

**LAKE GEORGE STATE FOREST (Volusia County)****Initial State Acquisition:** May, 1993**Area:** 21,176 Acres**Primary Watershed(s):** *Middle St. Johns River***Current Number of DEP *FERI* Database Listings:** 1 Project**Previous Restoration Activities -**

In the spring and early summer of 1998 intense wildfires burned a large amount of the standing timber on parts of the Tiger Bay and Lake George State Forests. Consequently, many of the primary and secondary roads in both forests were severely damaged by the unusually large volume of logging traffic during salvage operations after the fires. Shortly after the salvage operations ended the Division spent the next three years repairing and improving **Bluffton Road** (formerly Truck Trail Seven) and other primary service roads that are main access corridors to the Dexter-Mary Farms Tract on the Lake George State Forest (LGSF). The improvements involved re-shaping road beds and shoulders, placing, replacing, and/or relocating culverts and installing low-water crossings at hydrologically strategic locations. These activities restored surface drainage that had been impounded to varying extents by many of the roads on the forest.

**Current/Planned/Proposed Restoration Activities –**

Over 25 miles of primary and secondary service roads have been rebuilt or improved on the Dexter-Mary Farm Tract in recent years, which has improved surface drainage further. The DOF Road Crew assisted on approximately 0.8 miles of the **Dexter Point Road Improvement Project**, a critical service road for access to Dexter Point for wildfire protection, silviculture, prescribed burning, and limited recreational activities. The improvement project involved pulling ditches, raising road elevations, correcting chronic drainage problems, and improving cross drainage with low-water crossings and culvert installations. All major roadwork was completed in the spring of 2005, with the exception of a low-water crossing on **Road 2** and additional capping (crushed concrete) on the road surfaces. This work was scheduled for completion during the winter-spring of 2006. Meanwhile, the roads are being monitored for degradation.

In 2005 the Lake George State Forest management team discussed a significant hydrological restoration project involving approximately 400 acres in the southern portion of the Dexter-Mary Farms Tract where three natural drainages were channelized in the 1950s to facilitate drainage from timber and pastureland. Two of the canals flow north to south, towards Lake Dexter; the third empties into the westernmost north-south canal.

According to FNAI historic plant community research the forested areas adjacent to the canals were predominantly mesic flatwoods, interspersed with basin and depression marshes. The existing canal berms interfere with sheet flow across the landscape that historically replenished the marshes while slowly draining the flatwoods. Because of the existing berms hydroperiod has been unnaturally extended in parts of the forest that would normally be drier and the plant communities within the historic wetlands have changed. Also, the canals themselves are accelerating the rate of drainage occurring in the northern part off the tract.

However, there is concern that the canals have been in place so long that the berms have taken on the characteristics of natural riparian zones. Populated with mature tree and shrub vegetation, they presently provide habitat for various wildlife species. To remove this vegetation for the sake of “restoration” would be disruptive to the site as well as those species that have come to depend on it for their habitat (**see Figure 1**).

Restoration of these channelized sites would involve timber harvesting, removing berms or segments of berms, backfilling, re-shaping the ground surface, and replanting wetland species within the historic wetland footprint. A relatively intact drainage still exists to the east of these canals which could be used as a model. A comprehensive hydrological assessment is needed to determine the feasibility of successfully restoring these channelized sites. If such an assessment reveals significant benefits to the wetlands on LGSF without compromising the other land management missions of the agency, the Division of Forestry would be interested in pursuing the restoration of these channelized sites.

**Wetland Restoration Needs Assessment –**

Assessment work was conducted on the Astor and Dexter-Mary Farms Tracts in October, 2007. **One hundred and forty-one** site points were established during the assessment. Although significant road improvements were made on the Dexter-Mary



**LGSF Figure 1:** Sweetgum Canal on the Dexter-Mary Farms Tract showing vegetation that would have to be removed with the berms of the canal.

Tract after the 1998 wildfires and in 2005, the assessment involved looking at and evaluating culverted and low-water crossings on approximately **70%** of the roads and trails of the forest. The assessment also looked at approximately **50%** of the canals and ditches on the DMF Tract. Additional information about this assessment is available upon request from the Hydrology Section of the Division of Forestry. The following observations made during the assessment are among the assessment

findings. Additional information about the assessment is available upon request from the Division of Forestry.

1. Due to the aggressive road improvement efforts made in recent years, drainage under the primary above-grade roads in the Dexter-Mary Farms Tract was, for the most part, is adequate.

2. Anticipated timber sales in 2008 and 2009 on the Astor Tract will require additional road armoring on the **Sandy Drain** and **Crooked Roads** to protect the integrity of nearby wetlands and water quality within the drains.
3. Trail 3 on the Astor Tract, like many secondary access roads on both tracts, is below-grade. Consequently, it collects, channelizes, and re-directs surface drainage away from natural flow patterns. These trails should be prioritized on the basis of location and need for forest management purposes (**see Figure 2**).
4. Low water crossings could be installed in numerous locations on both tracts to enhance site hydrology and wetland functions.
5. Drainage ditches on the DMF Tract accelerate surface drainage from the tract and have changed the local plant communities in these parts of the forest. However, a more comprehensive hydrological and ecological analysis should be done to determine what, if any, restoration strategy should be used on these ditches.
6. Several culverts on the St. Johns River Road are old and corroding, and will require replacement within the next 5 years.



**LGSF Figure 2:** Example of an incised forest road on the Astor Tract that alters the natural hydrology of a wet flatwoods site.