Midnight Pass Reopening Project Update
January 2005

In this January 2005 update on the Midnight Pass Reopening Project we will summarize activities that have taken place since the December 2004 update and provide a discussion of the water quality in the embayments adjacent to Midnight Pass. The project background and a project description are included at the end of the update.

Summary Update of Work-to-Date: What kinds of activities took place in January?

1. Continued preparation of the Inlet Management Plan for Midnight Pass.
2. Prepared the Project Description for the US Army Corps of Engineers to include with the Public Notice.
3. Prepared the economic data to analysis Project related benefits for the U.S. Army Corps of Engineers permitting process and the County's Funding Plan.
4. Initiated responses to the Request for Additional Information received from the Department of Environmental Protection on December 29, 2004.

What is the existing water quality in the embayments adjacent to Midnight Pass and is the water quality any different than it was before the closure of pass?

The water quality in East Sarasota Bay, Roberts Bay, Little Sarasota Bay, and Blackburn Bay was studied from 1997 to 2002 as part of Sarasota County's assessment of potentially impaired water bodies. The State of Florida has standards against which existing water quality is compared to determine whether or not a particular water body will be designated as "impaired."

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In conjunction with studies to determine the feasibility of re-opening Midnight Pass, water quality data were evaluated from the County's six years of data with specific focus on four key parameters, chlorophyll a (chl a), total nitrogen (TN), secchi depth, and dissolved oxygen (DO). The key parameters selected provide an assessment of the overall health of the bay. TN and chl a are indicators of total nutrient loading. Excess nutrients can increase algae growth, which in turn can lead to reduced DO and increased turbidity. Low DO levels can cause fish to avoid the subject waters and, in extreme cases, result in fish kills. Increased algal biomass can also reduce water clarity, resulting in decreased light penetration and decreased coverage of seagrasses that need the light to photosynthesize. Secchi depth measures water clarity.

The project team also conducted computer modeling to compare the rate of tidal flushing of the bay before and after inlet closure in 1983. Results of these studies suggest that Little Sarasota Bay has poor flushing with only 40 percent of the water exchanging every 10 days. In contrast, it is estimated that 80 to 85 percent of the water in Little Sarasota Bay will be exchanged every 10 days with the Pass reopened. Poor flushing exacerbates the water quality problems caused by increased nutrient loading from creek runoff and non-point sources.

Conclusions drawn from the water quality assessment of the four embayments include:

1. The area in the immediate vicinity of Midnight Pass exhibited the following water quality characteristics - low DO levels, high concentrations of chl a, especially in the spring and summer months, high TN, and low Secchi depth.

2. The area in the immediate vicinity of Midnight Pass often exhibits poorer water quality than sections of the bay to the North that receive greater volumes of non-point source pollution and are presently listed as impaired by the Florida Department of Environmental Protection.

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3. The area in the immediate vicinity of Midnight Pass often exhibits algal biomass accumulations in excess of 11.0 micrograms chl a per liter (µg chl a/l), the FDEP indicator for an impaired water body.

4. The waters in the immediate vicinity of Midnight Pass are not presently listed by FDEP as impaired primarily because of the broad area over which water quality measurements define impairment.

5. Clarity in the immediate vicinity of Midnight Pass is often lower than in surrounding embayments and the DO often falls below 5.0 milligrams per liter in the spring and summer months.

Efforts to reduce nutrient loading into Little Sarasota Bay from septic tanks and non-point source runoff have resulted in recent improvements to the water quality within the bay. Increased flushing of Little Sarasota Bay by the re-opening of Midnight Pass will enhance and improve upon the progress being made.

Background: Over the past 20 years, there has been considerable debate whether to reopen Midnight Pass or leave it closed. In January 2004, the Sarasota County Board of County Commissioners (the Board) agreed it was time to accumulate necessary scientific data to determine whether the project should go forward and whether permits could be obtained. To provide appropriate information to make this determination, the Board retained Erickson Consulting Engineers, Inc., whose principal engineer is Karyn Erickson, P.E. Ms. Erickson's most recent experience with inlets was in relocating an unstable coastal inlet in New Hanover County, NC.

While the research and design for both the Midnight Pass and the South Siesta Key Beach Restoration Project will occur at the same time, the Midnight Pass permitting process is expected to be more time-consuming. As a result, the two projects are not being paired.

Project Description: Although project specifications will evolve as more data becomes available and as the state and federal permitting agencies examine the

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project, the conceptual plans for the Preferred Alternative consist of removing 360,000 cubic yards, based on the March 2004 surveys, which includes all material to the design depths and widths including material within the side slopes. This Preferred Alternative would require removal of approximately 90,000 cubic yards from excavating the reopened Pass channel, 160,000 cubic yards of sediment from Midnight Pass tidal channel, 110,000 cubic yards from the sedimentation basin.

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