

EVERGLADES NATIONAL PARK
2007 Site Monitoring Report with
Steps and Benchmarks
Submitted to the World Heritage Committee
February 1, 2007

This report provides an update on specific accomplishments in efforts to address previously identified threats to the outstanding universal values of Everglades National Park (Park). This Report also provides clear Benchmarks, developed in cooperation with IUCN and approved by the World Heritage Committee in Decision 30 COM 7A.14 taken at the 30th Session (Lithuania), which when met, would facilitate the removal of Everglades National Park from the List of World Heritage in Danger.

Threat 1. Alterations of the Everglades National Park hydrological regimes (quantity, timing, and distribution of Shark Slough inflows).

Status: The requested Federal appropriations for the current fiscal year (FY 2007) include approximately \$253 million for a comprehensive array of South Florida ecosystem restoration projects. Of the \$253 million, just over \$48 million has been requested to continue construction of the Modified Water Deliveries Project (Mod/Waters) and another \$11 million of the \$253 million have been requested by the National Park Service (NPS) to support other ecosystem restoration objectives.

The Everglades National Park Protection and Expansion Act of 1989 authorized the addition of 109,600 acres of the critical Northeast Shark Slough basin to the Park. The Act also directed the U.S. Army Corps of Engineers (Corps) to improve water deliveries to Everglades National Park and, to the extent practicable, take steps to restore the natural hydrologic conditions in the Park. The Corps is continuing its efforts to increase water flows into the Park's largest drainage basin, Shark Slough.

The most significant near-term efforts to restore water flows into the Park are tied to the completion of the Mod/Waters Project, which consists of three general components: 1) The 8.5 Square Mile Area Flood Mitigation project, which will control seepage losses from Northeast Shark Slough and mitigate for any increased water flows on adjacent developed lands; this component is scheduled for completion in May, 2008; 2) Construction of water conveyance features to promote sheetflow of water through the upstream Water Conservation Areas and into Northeast Shark Slough; this component is scheduled for completion by November, 2010; and 3) the reconstruction of the Tamiami Trail (U.S. 41) which will raise the road bed and bridge 3 miles of the Northeast Shark Slough basin to improve flow distributions into the eastern portion of the Park; this component is scheduled for completion by November, 2011.

Cost estimates to complete the remaining Mod/Waters project features have increased by approximately \$196 million since the 2006 status report due principally to significantly higher construction costs. In 2005, the Federal government made a determination that all remaining Mod/Waters costs will be split equally between the Corps and NPS. Currently projected appropriations are considered to be adequate to complete all three of the project components by November, 2011.

The Corps recently initiated an Environmental Impact Statement (EIS) for the development of the Combined Structural and Operational Plan (CSOP), which will provide a water control plan for operation of the Mod/Waters and C-111 Project features. This plan will replace the current Interim Operating Plan (IOP) that was specifically designed to address the recovery of the endangered Cape Sable Seaside Sparrow. The Corps expects to complete this CSOP water control plan by January 2008. The EIS for the Combined Structural and Operational Plan will also describe the final design for the Mod/Waters conveyance features to move additional water through the upstream Water Conservation Areas and into Northeast Shark Slough.

Benchmark 1A: All East Everglades Land Acquisition complete (approximately 44,000 hectares). Land Acquisition is approximately 98% complete. The key remaining lands occur along Tamiami Trail, and are expected to be acquired during 2007 as part of the roadway construction project.

Benchmark 1B: Complete Water Control Plan (CSOP Final EIS) and completion of 8.5 Square Mile Area Construction. The CSOP EIS and water control plan are scheduled for completion in January 2008, while the remaining 8.5 SMA features are scheduled for completion in May 2008.

Benchmark 1C: Construction projects for the L-67A & L-67C and L-29 water conveyance structures, Tamiami Trail Bridges, and road modifications are all underway. Construction of the Tamiami Trail roadway improvements is scheduled to begin in March 2008. Construction of the conveyance features along L-67A & L-67C is scheduled to begin in December 2008, while construction of the L-29 conveyance improvements will begin in January 2009.

Threat 2: Adjacent urban and agricultural growth (flood protection and water supply requirements that affect ENP resources by lowering water levels).

Status: In the 1989 ENP Protection and Expansion Act, Congress authorized a re-evaluation of the C-111 project features to address the need for hydrologic restoration in the Taylor Slough and Eastern Panhandle watersheds, as a result of lowered water levels in the L-31N and C-111 canals, located along the Park's eastern boundary. In 1994, the Army Corps completed a C-111 General Reevaluation Report (GRR) recommending a series of modifications that would limit groundwater losses from the Park and restore a more natural water flow regime through Taylor Slough and into Northeastern Florida Bay.

The Corps 2002 revised C-111 plan recommended a series of three pump stations (S-332B, S-332C, and S-332D) and associated water detention areas that would maintain the currently authorized levels of flood protection for adjacent agricultural areas, while limiting groundwater losses from ENP wetlands. By 2006, the majority of the C-111 project features were completed, while construction of the central detention area (adjacent to the S-332C pump station) was delayed by a required land exchange between the NPS and the South Florida Water Management District. This land exchange was completed in 2006, and all remaining C-111 project features are scheduled for completion by November 2011.

The Park occupies portions of three adjacent counties, with the majority of its land areas in Miami-Dade (M-D) County. The County has a total of 1,965 square miles, of which 373 are urbanized and 393 are agricultural and other open space. The remainder is within the Park. M-D

County planners have estimated an annual population growth rate of more than 3% within southern Miami-Dade, with a projected need to construct over 204,000 new dwelling units on the private lands between Everglades and Biscayne National Parks. M-D planners anticipate 30,000 new residents in the area each year, reaching 600,000 additional people by 2025 and 1.2 million by 2050.

To date, intensive residential development has largely been confined within an Urban Development Boundary (UDB) that was established by M-D County in 1975. The NPS has continued to work closely with M-D County and regional land and water management agencies as part of a South Miami-Dade Watershed Study, which is scheduled for completion in early 2007. The current preferred plan for the Watershed Study would place all of the projected new dwelling units needed through 2025 (102,000 units) inside the UDB, and 60% of the new dwelling units within the UDB after 2026, in order to preserve the County's remaining wetlands, farmlands, and open space. If this approach is approved by the Miami-Dade Board of County Commissioners, most of the farmland and open space adjacent to Everglades National Park would remain in place, greatly reducing the pressure to further lower canal water levels, thereby protecting the wetlands and natural habitats within the Park.

Benchmark 2A: Complete C-111 land exchange between the South Florida Water Management District and the US Government. Congress approved the land exchange in a 2006 appropriations bill, and all lands needed to complete the C-111 detention areas are now in place.

Benchmark 2B: Complete Water Control Plan (CSOP Final EIS). The CSOP EIS and water control plan are scheduled for completion in January 2008.

Benchmark 2C: Complete the construction of the C-111 detention area features from the 8.5 Square Mile Area to the Frog Pond. All of the detention areas included in the Mod/Waters and C-111 projects are scheduled for completion by November 2011.

Threat 3. Increased nutrient pollution from agricultural activities.

Status: In 1991, the US Government and the State of Florida entered into a Consent Decree to resolve longstanding water quality concerns related to Everglades phosphorus enrichment as a result of stormwater runoff from the Everglades Agricultural Area. Interim and long-term phosphorus limits have been established for water flowing into Shark River Slough and the Taylor Slough/Coastal Basins of Everglades National Park, with long-term compliance required by December 31, 2006. Regular monitoring activities and reporting continue to document a general trend of reductions in phosphorus levels for waters discharged into the Everglades.

Despite extensive efforts to lower phosphorus levels in the waters that enter the Park, recent data published by the South Florida Water Management District indicate that inflows to Everglades National Park in Shark River Slough meet the interim phosphorus limits but are extremely close to or exceed the long-term phosphorus limits. Phosphorus levels are expected to decline with full operation of Stormwater Treatment Area 3/4, the largest of the upstream constructed filtering marshes north of Everglades National Park. Phosphorus levels are expected to be further reduced as a result of the State of Florida's "Acceler8" initiatives that will create additional filter marshes that serve as stormwater treatment and impoundment areas.

Benchmark 3A: Meet or exceed the interim and long-term phosphorus reduction limits for water flowing into Shark River Slough and the long-term phosphorus reduction limits for water flowing into the Taylor Slough/Coastal Basins in Everglades National Park. For the Water Year beginning October 1, 2005 and ending September 30, 2006, the twelve-month, flow-weighted average total phosphorus discharge concentration for Shark River Slough was 8.7 parts per billion. The interim total phosphorus limit for that period was 10.3 ppb, and the long-term limit (in effect after December 31, 2006) was 8.8 ppb. Although compliance with the limit is determined once per year at the end of the Water Year, the twelve-month, flow-weighted average discharge concentrations are compared to the limit monthly. In this past Water Year, the monthly averages for Shark Slough were above the long-term limit for 10 of the 12 months, with only the August and September monthly values falling below the long-term limit. Although the long-term limits were not in effect, these monthly values above the limit illustrate the need for continued progress to improve the quality of waters entering Everglades National Park's Shark River Slough.

For the Water Year beginning October 1, 2005 and ending September 30, 2006, the 12-month, flow-weighted mean total phosphorus discharge concentration from Taylor Slough and the Coastal Basins was 5.7 parts per billion. There is no interim limit for these inflows, and the long-term limit effective on December 31, 2006 is 11.0 ppb. This value shows that water quality presently entering Taylor Slough and the Coastal Basins is well below the long-term limit, which has been the case for many years.

Threat 4: Protection and Management of Florida Bay

Status: Expanding development along the lower east coast of Florida has led to massive diversions of stormwater into the Atlantic Ocean, and away from the southern Everglades. These diversions reduced fresh water inflows to Florida Bay resulting in increased salinity, especially in the nearshore embayments of central Florida Bay. Hypersalinity and associated diseases in the early 1990's led to the die-off of sea grasses, elevated nutrients and algae blooms, and reduced estuarine productivity needed for successful reproduction of both Everglades's wading birds and marine shorebird communities. Plans to increase water deliveries to Florida Bay and improving the quality, timing, and distribution of flows into the Bay are focused on water management improvements to Taylor Slough. By diverting water back toward the marshes of Taylor Slough, and filling the lower end of the C-111 Canal, more freshwater will flow into central Florida Bay, reducing salinities and restoring estuarine productivities.

The first phase of this restoration effort is the completion of the ongoing C-111 Project, and the S-332 pump stations and detention areas needed to reduce groundwater losses and store and treat canal waters prior to their entering Everglades National Park. The next phase is the construction of the C-111 Spreader Canal project that will fill in portions of the lower C-111 canal eliminating direct discharges to Barnes Sound, and restoring a more natural sheet flow through the marshes in the Park's Eastern Panhandle. The construction of the C-111 Spreader Canal will allow flood waters to be distributed over a broader area of wetlands upstream of Florida Bay instead of directly shunting flood waters into the estuaries of Barnes Sound.

Benchmark 4A: Complete the construction of the C-111 Detention Area features from the 8.5 Square Mile Area to the Frog Pond and implement CSOP operations. This construction is scheduled for completion by November 2011.

Benchmark 4B: Complete the C-111N Spreader Canal and revised operations. The first phase of this project (Acceler8 component) is scheduled for completion by December 2008. The second phase, part of the Comprehensive Everglades Restoration Plan (CERP) is scheduled for completion by June 2012.