

Emeralda Marsh Conservation Area's Wildlife Drive

Welcome to Emeralda Marsh Conservation Area's Wildlife Drive. The 4.3-mile journey you are about to take will provide you views of a wetland marsh that was constructed to improve water quality in adjacent Lake Griffin. In constructing this marsh, fish and wildlife habitat was created. This drive will provide you with opportunities to view the restoration project and observe various wildlife. It is not uncommon to see numerous alligators along the drive. Please do not approach or feed the alligators.

The one-way drive is located on a narrow levee with soft shoulders. This roadway is not able to accommodate vehicles greater than 25 feet in length. Buses, trailers and recreational vehicles are prohibited. Please observe the maximum speed limit of 10 mph. If stopping, please use designated pullovers, and only pass vehicles that are in designated pullover locations. The drive is open to vehicular access starting the third weekend in February and running through May, Fridays, Saturdays and Sundays, 8 a.m. to 5 p.m. Gates close at 5 p.m. Numbered points along the drive correspond to numbered paragraphs on an accompanying brochure.

History

The historical habitat in the Emeralda Marsh Conservation Area (EMCA) was sawgrass marsh, wet prairie and upland hammock. Beginning in the 1940s, the former marshes were diked, drained and converted to agricultural fields and cattle pastures. Seven different parcels that make up the conservation area were purchased from various owners between 1991 and 1993. The St. Johns River Water Management District began initial restoration on the area in 1994 under the Surface Water Improvement and Management (SWIM) program. As part of the restoration, a wetland treatment marsh was constructed on more than 1,500 acres of former agricultural fields bordering Lake Griffin and Haynes Creek. The objective of the flow-ways is to remove solid materials that are suspended in the water and "particle-bound" nutrients from lake water circulated through the treatment area. During full operation, the circulation of lake water is a continuous process.

Self-guide tour

1. 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 ahead.

2. Flow path with pumps

This area is called site "W"; it hosts three pumps for controlling water flows through an area cut north (to your right) from this point, affectionately called the "Serpentine Swath." This is the first area of the flow-way you will see that actively functions to filter Lake Griffin water, settling out particulates that reduce the lake clarity. The swath is 150 feet wide and averages 4 feet deep. This area had been used for pasturelands, but now is promoting wetland vegetation to assist in the water clarification process.

The two side-by-side pumps can each deliver 25,000 gallons per minute to the retention pond on your left. The lone pump behind you near the last corner delivers 18,000 gallons per minute to the same pond, making a total of 68,000 gallons every minute pumps are in operation. This retention pond connects to Haynes Creek, further south and west from this point, outside the area of this tour route.

3. Uplands with hammock

In the area along your right is high ground called “uplands,” which is part of the flow-way property 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.

4. 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, nowadays called “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 have seen on this tour — ready to pump excess water off the fields. Although it was not known at the time, the nutrients that the rain washed off the plants that the pumps returned to the lake(s) had a cumulative and poisonous effect on the water bodies. Over the years, this farming practice allowed nutrients to accumulate to a point that the lakes’ water quality degraded. This degradation can be seen as cloudiness and particles floating in the water.

In early attempts to keep nutrients away from the lakes, farmers were asked to redirect the pumped water into retention areas like these where the vegetation in them would scrub the nutrients from the water before it entered the lake. Although good in theory, the altered practice was too little, too late. Then the water management district approached the farmers to purchase these lands to convert them into tools to clean the lake water.

On the left is another beautiful hammock of palms that adjoins the second retention area of this flow-way system, and up ahead are two more pumps for water filtration. Each of these pumps discharges 25,000 gallons per minute; our total this far in the tour is 118,000 gallons per minute filtration capability. These two pumps also discharge into a retention area to provide further filtration before the water enters Haynes Creek and Lake Griffin.

5. Pump station at Haynes Creek

This site, Pump “T,” is the first of three additional pumps that pull water through the flow-way but discharge the water into an offshoot of Haynes Creek (on the left) instead of into retention ponds. This is appropriate because the water filtration process here is occurring adequately in the water and vegetated areas to your right. This pump, as well as the remaining two ahead, pumps

an additional 25,000 gallons per minute, bringing the grand total of the flow-way's pumping capacity to 193,000 gallons per minute.

6. 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 as was historically located here, Emeraldal Marsh is a key wintering area once again.

7. Cell junction with culverts

This corner area is the junction of three distinct treatment "cells." The culverts 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.

Other information

One of the most potent forces in nature is fire. It, and fluctuating water levels, is part of the natural cycle of maintaining marsh habitat. Without fire and fluctuating water levels, the marsh would be taken over by shrubs, and the marsh plant communities and the wildlife they support would change. The same is true for uplands. Each habitat is important to a different group of animals. The collection of many different types of habitat is called habitat diversity. District staff periodically conduct prescribed burns to mimic nature and as an important and beneficial management tool. The burns are conducted under very stringent conditions or "prescriptions."

The District acquires lands to carry out the mission of flood control, water storage, water management, and preservation of wetlands, streams and lakes. The District's Division of Land Management manages lands for water resource conservation and protection; environmental protection, with emphasis on restoration and preservation of ecosystems; and for compatible public recreation.

Thank you for visiting Emeraldal Marsh Conservation Area. It is our hope that this drive has provided an opportunity for a unique experience for you, instilling an appreciation for the natural resources you have just observed. Have an enjoyable day and continue to drive safely!

Contact information

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