

# Alligator Lake Management Area: *Ecological Restoration Project*

## 1942 AERIAL VIEW



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## PRE-RESTORATION



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# SITE PLAN





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## POST-RESTORATION



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## SIMILAR SUCCESSFUL PROJECTS, BIRKITT ENVIRONMENTAL SERVICES

## The Lake Okeechobee

## Isolated Wetlands Restoration &amp; Creation Program

The Lake Okeechobee Isolated Wetlands Restoration and Creation Program (LOIWRCP) was developed to route nutrient enriched water from agricultural lands through restored or created wetlands to remove total phosphorus loading to the lake. LOIWRCP is a voluntary landowner cost-sharing program funded through the South Florida Water Management District, which offers landowners the opportunity to restore wetlands that have been converted to other uses or to create new wetlands. Birkitt Environmental Services, Inc. (Birkitt) was selected as the leader of a team of professionals comprised of hydrologists, geologists, civil engineers, and surveyors. The first project assigned under this contract was the Kirtan Ranch site. The Birkitt Team conducted natural resource and soils assessments, topographic surveys, and hydrologic analysis for this wetland restoration project. This project included preparation of a wetland management plan, wetland restoration design for approximately 400 acres of wetlands, state and federal permitting and landowner coordination and construction. Construction was completed in March 2004. Birkitt completed an additional project to conduct restoration activities on a 68-acre parcel of State owned land near Lemkin Creek located in Okeechobee County, Florida. This parcel is adjacent to existing mined rock pits which are being considered for storage and treatment of the City of Okeechobee's stormwater runoff. It is anticipated that, in the future, the restoration of the State parcel will be integrated with the urban storage and treatment area directly to the north. This project included oversight of exotic species removal and the development of a wetland management plan in addition to the biological surveys, hydrologic assessment, and restoration design.



## San Pedro Bay Mitigation Bank

## Off site Mitigation Design &amp; Permitting

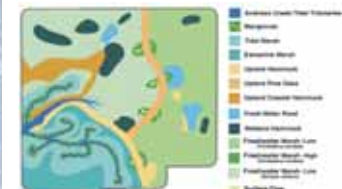
Birkitt was responsible for project management of a team that included hydrologists, geologists, archeologists, engineers, and biologists for this project. Services encompassed environmental assessments, wetland restoration design, and permitting negotiations for development of a 7000-acre mitigation bank in San Pedro Bay, Taylor County, Florida. Tasks included preparation of permit applications and negotiations with state and federal agencies using (WRAP) analysis for establishment of mitigation credits. Our management of this project through the Federal Mitigation Bank Review Team resulted in multi-agency approval of a Mitigation Banking Instrument. Extensive ecological and hydrologic studies were conducted. Activities included modeling and design of wetland restoration plans, development of success criteria, monitoring of hydrologic and vegetative restoration components, and agency negotiations. Restoration design components include installation of ditch blocks and low water crossings for hydrologic restoration and removal of planted pines for vegetative restoration of the site. The Florida Department of Environmental Protection and the US Army Corps of Engineers have issued permits for the Bank. Construction has been completed and credits are being sold, based on documented success in achieving permit criteria.



## Tampa Bay Mitigation Bank

Birkitt Environmental Services, Inc. (Birkitt) is a partner in the development of the 161-acre Tampa Bay Mitigation Bank (TBMB), a permitted off-site mitigation option for wetland impacts in the Tampa Bay watershed. The Tampa Bay Estuary Program and SWFWMD's SWIM program identified the TBMB site as a key location for providing significant ecological and water quality benefits to Cockroach Bay and the Tampa Bay region. Intertidal habitat (42.2 acres), freshwater wetlands (81.3 acres), wetlands hammock (7.8 acres) and freshwater ponds (3.8 acres), as well as native upland habitat are being created and restored to further improve essential native habitat adjacent to Tampa Bay, Andrews Creek, which flows into Cockroach Bay Aquatic Preserve, will be restored through removal of a concrete weir and exotic species removal. Birkitt is providing environmental, project management, and permitting services for the project, including design of wetlands restoration and creation areas, native planting plan, and permit coordination with federal, state, and local agencies. Permits from Southwest Florida Water Management District and the U.S. Army Corps of Engineers have been issued.

Construction is 90% complete. Significant natural recruitment vegetation is occurring and the estuarine portion of this site has been planted.



### Pre-restorative Conditions



### Restoration Scenario

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