

MARINE DEBRIS SOURCES

OBJECTIVE: Participants will discover the main sources of marine debris.

Define the term *source* with participants.

ASK: Where do you think marine debris comes from? or What is the source of marine debris?

Marine debris sources are broken into two main categories: ocean-based and land-based. The majority of marine debris originates on land.

1. Ocean-Based Sources:

- **Fishing Vessels:** Fishing gear such as fishing lines and traps can be lost from fishing boats (referred to as derelict fishing gear).
- **Recreational Boaters:** Trash and fishing gear can fall overboard if not stored properly.
- **Stationary Platforms (Oil and gas drilling platforms):** Hard hats, gloves, pipe protectors and 55 gallon drums can all be lost from platforms.
- **Cargo and Other Vessels:** Ships caught in rough seas can lose a variety of items that are being transported, including entire shipping containers. Shipping containers carry many products long distances from where they were made to where they will be sold. Products from sneakers to bath toys have been lost from cargo ships.

2. Land-Based Sources:

- **Litter:** Any trash that is not properly disposed of can end up in waterways and eventually in the ocean.
 - Trash cans or recycling containers may not be readily available, which can lead to inappropriate disposal. Some people simply do not put trash where it belongs. Examples of littering include: leaving food wrappers at the park, throwing fishing line from a boat, or releasing balloons into the sky.
 - Littering can also be accidental. Examples include: a plastic grocery bag flying out of a car window or losing a ball at the beach.
- **Dumping:** Disposal facilities for large or hazardous items may be difficult to find, or they may charge fees. Rather than pay these fees, people may dump large materials such as construction materials, appliances, furniture, mattresses and hazardous waste near creeks or rivers.
- **Storm Water Discharges:** Storm drains carry litter and runoff to waterways that lead to the ocean. Any trash left along the street can easily wash into storm drains and eventually make it to the ocean.
- **Poor Waste Infrastructure:** In some parts of the world, there are no landfills or recycling centers for peoples' trash. In fact, in many places, trash cans do not exist and trash is simply piled on the street or in dry riverbeds. Without a confined place for trash, it is very easy for waste to end up in the ocean.
- **Natural Disasters:** Events such as tornados, hurricanes, floods and tsunamis can scatter debris into the marine environment.



ACTIVITY: MATCHING TRASH

OBJECTIVE: Participants will learn the different sources of marine debris as well as the different materials that marine debris is comprised of by grouping different types of marine debris together.

MATERIALS:

- Grey and/or White Debris Decks (some participants already have these in hand from previous activity)

INSTRUCTIONS:

1. Participants should now understand the most common types of marine debris and where they originate.
2. **“SAY: Now let's look deeper into how items become marine debris and the different sources of ocean trash.”**
3. Make sure all participants have a card from the Debris Deck (some will already have cards from the previous activity). If there are more than 23 participants, pass out the additional item cards from the white Debris Deck.
4. Participants will have 2 minutes to group themselves based on what type of marine debris card they have. Participants can group themselves in any way they think makes sense. Examples include: fishing gear, food, made from plastic, land-sources, ocean-sources, etc. The possibilities are endless!
5. After the allotted time, have each group explain why they grouped together.
“PROMPT, if necessary: Was it based on the source of the item? What the item was made of? What the item was used for?”
6. (Optional) Participants will have an additional 2 minutes to group themselves based on different criteria. This gives participants a chance to be creative and shows how many different possibilities there are to match trash.



EXAMPLE GROUPINGS





HOW TO: PRINT THE DEBRIS DECK

Overview: *Talking Trash & Taking Action* is a marine debris education program created through a partnership between Ocean Conservancy and the NOAA Marine Debris Program. It was developed as a means to educate the next generation about ocean trash and, most importantly, how we all can prevent it. The guide includes information about ocean trash and fun activities to go along with each lesson. This file contains the *Debris Deck*, a resource used throughout the program.

Debris Deck: This file contains a printable *Debris Deck*, individual cards used in a number of activities of *Talking Trash & Taking Action*. The deck contains 40 cards, each with an ocean trash item and 8 blank cards to create your own. There is also one answer card that lists the most common trash items found based on the 2013 International Coastal Cleanup results. This is a handy card for instructors to refer to for quick answers.

How to Print the Debris Deck:

The Debris Deck is designed like a deck of cards; one side has the item name and the reverse side has the Talking Trash logo.

- Print this document double-sided so each card will have the item and the logo aligned on the front and back respectively.
- Pages 3-8 contain items that are most commonly found during trash cleanups. Print these first 8 pages on the same color paper.
- Print pages 9-20 on a different color paper. These pages contain items that we call “weird finds” or funny items that were found during cleanups. The different color paper helps distinguish the common items from the weird items once the cards are cut out.
- Once printed, simply cut along the dotted lines to create the individual cards.

Tip: If possible, print the cards on thick paper or cardstock. They tend to last longer and are less transparent than normal printer paper.



HOW TO: PRINT THE DEBRIS DECK

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Cigarette Butts

Beverage Cans

Food Wrappers
(candy, chips, etc.)

Straws, Stirrers

Plastic Bottle
Caps

Glass Beverage
Bottles

Plastic Beverage
Bottles

Metal Bottle
Caps



Plastic Grocery
Bags

Foam Cups & Plates

Other Plastic
Bags

Plastic Cups &
Plates

Plastic Lids

Plastic Take Out
Containers

Other Plastic/Foam
Packaging

Fishing Line



Forks, Knives,
Spoons

Paper Bags

Foam Take Out
Containers

Balloons

Rope

Other Plastic
Bottles
(milk, bleach, etc.)

Paper Cups &
Plates

Top Items Collected (2013)	
1	Cigarette Butts 2,043,470
2	Food Wrappers (candy, chips, etc.) 1,685,422
3	Plastic Beverage Bottles 940,170
4	Plastic Bottle Caps 847,972
5	Straws, Stirrers 555,007
6	Plastic Grocery Bags 441,493
7	Glass Beverage Bottles 394,796
8	Other Plastic Bags 389,088
9	Paper Bags 368,746
10	Beverage Cans 339,170
11	Plastic Lids 312,979
12	Metal Bottle Caps 304,623
13	Plastic Cups & Plates 282,735
14	Plastic Take Out Containers 234,689
15	Other Plastic/Foam Packaging 233,584
16	Forks, Knives, Spoons 193,288
17	Foam Take Out Containers 179,147
18	Foam Cups & Plates 170,414
19	Paper Cups & Plates 132,307
20	Rope 119,833
21	Fishing Line 111,357
22	Other Plastic Bottles (milk, bleach, etc.) 105,228
23	Balloons 52,898



Mattress

Puzzle Piece

Candle

Shopping Cart

Credit Card

Sleeping Bag

Bike Pedal

Vacuum
Cleaner



Rain Boot

Rubber
Chicken

Battery

Kite

Wig

Gas Tank

Toothbrush

\$5 Bill



Restaurant
Menu

Teddy Bear

Baby Doll

Hula Hoop

Fishing Pole

Kitchen Sink

Ballerina Tutu

Light Bulb



Pacifier

Hammer

Toy Car

Laundry
Basket

Book

Frisbee

Computer
Keyboard

Toilet Seat



Guitar

Traffic Cone

Marker

Car Bumper

Top Hat

Toaster

Umbrella

Bowling Ball



