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Water: Wetlands

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Coastal Wetlands



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About Coastal Wetlands

What's New?

Welcome to EPA's new Coastal Wetlands webpage!

• View the Coastal Wetland Review Reports

Despite their environmental and economic importance, coastal wetlands (wetlands located in coastal watersheds) in the eastern United States are being lost at twice the rate they are being restored. More focused protection strategies are required to reverse this trend.

- What are "coastal wetlands"?
- Why are coastal wetlands important?
- What is the rate of coastal wetlands loss?
- Why are coastal wetlands being lost?
- Protecting Wetlands Every Day!

What are "coastal wetlands?"

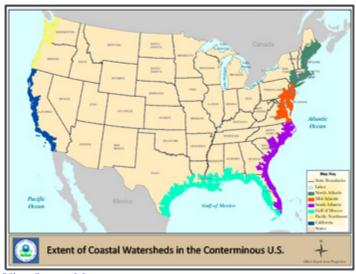


View Larger Diagram

Coastal wetlands include saltwater and freshwater wetlands located within coastal watersheds — specifically USGS 8-digit hydrologic.unit watersheds which drain into the Atlantic, Pacific, or Gulf of Mexico.

Wetland types found in coastal watersheds include salt marshes, bottomland hardwood swamps, fresh marshes, mangrove swamps, and shrubby depressions known in the southeast United States as "pocosins." Coastal wetlands cover about 40 million acres and make up 38 percent of the total wetland acreage in the conterminous United States. Eighty-one percent of coastal wetlands in the conterminous United States are located in the southeast.

The diagram to the right illustrates the range of wetlands which can be found in a coastal watershed. These wetlands can be tidal or non-tidal, and freshwater or saltwater.



View Larger Map

As seen on the map (left), coastal watersheds can extend many miles inland from the coast. The extent and condition of wetlands within a coastal watershed is both dependent on and influences the health of the surrounding watershed. Wetlands in coastal watersheds are experiencing disproportionate losses compared to wetlands in the rest of the country, making them particularly important areas for protection.

More information about wetlands can be found on the **EPA Wetlands page**.

Why are coastal wetlands important?

Coastal habitats provide ecosystem services essential to people and the environment. These services are valued at billions of dollars. $\frac{1}{2}$

Services provided by coastal wetlands include:

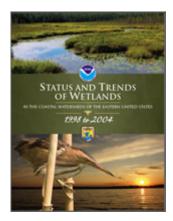
- **Flood Protection:** Coastal wetlands protect upland areas, including valuable residential and commercial property, from flooding due to sea level rise and storms.²
- Erosion Control: Coastal wetlands can prevent coastline erosion due to their ability to absorb the energy created by ocean currents which would otherwise degrade a shoreline and associated development.³
- Wildlife Food & Habitat: Eighty-five percent of the nation's waterfowl and migratory birds, and about 50 percent of the nation's endangered species depend on coastal wetlands. These animals and their habitat have recreational and commercial value to humans.
- **Commercial Fisheries:** Over 50 percent of commercial fish and shellfish species in the Southeastern United States rely on coastal wetlands. ⁵
- Water Quality: Wetlands filter chemicals and sediment out of water before it is discharged into the ocean. 3

- **Recreation:** Recreational opportunities in coastal wetlands include canoeing and kayaking, wildlife viewing and photography, and recreational fishing and hunting.
- Carbon Sequestration: Certain coastal wetland ecosystems (such as salt marshes and mangroves) can sequester and store large amounts of carbon due to their rapid growth rates and slow decomposition rates.⁶



Coastal watersheds contain both freshwater (left) and saltwater (right) wetlands.

What is the rate of coastal wetlands loss?



In the coastal watersheds of the Atlantic, the Gulf of Mexico, and the Great Lakes, wetlands were lost at an average rate of about 59,000 acres per year between 1998 and 2004.

Coastal wetland acreage trends are documented in the <u>Status and Trends of Wetlands in the Coastal Watersheds of the Eastern United States (PDF)</u> (36 pp, 8.7MB, <u>About PDF</u>) report by the U.S. Fish & Wildlife Service (FWS) and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service. This analysis found that while wetland area increased between 1998 and 2004 nationally, coastal wetlands were decreasing significantly. A majority of this loss occurred in freshwater wetlands.

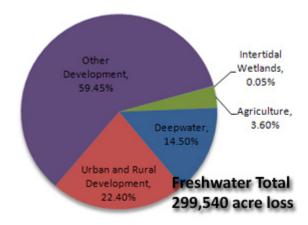
A report on the status and trends of coastal wetlands from 2004 to 2009 is coming soon.

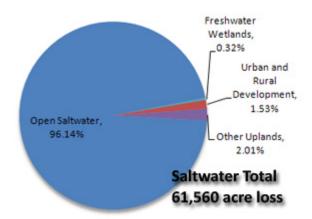
Why are coastal wetlands being lost?

Coastal wetland losses occur as a result of both human activity and natural processes.

Human Activity: Human activities which may lead to losses of coastal wetlands include *urban* and rural development, agriculture, and silviculture. These land use changes can also indirectly impact nearby wetlands by altering hydrology through increased runoff or water withdrawals in the watershed. Almost 70 percent of coastal wetland losses reported in the Status and Trends of Wetlands in the Coastal Watersheds of the Eastern United States were due to development, with most of this loss occurring in freshwater wetlands. Over half of the U.S. population lives in coastal counties, intensifying the stress on coastal wetlands relative to inland areas. ⁷

Natural Processes: Coastal wetlands, especially estuarine and marine wetlands, are naturally altered by high energy events such as erosion and inundation from *sea level rise and storms*. The impacts of these processes may be magnified by *climate change* and *shoreline armoring*. Estuarine wetlands typically protect the coastline from erosion and flooding, but if sea level increases and development prevents inland migration of wetlands, more wetlands will be converted to open water.





Wetland loss and changes in land cover between 1998 and 2004 in **freshwater** (left) and **saltwater** (right) wetlands. Loss or conversion occurred in 299,540 acres of freshwater wetlands and 61,560 acres of saltwater wetlands. Based on information from *Status & Trends of Wetlands in the Coastal Watersheds of the Eastern United States*.

Protecting Wetlands Every Day!

We can make decisions in our everyday lives which help preserve coastal wetland area and maintain their ecological integrity.

- 1. Participate in programs that help protect and restore wetlands. Contact local, state, or federal agencies, community groups, environmental organizations, and other non-government organizations. *See American Wetlands Month events*.
- 2. Report illegal actions such as unauthorized wetland fill or dredging activities to government authorities, such as the <u>U.S. Environmental Protection Agency</u> or the <u>U.S. Army Corps of Engineers</u>.
- 3. Pick up litter and dispose in appropriate trash containers. Keep surface areas that wash into storm drains clean from pet waste, toxic chemicals, fertilizers, and motor oil, which can eventually reach and impair our wetlands.
- 4. Use native species when planting trees, shrubs, and flowers to preserve the ecological balance of local wetlands.
- 5. Use "living shoreline" techniques that make use of plant roots to stabilize soil if you own waterfront property and your shoreline or river bank needs to be stabilized.
- 6. Avoid wetlands if you are expanding your house or installing a shed.
- 7. Use phosphate-free laundry and dishwasher detergents. Phosphates encourage algae growth, which can suffocate aquatic life.
- 8. Use paper and recycled products made from unbleached paper. Bleached paper contains toxic chemicals that can contaminate water.

- 9. Use non-toxic products for household cleaning and lawn and garden care. Never spray lawn and garden chemicals outside on a windy day or on a day that it might rain and wash the chemicals into waterways.
- 10. Enjoy the scenic and recreational opportunities coastal wetlands offer, while preserving their integrity for future generations by minimizing the use of heavy equipment and staying in designated visitor areas where available.
- ¹ Pendleton, L. 2008. The Economic and Market Value of Coasts and Estuaries: What's at Stake? Restore America's Estuaries, Arlington, VA, 182 pp.
- ² Costanza, R., O. Pérez-Maqueo, ML Martinez, P Sutton, SJ Anderson, K Mulder. 2008. The value of coastal wetlands for hurricane protection. Ambio 37(4): 241-248
- ³ Carter, V. 1997. <u>Technical Aspects of Wetlands: Wetland Hydrology, Water Quality, and Associated Functions</u>. United States Geological Survey Water Supply Paper 2425.
- ⁴ Mitsch, W.J. and Gosselink, J.G. 1993. Wetlands, Van Nostrand Reinhold, New York.
- ⁵ Martin, DM, T Morton, T Dobrzynski, & B. Valentine. 1996. Estuaries on the Edge: The Vital Link Between Land and Sea. A Report by American Oceans Campaign.
- ⁶ NOAA National Marine Fisheries Service. Coastal Blue Carbon.
- ⁷ NOAA National Ocean Service. 2004. Population Trends Along the Coastal United States: 1980-2008

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