

Project Name: U.S. DOI Modified Water Deliveries to Everglades National Park
Mod Waters (MWD)
Project ID: 1307
Lead Agency: National Park Service
Authority: Everglades National Park Protection and Expansion Act of 1989 (Public Law 101-229)
Funding Source: DOI

Strategic Plan Goal(s) Addressed: **Primary:** 1-A.3 **Secondary:** 2-A.3, supports 3-B.1

Measurable Output(s):

- 21 miles of impediments removed
{Tamiami Trail (11), L-67 Extension (9); pieces L-67 A & C and L-29 (1)}
- 190,000 acres of habitat improved

Project Synopsis: In 1989, Congress approved the Everglades National Park Protection and Expansion Act for the purpose of modifying the Central and Southern Florida (C&SF) Project to improve water deliveries to Everglades National Park (ENP), and to take steps to restore the Park's natural hydrologic condition.

Hydrological improvements are crucial to restoring ecosystem productivity in the southern Everglades and maintaining adequate freshwater inflow to downstream estuaries along the Gulf of Mexico and Florida Bay. Addressing the effects of the Tamiami Trail (U.S. 41) is a major component. The roadway was built in the 1920s so vehicles could travel between two of the earliest centers of population growth in southern Florida, Tampa and Miami. Decades later, restoration agencies identified the Tamiami Trail as one of the most serious threats to the health of the Everglades, as it acts like a dam stopping water flows from moving south. Modified Water Deliveries (MWD) authorized the USACE, in consultation with the DOI, to construct modifications of the C&SF Project water management system and related operational changes and "to the extent practicable, take steps to restore the natural hydrological conditions within the park" improving water deliveries to ENP.

The USACE 1992 General Design Memorandum (GDM) and Environmental Impact Statement, *Modified Water Deliveries to Everglades National Park, Central and Southern Florida Project for Flood Control and Other Purposes* project design for MWD, and subsequent supplements, specify the construction of structural features with the intended purpose of restoring conveyance between Water Conservation Areas (WCAs) north of ENP and the Shark River Slough, the lifeline of ENP. The combined features will improve conditions for 190,000 acres of habitat, aid in the recovery of threatened and endangered species, and lay a foundation for future restoration efforts under the CERP.

MWD consists of four major components. All are necessary and work together to restore flows from WCA-3A to WCA-3B and under Tamiami Trail to the historic headwaters of the Northeast Shark River Slough in the Everglades Expansion Area:

- (1) Flood mitigation for the 8.5 Square Mile Area (SMA), a residential and agricultural area directly adjacent to expansion boundary in East Everglades, and tribal residential areas along U.S. 41;
- (2) Conveyance and Seepage Control Features (CSCF) to facilitate flow through the system from WCA 3A to WCA-3B and limit seepage eastward from WCA-3B and ENP, including the re-establishment of the historic Shark River Slough flow ways;
- (3) Tamiami Trail Modifications (TTM) to facilitate water flow beyond the road south into ENP; and
- (4) Project Implementation Support, including monitoring and operational changes, an experimental program; a Combined Operational Plan (COP), and raising Osceola Camp.

109,504 acres of land were acquired in the East Everglades as part of the Everglades National Park expansion. Acquisition of land within the East Everglades addition is necessary to limit further losses suffered by ENP due to habitat destruction outside former boundaries and to restore natural water flow patterns critical to the ecological integrity and long-term viability of park resources.

Since completion of the 1992 GDM, scientific investigations identified revised ecosystem restoration requirements and potential design problems associated with some 1992 features. These requirements, in turn, resulted in the completion of supplemental NEPA documents for the 8.5 SMA component (July 2000) and the Tamiami Trail Modifications (TTM) component (January 2006, August 2008). NEPA documents for conveyance and seepage control features and the combined structural and operational plan were delayed due to a potential impact to the Cape Sable seaside sparrow and the a revised Tamiami Trail plan.

Due to concerns over delays and the development of the larger CERP, Congress restricted the appropriation of funds for construction of components of the CERP DECOMP project and the Central Lake Belt Storage project until the completion of the MWD in WRDA 2000.

Historically, the project has been funded through DOI annual construction appropriations. DOI appropriations have supported real estate transactions, COP development, CSCF and Tamiami Trail construction, and environmental monitoring. Due to the increase in the estimated cost of the project and the focus of much of the remaining work on construction, additional funding was requested through USACE appropriations in FY06, FY07 and FY08. Specifically, in FY06 \$35 M was received through USACE, primarily to support the construction of the 8.5 SMA and during the latter two years, USACE appropriations supported the Tamiami Trail project.

- (1) **Flood Mitigation for 8.5 Square Mile Area (SMA)** Objectives are consistent with the 2000 GRR ROD:
 - Maintain the surface and ground water levels within the project areas of the 8.5 Square Mile Area (8.5 SMA), between the L-357W levee and L-31N levee; and
 - Preserve or enhance the hydropatterns of land located west of the L-357W levee (ENP and the publicly owned natural areas).
- (2) **Conveyance and Seepage Control Features (CSCF)**
CSCF facilitates flow through the system from WCA 3A to WCA-3B and limits seepage eastward from WCA-3B and ENP. The 1992 General Design Memorandum (GDM) specified the construction of CSCF features: gated structures, spillways, and pump stations.
- (3) **Tamiami Trail Modifications (TTM)**
The *2008 Integrated Limited Reevaluation Report and Environmental Assessment (LRR)* was executed on August 1, 2008. The LRR was written with direction from Congress managers after increased material costs made the 2005 RGRR plan (*Final Revised General Reevaluation Report and Second Supplemental Environmental Impact Statement for the Tamiami Trail Modifications*) plan too expensive to implement. Instead of three miles of bridging and raising the road to allow unconstrained water flows, the LRR plan included one mile of bridging and road reinforcement or road raising to allow a maximum operating limit of 8.5 feet in the L-29 Canal (headwater).
- (4) **Project Implementation Support**
Monitoring and mitigation requirements of the MWD project were identified in the 1992 GDM. Operational plan development is also included in this component.

Current Status:

(1) Flood Mitigation for the 8.5 Square Mile Area (SMA)

Lands were acquired and construction was completed in 2008. The Las Palmas residential area, referred to as 8.5 SMA, now has perimeter levees and a seepage collector canal to mitigate for the increased flood risk with planned increased water flows and levels in ENP with future MWD and C-111 component implementation. The new pump station (S-357) will remove water from the seepage collector canal to prevent increased water levels in residential areas, while allowing for increases in the adjacent ENP lands, separated by the protection levee. Land preparations necessary for operation, including access control, debris and invasive vegetation removal have been ongoing. The USACE developed a Draft Environmental Assessment (EA) of the Interim Water Control Plan, held a public meeting November 19, 2008 and released the revised Draft EA for additional public comments in May, 2009. Operational testing and monitoring of the 8.5 SMA project features began June 1, 2009 and ended earlier than anticipated due to unanticipated water levels in the Las Palmas community. Once the issues are fully analyzed, proposed solution recommendations will be provided.

(2) Conveyance and Seepage Control Features (CSCF)

Related to the 1992 GDM features:

- Spillway structures S-355A and B in the L-29 Levee (complete)
- S-333 modifications (complete)
- Tigertail Camp elevation (complete - raised to 12.00 ft. with 1st floor elevations of at least 12.5 feet)
- Pump Station S-356 between L-31N Canal and L-29 Canal (for MWD - complete)
- Structures S-345 A, B, and C through the L-67A and C Levees (pending)
- Structures S-349 A, B, and C in the L-67A Borrow Canal (pending)
- Osceola Camp elevation evaluation (pending)
- Degradation of the L-67 Extension Canal and Levee (4 of 9 miles degraded)
- S-331 Command and Control (complete - added telemetry & remote control of conveyance features)

The Tamiami Trail Modifications Integrated Limited Reevaluation Report (LRR), approved by the Assistant Secretary of the Army for Civil Works on August 1, 2008 (*below*), required adjustments to the remaining CSCF features. The extent of design modifications is currently being evaluated along with the potential for additional L-29 structures to release water introduced into WCA-3B. The USACE will address these design modifications in a Post Authorization Change document. The related NEPA documentation will be released for public comment once the necessary modifications have been determined.

A pilot project to install spreader swales immediately south of two culverts sets found along a 10.7 mile stretch of the Tamiami Trail at the northeastern boundary of the Everglades National Park was proposed to determine if swales would increase hydrologic flow into Everglades National Park and if so, determine the level of increased conveyance. The National Park Service, in collaboration with USACE completed an Environmental Assessment and executed a Finding of No Significant Impact on 23 March 2009. Hydrologic modeling and pre-installation monitoring were conducted by University of Miami. The modeling was favorable and a public meeting was held on 20 January 2010. After considering comments, ENP decided to implement the spreader swale pilot on 1 February 2010. The team has prepared a letter report, received a special use permit to install and monitor from ENP, and submitted an environmental resource permit application to FDEP. Once all permits are in place, it is anticipated that the existing Tamiami Trail contract will be modified to include installation of the spreader swales. Installation is expected to be completed by the end of February 2011.

(3) Tamiami Trail Modifications (TTM)

In the 2008 Integrated Limited Reevaluation Report (LRR) and Environmental Assessment (EA), USACE re-analyzed the plan approved in the 2005 Revised GRR/SEIS to determine other less costly alternatives and direction for the TTM project. The LRR plan recommended a one-mile bridge to the east (2 miles west of Krome Avenue), allowing L-29 Canal stage to reach 8.5 feet NGVD, and reinforcing the road to mitigate impacts from the 8.5-foot stage. The TTM project as described in the Integrated LRR/ EA, with amendment, was approved by the Assistant Secretary of the Army for Civil Works on August 1, 2008.

The Miccosukee Tribe filed a claim against the USACE regarding the LRR/EA and another against the US Department of Transportation with a petition for an administrative hearing in October 2008. The presiding judge issued a preliminary injunction on November 14, 2008 and later that same day, an amendment to the solicitation to indefinitely postpone receipt of proposals was posted. USACE compiled the required administrative record for the court on January 9, 2009 and the project remained on hold until the preliminary injunction was dissolved and the NEPA-FACA case dismissed by the District Court on June 17, 2009.

The USACE posted an amendment in July 2009 reopening the Tamiami Trail construction solicitation. On September 28, 2009 USACE awarded the \$ 81 million Tamiami Trail construction contract for the one-mile bridge and to raise and reinforce an additional 9.7 miles of Tamiami Trail roadway to accommodate higher water levels in the adjacent L-29 Canal and in turn into the Everglades National Park. A groundbreaking for the Tamiami Trail Bridge portion took place December 4, 2009. Roadwork construction began in March 2010. The projected completion of the Tamiami Trail bridge and road construction is now expected in 2013.

(4) Project Implementation Support

This component is ongoing for project and program management support by the DOI and USACE, hydrological stream gage monitoring and wildlife monitoring, and operational plan development.

Est. Cost: \$ 414,449,000

NOTE: While the current approved CAP is \$398.4 M estimated costs have increased to 414.4 M under the new Recommended Plan identified in the signed LRR.

Project Schedule:

1990 Start
 2013 Finish

Detailed Project Budget Information (rounded):

MWD	Expenditures Thru FY 2009
DOI	\$201,196,976
USACE	\$52,659,008
Total	\$253,855,984

Hyperlinks:

<http://www.saj.usace.army.mil/Divisions/Everglades/Branches/ProjectExe/Sections/LECSW/MWD/>

<http://www.saj.usace.army.mil/Divisions/Everglades/Branches/ProjectExe/Sections/LECSW/MWD/TamiamiTrail.htm>

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Source: Current status information and expenditure calculation was provided by the project manager. Cost estimate information is updated to reflect current price levels in October 2009 dollars. Schedule is updated based on the approved *Integrated Delivery Schedule Through 2020* (as of February 2010).

Additional Information:



