3. Foreign Debris Items Reported During 1990 Beach Cleanups (cont.)

State	Sources	Type of Debris Item	Other Remarks
Oregon (cont.)	Japan (cont.)	1 plastic container	toilet cleaner
		1 plastic container	"Saki"
		2 glass bottles	liquor
		1 piece of plastic	round
		1 plastic bag	
		1 plastic bottle	insecticide
		1 plastic bottle	1 1/2 liter "Coke"
		1 glass bottle	"Vodka"
	Korea Mexico "Orient" Poland Singapore Thailand	1 plastic pouch	tobacco
		1 plastic bottle	"Oolang" tea drink
		24 glass bottles	"Coke"
		1 fireworks	
		1 glass bottle	
		1 plastic bottle	toilet bowl cleaner
		1 plastic bottle	
Pennsylvania	None reported		
Puerto Rico	France	1 plastic bottle	"Coolard"
Rhode Island	France	1 metal tube	pharmeceutical
	USSR (Russia)	1 paper packet	cigarettes
South Carolina	Argentina	1 plastic bag	wipes
	Brazil	1 plastic bottle	lotion
	China	1 plastic bottle	tomato sauce
	Mexico	1 plastic bottle	
	United Kingdom (England)	1 plastic wrapper	candy
Texas	"Arabia"	1 plastic bottle	dishwashing liquid
		1 plastic bottle	bleach
	Argentina	1 plastic bag	rice
	"Asia"	1 paper packet	sauce mix
	Belgium	1 plastic bottle	"Yplon Creme Recurrent"
	Brazil	1 plastic bottle	cleanser
		1 plastic bottle	milk
	China	1 plastic bottle	chili sauce
		1 plastic bottle	mustard
		1 plastic bottle	cleaning fluid
		1 plastic bag	"Hala" noodles
		1 plastic bottle	bleach
	Colombia	1 glass bottle	
	Finland	1 plastic bottle	
	France	1 plastic bottle	motor oil
		1 plastic bottle	milk
		1 plastic bag	boat salt
	Greece	1 plastic bottle	conditioner
		1 bottle	
		1 plastic bottle	

Appendix 3. Foreign Debris Items Reported During 1990 Beach Cleanups (cont.)

State	Sources	Type of Debris Item	Other Remarks
Texas (cont.)	Greece (cont.)	1 plastic bottle	chemical
	Netherlands("Holland")	1 plastic bottle	"Goudzeep"
	Italy	1 aerosol can	"Sblok Oil"
	Jamaica	1 plastic bottle	shampoo
	Japan	1 plastic bag	food
		1 plastic container	"Trio"
		1 aerosol can	household insecticide
	Mexico	27 plastic bottles	
		2 plastic bottles	insect repellant
		1 plastic bottle	cleanser
		1 plastic bottle	laundry liquid
		2 aerosol cans	bug spray
		1 plastic bottle	medicine
		38 plastic bottles	bleach
		3 plastic bottles	beverage
		1 plastic bottle	"Aceite Precaucion Mezcia"
		1 plastic bottle	orange juice
		1 glass jar	"Piacere Buonatavola"
		3 aerosol cans	"Clarasol"
		1 plastic container	"Talco Mennen" powder
		1 plastic sack	
		1 plastic bottle	"L'oreal Obao"
		1 plastic lid	"Calve Earantie"
		2 plastic containers	
		1 plastic bag	detergent
		1 plastic bottle	green detergent
		1 plastic bag	ice pack
		1 plastic package	"Delicados" cigarettes
		1 glass jar	mayonaise
		1 plastic bottle	cleanser
		9 plastic bottles	"Veedol" oil
		1 metal cannister	chocolate milk
		1 plastic bottle	"Valenciana Slanqueador"
		1 plastic bottle	"Veedse II"
		2 plastic bottles	"El Rendidor"
		1 plastic bag	
		1 plastic container top	10 gallon
		1 plastic lid	5 gallon
		1 paper carton	milk
		1 plastic sack	"Geisha"
		1 plastic bottle	"Mosta"
		1 plastic bottle	"Nice" shampoo
		1 plastic bottle	"Clorador"
		4 plastic bottles	"Bebida de Fruta"
		1 plastic bag	"Lido"
		1 plastic bottle	"Bedol" lubricants
		1 plastic bottle	foot powder
		1 aerosol can	
		1 plastic bag	"Micro Enema Microlay"
	Singapore	1 metal container	"Chrysanthemum Tea"
		1 cardboard container	
	"South America"	1 plastic bottle	medical

Appendix 3. Foreign Debris Items Reported During 1990 Beach Cleanups (cont.)

State	Sources	Type of Debris Item	Other Remarks
	Spain	1 plastic bottle	"Frutsi"
		2 plastic bottles	
		1 plastic bottle	food
		1 paper carton	milk
		2 plastic bottles	oil
	Thailand	1 plastic bag	salt
		1 plastic wrapper	"Dady" (food)
		1 plastic bag	food
		1 plastic container	green mustard
	Turkey	1 plastic bag	
	USSR (Russia)	1 glass bottle	"Ketkap"
		1 aluminum can	insecticide
Virginia		1 aluminum aerosol can	
	Argentina	1 wood piece	
	Canada	1 plastic bottle	apple juice
	Chile	1 paper container	juice
	France	1 cardboard carton	milk
	Netherlands("Holland")	1 glass	light bulb
	Japan	1 plastic bottle	
		1 plastic bottle	detergent
	Korea	1 plastic bottle	cleaner
	"Latin America"	1 plastic bottle	"Chlorox"
Virgin Islands	Uruguay	1 plastic carton	milk
Washington	France	1 plastic bottle	petroleum
Washington	Japan	1 plastic bottle	toilet cleaner
		1 plastic bottle	
		1 plastic bag	
		1 plastic spoon	
		1 paper package	soup
Canada (New Brunswick)			
	Thailand	1 plastic package	dried silverfish
	United States	13 plastic jugs	milk
		1 plastic bottle	medicine
		1 glass bottle	soda
Mexico (Quintana Roo)			
	Brazil	1 plastic bottle	
	United States	1 metal can	gel
		1 aerosol can	
		1 newspaper	Texas

Appendix 4. Trends in Foreign Debris Reported: 1988-1990

Country of Origin	No. of Items Reported-1988	No. of Items Reported-1989	No. of Items Reported-1990	Total Items Reported
Mexico	408	1,013	163	1,584
Japan	141	168	48	357
France	39	101	24	164
China	46	61	13	120
Canada	24	54	14	92
"Germany" ¹	10	55	13	78
Italy	51	16	6	73
Spain	41	18	14	73
Singapore	28	22	13	63
USSR ("Russia")	24	17	16	57
"Oriental"	13	35	2	50
Thailand	20	19	7	46
Venezuela	21	16	8	45
"United Kingdom" ²	13	19	7	39
Greece	14	20	6	40
Netherlands ("Holland")	19	19	2	40
Brazil	8	22	7	37
Cuba	23	8	2	33
Colombia	11	10	4	25
Norway	12	9	3	24
"Korea"	7	14	2	23
Portugal	9	12	0	21
Viet Nam	5	8	5	18
Argentina	3	8	6	17
"Arabia"	6	5	5	16
"South America"	3	9	1	13
"Unknown"	3	10	0	13
"Middle East"	12	0	0	12
"Asian"	1	7	2	10
Sweden	3	6	1	10
Jamaica	3	2	4	9
Philippines	2	6	1	9
Belgium	1	4	3	8
Dominican Republic	3	3	2	8
Taiwan	4	1	3	8
Finland	2	2	3	7
Turkey	4	2	1	7
"West Germany"	7	0	0	7
"Latin America"	5	0	1	6
Malaysia	1	3	2	6
Denmark	2	1	2	5
Israel	1	3	1	5
New Zealand	1	3	1	5
Chile	1	2	1	4

¹ All countries are listed as indicated by volunteers. In some cases the sovereign state could not be determined.

² Includes debris reported from "England", "Ireland", and "Scotland".

Appendix 4. Trends in Foreign Debris Reported: 1988-1990 (cont.)

Country of Origin	No. of Items Reported-1988	No. of Items Reported-1989	No. of Items Reported-1990	Total Items Reported
India	1	2	1	4
Poland	0	2	1	3
Bahamas	1	2	0	3
Czechoslovakia	1	2	0	3
"Far East"	1	2	0	3
Guatemala	0	2	1	3
Trinidad and Tobago	0	2	1	3
Yugoslavia	0	1	2	3
"Antilles"	0	2	0	2
Australia	1	0	1	2
Bermuda	2	0	0	2
Bulgaria	1	1	0	2
El Salvador	0	2	0	2
Iceland	0	2	0	2
Indonesia	0	1	1	2
Pakistan	1	1	0	2
Romania	0	2	0	2
Austria	0	1	0	1
Barbados	1	0	0	1
Costa Rica	0	1	0	1
Ecuador	0	1	0	1
Egypt	0	0	1	1
"Europe"	1	0	0	1
Iraq	0	0	1	1
Nicaragua	0	1	0	1
Oman	0	1	0	1
Panama	1	0	0	1
Peru	1	0	0	1
"Scandinavia"	1	0	0	1
Switzerland	1	0	0	1
United Arab Emirates	0	1	0	1
Uruguay	0	0	1	1
"West Indies"	0	1	0	1
TOTAL	1,070	1,846	430	3,346

Appendix 5. Underwear and Associated Items Reported During the 1990 Beach Cleanup

Location	Items Reported	Other Comments
Alabama	3 pairs underwear 1 pair underwear 5 pairs underwear	Mens, one "BVD's" Ladies
California	1 pair panties 6 pairs underwear 1 pair boxer shorts 2 pairs underwear 1 pair pants 27 pairs underwear 2 bras 1 jockstrap 1 pair underwear 2 swimming suits 5 pairs nylons 1 nylon	Black lace Mens Mens Ladies Babies "BVD's" Knee high
Connecticut	1 underwear 1 pair nylons 5 pairs underwear 3 bras	Red teddy Knee highs
Florida	2 bathing suits 4 pairs underwear 12 pairs underwear 1 pair underwear 1 pair underwear 1 pair underwear 1 pair underwear 12 pairs underwear 1 bra 1 bra 2 bras 4 bras 3 pairs pantyhose 2 jock straps	Ladies Mens "Jockey shorts" with cartoon characters "BVD's" "Fruit of the Loom" "Teenage Mutant Ninja Turtles" 34C 38D Pink
Georgia	2 pairs underwear	
Hawaii	4 pairs underwear 3 pairs underwear 2 pairs nylons 1 swimming suit 1 bra 1 bra	Mens Trunks Black
Louisiana	1 pair underwear 1 bra 1 swimming suit 1 bra	Red sheer lace Bikini Black

Appendix 5. Underwear and Associated Items Reported During the 1990 Beach Cleanup (cont.)

Location	Items Reported	Other Comments
Maine	5 pairs underwear 1 pair underwear 1 swimming suit 1 bra	Mens Ladies "Barbie's"
Maryland	2 pairs underwear 1 pair underwear	"BVD's"
Massachusetts	7 pairs underwear 1 pair underwear 2 pairs pantyhose 1 bra 1 jock strap	Extra large mens'
Mississippi	2 pairs underwear 1 pair boxer shorts 1 pair underwear 2 swimming suits 2 pairs pantyhose	Mens Mens Ladies
New Hampshire	5 pairs underwear 2 bras 1 jock strap	
New York	2 pairs underwear 1 pair underwear 1 pair underwear 1 pair underwear 1 pair tights 1 bra	Ladies polyester Mens "Haynes"
North Carolina (Coastal)	6 pairs underwear 2 pairs underwear 4 pairs underwear 2 bikini bottoms 1 bra 1 pair underwear 1 pair wetsuit pants 1 pair pantyhose	Ladies Mens Blue mens
North Carolina (Inland)	7 pairs underwear 1 pair pantyhose	
Oregon	6 pairs underwear 1 pair underwear 1 pair underwear 1 pair underwear 1 pair underwear 1 jock strap 1 pair pantyhose	Ladies Extra large ladies Mens "Fruit of the Loom" "Haynes"

Appendix 5. Underwear and Associated Items Reported During the 1990 Beach Cleanup (cont.)

Location	Items Reported	Other Comments
Pennsylvania	1 pair underwear 1 pair pantyhose	Ladies
Puerto Rico	3 pairs underwear 1 pair underwear 1 pair underwear 1 bra	Mens Ladies
Rhode Island	1 pair underwear 1 pair pantyhose 1 jock strap 1 bra	Ladies
South Carolina	4 pairs pantyhose 6 pairs underwear 1 pair underwear 1 bra 1 swimming suit 1 pair underwear	Mens "Jockey"
Texas	8 pairs underwear 1 bikini top 4 bras 1 pair underwear 1 pair underwear 1 pair pantyhose 1 G-string	Mens "Haynes" Mens animal print
Virginia	6 pairs underwear 3 bikinis	
Virgin Islands	1 bra 1 pair underwear	
Washington	3 pairs underwear 3 pairs pantyhose 1 pair briefs	Mens

Appendix 6. Listing of Arnold Wiles' Cartoons Present in this Report.

All cartoons that appear in this report are reprinted with permission from *The Marine Pollution Bulletin*, Pergamon Press, and the artist, Arnold Wiles. Many thanks to Dr. Clark, Dr. Champ, Tod Shove, and Arnold Wiles for their work in regards to these cartoons. Below is a listing of the publication date and page number for all cartoons that appear in this report.

Publication Reference	Page Number in This Report
Volume 14, no. 6, June 1983	21
Volume 13, no. 2, February 1982	39
Volume 13, no. 3, March 1982	70
Volume 9, no. 3, March 1978	87
Volume 13, no. 8, August 1982	146
Volume 12, no. 12, December 1981	152
Volume 8, no. 11, November 1977	163
Volume 19, no. 11, November 1988	193
Volume 12, no. 8, August 1981	198
Volume 8, no. 9, September 1977	207
Volume 11, no.11, November 1989	254

Appendix 7. 1990 National Beach Cleanup Data Summary

1990 National Beach Cleanup
Raw Data Summary

	AL	AK	CA	CO	CT	DC	DE	FL	GA	HI	IL	IN	LA	ME	MD	MA	MS	NH	NJ	NY	NC	OR	PA	PR	RI	SC	TX	VA	VI	WA	NATIONAL TOTAL
PLASTIC																															
Bags	789	0	31003	411	2782	130	5652	27175	841	13764	296	177	4020	5849	2219	12432	3946	751	1442	9624	12719	5600	307	162	3742	3875	23121	3081	436	2510	176856
Food	1168	172	5864	26	771	31	1540	9248	218	3222	131	3	2044	1032	449	1926	1733	308	145	1579	4562	1702	25	423	1505	600	9227	707	385	884	51930
Trash	23	0	227	0	54	1	66	322	3	208	0	0	264	113	24	149	129	30	21	161	281	144	0	282	66	42	705	21	0	99	3435
Salt	1335	142	6775	212	1646	20	1582	12287	225	4306	50	9	2158	1484	899	2610	1407	735	236	2827	5654	2903	48	237	1730	1100	11831	1006	176	778	66408
Other	2768	16	6658	428	1191	24	2844	17072	703	5591	56	6	3817	1663	2734	3424	3731	491	773	4789	20704	959	53	586	2491	3345	9998	938	733	1450	100036
Bottles	525	33	591	9	142	0	411	3321	174	1298	1	1	2254	552	737	880	829	56	73	582	1112	491	9	254	438	314	6475	293	104	112	22071
Beverage	1048	16	1796	30	204	5	846	5004	216	1170	1	2	5187	872	843	1678	1956	92	100	766	1911	652	28	251	774	406	9358	432	75	165	35384
Gallon	402	12	866	1	166	0	581	3369	114	643	1	1	1313	982	1272	782	1620	54	79	722	1865	265	7	230	607	254	3381	299	81	85	20054
Oil/lube	683	34	2709	1	467	8	1198	7441	287	3199	13	0	3378	671	887	1658	957	115	310	1772	3397	1116	25	144	604	656	9309	559	275	608	42481
Other	171	4	485	1	106	17	196	1801	40	440	0	0	592	151	241	358	216	41	42	233	682	179	9	28	116	151	1684	115	13	50	8156
Buckets	4089	55	19475	35	2680	21	4735	28304	488	9250	87	115	8726	3275	2868	11503	3741	1256	1197	7395	9208	5656	224	556	3445	2426	18840	2954	422	2378	165384
Caps/lids	3844	1	103802	12	8518	119	17634	77625	2540	45829	779	2217	2638	17996	2202	38071	4710	2076	1184	18416	77080	11393	995	49	6093	28832	29812	13072	328	13961	531828
Cigarette lighters	542	0	3816	28	561	3	783	4372	60	1185	6	3	968	582	428	1635	688	68	84	1125	4287	673	10	23	538	556	2846	480	29	743	26622
Cups/utensils	1752	8	11949	47	3256	29	2709	22787	565	7315	38	30	2744	1362	1419	5901	2188	1582	607	6175	6551	1693	110	1206	2323	3312	10864	1754	1017	752	102245
Diapers	144	1	1031	15	90	0	112	1273	22	1512	14	2	302	109	51	722	315	25	32	400	878	189	1	155	235	185	1610	51	159	110	9245
Fishing line	333	3	3049	22	604	1	882	5789	85	5042	10	1	912	471	479	1512	391	327	172	1359	2644	789	13	17	720	338	5597	250	74	288	32174
Fishing nets	141	3	559	2	321	0	205	971	29	1800	0	0	486	683	118	2181	165	242	19	319	455	576	1	27	305	94	1059	123	51	72	11007
Floats/lures	239	1	834	17	138	4	590	2239	45	1420	1	1	905	256	305	524	414	52	51	373	1556	435	10	19	167	122	1616	232	12	110	12688
Hard hats	12	1	44	0	2	0	11	91	2	120	0	0	110	20	6	25	22	0	4	16	42	2	0	34	14	6	371	8	1	0	864
Light sticks	274	0	975	0	89	0	186	3438	13	733	0	0	1175	90	101	400	185	29	39	587	534	193	3	17	163	238	4749	120	8	52	14341
Pieces	3235	121	41981	266	8164	2	7943	44548	777	22169	584	162	10537	8406	4195	19092	3940	9954	1532	11522	16624	12209	897	733	6640	5703	45398	5311	218	1435	286238
Pipe thread prot.	69	1	505	1	244	0	98	708	8	385	17	0	244	148	26	288	65	38	13	98	497	343	9	8	111	86	1460	57	4	45	5576
Rope	1426	140	3294	1	496	7	1352	10411	201	5845	3	10	5621	6043	93	11226	1148	4962	216	2056	3462	4844	76	182	2423	529	24357	1608	245	649	99736
Sheeting	95	60	410	3	56	6	72	713	16	323	0	0	341	173	101	288	70	144	50	126	292	216	0	41	145	90	2814	82	21	84	6832
Short	151	58	881	11	87	4	367	1671	21	659	3	0	735	383	174	710	208	83	84	528	520	513	4	97	286	230	5704	143	23	239	14577
Six-pack holders	565	10	3450	297	277	78	604	5803	53	2652	80	16	1962	421	653	917	1654	83	211	1824	2467	497	19	82	919	240	7872	291	247	478	34722
Strapping bands	201	21	2013	1	163	0	357	3244	37	1408	3	0	918	1042	319	1571	248	275	128	818	1047	963	29	20	650	199	4547	321	54	292	70889
Straws	757	0	21510	59	2554	13	5191	29688	713	10071	355	189	1492	1973	2033	11179	2144	251	2348	15779	6737	1013	395	279	3236	3063	12593	2718	634	1856	140843
Syringes	54	0	296	1	142	1	55	608	5	265	71	1	316	62	50	126	83	7	152	291	183	77	6	5	59	18	788	32	4	30	3768
Rampon applicators	126	1	698	1	366	0	564	1182	19	483	10	12	365	700	287	5820	287	175	512	2571	470	202	40	28	918	98	898	178	9	105	17125
Toys	219	8	1485	17	415	0	813	2281	61	1021	10	7	509	440	407	1322	217	168	185	1033	1168	394	51	97	383	440	1987	317	12	161	15628
Vegetable sacks	91	4	841	1	91	3	197	978	32	669	1	0	219	237	90	574	244	87	30	212	533	507	1	8	282	103	1541	114	10	123	7823
Write prot. rings	135	3	775	1	44	0	285	1154	63	399	1	0	171	189	55	528	264	37	42	352	338	154	33	7	141	78	1164	92	14	73	6592
Other	892	29	7485	1	1711	11	2712	13077	292	7047	274	344	2727	3308	1653	5388	1126	925	628	4592	4722	2762	107	68	1713	2500	12064	1759	204	954	81055
STYROFOAM																															
Buoys	256	44	982	16	179	0	154	5431	82	930	0	0	949	894	438	1245	370	167	18	424	555	380	2	16	362	106	769	151	15	85	15020
Cups	2269	140	13387	77	1787	16	2902	27099	887	8125	101	25	4829	3801	3221	4666	3282	778	472	4828	11889	2703	96	240	3545	2349	10593	1805	413	1347	117672
Egg cartons	250	2	293	3	21	0	98	1271	60	396	1	1	1217	100	102	210	470	13	12	68	486	80	0	20	83	85	2666	67	10	25	8110
Fast food cont.	592	9	4256	48	466	18	653	6518	116	4780	9	9	1131	750	1081	888	1361	155	100	917	4009	780	12	70	1009	538	2589	420	271	585	34139
Meal trays	543	12	1104	4	65	0	245	2300	187	1823	1	1	1779	226	215	400	867	25	30	233	1082	947	4	44	131	302	2635	182	22	143	15552
Packaging	836	0	15780	15	1591	42	946	5677	122	2272	7	11	1655	979	566	2114	662	540	95	1357	2630	1053	8	44	967	524	5445	853	21	715	47327
Pieces	4006	123	36671	1	5552	38	6401	43220	1817	14625	239	10																			

	AL	AK	CA	CO	CT	DC	DE	FL	GA	HI	IL	IN	LA	ME	MD	MA	MS	NH	NJ	NY	NC	OR	PA	PR	RI	SC	TX	VA	VI	WA	NATIONAL TOTAL
GLASS																															
Bottles Beverage	2527	57	18382	106	1172	45	3387	44506	810	17877	186	102	5487	3004	5359	3628	3904	659	724	4184	24073	1890	51	983	4547	3518	12277	1687	1863	2518	169513
Food	251	2	1157	9	27	7	284	3262	128	1020	2	0	1550	312	361	414	848	17	16	249	1811	326	7	151	177	171	2381	185	39	82	15246
Other	146	17	1568	6	135	0	466	4468	88	1825	5	1	1290	495	359	554	539	74	24	401	2566	342	8	18	201	264	2617	124	66	295	18962
Fluor. light tubes	60	0	32	1	10	0	21	601	15	424	0	0	643	40	38	55	52	8	0	177	138	85	0	7	9	21	735	33	1	4	3210
Light bulbs	237	5	229	1	15	0	175	2041	71	221	448	0	1904	255	247	204	755	17	4	110	489	158	0	37	71	90	1565	177	21	33	9580
Pieces	1654	118	42589	1	3119	39	9510	16232	368	21797	2148	316	2990	12218	2090	8311	4038	3135	262	9165	11302	4513	110	382	3116	1995	22927	1634	246	686	192221
Other	113	3	2624	1	132	0	1014	1667	34	1813	3	41	476	1382	204	677	558	72	18	768	1158	271	0	9	370	269	1847	198	90	558	16370
RUBBER																															
Balloons	264	7	3480	4	720	0	1047	2999	101	1441	23	29	259	642	712	3424	237	227	120	3294	2154	403	100	5	909	504	1391	1663	40	337	26536
Condoms	15	7	547	11	62	0	80	469	24	198	0	0	126	182	26	307	36	12	40	449	250	64	4	7	39	54	497	49	47	139	3741
Gloves	279	37	684	1	87	4	107	860	35	313	2	0	1373	800	89	593	519	121	18	146	471	194	1	17	117	56	4044	69	3	129	11169
Tires	113	13	928	13	80	1	420	1086	23	576	0	0	248	402	473	308	192	104	18	295	1030	193	8	57	308	103	554	130	8	88	7772
Other	495	17	3655	14	564	27	2026	5022	97	5020	20	15	1025	3921	507	3357	387	712	49	1102	1878	856	27	22	690	649	3944	492	53	250	36893
METAL																															
Bottle caps	1640	12	19582	93	1065	20	1748	16700	185	10104	168	185	1512	2571	763	3992	2091	757	174	6967	9282	1851	149	168	1794	1396	6783	897	857	3022	94528
Cans	402	19	780	1	98	2	272	2735	61	717	7	2	1615	238	484	584	582	50	11	453	1543	360	0	77	312	443	1936	221	41	131	14177
Aerosol	2529	212	11442	165	1824	229	4317	40902	3308	11280	46	34	5535	2610	5280	5557	6325	1519	1006	5194	25443	1696	88	338	4562	7794	13028	2464	1166	2886	166779
Beverage	254	5	1233	22	119	6	220	2482	31	1302	3	10	717	302	251	312	285	33	19	384	2674	308	2	189	252	223	1266	102	29	76	13111
Food	252	81	750	0	162	1	232	2055	24	690	3	2	451	202	164	286	334	152	9	280	967	318	2	72	115	161	804	112	4	44	8709
Other	54	2	166	1	8	0	86	473	54	115	0	0	93	261	235	253	202	109	4	45	184	22	2	1	33	102	116	18	4	2	2645
Crab/fish traps	89	10	272	0	39	0	33	278	7	151	13	0	107	144	15	105	36	36	5	100	304	68	2	15	39	74	344	17	6	20	2329
Drums	8	0	30	0	4	0	6	46	0	8	0	0	30	26	1	33	10	6	1	19	53	8	0	0	1	1	69	2	2	2	366
Rusty	324	15	4896	43	817	9	1471	4741	112	3142	152	33	605	1444	508	1769	639	545	58	2225	3673	657	32	171	608	1130	2768	373	108	614	33682
New	867	1	4465	53	988	11	793	6446	71	3388	60	74	503	652	514	1071	1286	260	103	2568	4865	544	160	161	676	791	2769	288	267	1633	36328
Pieces	245	12	3828	0	170	34	361	1921	39	1909	51	8	385	537	216	747	227	155	19	960	2313	359	12	30	168	438	1459	163	26	421	17213
Pull tabs	422	12	8852	3	851	21	1013	5111	133	3410	36	28	988	1832	588	2097	661	399	93	2615	3369	1483	80	20	448	978	2212	283	109	645	38792
Wire																															
Other																															
PAPER																															
Bags	559	13	6721	48	579	12	818	5466	83	2860	29	8	655	749	366	1522	962	214	123	1169	4417	858	22	232	1083	697	2963	268	152	583	34231
Cardboard	349	32	4377	35	487	49	811	4054	62	2429	34	8	646	551	543	1931	1190	232	170	1380	3227	938	12	198	662	720	2366	601	102	414	28610
Cartons	261	5	3225	8	480	26	432	3946	93	2324	36	13	619	542	279	1264	626	185	129	1044	2308	555	7	170	633	456	2660	299	126	220	22971
Cups	687	5	4847	19	812	22	798	7581	142	4942	68	15	977	631	567	2677	1246	258	204	2151	4631	764	37	261	1511	969	3371	585	104	419	41301
Newspapers	130	2	4697	13	227	50	488	3459	30	2597	31	5	210	397	125	927	430	127	48	771	1657	913	9	150	272	350	1338	166	98	236	19953
Pieces	2600	24	47869	122	5720	65	5938	28945	518	18060	188	290	2799	5662	1327	10627	3294	2137	772	7118	17350	5236	284	517	3874	6547	11901	2709	394	3866	196753
Plates	63	0	2820	158	100	3	152	1951	13	2527	8	3	427	154	274	516	350	106	80	608	1098	150	7	132	165	306	1264	176	70	114	13795
Other	1083	12	15843	0	5775	10	1507	6858	266	4241	16	37	609	2119	203	3228	1300	703	71	2401	4986	1365	319	124	1422	3250	3455	991	130	723	62847
WOOD																															
Crab/lobster traps	10	0	99	0	24	0	16	263	7	67	0	0	86	176	114	273	64	92	1	11	65	7	0	3	66	21	134	27	2	6	1634
Crates	32	0	315	0	9	2	105	421	5	98	0	0	125	85	136	98	92	15	3	80	139	66	1	17	78	78	373	116	2	20	2511
Lumber	478	0	7769	56	492	2	2947	13198	208	3510	78	29	2422	2518	2046	4164	1632	495	165	3424	5197	1274	34	251	792	4523	7783	3623	147	348	69546
Pallets	61	0	583	0	86	0	81	482	4	165	1	0	168	134	36	232	97	30	3	188	295	82	1	20	114	124	492	48	3	14	3544
Other	895	7	5968	15	751	1	656	3174	105	1971	99	18	594	968	367	1758	559	560	58	1581	3979	369	20	19	1595	1898	3011	617	63	178	31854
CLOTH																															
Clothing	674	47	6025	59	879	65	2706	7985	262	3800	62	12	1633	1873	612	2400	867	1129	159	1834	5004	1268	40	325	1093	1111	5000	789	226	485	48424

TOTAL ITEMS/STATE 59100 2116 63284 3214 77519 1423 122107 704780 20141 337101 7283 4791 135179 130009 66395 240601 91212 41429 19812 185707 389994 110591 5524 12544 85393 111377 479306 70758 14123 65978 4227791

Appendix 8. 1990 International Beach Cleanup Data Summary

		Canada	Japan	Mexico	TOTALS
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PLASTIC					
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Bags	Food	439	7242	0	7681
	Trash	150	1289	828	2267
	Salt	24	161	215	400
	Other	270	5323	763	6356
Bottles	Beverage	610	3252	502	4364
	Bleach	273	859	487	1619
	Gallon	344	401	240	985
	Oil/lube	516	239	250	1005
	Other	309	2266	338	2913
Buckets		107	168	125	400
Caps/lids		1343	3264	641	5248
Cigarette filters		114	16481	0	16595
Cigarette lighters		48	1095	31	1174
Cups/utensils		138	1519	511	2168
Diapers		2	171	88	261
Fishing line		34	238	248	520
Fishing nets		262	209	136	607
Floats/lures		18	272	85	375
Hard hats		1	257	133	391
Light sticks		9	213	155	377
Pieces		2513	7904	1540	11957
Pipe thread prot.		7	51	108	166
Rope		3752	967	325	5044
Sheeting Long		138	254	190	582
Short		370	355	49	774
Six-pack holders		95	48	132	275
Strapping bands		1267	1663	0	2930
Straws		190	2070	0	2260
Syringes		14	23	81	118
Tampon applicators		252	48	111	411
Toys		59	827	173	1059
Vegetable sacks		28	144	26	198
Write prot.rings		9	11	236	256
Other		1062	1330	75	2467
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STYROFOAM					
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Buoys		86	123	164	373
Cups		1092	445	54	1591
Egg cartons		15	78	15	108
Fast food cont.		73	465	7	545
Meat trays		132	913	59	1104
Packaging		140	581	37	758
Pieces		3385	5209	225	8819
Plates		318	425	0	743
Other		179	309	45	533
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Appendix 8. 1990 International Beach Cleanup Data Summary (cont.).

		Canada	Japan	Mexico	TOTALS
<hr/>					
GLASS					
Bottles	Beverage	1053	3130	780	4963
	Food	71	434	185	690
	Other	65	445	35	545
Fluor. light tubes		1	20	87	108
Light bulbs		26	128	149	303
Pieces		1140	1793	492	3425
Other		59	146	35	240
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RUBBER					
Balloons		170	42	36	248
Condoms		9	6	2	17
Gloves		62	128	6	196
Tires		38	107	26	171
Other		661	893	180	1734
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METAL					
Bottle caps		219	8396	580	9195
Cans	Aerosol	88	315	174	577
	Beverage	372	9200	310	9882
	Food	41	637	80	758
	Other	40	319	36	395
Crab/fish traps		1	62	0	63
Drums	Rusty	11	107	2	120
	New	1	11	46	58
Pieces		138	484	82	704
Pull tabs		21	2072	72	2165
Wire		48	155	100	303
Other		227	358	2	587
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PAPER					
Bags		36	506	269	811
Cardboard		96	231	127	454
Cartons		145	189	137	471
Cups		44	372	21	437
Newspapers		8	271	29	308
Pieces		273	1228	115	1616
Plates		20	205	0	225
Other		53	899	46	998
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WOOD					
Crab/lobster traps		5	2	3	10
Crates		3	151	69	223
Lumber		345	3420	218	3983
Pallets		14	106	27	147
Other		236	1018	53	1307
<hr/>					
CLOTH					
Clothing		133	293	136	562
<hr/>					
TOTAL ITEMS/ZONE		26160	107441	14175	147776

AVAST THERE,
YA LUBBERS!

SEE YA AT THE 1991
INTERNATIONAL
BEACH CLEANUP!



CENTER FOR
MARINE
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