

LAKE WALES RIDGE STATE FOREST (Polk County)

Initial State Acquisition: July, 1984

Area: 26, 563 Acres

Primary Watershed(s): Kissimmee River

Current Number of DEP FERI Database Listings: 1 Project

Previous Restoration Activities -

Lake Wales Ridge State Forest (LWRSF) in Polk County possesses some of the most unique and diverse ecological systems in the state, supporting communities of numerous listed plant and animal species, including the endangered Florida scrub jay (*Aphelocoma coerulescens coerulescens*) and approximately 685 acres of predominant cutthroat grass (*Panicum abscissum*) communities.

The forest consists of 4 tracts, with the oldest in public ownership being the Arbuckle Tract, across the lake from Avon Park Air Force Range. Road improvement projects involving **School Bus** and **Tram Roads** on the Arbuckle Tract in past years provided wetland enhancement and cross-road drainage benefits in their respective parts of the forest. In 2004 the Forest Hydrology Section worked with the LWRSF management team to initiate a hydrological restoration project of over 400 acres of wet prairie in **Otter Slough** on the **Prairie Tract**, the youngest tract in the State Forest.



LWRSF Figure 1: Cutthroat Grass communities are just one of the unique ecological systems found on the Lake Wales Ridge State Forest that DOF is interested in sustaining through restoration.

Current/Planned/Proposed Restoration Activities –

The 400-acre **Otter Slough Restoration Project** site is located within the 4,863-acre Prairie Tract north of State Road 60 in Polk County. Most of the tract is characterized by wet prairie, grassy marshland, pine flatwoods, live oak hammocks and isolated wet depressions. Another unique feature on this tract includes south Florida scrub hills, suitable habitat for the Florida scrub-jay habitat.

The restoration project involves reversing the effects of a 12-ft wide ditch installed on the property prior to 1952 to facilitate the drainage of Otter Slough (**see Figure 2**). A low dike, used for access to the northeastern part of the property and the shores of Kissimmee Lake, interrupts sheet flow to the Kissimmee River to the east. Surface water is channeled by the ditch under the dike through two 42-inch metal culverts and overflow is conveyed under the dike through another 42-inch metal culvert to the north. The project objective is to approximate the natural hydrology of the slough by replacing the culverts with two low-water hard surface crossings. A fixed elevation weir will retain water in the slough during the dry seasons. By removing the below-grade ditch the hydroperiod of the slough will be lengthened until the water level

allows spillage over the weir and crossings. Re-hydration of the slough will encourage the proliferation of native wetland plant communities, wildlife, and waterfowl.

Invasive exotics along the ditch and road will be treated in an appropriate manner and according to the LWRSF Resource Management Plan with the objective of eliminating all exotics with native species.



LWRSF Figure 2: Old ditch draining Otter Slough on the Prairie Tract. A fixed-elevation weir and elevated low-water crossings will restore the hydrology and hydroperiod of the site.

The Otter Slough Project was approved for funding under the Wetland Reserve Program (WRP), a 75/25 cost-share grant offered through the Natural Resource Conservation Service, in September, 2005. To date, the site has been surveyed and the project work is ready to be offered out for bidding. Negotiations have been initiated with the South Florida Water Management District to invite them into the project as a partner.

The DOF is hopeful that future restoration work can be accomplished on this forest through the Florida DOT mitigation program or through private

developments under the state's mitigation program administered through the water management districts.

Wetland Restoration Needs Assessment –

Assessment work was conducted on the Arbuckle and Prairie Tracts in February, 2007. Over **100** site points were established between the two tracts. Roughly 60 % and 80% of the roads, trails, and firelines on the Arbuckle and the Prairie Tracts, respectively were evaluated during the assessment. 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 Arbuckle and Prairie Tracts are the following:



LWRSF Figure 3: Old forest roads and firelines on the Arbuckle Tract capture surface runoff and accelerate drainage which may alter wetland and unique plant communities on the forest.

1. Potential restoration sites on the Arbuckle Tract are critical areas involving endangered or threatened plant community types and associated animal

species. Examples are the cutthroat grass communities (**see previous page, Figure 1**) through which the past construction of infrastructure has impacted the natural hydrology of the sites.

2. The Tram Road is an old railroad tram, built in 1944 that cuts through the central part of the Arbuckle Tract and across natural drainages. While much of the immediate vicinity of the tram has adapted to the structure there are some sites that could be considered for restoration by augmenting conveyance under the tram and/or filling the borrow pits adjacent to it.
3. The Prairie Tract is home to some of the most breathtaking examples of open wet prairie plant communities in the central ridge area. Because of an active cattle lease and a working orange grove on the tract wetland restoration thus far has been limited to the Otter Slough Project (**see previous section**). However, there are opportunities for restoration in parts of the pasturelands south of the existing dikes.
4. Damaged culverts and degraded low-water crossings also offer opportunities for wetland enhancement on the Prairie Tract.
5. Eroded service roads and trail carry water and soil particles from upland areas to low-lying areas, potentially affecting water quality and wetland functions (**see Figure 3**). Opportunities exist for mitigation enhancement projects to improve numerous such conditions on the LWRSF.