

Beach Erosion

Purpose

To debate whether a town should repair its eroded beach with sand removed from the ocean floor

Background

People love the beach. It's fun to play on the sand and splash in nearby waters. Because of their popularity, beaches are not just fun—they are also big business. Many towns—even states—depend on tourists who love the beach. Tourists spend money in beach communities for hotels, food, and entertainment.

Beaches are constantly changing as waves and currents move sand from one area to another along the coastline. Storms can cause severe damage to beaches, eroding large quantities of sand and leaving little behind. For a community that depends on beach tourism, this is a serious problem.

To maintain or widen beaches that are losing sand, some communities build barriers at right angles to the beach. The barriers trap the sand and keep it from moving. However, this can “steal” sand from areas farther downshore. Other communities try to restore their beaches using new sand that has been trucked in or pumped from the ocean floor. No matter how people try to save their beaches, there are environmental and economic costs.



Proposal

Oceanside should pump sand from the ocean bottom to restore its eroded beach.

Situation

It was a stormy winter in the little town of Oceanside. Pounding ocean waves washed away big chunks of beach sand. Now, in spring, the beach is barely wide enough to walk along at high tide. Recently, a family had to be rescued when the rising tide trapped them on a small section of sand.

The beach is important to Oceanside because the town depends on tourists. There are also many homes and stores along the oceanfront. The shore erosion threatens these structures. Mayor Tidewater and several members of the city council want to restore the beach. They want to pump new sand onto it from the ocean floor.

Proposal: Oceanside should pump sand from the ocean bottom to restore its eroded beach.

Pro Card

Who I am:

What's important to me:

Why I like this idea:

 Science a-z

Con Card

Who I am:

What's important to me:

Why I do not like this idea:

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Pro Card

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Pro Card

Who you are: Shaundra Suntan, a business owner

What's important to you: Tourist's business

Why you like this idea:

1. If the beach is not restored, the economy will suffer. Restoring the beach will save jobs.
2. You have worked long and hard to build your business. You don't want to lose it because the town fails to act.

 **Science a-z**

Con Card

Who you are: Ian Indoors, a resident who does not live near the beach, use the beach, or work in tourism

What's important to you: Low taxes

Why you do not like this idea:

1. Restoring the beach will cost millions of dollars. That means higher taxes.
2. You want any additional taxes to go to schools, not the beach.

 **Science a-z**

Pro Card

Who you are: Eadwinn Elected, the mayor

What's important to you: The economy

Why you like this idea:

1. Without tourism, the town will lose the taxes the businesses bring in. Taxes for everyone will have to rise to make up for it.
2. The beach restoration project will not only save the waterfront, it also will create new jobs while the project is in progress.

 **Science a-z**

Con Card

Who you are: Naci Nautical, a marine biologist

What's important to you: The environment

Why you do not like this idea:

1. Dredging sand from the ocean bottom will stir up sediment and ruin habitats offshore.
2. Dumping tons of sand on the beach will smother beach organisms. It will also disrupt the life cycles of species that nest or breed on the shore.

 **Science a-z**

Pro Card

Who you are: Sandy Beach, a resident with a home near the beach

What's important to you: Saving homes

Why you like this idea:

1. Homes near the shore will be in danger if the erosion continues.
2. Because there no longer is a wide beach to absorb storm waves, flooding will be more common on streets near the shore.

 **Science a-z**

Con Card

Who you are: Carlos Cautious, a city council member

What's important to you: Finding a practical long-term solution to the problem

Why you do not like this idea:

1. Erosion is a constant process. Money will be spent on a temporary solution.
2. You would rather put money into a lasting solution, such building barriers to trap sand.

 **Science a-z**