



Grand Bay-Banks Lake Stewardship Partnership-Phase II

Project #
05-158

Background:

Moody Air Force Base is part of a 10,000-acre site of regional significance that includes Banks Lake National Wildlife Refuge, Grand Bay Wildlife Management Area and The Nature Conservancy's Banks Lake Preserve. The site collectively referred to as the Grand-Bay Banks Lake (GBBL) ecosystem contains an abundant diversity of relatively undisturbed aquatic and terrestrial habitats including longleaf pine, flatwoods, Carolina Bays, limesink depressions and evergreen hammocks. These community types have been identified by The Nature Conservancy as priority conservation targets within the South Atlantic Coastal Plain Ecoregion. The stewardship partnership for GBBL includes Moody Air Force Base, The Nature Conservancy, US Fish and Wildlife Service and the Georgia Department of Natural Resources. Funding for the project was supplied by the Department of Defense Legacy Resource Management Program.

Objective:

In 2003, using funds from the Department of Defense Legacy Resource Management Program and the Price-Campbell Foundation, a comprehensive Site Conservation Plan (SCP) was completed for GBBL. The SCP established conservation targets and included threat analysis and strategies to mitigate the threats on the conservation targets. Phase II project was undertaken to explore the underlying ecological processes that shape natural communities across this region: hydrology and fire. The challenges of ecological burning on or near an air base cannot be underestimated. A thorough examination of the interaction of hydrology and fire ecology therefore is critical in enabling resource managers to conserve these regionally significant communities, while facilitating execution of the military mission. These issues are not unique to Moody AFB; in fact, many military installations across the southeast must address these issues.

Summary of Approach:

The stewardship partnership developed a hydrological and fire management plan for the area. The first steps toward this goal included establishing shared goals for water control and ecological burns. Using historical data, partners determined hydrological patterns and historic fire regimes. The information will serve as a predictor of future conditions and its impact on the rare species and natural communities of this ecosystem.

Benefit:

The results of this partnership will improve the conservation status of regionally significant natural communities on Moody Air Force Base and in the larger surrounding Grand Bay-Banks Lake ecosystem, and will not only result in a measurable contribution to regional conservation, it will also result in increased flexibility and options available to military operators on Moody Air Force Base. Partnership research of these management techniques for fire and hydrology at Grand-Bay Banks Lake can be exported to installations throughout the southeast.

Accomplishments:

The partnership received completed presettlement vegetation and fire regimes maps supplied as GIS layers. The current and historic vegetation mapping project conducted a change analysis that confirmed the opinions of experts familiar with the site. In the absence of frequent fire, the Carolina bays are shifting from open marsh communities to scrub-shrub communities. This is resulting in a decrease in habitat needed for rare species at GBBL. A study of the presettlement fire regime confirmed that fire was once a frequent occurrence in portions of the wetland complex at GBBL. A hydrological study provides information on the connection between the surface water and groundwater at the site and recommends management options to meet ecological goals. The fire management plan make recommendations on how to increase the frequency of fire at the site to return GBBL to a larger percentage of open marsh communities, similar to levels observed in the past.

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