

Project Name: C&SF: Manatee Pass Gates
(Construction of Modifications to the C&SF Project features for the Protection of Manatees)
Project ID: 2404
Lead Agency: USACE / SFWMD
Authority: ER 1130-2-540, Environmental Stewardship Operations and Maintenance Policies, 15 November 1996; EP 1130-2-540, Environmental Stewardship Operations and Maintenance Guidance and Procedures, revised 30 November 2001; the Marine Mammal Protection Act of 1972; the Endangered Species Act of 1973 (as Amended) and the approved water control plans and manuals for the Central and Southern Florida Project; Section 203 Flood Control Act (1948) and Section 203 of the Flood Control Act (1958) addresses cost-sharing.
Funding Source: Federal/State

Strategic Plan Goal(s) Addressed: Other – supports 2-A.3

Measurable Output(s): Structural modifications and operational changes for species protection

Project History: The West Indian manatee is provided protection under the Endangered Species Act of 1973, making it against the law to “harm, harass, kill” etc. any of these animals. After boats, the “operations of spillways and locks are cited as the second leading cause of human related manatee mortalities”. Protection of the manatees at water control structures is a part of the long range recovery goals of the Florida Manatee Recovery Plan required by the Marine Mammal Protection Act (1972), to maintain “the health and stability of the marine ecosystem” and to determine and maintain manatee numbers at “optimum sustainable population” in the southeastern United States.

In the *Central and Southern Florida Project Comprehensive Review Study* (Restudy) section 4.9.1.5 of the Restudy, the Manatee Protection Project is described as follows: “The West Indian manatee (*Trichechus manatus*) is listed as a federally endangered species and is one of the most endangered species in Florida. As a response to recent manatee mortality trends associated with water control structures, this project will provide operational changes and implement the installation of a manatee protection system at seven sector gates at navigational locks near Lake Okeechobee. The beneficial outcome of this project will be the reduction of risk, injury, and mortality of the manatee. The seven sector gates include S-193 at Okeechobee and S-310 at Clewiston on Lake Okeechobee; St. Lucie Lock and Port Mayaca Lock on the St. Lucie Canal; and Moore Haven Lock, Ortona Lock, and W. P. Franklin Lock on the Caloosahatchee River.

The mechanism proposed uses hydro acoustic and pressure sensitive devices that immediately stop the gates when an object is detected between the closing gates. These systems transmit an alarm and signal to stop the gate movement when a manatee is detected. When an object or manatee activates the gate sensors, the gate will stop and open approximately six inches to release a manatee. As a result, a manatee will be able to travel between the open gates. Once the gate opens, the operator can fully close the gate, unless an object remains between the gates. The opening process will repeat the cycle as the sensors are activated again. Due to these structural modifications, manatees will be at a significantly less risk as they encounter locks with sector gate.

Current Project Synopsis: The purpose of this project is to develop and install Manatee Protection Devices on vertical lift gates and sector gates at specific navigation and flood control structures.

The project consists of alternative structural modifications to 23 existing water control structures and locks in the C&SF Project to reduce or eliminate manatee mortalities, associated with their operation. The project is being implemented in two phases; the first phase addresses the addition of pressure sensitive devices at water control structures.

Project 2404 C&SF: Manatee Pass Gates Page 1 of 2

The second phase includes acoustic devices at selected sector gate water control structures. These devices reverse the gate closure if a foreign object is detected.

Operation, maintenance, repair, replacement, and rehabilitation responsibilities for each structure differ between Non-Federal and Federal sponsors based on their location. A Project Cooperation Agreement (PCA) for Phase 2 was signed in January, 2005 for the following six sector gates: Moore Haven Lock (S-77), Ortona Lock (S-78), W.P Franklin Lock (S-79), Taylor Creek Lock (S-193), Port Mayaca Lock (S-308B), and S-310.

Current Status:

Construction activities are still in progress for Phase 2. Installation of acoustic devices and operator training has been completed at Ortona Lock (S-78), W.P. Franklin Lock (S-79), Taylor Creek Lock (S-193), St. Lucie Lock (S-80), and Port Mayaca Lock (S-308B). Installation of the manatee protection system (MPS) at Moore Haven Lock (S-77) has been partially completed in FY 2011 and will be completed in FY 2012;. Installation of acoustic device and operator training for St. Lucie Lock (S-80) is completed. As of May 2010, due to a high number of reported manatee deaths at Moore Haven Lock (S-77) and none reported at S-310, a modification to the final task order (Option Year 3), for Phase 2, was awarded for MPS at Moore Haven Lock (S-77) in January 2010, in lieu of S-310. Completion of the MPS at Moore Haven Lock (S-77) is expected by September 2012. A separate contract is proposed to complete the MPS at S-310, located near Clewiston (between HHD and L-9). This award has been delayed due to changing conditions (Lake Okeechobee operations are such that the gate is rarely operated) and will be revisited once Lake Okeechobee operations are such that S-310 will be operated more regularly.

Three separate companies build, waterproof and install the MPS equipment required for the locks. There have been numerous construction delays prolonging completion of the lock sensor systems and delaying the construction close out activities.

Est. Cost: \$ 16,750,000

(Different cost-sharing parameters exist for each gate, based on modification requests and PCA)

Project Schedule:

2001 Start
2012 Finished



Detailed Project Budget Information (rounded):

Manatee Pass Gates	Expenditures Thru FY 2011
USACE	\$14,280,000
SFWMD	\$2,100,000
Total	\$16,380,000

Hyperlink: <http://www.saj.usace.army.mil/pd/manatee1.htm>
http://www.evergladesplan.org/pm/pm_docs/prog_regulations/som/v1_app_b.pdf

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Source: Original project description summarized from the *Central and Southern Florida Project Comprehensive Review Study (1999)*. Current status information was provided by the project manager. Cost estimate information is updated to reflect current price levels in October 2009 dollars.