

# LEARN ABOUT WETLANDS

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## **Introduction**

Wetlands are one of the world's most important natural resources. These areas of transition between land and water are among the most productive ecosystems in the world. In general, a wetland is an ecosystem where water is at or covering the surface of the ground for all or part of the year; in Florida, wetlands are defined by looking at the types of plants growing in them, by the types of soil supporting the plants and the presence of hydrology (water level) indicators. Wetlands have been compared to tropical rain forests and coral reefs in the number and diversity of animal and plant species they support. In fact, more than one-third of the United States' threatened and endangered species live only in wetlands and nearly half use wetlands at some point in their lives. In addition to the habitat wetlands provide, they also provide important water quality benefits. The Biological Resource Division's (DPEP) stated mission is to protect, restore and enhance the biological productivity, abundance and diversity of marine, estuarine, freshwater and terrestrial resources, which includes Broward County's wetland resources.

## **Value of Wetlands**

Wetlands provide values that no other ecosystem can. This includes improving water quality, flood protection, shoreline erosion control and opportunities for recreation and nature appreciation. Wetlands serve as natural water filtration systems and water storage areas that provide flood protection. They serve as important aquifer recharge areas or areas where groundwater is replenished. The plants in wetland areas retain excess nutrients and some pollutants and physically hold soil in place with their root systems, reducing and absorbing wave energy and erosion. In addition, wetlands have recreational, historical, scientific and cultural values. They provide places to hunt, fish, canoe, boat, birdwatch and photograph wildlife, and providing natural scenic vistas for nature lovers and artists.

The natural habitat values wetlands provide are numerous. Wetlands are extremely valuable from a biological perspective. They provide great volumes of food that attract many animal species. Dead plant leaves and stems break down in the water to form small particles of "detritus" or enriched organic material. This detritus feeds many small aquatic insects, shellfish and small fish that are food for larger predatory fish, reptiles, amphibians, birds and mammals. Many of the U.S. breeding bird populations including ducks, geese, hawks, woodpeckers, wading birds and many song birds feed, nest and raise their young in wetlands. Fish use inland and coastal wetland areas for spawning and nursery areas.

## History of Wetlands

Historically, throughout the world, wetlands have often been mistakenly regarded as wastelands because they are wet, soggy, muddy areas that bred mosquitoes, flies, diseases and had unpleasant odors. Because wetlands were not productive for our traditional needs such as shelter or agricultural production, wetlands were thought of as places to avoid, and in many cases eliminate. As a result, large areas of wetlands were drained and converted for other land uses such as housing developments and farmland. With the exception of the historic coastal ridge which runs along Dixie Highway and U.S. 1 (Federal Highway), most of Southeast Florida was part of a larger, productive wetlands ecosystem: the Everglades. The Everglades is the vast system of marshes, sloughs, tree islands and cypress forests that once covered most of South Florida.

In the early 1900's, after Congress passed the Swamp and Overflowed Lands Grant Act, drainage districts were formed and by the late 1920's much of what was once considered wetlands in South Florida, was drained by numerous canals designed to reclaim land. In Broward County that reclaimed land is now populated with over 1.4 million residents. Although development pressures have converted a portion of Florida's historic wetland areas to lakes and filled areas, two-thirds of Broward County is set aside as water conservation areas and remains a part of the Everglades.

South Florida's wetlands have also suffered secondary impacts from human development pressures. The alteration of Southeast Florida's hydrology by the elaborate canal systems designed to protect residents from flooding has impacted wetlands by decreasing the hydrology necessary for maintaining wetland plant species. Pollutants from storm runoff on streets and highways combined with the use of fertilizers and pesticides have increased the nutrients introduced into surface waters and degraded the water quality that supports wetland plant species. Another impact has been the introduction of non-native plant species also known as exotics. Two well known exotics, the Melaleuca and Brazilian pepper trees, have overgrown wetland areas. Their rapid growth chokes out native species and decreases the habitat value of the wetlands.

Broward County's wetlands range in size from tiny, isolated patches to larger systems such as the Everglades water conservation areas. Because they are so varied, wetlands can be difficult to recognize. Some are wet all of the time and others may look dry most of the time. Wetlands do not have to be part of a larger system to be valuable. Isolated and intermittent wetlands provide important habitat for many important species such as frogs, lizards, snakes and turtles.

There are two general categories of wetlands in Broward County, *freshwater (non-tidal) and coastal*. Both types of wetlands are further categorized as *swamps* which are characterized by shrubs or trees such as maples, gums, bald cypresses and mangroves; or as *marshes*, characterized by grasses and sedges, where few if any trees and shrubs grow.

In Broward County, our *coastal wetlands* consists of saltwater mangrove swamp areas along the Intracoastal waterway and its adjoining canals with some intermittent saltwater marsh areas. These provide habitat for wading birds such as the great blue heron and roseate spoonbill, and nursery areas for saltwater fish including tarpon, snook and snapper species.

Our *freshwater wetlands* consist of cypress swamps, pond apple and cypress sloughs, freshwater marshes, sawgrass marshes and wet prairies. *Cypress swamps* and *sloughs* provide habitat for many animal species considered threatened or endangered, such as the white ibis. Air plants, ferns, orchids and lilies are often found perched on tree buttresses and limbs in the swamp. *Freshwater marshes* are the open areas found along lakes and contain low-growing species such as grasses and cattails. *Sawgrass marshes* are dominated by tall, sometimes impenetrable sawgrass and found in and adjacent to the Everglades. *Wet prairies* are shallow basins covered with grasses and other low plants adapted to growing in wet areas, providing habitat for foxes, turtles, lizards, snakes and fish. Wet prairies can also remain dry for long periods of time.