



Changes In Saltwater Aquatic Ecosystems Caused By Human Activity

1. Put a check mark (✓) next to the answer that is most correct.

a) Where is most of Earth's water located?

- A in rivers
- B in oceans
- C in glaciers
- D under ground

b) What is a "dead zone"?

- A a place where fish go to die
- B a place known for shipwrecks
- C a place that cannot support aquatic life
- D a place in the ocean where there is no wind

c) What is "debris"?

- A discarded trash
- B an aquatic plant
- C an extinct species of fish
- D shallow marine ecosystems

2. Circle the word **TRUE** if the statement is TRUE or Circle the word **FALSE** if it is FALSE.

a) All the oceans are connected.

TRUE **FALSE**

b) A coral is a species of fish.

TRUE **FALSE**

c) Invasive species from freshwater lakes are taking over marine ecosystems.

TRUE **FALSE**

d) Most salt water is located in inland salt lakes.

TRUE **FALSE**

e) Floating plastic endangers sea life.

TRUE **FALSE**

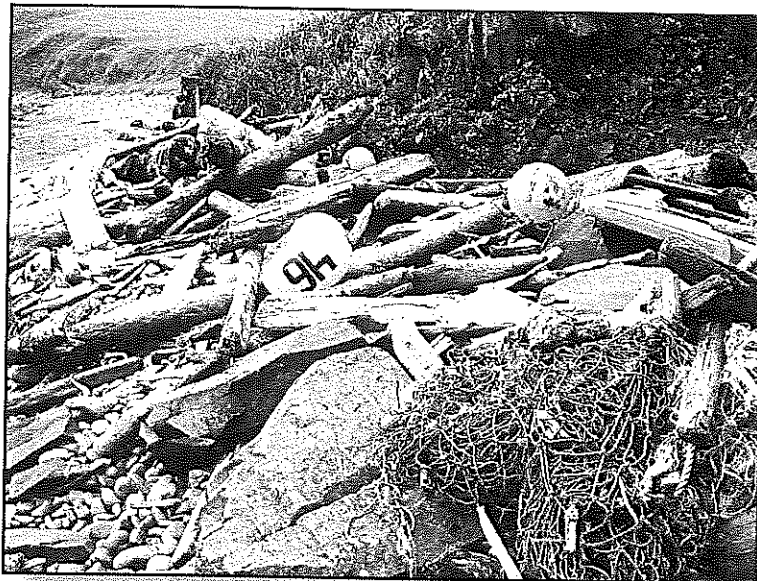


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In the last section we learned about problems in freshwater ecosystems caused by human activities. Ocean ecosystems have some of the same problems, but they are free of others.

Competition between native and foreign species is not much of a problem in the ocean. Since the oceans are all connected, species are free to live in the habitat in which they survive best.

The volume of water in the oceans is much greater than the volume of fresh water—about 35 times greater. Because of the great volume of ocean water, some pollutants reach a toxic level more slowly than they do in lakes and rivers.



Marine Debris

Agricultural fertilizer runoff is a pollution problem similar to the problem caused in fresh water. This pollution can lead to algae growth that eventually causes dead zones along coastlines. Overfishing is another problem common to both fresh and saltwater ecosystems.

Pollution in the form of floating **debris** is a much greater problem in the ocean than in freshwater ecosystems. Some of the material is discarded or lost by boats, some is washed down streams, and some is blown from landfills. Lost fishnets and similar debris can trap and kill seabirds, turtles, dolphins, sharks, and many other marine animals. Small plastic pellets, called **nurdles**, are often eaten by marine wildlife because they look like fish eggs. Animals often die of starvation or poisoning after eating nurdles.

Coral reefs are unique ocean ecosystems that are endangered by human activity. Reefs are located in shallow tropical ocean waters and are formed by animals with hard **calcium carbonate exoskeletons**. As the discarded exoskeletons accumulate over thousands of years, they form large structures that support a varied and colorful ecosystem. Algae caused by agricultural runoff can damage reefs. Increased ocean acidity caused by greenhouse gas emissions may cause the calcium carbonate in reefs to dissolve. Some fishing practices, such as dynamiting, also damage many reefs.



Explain why invasive species are less of a problem in oceans than in freshwater ecosystems.



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1. Fill in each blank with a word or group of words from the list. Use each word or group of words once.

exoskeleton fertilizer debris dead zone nurdles coral reef

- a) _____ runoff from fields can create an ocean _____.
- b) The accumulation of the _____s of dead sea animals forms _____s.
- c) The small bits of plastic called _____ endanger sea life because they resemble fish eggs.
- d) Floating plastic objects are one of the most hazardous forms of marine _____.

2. Put a check mark (✓) next to the answer that is most correct.

a) What is the main structural material of coral reefs?

- A carbon dioxide
- B sodium chloride
- C potassium nitrate
- D calcium carbonate

b) How does the volume of water in the ocean compare to the volume of all fresh water?

- A About 35 times as much ocean water
- B About 35% more ocean water
- C About 35 times as much fresh water
- D About 35% more fresh water



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3. Answer the questions in complete sentences.

a) Describe two human activities that endanger coral reefs.

1) _____

2) _____

Extensions & Applications

Explain how agricultural practices can cause an area of an ocean to lose its ability to support life.

How Long Does Trash Last in our Aquatic Ecosystems?



- 1 Aluminum Can
200-500 Years
- 2 Apple Core
2 Months
- 3 Mylar Candy Wrapper
Forever
- 4 Battery
100 Years
- 5 Glass Jar
Forever
- 6 Latex Balloon
6 Months
- 7 Fishing Hook
100 Years
- 8 Milk Jug
Forever
- 9 Tin Can
80-100 Years
- 10 Water Bottle
Forever
- 11 Plastic Can Holder
Forever
- 12 Plastic Bag
Forever
- 13 Leather Sandal
40-50 Years
- 14 Rubber Ducky
Forever
- 15 Beach Ball
Forever