

Florida Department of Environmental Protection

To: Brian Fugate, Ezell Givens, Wes Howell, Terrance Torvund, Marshall Flake, and Chris Becker

From: Karen Rogers

Date: July 25, 2019

Location: Delnor-Wiggins Pass State Park

Subject: Shoreline mapping survey – May 7, 2019

Comments: The shoreline along the north end of the park was mapped during periods of low tide at the mean high water line (MHWL) for all surveys completed from 2015 to 2019. Significant high tide and storm events in combination with dredging activities in Delnor-Wiggins Pass has resulted in continued erosion and exposure of sea grape, cabbage palm, and mangrove roots along the north end of the park and between north of R17 to south of R17.5 along the northwest side of the park (adjacent to parking lot #5). During this current survey, it was discovered that the shoreline has eroded such that there is approximately 530 feet of shoreline near R17 that is not passable without either walking in the water or snaking through large dead sea grape trees. As a result, the GPS tracks recorded during the shoreline survey as shown below deviate from the MHWL in several locations. The approximate MHWL through the unpassable portions of the shoreline is identified in the applicable images below. There is very little beach for public use in this area and trails, boardwalks, and picnic tables have been moved or rerouted by park staff to provide continued visitor access from the restroom pavilion to the beach. The beach dune has eroded completely, and multiple large sea grape trees have died as a result of root immersion in saltwater and beach erosion.

Shoreline surveys completed in 2016 post-dredge documented that the beach had eroded ~40-50 feet since the initial pre-dredge survey completed on May 5, 2015. Maintenance dredge activities in the pass commenced again during the Spring of 2018 with subsequent shoreline surveys again showing significant shoreline erosion. The beach had yet to recover to pre-dredge conditions when the most recent dredge began in the spring of 2018. Nearshore beach placement of sand in association with the 2018 dredge has temporarily widened the beach south of R18 (adjacent to parking lot 4); however, the beach adjacent to Parking lot 5 and north to the inlet continues to experience significant erosion. Current conditions from this most recent shoreline survey show that the beach has eroded ~80 - 130 feet in several locations since the initial pre-dredge survey on May 5, 2015. Since it was necessary to deviate from the MHWL along a stretch of the beach due to continued erosion, measurements supporting the previous statement were taken outside of the area where the tracks deviate. Given that the MHWL could not be accessed in several locations, the erosion documented in 2019 may be an underestimate. The results of the shoreline surveys provide evidence that an additional ~20-30 feet of beach erosion occurred after this most recent dredge event in the Spring of 2018.

Structures in the park that are currently at immediate risk if erosion continues include two boardwalks, one of which was already impacted by shoreline erosion and was partially removed to prevent further damage. Other structures that could be impacted in the future include the restroom pavilion structure

just south of R17 (north end of parking lot #5), two boardwalks, and a restroom just north of R18 (south end of parking lot #5). The pavilion is currently ~110 feet from the MHWL. Prior to the 2015 dredge event, this structure was ~215 feet from the MHWL. The boardwalks and restroom are currently ~90 - 100 from the MHWL.

Onshore placement of sand between R17 and R18 (adjacent to parking lot #5) and dune restoration activities are critical during future maintenance dredge events of the pass to combat further erosion at the park. Computer calculations used to evaluate net sand transport patterns in the “Wiggins Pass, Collier County, FL numerical modeling of wave propagation, currents and morphology changes Phase II: numerical modeling of alternatives report” prepared by Coastal Planning and Engineering, Inc. in January 2009 determined, after a second model calibration, that the net sand transport between R17 and R18 is north to south. Extending the onshore placement of sand north to R17 will require a JCP permit modification request but it appears to be necessary to restore the shoreline to pre-dredge conditions. The park is currently looking into options to resolve the USACE archaeological concerns about onshore placement of sand and archaeological sites. The installation of armoring structures is not recommended as they will not only lead to further erosion, but also degradation of habitat for imperiled species such as shorebirds and sea turtles.

Below are the various shoreline surveys completed at the park overlaid on the most recent World Imagery aerial provided by ESRI in ArcGIS ArcMap10.6.1. Previous reports used an aerial from Google Earth dated 3/31/2014 to highlight pre-dredge conditions at the park.

May 7, 2019 (post-dredge) – magenta line is approximate MHWL in unpassable areas



May 5, 2015 (pre-dredge) shoreline



May 14, 2018 (pre-dredge) shoreline



May 5, 2015 (red), May 14, 2018 (blue), and May 7, 2019 (yellow) shoreline surveys



May 5, 2015 (red), May 14, 2018 (blue), and May 7, 2019 (yellow) shoreline surveys (magenta is approximate MHWL in unpassable locations)





26.286442, -81.831101 - looking north towards the Pass



26.286668, -81.831116 – looking north towards the Pass



26.287125, -81.831142 – looking north towards the Pass



26.287646, -81.831168 – looking south towards boardwalk for parking lot #5, photo taken ~10 feet above MHWL

Keehn, Stephen

From: Keehn, Stephen
Sent: Wednesday, June 2, 2021 4:10 PM
To: Austin, James
Cc: Sharp, Nicole
Subject: Fwd: Wiggins Pass dredge disposal (North End?)
Attachments: RE: Possibe Wiggins dredge; RE: Possibe Wiggins dredge; DWSPSP shoreline map report 05-07-2019.pdf; Delnor_Boardwalk.jpg

FYI

This is secondary to our contract protect, but keep it in back of your mind.

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From: MillerAndrew <Andrew.Miller@colliercountyfl.gov>
Sent: Wednesday, June 2, 2021 11:10:39 AM
To: Sharp, Nicole <Nicole.Sharp@aptim.com>
Cc: Keehn, Stephen <Stephen.Keehn@aptim.com>; DarcoChristopher <Christopher.Darco@colliercountyfl.gov>
Subject: FW: Wiggins Pass dredge disposal (North End?)

EXTERNAL SENDER

Hi Nicole,

Can you let me know how best to respond to Karen's email below. Is a mod easily and quickly done? I'd like to help them if we can.

Thank you,

Andy Miller, P.E.

Principal Project Manager
(239)-252-2922

Collier County

Growth Management Department
Coastal Zone Management Section
2685 South Horseshoe Drive, Unit 103
Naples, Florida 34104

Andrew.Miller@colliercountyfl.gov

From: Rogers, Karen M <Karen.M.Rogers@dep.state.fl.us>
Sent: Wednesday, June 2, 2021 11:56 AM
To: MillerAndrew <Andrew.Miller@colliercountyfl.gov>
Cc: Flake, Marshall <Marshall.Flake@FloridaDEP.gov>; Torvund, Terrance K.T. <Terrance.K.T.Torvund@dep.state.fl.us>; Becker, Chris <Chris.Becker@dep.state.fl.us>; Fugate, Brian <Brian.Fugate@dep.state.fl.us>; Givens, Ezell <Ezell.Givens@dep.state.fl.us>
Subject: FW: Wiggins Pass dredge disposal (North End?)

EXTERNAL EMAIL: This email is from an external source. Confirm this is a trusted sender and use extreme caution when opening attachments or clicking links.

Naples, Florida 34104
Andrew.Miller@colliercountyfl.gov

Maybe this time we can some relief for the hot spot.....m



Marshall Flake
Department of Environmental Protection
Coastal Project Coordinator & Project Manager
Division of Recreation and Parks
[3900 Commonwealth Boulevard, MS 530](#)
[Tallahassee, Florida 32399-3000](#)
Off: 850-245-3170, Cell: 850-443-7916

From: Rogers, Karen M <Karen.M.Rogers@dep.state.fl.us>
Sent: Tuesday, June 1, 2021 10:04 AM
To: Flake, Marshall <Marshall.Flake@FloridaDEP.gov>
Cc: Becker, Chris <Chris.Becker@dep.state.fl.us>; Torvund, Terrance K.T. <Terrance.K.T.Torvund@dep.state.fl.us>;
Fugate, Brian <Brian.Fugate@dep.state.fl.us>; Givens, Ezell <Ezell.Givens@dep.state.fl.us>
Subject: FW: Wiggins Pass dredging

Hi Marshall,

I understand that there may be a dredge of Wiggins Pass in the near future. As you may be aware, the park lost quite a bit of sand on the north end immediately following each of the dredge events over the past six years and the north beach has not recovered from the erosion. District 4 is currently reviewing plans to repair/relocate a boardwalk structure that has been closed for several months due to this erosion. Would it be possible to have someone model how much shoreline may be lost after future dredges of Wiggins Pass in order to determine if the structure needs to be shifted farther inland?

Terrance

From: MillerAndrew <Andrew.Miller@colliercountyfl.gov>
Sent: Wednesday, May 26, 2021 9:25 AM
To: Green, Sean O. <Sean.O.Green@floridadep.gov>
Cc: Keehn, Stephen <Stephen.Keehn@aptim.com>; Sharp, Nicole <Nicole.Sharp@aptim.com>; Draper, Eric <Eric.Draper@FloridaDEP.gov>; Belue, Nell <Nell.Belue@FloridaDEP.gov>; KennyCarmola, Ivana <Ivana.KennyCarmola@dep.state.fl.us>; Torvund, Terrance K.T. <Terrance.K.T.Torvund@dep.state.fl.us>
Subject: Wiggins Pass dredging

Hello Sean,

It's looking like Wiggins Pass will need dredging sooner than we had hoped. We've contracted with APTIM to prepare design drawings and bid documents, but we want to be sure we're able to place some of the dredged material on the upland beach of Delnor-Wiggins State Park. Please find the attached letter and references explaining the situation. Feel free to call with any questions.

Thank you,
Andy Miller, P.E.
Principal Project Manager
(239)-252-2922

Collier County
Growth Management Department
Coastal Zone Management Section
2685 South Horseshoe Drive, Unit 103
Naples, Florida 34104
Andrew.Miller@colliercountyfl.gov

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