

Estuaries

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Challenges Facing Estuaries: Habitat Loss and Change

by The Environmental Protection Agency

This text is taken from the United States Environmental Protection Agency's website. This text has been adapted for use by ReadWorks.

Estuaries are places where freshwater rivers and streams flow into the ocean, mixing with the seawater. Unfortunately, a number of challenges are threatening the health of estuaries.

Estuaries provide habitats, or "homes," for countless fish and other wildlife. These habitats-which include coastal marshes and seagrasses-provide food, shelter, nesting, and resting areas for a broad array of animals. In addition, these habitats also filter out pollution from the water and protect the surrounding region from flooding. However, as we build more homes and businesses surrounding estuaries and pave new roads, we are destroying precious habitats and threatening the health of entire estuaries.



an estuary habitat



a coastal marsh

Challenges Facing Estuaries: Too Many Nutrients

by The Environmental Protection Agency

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Estuaries are places where freshwater rivers and streams flow into the ocean, mixing with the seawater. A wide variety of birds, fish, and other wildlife make estuaries their home. Unfortunately, a number of challenges are threatening the health of estuaries and the wildlife that lives there. One of those challenges is the presence of too many nutrients.

Plants and animals need nutrients, or "food," such as nitrogen and phosphorus, in order to grow. However, if an estuary has too many nutrients, too much algae will grow, creating algae blooms. These algae blooms block sunlight and can suffocate fish and plant life by using up valuable oxygen from the water. Nutrients can enter estuaries from sewage treatment plants, septic systems, fertilizers used in farming and on lawns, and polluted air from power plants and cars.



algae by the pier



a pond covered in algae

Challenges Facing Estuaries: Invasive Species

by The Environmental Protection Agency

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Estuaries are places where freshwater rivers and streams flow into the ocean, mixing with the seawater. A wide variety of birds, fish, and other wildlife make estuaries their home. Unfortunately, a number of challenges are threatening the health of estuaries and the wildlife that lives there. One of those challenges is the spread of invasive species.

Sometimes plants and animals that don't grow naturally in an area, also known as "invasive species," can end up in estuaries-either accidentally or intentionally. This can drive out "native" plants and animals; destroy the surrounding habitat; interfere with people who are trying to boat, fish, or swim there; and introduce pathogens into the environment.

Invasive species can spread quickly because they have no natural predators or little competition from other species. Examples include oyster drills, Chinese mitten crabs, and Brazilian pepper trees. These and other invasive species often wind up in estuaries as accidental passengers on ships. Sometimes fish or plants are imported into the country to be sold in aquariums, raised in nurseries, or used in ornamental landscaping but make their way into estuaries by accident.



Bill Frank (CC BY-SA 4.0)

an oyster drill



Dreamyshade (CC BY-SA 3.0)

a Brazilian pepper tree

Challenges Facing Estuaries: Pathogens

by The Environmental Protection Agency

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Estuaries are places where freshwater rivers and streams flow into the ocean, mixing with the seawater. Unfortunately, a number of challenges are threatening the health of estuaries and the wildlife that lives there. One of these challenges is the contamination of estuaries by pathogens.

Pathogens are tiny microorganisms that can cause diseases in people and animals. Examples of pathogens include viruses, bacteria, and parasites. Pathogens find their way into estuaries through leaky septic systems, inadequately treated sewage, runoff from farms, pollution from boats and marinas, and waste from pets and wildlife.

People can get sick from pathogens by eating contaminated shellfish such as shrimp or lobster. So if pathogens contaminate an estuary, cities and towns will close beaches and shellfishing areas so people aren't allowed to use them.



a dead bird in polluted water



a lobster and shrimp dish

Estuaries

by The Environmental Protection Agency
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Estuaries are places where freshwater rivers and streams flow into the ocean, mixing with the seawater. A wide variety of birds, fish, and other wildlife make estuaries their home. People also live, fish, swim, and enjoy nature in estuaries and the lands surrounding them.

Estuaries face a host of common challenges. Because we love and depend on the water, more than half of the people in the United States live within 100 miles of the coast, including on the shores of estuaries. And more and more people are moving to these areas. Coastal communities are growing three times faster than counties elsewhere in the country.

Unfortunately, as more people flock to the shore, we are upsetting the natural balance of estuaries and threatening their health. We endanger our estuaries by polluting the water and building on the lands surrounding them. These activities can contribute to unsafe drinking water, beach and shellfish bed closings, harmful algae blooms, declines in fisheries, loss of habitat, fish kills, and a host of other human health and natural resource problems.



an estuary from high above



an example of an estuary

Challenges Facing Estuaries: Changes in Water Flow

by The Environmental Protection Agency

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Estuaries are places where freshwater rivers and streams flow into the ocean, mixing with the seawater. Unfortunately, a number of challenges are threatening the health of estuaries and the wildlife that lives there. One of those challenges is a change in natural water flow.

In many parts of the United States, fresh water is a scarce resource because so many people need it for their homes, schools, farms, factories, and other uses. Because it is in such high demand, state and local governments continue to search for new, inexpensive supplies of fresh water.

Options include building dams to trap water from rivers, pumping water from the ground, and dredging for new sources of water. Each of these activities can change the timing and amount of fresh water that enters our estuaries. Plus, natural drought cycles only make their effects worse. Reducing the amount of freshwater flowing into estuaries can cause erosion and sedimentation and interfere with fish reproduction, shellfish survival, bird nesting, and seed distribution because the water becomes too salty.



Glen Canyon Dam



pumping water from the ground