

Plant and Animal Identification in Ponce Inlet

A.) Species: *Rhizophora mangle*

Common name: Red Mangrove

B.) Habitat: Estuarine ecosystems

C.) Adaptive Characteristics: Red Mangroves live in the shallow brackish water of estuaries. Brackish water has a higher concentration of salt than fresh water, and to be able to survive in this, the red mangrove has a very unique adaptive feature. In most branches on the mangrove tree, there will be one leaf that the mangrove will deposit excess salt into, called the sacrificial leaf. This leaf will turn yellow and the mangrove will release it to get rid of the excess salt.

D.) Status: Mangroves are a protected species in Florida. They are very valuable to estuarine ecosystems because their root systems act as a “nursery” to young fish and other organisms. They also provide food and shelter to numerous species that are threatened and endangered

E.) Threats: One of the biggest threats to red mangroves is clear-cutting. They are mainly cut down for coastal development purposes. Pollution is also a major threat.

F.) Protective Policies: 1996 Mangrove Trimming & Preservation Act



Figure 1: Red Mangroves at low tide in Ponce Inlet

A.) Species: *Uca pugilator*

Common Name: Marsh Fiddler Crab

B.) Habitat: Salt marsh and mangrove ecosystems

C.) Adaptive characteristics: Male fiddler crabs have one large claw and one small claw, while females have two small claws

D.) Status: Not threatened or endangered

E.) Threats: Water pollution from fertilizer runoff, pesticides, industrial chemicals, heavy metals, etc. Parasites are also a threat

F.) Protective policies: None specifically for the fiddler crab, however there are protective policies in place for mangroves which are part of a fiddler crab habitat



Figure 2: A large group of fiddler crabs at a salt marsh

A.) Species: *Trichechus manatus*

Common Name: Manatee

B.) Habitat: Estuarine ecosystems, particularly where seagrass is present

C.) Adaptive Characteristics: Ability to conserve oxygen for long periods of time, and slowed heart rate while underwater

D.) Status: Threatened, and formerly endangered

E.) Threats: Collisions with boat propellers, habitat loss, and algal blooms

F.) Protective Policies: The Marine Mammal Protection Act of 1972, the Endangered Species Act of 1973, and the Florida Manatee Sanctuary Act of 1978



Figure 3. Manatees in an estuarine ecosystem

(Source: <http://www.tbep.org/pics/state-of-the-tampa-bay-estuary-manatees.jpg>)

A.) Species: *Egretta thula*

Common Name: Snowy Egret

B.) Habitat: Estuaries, salt marsh, mangroves

C.) Adaptive Characteristics: The snowy egret will stand in water with its wings out because the shade will attract fish, food for the egret

D.) Status: Endangered

E.) Threats: Coastal development destroying their habitats and disrupting mating patterns, water pollution, and in the past, hunting for their plumage

F.) Protective Policies: U.S. Migratory Bird Treaty Act and Florida's Endangered and Threatened Species Rule



Figure 4: A snowy egret in an estuarine ecosystem

A.) Species: *Crassostrea virginica*
Common Name: Oyster

B.) Habitat: Submerged in estuarine ecosystems

C.) Adaptive Characteristics: A hard outer shell, and variety of proteins that allow them to adapt to changes in salinity, temperature, and some pollutants

D.) Status: Not endangered or threatened

E.) Threats: Over-harvesting, water pollution, and disease

F.) Protective Policies: None, but there are efforts to restore oyster reefs as shown in Figure 5.



Figure 5: Through local projects, oyster shells are collected from restaurants and attached to grid material. These are then placed in estuaries and used as foundations on which oyster beds are built.



Figure 6: An oyster bed at low tide

A.) Species: *Pelecanus occidentalis*
Common Name: Brown Pelican

B.) Habitat: Estuaries and coastal marine habitats

C.) Adaptive Characteristics: Brown pelicans have a large pouch under their beak for scooping up fish

D.) Status: Threatened, formerly endangered

E.) Threats: Injuries from fishing line, pollution, oil spills

F.) Protective Policies: Removed from the Endangered Species List in 2009



Figure 7: A brown pelican on the Ponce Inlet jetty

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