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## **Everglades National Park**

### **American Recovery and Reinvestment Act News Release**

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#### **Everglades National Park's American Reinvestment and Recovery Act Cape Sable Canals Dam Restoration Project moves to the next step!**

The National Park Service (NPS) has issued a Finding of No Significant Impact (FONSI) for the Cape Sable Canals Dam Restoration project. Southeast Regional Director David Vela approved the FONSI based on the environmental assessment (EA) recommended by Everglades National Park Superintendent Dan B. Kimball. With the National Environmental Policy Act process completed, the Park can now focus on implementing this important American Reinvestment and Recovery Act (ARRA) project.

The NPS is planning to use approximately \$12 million of ARRA funds to replace the failed dams on the East Cape Extension and Homestead Canals within the Cape Sable area of Everglades National Park. The new canal plugs will provide sustainable solutions to issues associated with saltwater intrusion in and degradation of freshwater and brackish marshes north of the Cape Sable marl ridge, illegal motorized boat access into the Marjory Stoneman Douglas Wilderness area, and unsafe conditions for motorized and non-motorized boaters at the dam sites. "These Stimulus funds will not only create or preserve jobs, but will help protect critical coastal ecosystems and improve the wilderness experience for park visitors," said Park Superintendent Dan Kimball.

In the early 1900's, several canals were dredged through the marl ridge to drain the cape's interior marshes for agriculture and cattle grazing. The resulting incursion of saltwater into formerly freshwater and brackish marshes has contributed to their physical collapse. Outgoing tides drain freshwater and sediments into Lake Ingraham and Florida Bay. These changes have compromised the functions of coastal habitats that are important to threatened crocodiles, recreational fish and other plants and animals dependent on the cape for survival.

The NPS plugged several of the canals at the marl ridge with earthen dams in the late 1950s and early 1960s. Over time, natural forces compromised two of these early structures, and by 1992 they had failed. The earthen dams were replaced in 1997 with sheetpile dams, although

these also failed after a few years, possibly because of vandalism, which increased erosion of the canal banks. Openings at the failed plugs continue to widen because of erosional processes.

Stopping tidal flow through the canals is the key to revitalizing the function of the cape's interior marshes. Although this landscape is naturally dynamic, slowing the rate of human-induced change on this landscape may also bring about greater resilience to the cape in the face of predicted sea level rise and the possibility of more intense hurricanes as a result of climate change.

Strong public and agency involvement played an important role in developing the alternatives and environmental assessment for this project. The approved FONSI is based on Alternatives D and D1, identified as the Preferred Alternatives, when the EA was released for public review and comment June 14 through July 14, 2009.

Superintendent Kimball is pleased with the outcome of the planning process and the cooperative spirit in which it was developed. "I'm eager to now focus on moving forward into detailed design, permitting, and construction of the new canal plugs. This has been a long term restoration goal of the park and I'm committed to completing it as soon as possible."

The EA and FONSI are available through the Everglades National Park website: [www.nps.gov/ever](http://www.nps.gov/ever). Scroll down to the Cape Cable Canals Dam Restoration project and follow the links to download or view the documents.

## **Key features of the Selected Alternatives**

### **East Cape Extension Canal**

The Selected Alternative for the East Cape Extension Canal is described as "Alternative D, the Preferred Alternative" in chapter 2 of the EA. This alternative includes the extraction and relocation of the free-standing sheetpile walls (previous dam structures) to narrower more suitable locations that are in better alignment with the marl ridge. It is anticipated that 80% of the extracted steel sheetpile will be reused. Additionally, earthen plugs will be constructed by installing a second sheetpile wall upstream or downstream of the first wall within the canals. The two sheetpile walls will be placed approximately 100 feet apart. The area between the two walls will be filled and planted with wetland vegetation to reduce the potential for erosion. The fill material will originate from an off-site location. Sheetpile will be extended into the banks at the four corners of the plugs to form flow deflector wingwalls that promote surface sheetflow away from the dam structures and thus prevent seepage and tunneling through the marl. Additionally, fill material will be placed adjacent to each sheetpile wall (2.5:1 slope from the sheetpile to the ground on the waterward side) to substantially increase the lateral support for the dams. Graded riprap will be placed on top of the fill material along the outside face of the sheetpile walls and along the deflector wingwalls and canal banks to provide erosion resistance. These alternatives will also include an engineering component to provide safe passage over the restored dams for nonmotorized boaters (canoeists/kayakers).

### **Homestead Canal**

The Selected Alternative for the Homestead Canal is described as "Alternative D1, the Preferred Alternative" in chapter 2 of the EA. The dredging of an access channel in Lake Ingraham will not be required with this modified version of Alternative D. Geotubes will supplant the sheetpile walls associated with Alternative D. Geotubes are large tubular sand bags filled in place by

pumping sand or slurry through a pipe from a barge. They are typically used to build structures such as breakwaters, shoreline protection, or island creation. For these modified alternatives, fill material will be transported to the Homestead Canal work area through a constructed pipeline. The 6 to 8 inch pipeline will be constructed using a shallow draft barge and will run from the work area to a larger barge located at a designated staging area at the western terminus of the Ingraham Canal (eastern mouth of Lake Ingraham) — approximately 1.5 to 2 miles. The constructed pipeline will be anchored to the northern edge of the existing channel in Lake Ingraham and the eastern edge of the approach channel to the Homestead Canal. The water depths in the Ingraham canal are sufficient and will not require dredging. Fill material will be transported to the staging area at the Ingraham canal and conveyed through the pipe via hydraulic pumping to the work area to avoid potential adverse impacts to the lake from dredging activities. In addition, the existing sheetpile dam will be cut off at the sediment surface (and safely removed) using a torch in place of extracting all the sheetpile with heavy equipment as with Alternative D.

### **Next Steps**

The Park is initiating a detailed planning and design phase and will apply for required environmental permits from the U.S. Army Corps of Engineers, the South Florida Water Management District, and the Florida Department of Environmental Protection. This phase of the project will occur beginning August, 2009 to Spring 2010. Staging for the project will commence in summer 2010, and construction of the canal plugs is scheduled to begin October 1, 2010 and conclude by March 31, 2011 so as not to interfere with crocodile nesting season from April through September.

For more information about the Cape Sable Canals Dam Restoration Project, Project, contact Dewitt Smith, Project Manager at 305-224-421 or [dewitt\\_smith@nps.gov](mailto:dewitt_smith@nps.gov).

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