

Modified Water Deliveries Tamiami Trail Modifications

Limited Reevaluation Report Facts & Information



April 2008

The Everglades National Park Protection and Expansion of 1989 directed the U.S. Army Corps of Engineers to develop a plan for increasing water flows through Tamiami Trail and into Everglades National Park. Since that time, the Corps and its many partners have worked to develop a plan that would provide significant benefits and at a cost that would be supported by the agency decision makers, elected officials and the public. On April 9, 2008 the Corps released the Draft Limited Reevaluation Report (LRR) on Tamiami Trail for public review and comment. The proposed plan for increasing flows under Tamiami Trail and into the northeastern area of Everglades National Park is the Tentatively Selected Plan described below.

The Tentatively Selected Plan

The Tentatively Selected Plan is located in a 10.7-mile section of Tamiami Trail (U.S. Highway 41) between Structure 334 and Structure 333. The plan includes construction of a one mile eastern bridge located about a mile west of the intersection of Tamiami Trail and Krome Avenue. The plan also allows water levels in the L-29 Canal to reach 8.5 feet NGVD, and includes reinforcing the remaining roadway to mitigate for the possible impacts of increased water levels.

The alternative was chosen through a series of complex scientific analyses. A simplified description of the process used and the factors considered follows.

Project objectives considered

Evaluating the effectiveness of alternatives for Tamiami Trail modifications was at the heart of the process to identify a Tentatively Selected Plan. The primary hydrological objectives included restoring more natural timing of water flow (wet season versus dry season flows, for example), volume (as in mimicking natural volumes) and location.

The primary ecological objectives included preventing loss of and restoration of the naturally occurring “ridge and slough” land, water and vegetation pattern of the Everglades. The sloughs are the lower areas where deeper water occurs and aquatic plants and animals are supported. The ridges are the higher land areas which support marshland plants and animals. The ridge and slough system supports a diversity of plant and animal species.

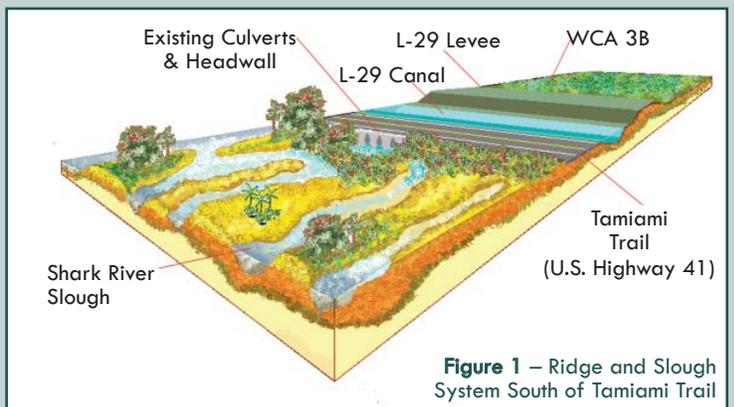


Figure 1 – Ridge and Slough System South of Tamiami Trail

Performance measures identified

The project team made its specific evaluations based on hydrological and ecological indicators called “performance measures.” The team developed an extensive list of performance measures for the Tamiami Trail modifications. The performance measures identified were: total water flow volume, changes in the speed of water as it flows from the north side of the Trail to the south, how long the water was deep enough to support slough vegetation, and “connectivity,” or the degree to which habitats south of the Trail are connected to habitats north of the Trail. These are all important factors for supporting or enhancing the ridge and slough land/vegetation patterns and Everglades wildlife.

Alternatives evaluated

By including water volume (which is affected by the level of water on the north side of the Trail) as a performance measure, all alternatives that did not increase the water level in the L-29 Canal from the current 7.5 feet to at least 8.0 feet were eliminated.

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The Tentatively Selected Plan continued

Flow speeds different from those occurring naturally in marshes can result in modifications to the landscape within the Park. The speed at which water flows is very important to the protection of the ridge and slough systems. If water flows too quickly, it may erode material from the marsh near the Trail and fill in the marsh further south as the water's velocity decreases. Both of these effects are unnatural. Because higher flow speeds can be caused by water traveling through small openings, wider openings tend to achieve more natural speeds for water flows.

Moreover, flow patterns are very important. Sheet flow is the desired condition, rather than flow that originates from a discrete point. Alternatives with larger openings produce broader water paths for water that also travels at slower speeds. This creates the sheet flow condition needed to maintain a marsh – the historic "River of Grass." Alternatives that did not produce sheet flow condition were eliminated.

Maintaining deep water for a long enough time during the wet season is important to restoring slough vegetation. Short durations of deep water are unlikely to cause the vegetation to change from shallower water plants such as sawgrass to

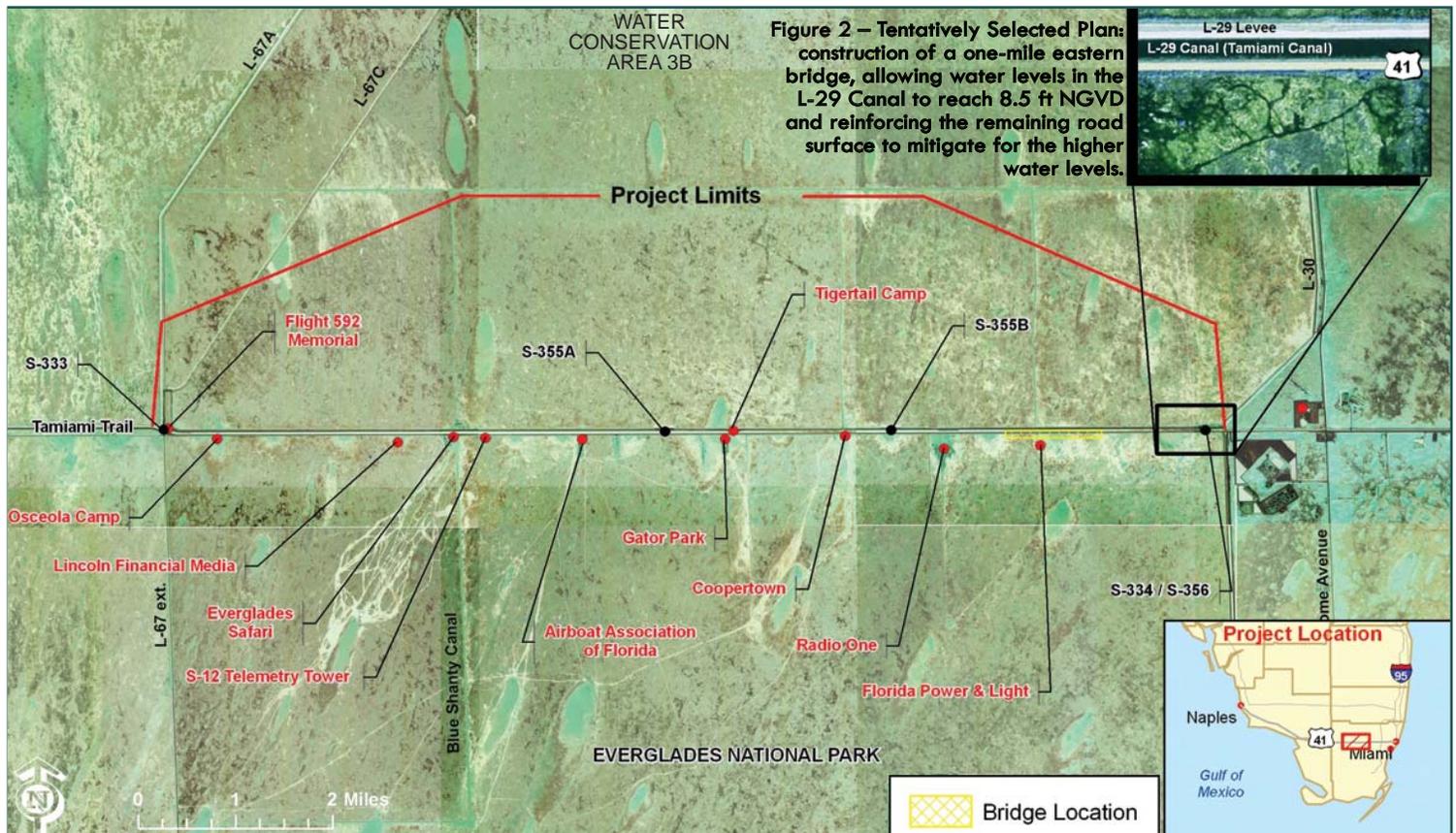
deeper water slough plants such as white water lily. The longer the conditions last during the wet season, the better the conditions for the slough vegetation.

Connectivity between the areas north and south of Tamiami Trail is especially important for wildlife migration and restoring more natural water flow. Analysis demonstrated alternatives that were eliminated for not producing acceptable flow speed also did not meet the connectivity performance measure.

Plan selected

These are just a few of the factors considered by the project team as they analyzed the alternatives for modifying Tamiami Trail. These factors, when coupled with many others, including location, cost and the need to protect the road from damage due to higher water levels in the L-29 Canal resulted in the selection of alternative 3.2.2a as the team's Tentatively Selected Plan. (For complete analysis, please see sections 4 and 5 of the Limited Reevaluation Report.)

The Limited Reevaluation Report/Environmental Assessment is posted on the web at www.saj.usace.army.mil. The comment period ends May 9, 2008 and the report will be finalized in July 2008.



For More Information

Visit www.saj.usace.army.mil.



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