

Shired Creek

Here, one paddles upstream from the wide creek mouth, leaving behind the salt water of the Suwannee Sound and the Gulf of Mexico. As the creek narrows, the elevation of the land gradually rises, and different plants and animals are encountered. At the Dixie Mainline bridge - the terminus of the paddle - the water is mostly fresh, and the transition to coastal swamp is well underway. This paddle is one of the best ways to see the effects of rising sea levels on the refuge's different biozones. (see Spyglass below)

Biozone 1. Open Water and the Salt Marsh

At the boat ramp, Shired Creek is mostly open to the Gulf of Mexico. Moving upstream, the landscape changes from estuary to salt marsh. The energy of twice daily tides and an influx of nitrogen, phosphorus, and potassium make these areas some of the world's most productive environments. The water is a soup of algae and the minute animals that feed on them. A thin green band of salt- and flood-tolerant, smooth cordgrass dominates the edge of the marsh in this biozone.

Biozone 2. The Transition Marsh

As the paddler rides the incoming tide upstream further into the creek, the influence of the sea diminishes. The grass-like plants seen in the transition marsh are almost all one species: the dull, gray-colored black needlerush, a so-called "keystone" species, because so many other species are dependent on it. Black needlerush dominates Florida's Gulf Coast marshes and produces vast quantities of food. Microorganisms, small invertebrate animals, larvae of larger animals, and even fishes like the black mullet feed on the decaying plant material. Farther along the food chain, blue crabs, great egrets and other wading birds, and top predators like ospreys and bald eagles feed on the abundant invertebrates and fishes fed by the needlerush.

Biozone 3. The Maritime Hammock

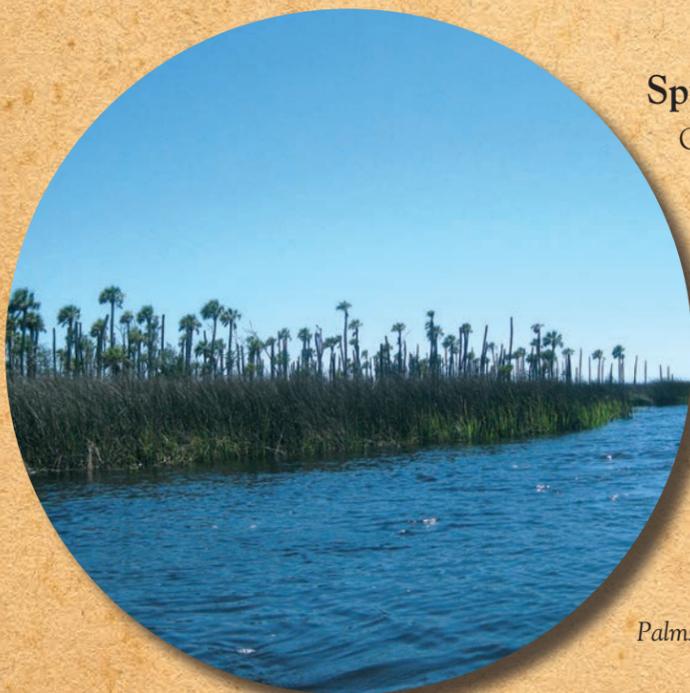
Continuing upstream, the marshes are less extensive, and tree-covered uplands begin to close in on the creek. Freshwater marsh plants become more prominent. However, higher-than-normal tides and storm surges may bring sea water this far inland. Salt water pushed landward of the bridge may be restricted in its return flow by the road, and can remain on the land longer than it would have under primeval conditions. Animals and plants characteristic of both the uplands and the coastal marshes can coexist here when conditions are favorable. Alligators are common, as are freshwater fishes like smallmouth bass; both may venture into brackish waters to feed on abundant small fishes and invertebrates. Raccoons and river otters may forage here as well. Bald eagles and swallowtail kites may be seen overhead.



On Shired Creek, approaching the Dixie Mainline bridge.



*Ospreys roost in the forested uplands above coastal marshes and prey on fishes and other small animals in brackish creeks.
Photo courtesy of Tom Liebert.*



Spyglass: Rising Sea Levels

On this paddle, you can see evidence of a story that has been unfolding for thousands of years. Note the patches of cabbage palms surrounded by broad expanses of marsh. Since the retreat of continental glaciers more than 10,000 years ago, the Florida Peninsula has been shrinking, as rising seas inundate its coastlines. The cabbage palms grow on "maritime hammocks," which are areas slightly higher than the surrounding marsh. With rising seas, the hammocks are shrinking as well. Many of the palms you can see during the paddle are dead or dying, as rising water converts the hammocks into marsh. The hammocks will eventually be overtaken by open water, and each of the biozones will then migrate landward.

Palms on the outer edge of this hammock are dead or dying.