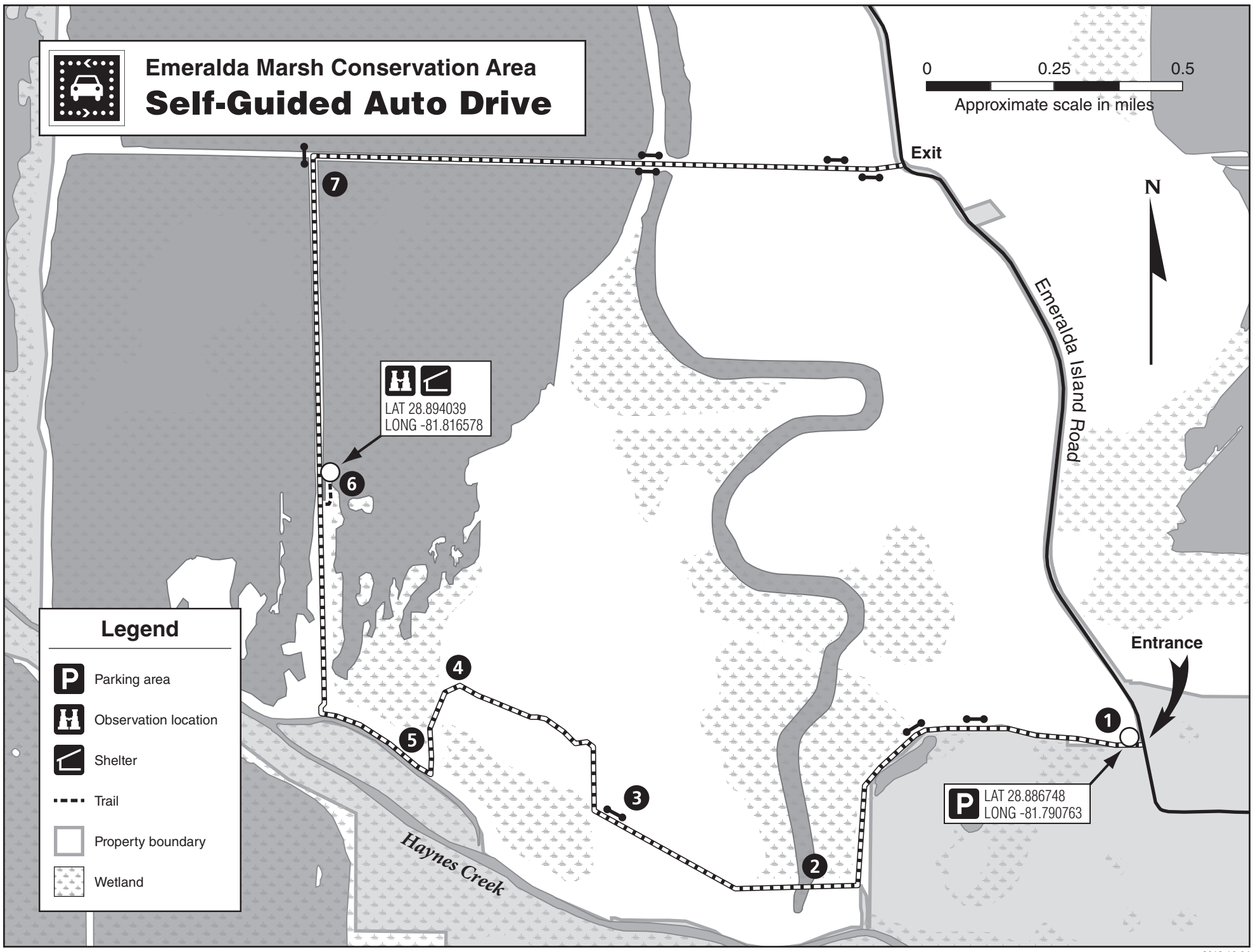


2012-10-04

## Self-guided tour

### ❶ Entrance area

This entrance parking area was once the location of the residence of the farm owner. Although it is long gone, part of the home foundation is still visible. Overhead you will see many electrical power lines. The lines were not part of the farming or residence's needs; they were installed to drive the three-phase, 480-volt electric motors on the water filtration pumps you will see further ahead on the drive.

### ❷ "K" cell bridge

This 700-acre site is the K-cell and is now a large, shallow marsh. This area had been used for pasturelands, but now is promoting wetland vegetation to assist in the water clarification process. The site was recently reconnected to Haynes Creek and Lake Griffin by creation of a meandering channel through the former farm fields and cattle pastures. The channel is also known as the "Serpentine Swath." The swath is about 2 miles in length, 150 feet wide and averages 4 feet in depth. This reconnection resulted in higher water levels in the areas adjacent to the swath with accompanying vegetation changes from upland to wetland habitat. In addition, the K-cell functions as a "polishing pond" and final outflow for nutrient treated water discharged from other former farm sites east of Emeralda Island Road.

The 200- acre "W" retention pond to your left discharges water treated for nutrient removal from other parts of this restoration area to Haynes Creek through the swath. Farther along the drive you will see an alum treatment facility and pumps that can deliver up to 25,000 gallons per minute of treated water to this retention pond.

### ❸ Uplands with hammock

In the area along your right is high ground called "uplands," which is part of the overall habitat restoration but is too high to filter water. It still serves a purpose, however, by hosting wildlife among the non-wetland vegetation. This type of plant community is known as a hammock. A hammock is usually characterized as a clump of tall cabbage palms, oaks or other well-developed hardwood trees. Depending on the small differences of land features (topography), soil types and moisture content, these hammocks will often have an open understory (low vegetation) with variable palms and ferns possible, with the perimeter having saw palmetto, if drier, or other shrubs such as wax myrtle, if wetter.

### ❹ Former farmed area

Along your right is former farmland that was operated for more than 30 years before the water management district purchased it. In the normal process of farming it was common for the farmers to apply fertilizers and pesticides (nutrients), to maximize crop production. These chemicals commonly washed off the fields during rain. Because too much water threatened crops, farmers always had pumps — similar to those you will see on this tour — ready to pump excess water off the fields. Although it was not known at the time, the nutrients that pumped off the farms into the lake(s) had a cumulative and degrading effect on the water bodies. This degradation can be seen as cloudiness and particles floating in the water.

### ❺ "U" retention pond

On the left is another beautiful hammock of palms that adjoins the 150-acre "U" retention pond of this flow-through system, and up ahead are two pumps for water filtration. These pumps discharge up to 25,000 gallons per minute filtration capability. The pumps discharge into the "U" retention pond to provide initial alum injection for nutrient treatment before the water enters the "W" retention pond and then Haynes Creek and Lake Griffin.

### ❻ Shallow marsh, open water and wildlife

The sight and sound of hundreds of waterfowl on a marsh is an experience to savor and remember. Each winter, thousands of waterfowl, marsh birds, raptors and songbirds migrate southward. With the restoration of the former farmlands into a marsh habitat, Emeralda Marsh is a key wintering area once again.

### ❼ Cell junction with culverts

This corner area is the junction of three distinct treatment "cells," T, Z and Q that total about 1,200 acres. Conversion of these former farm fields to wetlands resulted in very large reductions in nutrient discharges to Lake Griffin that were associated with the former agricultural activity. The culverts that you see connect one cell to another. How they are connected depends on the "plumbing" that is desired for directing water to be treated in one cell or another. The culverts are used to move water by gravity between the individual cells to achieve target water levels. Water from these cells is discharged through the pumps at the "U" pond where the water is treated for nutrient removal.