

## ***14. Marshes***

Marsh is one of the dominant wetland systems in Florida. Marshes make up 1/3 of Florida's wetlands. Marshes are described as wetlands dominated by herbaceous plants rooting in and generally emergent from water that stands at or above ground level. Marshes tend to be wetlands or swamps with less than 1/3 of the area covered by trees. Marshes come in many types, including bogs, wet prairies, marsh sloughs, flatwoods marsh, floodplain marsh, and the Everglades (the best known Florida marsh). Florida marshes tend to occur either 1) in areas underlain by clay hardpan, which keeps ground water close to the surface, 2) connected to a river or lake, or 3) where the surface is laid with an impenetrable layer of organic matter.

Marshes can have 3 different types of soil make-ups made principally of sand, marl or peat. Peat soils tend to occur in deeper water marshes with long hydro-periods. Peat holds moisture, helping plants of the marsh survive during the dry season. Peat soils are the most common soils of Florida marshes; these include floodplain marshes, marsh sloughs, and flatwoods marshes. Marl soils occur in marshes with moderate hydro-periods of seasonal drying sufficient to oxidize organic material. Sand soils occur in marshes with short hydro-periods and extensive drying.

Seasonal rainfall creating a fluctuation of surface water marks the hydrology of Florida marshes. Marshes are normally wettest during the summer and fall. Water levels normally decline during the winter reaching a drought period in the spring. The dry period will last for a few weeks to a couple of months. Marshes can collect water from surrounding ecosystems and from rising water tables.

Floodplain or river marshes are closely linked to the rivers they border, tending to act as a barrier between the river and outlying systems. These marshes tend to collect water from outlying systems, then flow that water into the river during high water levels after heavy rains. Some parts of river marshes flood as the river itself rises.

Fire plays an important role in maintaining healthy marshes. Fire helps control the growth of woody plants, maintain or reduce peat levels, and burn un-decayed plants thereby releasing nutrients into the soil. Since most fires occur when the marsh is moist, only the top portion of the plants normally burns and the soil is safe. Fires occur between 2 to 5 years depending on the type of marsh.

### **Marsh Flora**

Different types of marshes contain different types of principle plants. The primary plants living in them can classify marshes: 1, Water lily marsh dominated by floating plants, 2, Submerged marsh, where emergent plants are thinly dispersed, 3, Cattail marshes, which are relatively deep and nutrient rich, 4, Flag marshes, which occur in water less than 3 feet deep with hydro-periods around 200 days; they do need periods of dryness, 5, Saw grass marshes like the Everglades, and 6, Wet prairies, which have short hydro-periods of 50-150 days that preclude (prevent) peat production but have the greatest species diversity of plant life.

Other marsh plants include goldenrod, St.John's Wort, maiden cane, bladderworts and others.

## Marsh Fauna

With the exception of birds, marshes tend to have a low diversity of wildlife. Invertebrates form the base of a marsh food chain. They include crawfish, fly larvae, mosquitoes, dragonflies and many water bugs and beetles.

The two major fish of marshes are the killifish and mosquito fish. Most marshes tend to have an abundant number of small fish species (minnows), but marshes that undergo deep water flooding (floodplain marsh) can have larger fish move in. These include gar, catfish and bowfin.

Amphibian and reptile diversity corresponds with depth of water: the deeper the water, the less diversity. Many species of frog, including pig frog, bullfrog, green tree frog and others call marshes home, along with other amphibians including fire bellied newts, dwarf newts, sirens and salamanders.

Reptiles include many species of water snakes, swamp snake, cottonmouth moccasin and mud snakes. Deep-water marshes are home to mud turtle, musk turtle and cooter. Alligators are also found in marshes.

Alligators are major inhabitants of a marsh, assuming a primary role with the formation of alligator holes. These small ponds formed within a marsh retain water during the dry season, providing a home and water for many species.

Mammals are not abundant in marshes. Florida water rat, whitetail deer and the Florida panther use a marsh.