



Types of Wetlands



Reddish egret

Do you think all wetlands are the same? Think again. Each wetland differs due to variations in soils, landscape, climate, water regime and chemistry, vegetation, and human disturbance. Below are brief descriptions of the major types of wetlands found in the United States organized into four general categories: marshes, swamps, bogs, and fens.



MARSHES are periodically saturated, flooded, or ponded with water and characterized by herbaceous (non-woody) vegetation adapted to wet soil conditions. Marshes are further characterized as tidal marshes and non-tidal marshes.

Tidal (coastal) marshes occur along coastlines and are influenced by tides and often by freshwater from runoff, rivers, or ground water. Salt marshes are the most prevalent types of tidal marshes and are characterized by salt-tolerant plants such as smooth cordgrass, saltgrass, and glasswort. Salt marshes have one of the highest rates of primary productivity associated with wetland ecosystems because of the inflow of nutrients and organics from surface and/or tidal water. Tidal freshwater marshes are located upstream of estuaries. Tides influence water levels but the water is fresh. The lack of salt stress allows a greater diversity of plants to thrive. Cattail, wild rice, pickerelweed, and arrowhead are common and help support a large and diverse range of bird and fish species, among other wildlife.

Nontidal (inland) marshes are dominated by herbaceous plants and frequently occur in poorly drained depressions, floodplains, and shallow water areas along the edges of lakes and rivers. Major regions of the United States that support inland marshes include the Great Lakes coastal marshes, the prairie pothole region, and the Florida Everglades.

- **Freshwater marshes** are characterized by periodic or permanent shallow water, little or no peat deposition, and mineral soils. They typically derive most of their water from surface waters, including floodwater and runoff, but do receive ground water inputs.
- **Wet meadows** commonly occur in poorly drained areas such as shallow lake basins, low-lying depressions, and the land between shallow marshes and upland areas. Precipitation serves as their primary water supply, so they are often dry in the summer.
- **Wet prairies** are similar to wet meadows but remain saturated longer. Wet prairies may receive water from intermittent streams as well as ground water and precipitation.
- **Prairie potholes** develop when snowmelt and rain fill the pockmarks left on the landscape by glaciers. Ground water input is also important.
- **Playas** are small basins that collect rainfall and runoff from the surrounding land. These low-lying areas are found in the Southern High Plains of the United States.
- **Vernal pools** have either bedrock or a hard clay layer in the soil that helps keep water in the pool. They are covered by shallow water for variable periods from winter to spring, but may be completely dry for most of the summer and fall.



The Vernal Pool Association

Many vernal pools fill with water in fall or spring.



Leigh Dunkelberger

Freshwater marshes, like this one in Sequoia National Park, are dependent on rainfall, runoff, and seasonal flooding for their water supplies.



Dave Davis

Farmland surrounds these prairie potholes in Nebraska.



Trees found in swamps are sometimes buttressed at the base, which helps anchor them in the saturated soils.

SWAMPS are fed primarily by surface water inputs and are dominated by trees and shrubs. Swamps occur in either freshwater or saltwater floodplains. They are characterized by very wet soils during the growing season and standing water during certain times of the year. Well-known swamps include Georgia's Okefenokee Swamp and Virginia's Great Dismal Swamp. Swamps are classified as forested, shrub, or mangrove.

Forested swamps are found in broad floodplains of the northeast, southeast, and south-central United States and receive floodwater from nearby rivers and streams. Common deciduous trees found in these areas include bald cypress, water tupelo, swamp white oak, and red maple.



Forested swamps serve a critical role in the watershed by reducing the risk and severity of flooding to downstream areas.

Shrub swamps are similar to forested swamps except that shrubby species like buttonbush and swamp rose dominate.

Mangrove swamps are coastal wetlands characterized by salt-tolerant trees, shrubs, and other plants growing in brackish to saline tidal waters.

These tropical and subtropical systems have a North American range that extends from the southern tip of Florida along the Gulf Coast to Texas.

BOGS are freshwater wetlands characterized by spongy peat deposits, a growth of evergreen trees and shrubs, and a floor covered by a thick carpet of sphagnum moss. These systems, whose only water source is rainwater, are usually found in glaciated areas of the northern United States. One type of bog, called a pocosin, is found only in the Southeastern Coastal Plain.

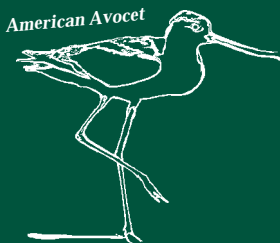
FENS are ground water-fed peat-forming wetlands covered by grasses, sedges, reeds, and wildflowers. Willow and birch are also common. Fens, like bogs, tend to occur in glaciated areas of the northern United States.



Dave Davis

Bog ecosystems support cranberries, blueberries, and carnivorous plants like the pitcher plant.

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For more information, visit www.epa.gov/owow/wetlands.

Wetland Resources

On the Internet

- EPA's Wetland Home Page contains information and pictures on several types of wetlands www.epa.gov/owow/wetlands/types
- Types of Wetlands and Their Roles in the Watershed, part of North Carolina State University's WATERSHEDSS h2osparc.wq.ncsu.edu/info/wetlands/types3.html
- Wetlands of the United States from the USGS Northern Prairie Wildlife Research Center www.npwrc.usgs.gov/resource/1998/uswetlan/types.htm
- Prairie Potholes www.greatplains.org/resource/1999/ppjv/ppjv.htm

In Print

- Wetlands*. 3rd Edition. W.J. Mitsch, and J.G. Gosselink. 2000. John Wiley & Sons, Inc. New York, NY.
- In Search of Swampland: A Wetland Sourcebook and Field Guide*. R.W. Tiner, 1998. Rutgers University Press, Piscataway, NJ.
- Adopting a Wetland—A Northwest Guide*. S. Yates. 1989.