

Marine Pollution

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Pollution

“The term pollution implies the occurrence and inputs of wastes and the impact of these wastes on the environment”

Definition

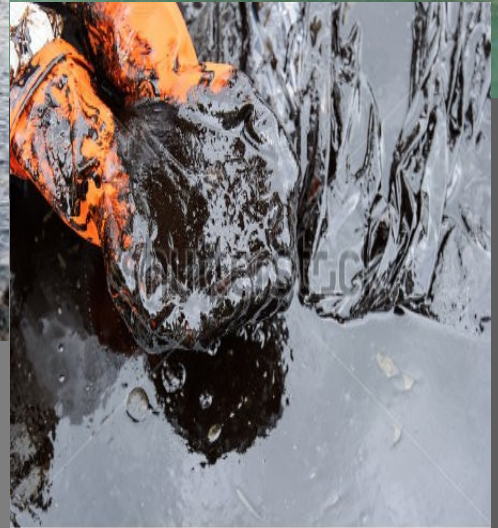


- “Introduction of substances to the marine environment directly or indirectly by man resulting in adverse effects such as hazardous to human health, obstruction to marine activities and lowering the quality of sea water.”

Causes of marine pollution



(a) Large scale oil spills:



coastal area

eutrophication

© OCEANA / Luis Quirós
Paseo del Puerto en Bilbao. Dos Petros recogen fuel spill en Bilbao, Góndola Arrieta, Spain. Contaminación costera Burgos Netherlands Expedition, July 2007.
Playa con vertido de fuel en Bilbao. Varadero de fuel del buque Dos Petros en Bilbao - España. Expedición por el Mar del Norte del Estuario de Gironde, Julio 2007.

Eutrophication

Nitrogen Phosphorus

These nutrients cause an increase in phytoplankton

Sediments from land block sunlight

Algae Bloom

Algae Die

Decay

Oxygen

Phytoplankton growth on Sedgegrass

Sedgegrass

Lose: Food, Habitat & Oxygen Production

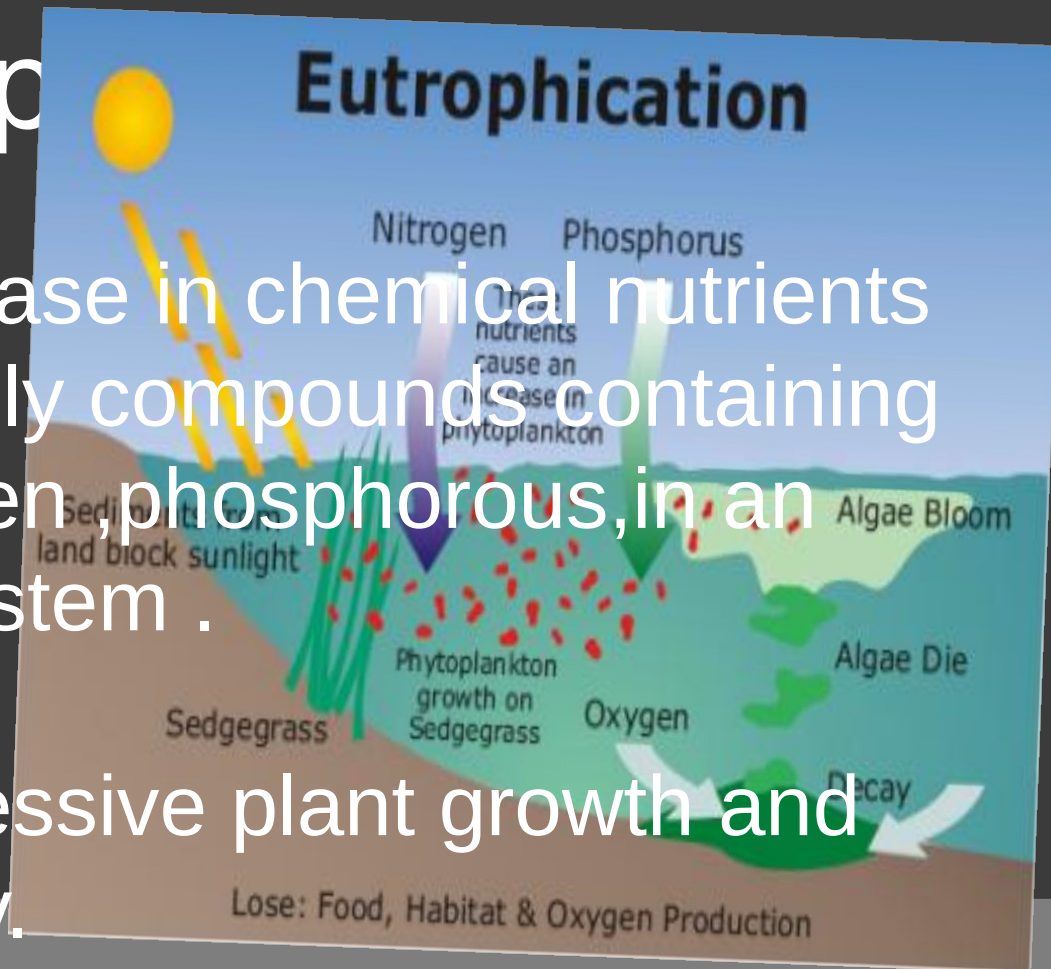
leads to eutrophication

eutrop

increase in chemical nutrients typically compounds containing nitrogen, phosphorous, in an ecosystem .

excessive plant growth and decay.

deplete dissolved oxygen in water.



(c) Sewage dispos

deposited on water body.

deteriorate the quality of water.

ecological damage.

leads to eutrophication.



(d) Seas of garbage

wastes like plastic bags, ballons,
glass bottles, packing materials, etc.

can pollute beach and coastal habitats



(e) Land runoff:

Occurs when water infiltrates the soil to its maximum and the excess water from rain, flooding or melting of polar ice floes over the land into the water.



(f) Other causes include:

- ❑ ship as a pollutant
- ❑ deep sea mining
- ❑ atmospheric pollution
- ❑ direct discharge



(d) Toxic chemicals

pesticides and chemicals

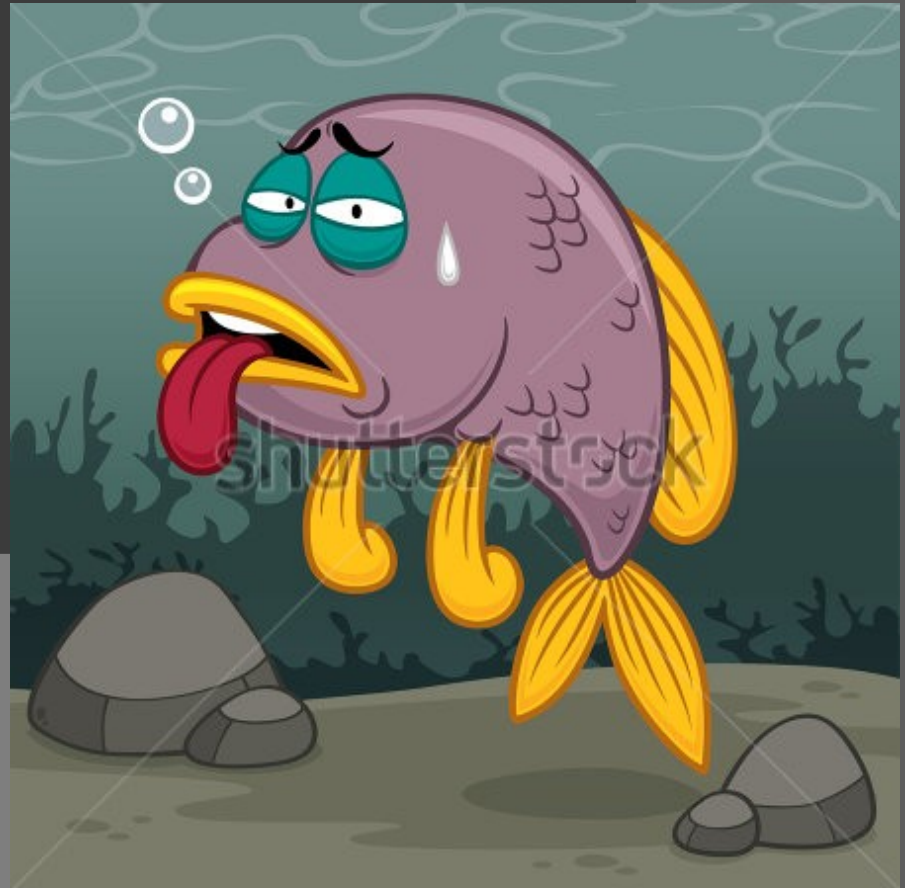
#deliberate dumping:

plankton: eaten by
small animals:

eaten by larger animals



Effects of marine pollution



(1) Effect of toxic wastes on marine animals.



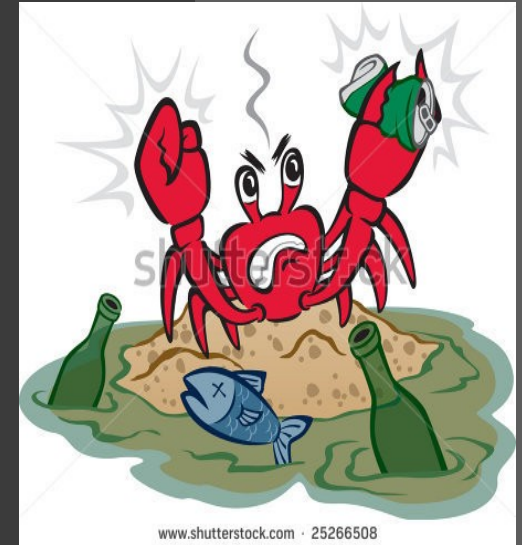
(2) Disruption to the cycle of coral re



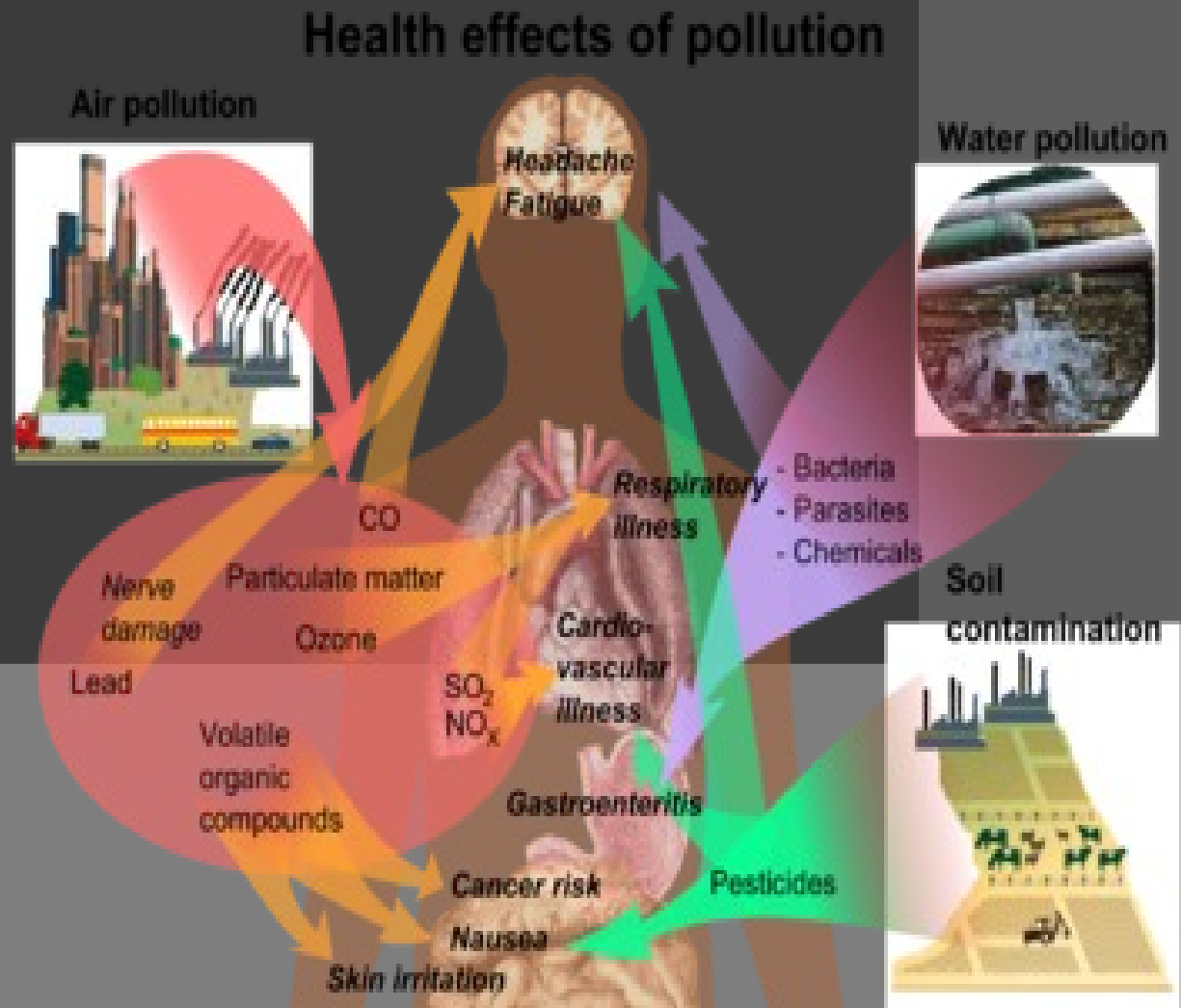
(3) Depletes oxygen content in water



(4) Failure in the reproductive system of sea animals



(5) Affects human health



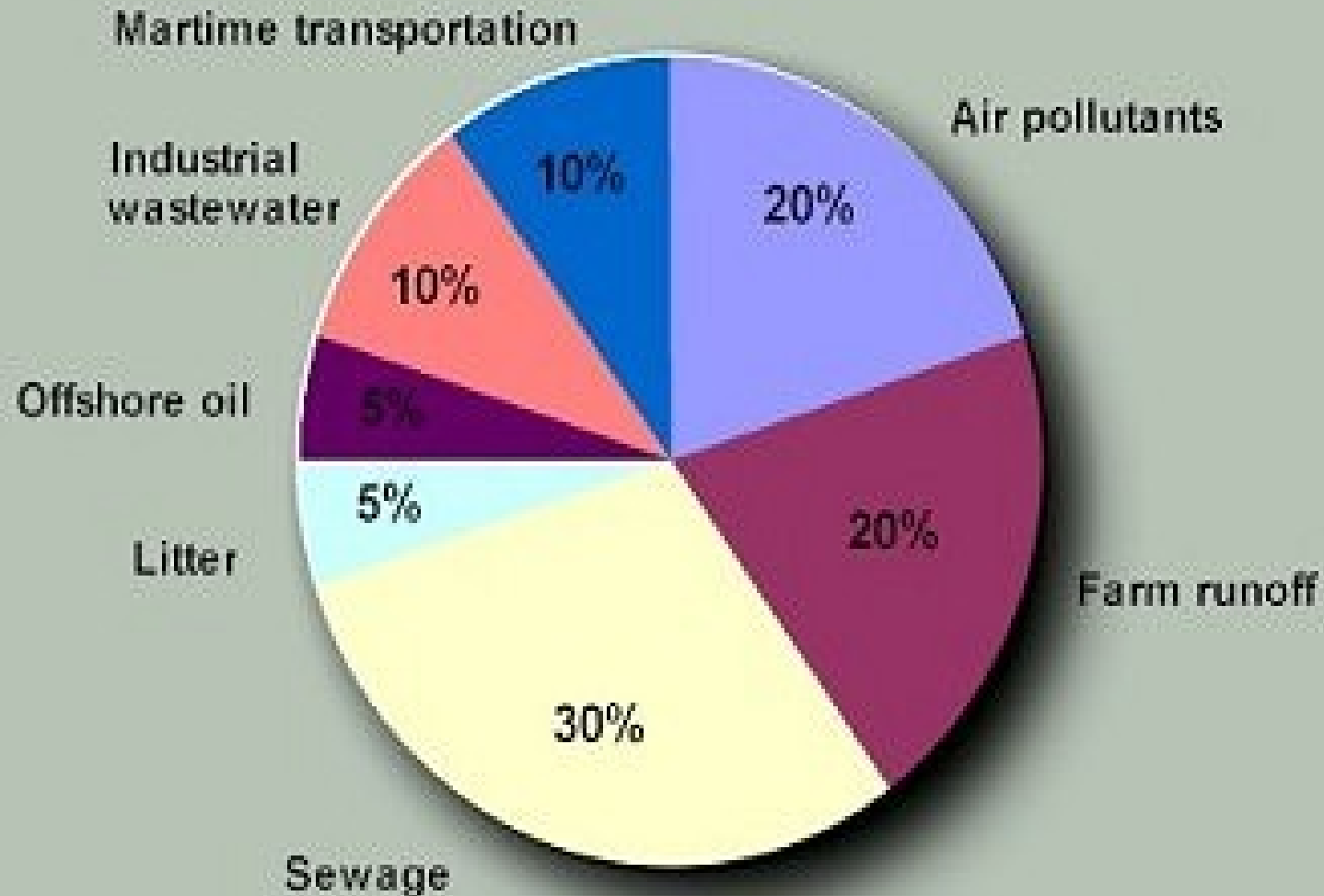
Solutions

- 1) Use fewer plastic products.
- 2) Help to take care of beach.
- 3) Do not purchase items that exploit marine life.
- 4) Be an ocean friendly pet owner .
- 5) Support organizations working to protect the ocean.
- 6) influence change in your community.

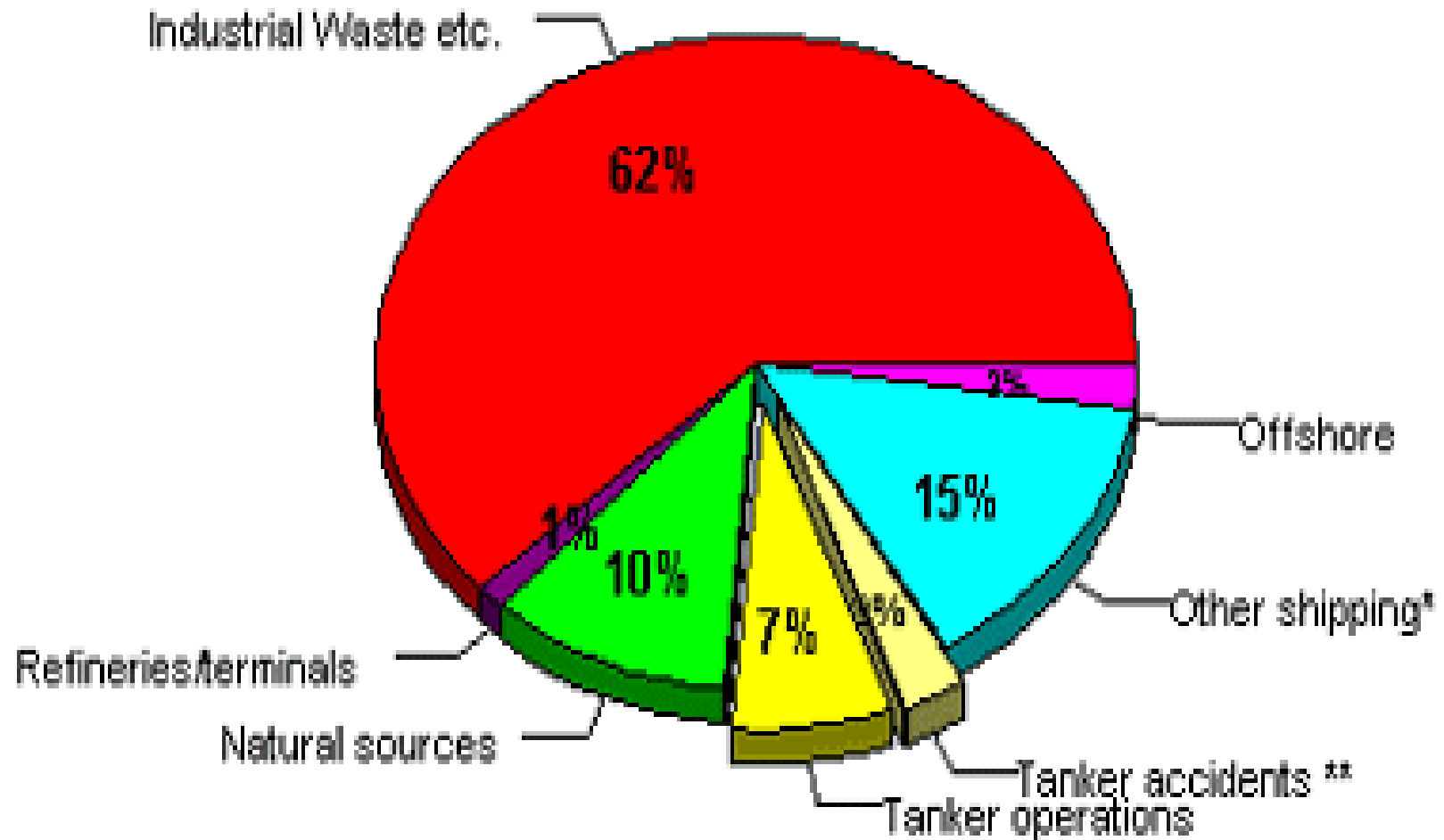
7)Travel the ocean responsibly.

8)educate yourself about oceans and marine life.

Pollutants Entering the Oceans



Source of oil pollution into the sea



** 1997

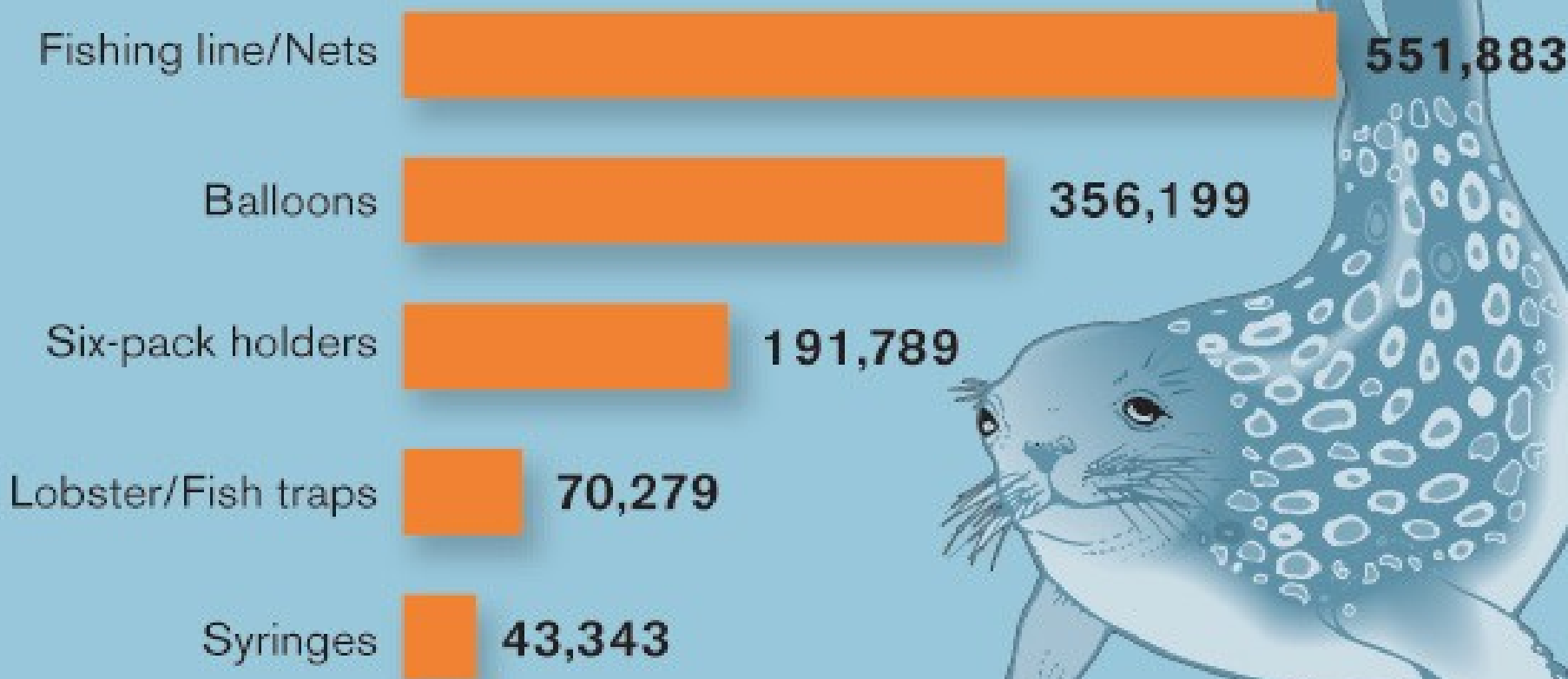
Source: UN Environmental Programme (UNEP), 1990.

* Non-tanker accidents, Bilge and Fuel oil, Dry-docking

Dangerous Debris

Some types of marine litter can hurt or kill marine wildlife, through entanglement or ingestion. Listed below are some of the harmful items found during The Ocean Conservancy's International Coastal Cleanup.

Total number of items found since 2000



Thank you