GYRO-TRAC NEWS

Dantzler Nature Preserve Longleaf Pine Restoration Project: MX974390

Figure 14. Using gyrotrac to clear heavy brush on Unit #4.

Figure 13. Clearcut after gyrotrac treatment. Note several young longleaf pines.

Project Description:

The vision for managing Mississippi's Coastal Preserves is to provide long-term benefits to the natural resources and economic value of the region. Management goals are designed to enhance and perpetuate important coastal wetland resources, provide compatible human recreational use, provide research and data applicable to coastal resource management both on-site and off-site, and protect specific habitat necessary for native, threatened, or endangered species. State trust lands within the Coastal Preserve sites are effectively managed to perpetuate their natural characteristics, features, ecological integrity, social, economic and aesthetic values so that future generations may enjoy the benefits of viable wetland ecosystems.

The Dantzler Nature Preserve (DNP) was donated to the State of Mississippi in 1996 as part of the wetland mitigation requirements for the Beau Rivage Casino development. This site was incorporated into the Pascagoula River Coastal Preserve to be managed, in perpetuity, as a natural area. This preserve is part of the Mississippi Coastal Preserves System comprising nearly 35,000 acres of coastal wetland and maritime forest habitat. This preserve has been designated as a Gulf Ecological Management Site (GEMS) and as a Nationally Important Bird Area by the National Audubon Society and as a Globally Important Bird Area by the American Bird Conservancy.

The DNP tract is a mixture of 403 acres of uplands and 470 acres of saltwater marsh. The upland soils (~ 265 acres) are dominated by the Lenoir Silt Loam with Myatt inclusions of hydric soil. The balance of the area is in hydric soils such as Daleville and Hyde Silt Loams. Approximately 60% of the upland contains a stand of longleaf pine (Pinus palustris) of varying densities mixed with slash (Pinus elliottii) and loblolly pines (Pinus taeda) and mixed hardwoods. The remainder is in slash pine and hardwoods. Except for the wettest sites, a heavy understory of brush dominated by yaupon (Ilex vomitoria) and gallberry (Ilex glabra) characterizes the entire upland. The marsh portion of the tract contains four islands of uplands totaling 11 acres, predominantly slash pine, ranging in size from less than an acre to about nine acres.

The primary goals for managing the DNP are:
1. Protect and enhance the flora and fauna of the estuarine marsh.
2. Restore the longleaf pine ecosystems of the uplands.
3. Install nature trails to provide public access.
4. Reduce the wildfire hazard to adjacent subdivisions.

The strategies for achieving these goals are:

1. Using prescribed fire on a 3-5 year cycle to reduce fuel loads and maintain the fire-dependent longleaf pine ecosystems.
2. Using herbicides to control invasive species that do not respond to fire.
3. Using timber thinning to remove the loblolly and slash pines and to reduce the basal area for the dense longleaf pine areas.
4. Developing a parking area and using signage and existing firelines as nature trails.

In summary, prescribed burning is the primary tool used in restoring longleaf pine ecosystems. However, due to weather conditions and resource issues, MDMR was unable to conduct burns on the planned schedule. Nevertheless, MDMR has managed to burn seven of eight burn units over the past 5 years and has burned one unit twice during that period. The twice-burned unit shows significant movement toward a longleaf pine / wiregrass savanna ecological community, with a major reduction in heavy brush and an increase in the herbaceous community. In addition, MDMR has shown good success in reducing invasive cogongrass populations and is making some progress in reducing tallowtree populations. Through thinning and planting MDMR has reduced the number of loblolly and slash pines and increased the number of longleaf pines. MDMR has also made progress in restoring the natural hydrology by grading down roads and filling ditches. Although this restoration project will take several more years to complete and will require continuous maintenance after completion, the funds from this grant has helped MDMR make

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