



MARINE MAMMAL STRANDING NETWORK

## YEAR OF THE SEAL: MARINE DEBRIS RESOURCE FOR EDUCATORS

Pollution from human activities has a devastating impact on the world's marine ecosystems. Plastic refuse is one of the most pervasive and dangerous types of pollution.

It is estimated that more than 80 million tons of plastics are produced globally each year. These plastics are durable, requiring about 500 years to decompose in the ocean. Because they are so durable and buoyant, this allows them to be carried far from their sources. The effects of these far-reaching pollutants is devastating to all marine life.

Hundreds of thousands of marine mammals and sea birds are injured or die each year from marine debris and pollution. There are many ways children and adults can be empowered to help.

The material resources listed below are for use in the classroom as a departure point for class studies and projects. Please note copyright information on documents and related websites.

*\*NOTE: all blue links are active in pdf file*

### MARINE DEBRIS LINKS FOR CHILDREN

**Exploring Nature Educational Resource**  
[Ocean Pollution Questions from Kids](#) with in-depth answers.

**Oceanside California Website**  
[Website page for kids](#) explaining storm runoff and the ways trash travels into our waterways.

**Youth-LeadeR.org Magazine: Ocean Heroes**  
[Save the Sea from the Trash Monster](#)  
A child creates a claymation movie and spreads the message to stop trashing the ocean.  
[movie posted here on youtube](#)

**San Francisco Environment**  
[The Great Pacific Garbage Patch](#) (pdf file)  
Student fact sheet, grades 3-6

**Global Marine Litter Information Gateway**  
[Kids Against Marine Litter](#) Webpage has links to resources that get children thinking about problems with litter.

**California Coastal Commission**  
[Become a Coastal Steward](#) Take the pledge! Action steps for students to become coastal stewards (intended for California kids, but easily adaptable for Washington kids)



courtesy NOAA Marine Debris Program

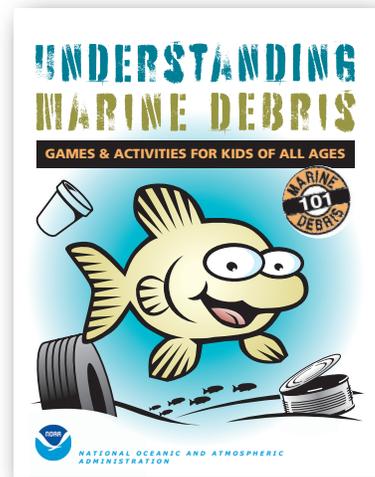
## PRINTABLE POSTERS, ACTIVITIES, COLORING SHEETS

### NOAA (National Oceanic and Atmospheric Administration)

- [Webpage with links to posters and brochures](#)
- [Understanding Marine Debris](#) (activity book)
- [Marine Debris Coloring Book](#)
- [Be an Ocean Guardian](#) (activity book)

Learn about the ocean and why it's important through word searches, games and coloring pages. Grades K-3.

**Seal Sitters Marine Mammal Stranding Network**  
[download and print marine debris color/activity sheets](#) (pdf files)



## MARINE DEBRIS LESSON PLANS FOR TEACHERS

### PBS Jean Michael Cousteau

[Debris Dilemmas](#) Lesson plan for grade 5 - 8 (pdf file)

Discover what causes huge quantities of garbage to end up on the most remote islands in the world and how this garbage affects wildlife. Accompanies an online web video.

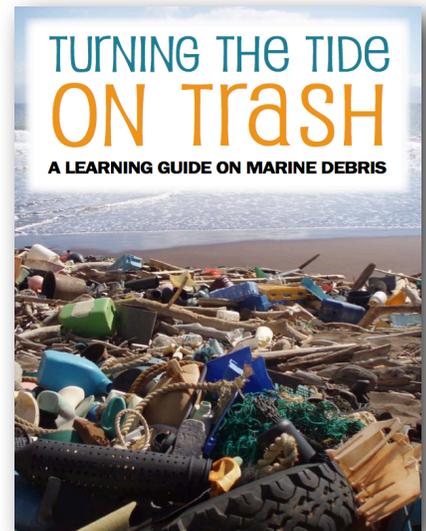
[You Are What You Eat](#) Lesson plan for grades 6-10 (pdf file)

Just because you can't see it doesn't mean it isn't there. Plastics in the sea spell trouble for all the animals in the ocean. By matching animal cards to plastic risks, students find out the many ways marine life can be affected by plastics in their aquatic home.

### NOAA (National Oceanic and Atmospheric Administration)

[Turning the Tide on Trash: A Learning Guide on Marine Debris](#)

(pdf file) Originally developed by the Environmental Protection Agency, this set of lesson plans and background information introduces educators, students and researchers to the topic of marine debris. The guide is designed to provide maximum flexibility in the classroom: it can be used as a stand-alone teaching tool or to supplement work in other subject areas. Grades 1-12 (beginning on page 17 there are lesson plans for marine debris grades 1-6)



### California Coastal Commission and Center for Marine Conservation

(pdf file) an interdisciplinary marine debris curriculum anthology for grades K-12. Divided into four units: grades K-3, 4-6, 7-8, and 9-12. Each unit addresses why we should care about the marine environment, the marine debris problem, and how individuals can be part of the solution.

[Save our Seas](#)

### Science & Health Education Partnership (University of California, San Francisco)

[Ocean Pollution and its effect on Aquatic Animals](#) (Grades 1-3) Students brainstorm different sources of pollution. Then, students make their own miniature ocean inside a water bottle and pollute it with waste and oil to observe the effects on animals in the water. Included is a demonstration which shows the consequences of oil spills for sea birds.

## MARINE DEBRIS RESOURCE SITES

### The Ocean Conservancy

Sponsors International Coastal Cleanup in September and publishes many resources on issues confronting the oceans. [Trash Travels: 2010 Report](#) (pdf file) is a detailed resource with many statistics about marine debris in the ocean.

### PBS Newshour

[Plastic Oceans](#) (links include a video segment)

Featured stories and forum on marine debris and ocean plastics.

### New Hampshire Department of Ecology

[Marine Debris](#) How long does it take to go away?

Chart showing time it takes for garbage to decompose in the environment.

### The Washed Ashore Project: Art to Save the Sea

[Washed Ashore](#) Large artworks of sea life made from plastic marine debris. Volunteers pick up plastics on Oregon beaches (thousands of pounds to date) and create educational art.

Potential interesting project for a school.

### NOAA Marine Debris Program

[Public Domain Image Gallery](#) Photo gallery which is a sampling of images of marine debris types, impacts and solutions. All images and video are in the public domain and free to download and use; credit to NOAA's Marine Debris Program appreciated.

### NOAA

[NOAA Photo Library](#) Most images and video are in the public domain and free to download and use; credit to NOAA.

### WIKIPEDIA

[Great Pacific garbage patch](#) Rich source of reference material about the huge swirling mass of plastic debris, chemical sludge and other debris that has been trapped by the currents of the North Pacific Gyre (a gyre is a rotating mass of currents). Links to many public domain materials.

### NATIONAL GEOGRAPHIC

[Great Pacific garbage patch](#) Excellent, layperson information about the massive vortex of marine debris in the Pacific Ocean and explanation of breakdown of plastics into "microplastics" that never go away.

