

LITTLE-BIG ECON STATE FOREST (Seminole County)

Initial State Acquisition: July, 1990

Area: 8,491 Acres

Primary Watershed(s): Upper St. Johns River; Econlockhatchee River

Current Number of DEP *FERI* Database Listings: 3 Projects

Previous Restoration Activities -

The Division of Forestry shares management responsibility of Little-Big Econ State Forest (LBESF) with the St. Johns River Water Management District (SJRWMD).



LBESF Figure 1: Flashboard risers installed as part of the SR 434 Mitigation Project on the Demetree Tract. At the time of the photograph conditions on the forest were very dry.

Much of the forest property had been used for cattle farming prior to public ownership and shallow agriculture drainage ditches and improved pastures are found throughout many of its tracts. The LBESF has two significant water resource features associated with it: the Econlockhatchee (Econ) River, which crosses approximately 7 miles of the main body of the forest, and the St. Johns River, which skirts the eastern edge of the Kilbee Tract. Roughly 55% of the forest is made up of wetland communities, with the bulk of the wetland acreage associated with the Econ River as bottomland forest, floodplain marsh, and basin swamp.

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Three wetland restoration projects have been implemented on the forest since 1999. The **Meadow Point Project**, was installed in 2003 and completed early in 2004. It involved re-hydrating two small marsh depressions by installing a flashboard riser (FBR) behind a low berm below the lower depression and installing an underground pipe with a flap gate water-control valve in the upper depression. The project was designed so that water backed up in the lower depression by the berm and FBR during the wet season would be forced up the pipe and through the flap gate into the upper depression. After some adjustments were made in 2005 both structures were functioning properly and each wetland had standing water by the end of the 2006 wet season.

Two other mitigation projects, the **Spencer-Leeper Project** and the **State Road 434 Project**, were funded through the SJRWMD in 1999 and 2000, respectively. The **Spencer-Leeper Project** mitigated wetland impacts resulting from a private residential development and involved the modification of a drainage ditch with the installation of a weir to restore sheet flow across an old celery field in the southern part of the forest. A low-water hard surface crossing with *GeoWeb* material was also installed across the same drainage ditch above the weir to facilitate access to the forest at the same time.

The **State Road 434 Project** was funded through FDOT mitigation to offset wetland impacts caused by expansion work done on SR 434 in 2000. The project involved installing a ditch plug with a flashboard riser (**see Figure 1**) to restore the hydroperiod in a 17-acre area that was drained by a ditch connecting to the Econlockhatchee River. The project footprint was stabilized by constructing a retaining wall and seeding in grass.

Current/Planned/Proposed Restoration Activities –

The only on-going restoration activity occurring on the forest at this time is the monitoring of the **Meadow Point Project** structures by an environmental consultant and SJRWMD.

However, the *FERI* website shows one hydrological and several upland restoration opportunities on the L-BESF. In recent years the intense residential and commercial development occurring in Seminole County within the Econlockhatchee River Watershed provides ample opportunity for mitigation work on the forest. To that end, SJRWMD has played an active role in developing hydrological restoration projects on LBESF, providing over-sight and technical expertise along with the necessary permitting. Presently, SJRWMD is compiling a



LBESF Figure 2: Low-water hard-surface crossing on the Demetree Tract. Surface flow through this crossing leads to the Econlockhatchee River.

list of all District mitigation restoration/ enhancement projects that may be considered for the LBESF.

Wetland Restoration Needs Assessment –

Assessment work was conducted on the Demetree, Spencer-Leeper, Jones, and Bothers Tracts of the LBESF in the late summer of 2007. **Fifty-nine** site points were established during the assessment, representing approximately **75 %** of the roads, trails and firelines on these tracts. **Twelve** of the points established during the assessment identify sites that are high potential restoration sites (**see Executive Summary, page iii**). An additional **10**, with lower potential ecological “lift”, may serve as enhancement projects. Additional information about the assessment of these tracts is available upon request from the Hydrology Section of the Division of Forestry. Among the findings of the assessment on the LBESF are the following:

1. Over the years the LBESF management team has installed low water hard-surface crossings (**see Figure 2**) on most of the service roads over existing ditches, using geo-fabric, webbing, and limerock to stabilize the bottoms and approaches, some of which are fairly steep (20%+). Several crossings are in need of repair or replacement.

2. There are opportunities for additional restoration benefits associated with the drainage ditches. Several points were established in the ditches where a plug or fixed-elevation weir may help restore the site hydroperiod.
3. The **Florida National Scenic Trail (O)** follows the old north-south railroad tram for about 2 miles on LBESF, crossing the Econ River. Some hydrological flow restoration opportunity may exist by providing more conveyance under the tram. Of course, restoration activities involving the **FNST** would have to have the approval of the DEP, SJRWMD, and others in addition to the DOF.
4. The **Spencer-Leeper Ditch**, extending about a mile from the old celery fields on the southern end of the forest discharges into the Econ River. The ditch averages about 10 feet deep, with the spoil banks extending another 10 to 20 feet above normal ground elevation. The banks have become popular bike/ hiking trails. Footbridges and armored trail sections allow passage over tributaries to the ditch and pose no immediate threat to the integrity of the artificial drainage. Although limited opportunities exist for restoration involving the ditch



LBESF Figure 3: Spencer-Leeper ditch, which drains into the Econ River, shows signs of degradation and over-use from the bicycle and hiking trails on its berms. Erosion and sedimentation is impacting the flow in the ditch at places.

exist since it has been in existence so long, some work needs to be done to stabilize eroded sections of the trails on top of the berms to protect water quality (**see Figure 3**).

5. Some service roads and old firelines on the Bothers Tract are below grade, channeling surface water and diverting it from its natural flow. Some of these can be rehabilitated or plugged to restore hydrology to the site.