

WITHLACOOCHEE STATE FOREST (Citrus/Hernando/Pasco Counties)

Initial State Acquisition: *September, 1978*

Area: *159,542 Acres*

Primary Watershed(s): *Withlacoochee River*

Current Number of DEP *FERI* Database Listings: *4 Projects*

Previous Restoration Activities:

Other than extensive road improvement activities on the main forest tract, restoration efforts at Withlacoochee State Forest (WSF) have been primarily focused on the 11,000-acre **Baird Tract** in Sumter County and the 2,900-acre **2-Mile Prairie Tract** in Citrus County.

The **Baird Tract Hydroperiod Restoration Project**, the largest hydrologic restoration project on WSF, has been coordinated and funded by Florida Department of Environmental Protection (FDEP). The project was initiated in response to flooding concerns raised by adjacent private landowners in 1996. After six years of extensive ecological and hydrological assessments, the project was approved, permitted, and Phase I was under way. The goal was to restore the site's natural flow patterns that had been altered as a result of the placement of artificial conveyance structures and above-grade roads.

Implementation of Phase I of the restoration plan began in 2002 and was completed by 2004. Ultimately, 33 culverts were replaced and/or installed, 14 ditch and swale blocks installed, and 2 large concrete box culverts installed on the primary access road. Additionally, a hundred feet of above-grade road was reduced to grade and replaced with a hardened low water crossing to accommodate wet season accessibility to a perennial waterbody. As a result of the restoration work on Baird, early DEP monitoring showed that water levels increased within a watershed area of approximately 6,500 acres, further enhancing hydroperiods over several thousand acres of wetlands.

The **2-Mile Prairie Tract (TMPT) Project**, coordinated by SWFWMD, had as its overall goal to restore the chain of basin marshes on the TMPT, which historically helped in flood attenuation and groundwater recharge within the watershed. Methodology involved managing the excess drainage from Hernando Pool through enhancing the conveyance way located between the Van Ness Outfall Structure from the Hernando Pool of the Tsala-Apopka Chain of Lakes to the Withlacoochee River, all of which is off-site of TMPT. The project established protocol for releasing excess drainage onto TMPT in anticipation of and during high water storm events.

Restoration work on TMPT began in the fall of 2000 and was coordinated with work performed off site. The work was completed in 2002 and involved replacing and installing a series of culverts and low-water crossings between isolated basin marshes where the natural drainage pattern had been interrupted with above-grade roads, berms, or inadequately-sized culverts.

Current/Planned/Proposed Restoration Activities –

In recent years two major wetland restoration-related proposals have been considered for WSF. In the fall of 2005, SWFWMD approved work for the advance evaluation, assessment and modeling work on further hydrological restoration of the **Baird Tract** as mitigation for a **SR 44** expansion project by FDOT that would impact of 23.3 acres of wetlands. This project will ultimately restore 970 acres of deep water marsh systems and 548 acres of wetland systems to further attenuate off-site flooding within the drainage basin. DEP/SWFWMD will have general oversight of the project work; DOF will provide guidance in the placement of temporary and permanent instrumentation to avoid conflict with forest management objectives and will have long-term management of the project area after project completion.

Also, FDEP determined in 2007, after conducting a preliminary assessment of several publicly-owned properties across the state, that the **T.G. Lee Farms Tract** was a good candidate for use as a Regional Off-Site Mitigation Area (**ROMA**).



WSF Figure 1: One of over a dozen agriculture drainage ditches on the T.G. Lee Farms Tract in Sumter County that will need to be addressed during future wetland restoration plans for the site.

The T.G. Lee Farms Tract was acquired under the “Florida Forever” Program and added to the WSF in November, 2004. The property has a series of shallow ditches that connect to the Big Gant Canal and have converted former wetland marshes and depressions into drier pastureland. The 1,748-acre tract is located in Sumter and Hernando Counties.

Restoration efforts under the ROMA would focus on the restoration of natural surface flow patterns and hydroperiods to offset development

impacts to wetlands in the rapidly growing nearby community of Ridge Manor Estates.

Methodology would involve filling shallow ditches that traverse pasture fields to encourage surface drainage and encourage sheet flow towards the Little Withlacoochee River (see **Figure 1**). Restoration would also include a program for eradicating exotic species such as tropical soda apple (*Solanum viarum*) and invasives like cogon grass (*Imperata cylindrica*).

Wetland Restoration Needs Assessment –

Assessment work was conducted on the Richloam and T.G. Lee Farms Tracts of WSF in February, 2007. A total of **270** site points were established. Roughly **50%** of all the roads, trails and firelines on the Richloam and **80%** of the roads and ditches on the T.G. Lee Farms Tract were evaluated during this assessment.

The Richloam Tract was selected for an early wetland restoration needs assessment because late in 2006, the WSF management team had been approached by several environmental consultants representing parties interested in conducting restoration on state forest lands to mitigate for wetland impacts in and around Sumter County. The T.G. Lee Farms Tract was also selected for an early assessment because of DEP's interest in the property as a ROMA site. The following observations made during the Richloam and T.G. Lee Tract assessments are among the assessment findings. Additional information about the assessments is available upon request from the Division of Forestry.

Richloam:

1. Much of the northeast tract is within the Baird Tract Restoration Project Area. This limits the number and kinds of smaller restoration or enhancement projects that can be done in that part of the tract.
2. The tract is heavily used by off-road vehicle users. Consequently, trails and roads have become incised and, in many cases, badly rutted and are in need of a comprehensive evaluation and plan for road repair and removal/closure to enhance hydrology and restore wetland community and function in many parts of the tract.

3. Metal culverts replaced most of the 140+ bridge structures once the state acquired this tract from the federal government. Many of the culverts that still exist are not damaged and in need of replacing. In some places a low-water crossing may serve to enhance site hydrology better than installing another culvert.



WSF Figure 2: Trails carved through wetlands on the Richloam Tract by OHV and 4WD vehicle users are often deeply rutted, impacting the natural hydrology as well as the soil texture and composition of the site.

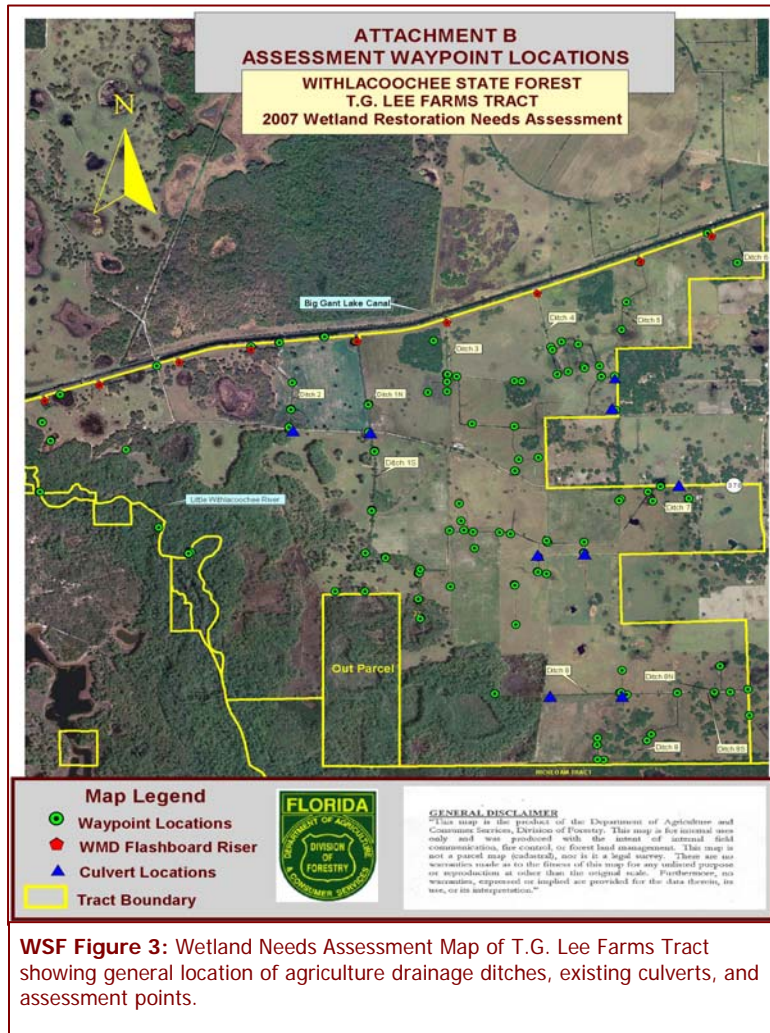
4. In some cases, such as with the Cabbage, Tower, East Grade, and Atkins Ford Roads, drainages are divided and flow is impeded by above-grade roads that may require more conveyance to enhance hydrology. In other cases, such as on Forest Road 69, an unnamed trail east of SR 471, and others flow is being channelized or is diverted by below-grade trails, potentially impacting the hydrology and water quality in nearby wetlands.
5. The North Boundary Road, which borders the T.G. Lee Farms Tract appears to be part of a remnant tramway and may be an impediment to the natural surface (sheet) flow to the Little Withlacoochee River from the southern end of the Lee Tract. Hydrological restoration in this area is more feasible since the state owns both properties involved.

T.G. Lee Farms Tract:

1. Since the tract is still under a cattle and hay lease until 2011 and possibly longer, hydrological restoration activities cannot have a negative impact on those activities.
2. Almost 9 miles of ditches traverse the property, altering the hydrology and hydroperiods of the site. One primary ditch, averaging about 6 feet deep and 8 feet wide, runs north-south up the center of the property (**see Figure 3**). All the ditches south of the main access road (CR 778) drain into the primary ditch, except for the southeastern-most ditches on the property. Each of the ditches north of the access road tie into flashboard risers connected to the Big Gant Canal, each of which is controlled and maintained by SWFWMD. Any restoration involving the ditches on the Lee Tract will need to be done with the involvement and concurrence of SWFWMD. Nevertheless, there are some opportunities for restoration projects on the tract, particularly in the northeastern portion of the property where the landscape was historically wetter.

3. Thirteen (13) culverts were found on the property, most of them functional and in fair condition. Several should be considered for fitting with flashboard risers for adjusting water levels to accommodate future forest management needs on the property.

4. Combined with the artificial drainage cattle and feral hogs have impacted the wetland soils and plant communities within isolated cypress ponds and depressions on the tract. Elimination of pest animals/removal of livestock is vital to the restoration of native wetland plant communities.



WSF Figure 3: Wetland Needs Assessment Map of T.G. Lee Farms Tract showing general location of agriculture drainage ditches, existing culverts, and assessment points.

5. Exotic plant species, such as tropical soda apple (*Solanum viarum*) and cogon grass (*Imperata cylindria*) are making headway along the edges of the ditches. Restoration plans should provide for aggressive exotic control activities.