



FLORIDA DEPARTMENT OF Environmental Protection

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SANDBAR REVIEW

Department staff have reviewed the video of Commissioner Devereaux's presentation regarding the sandbar in question and have received data regarding depths. Discussions were held with Jaxport officials who confirmed that Jaxport has no dredge activity in that stretch of the river, nor have they used the adjacent Little Marsh island Dredge Material Management Area (DMMA). Jaxport only uses Bartram Island and Buck Island DMMA's which are not within the area of concern.

Further, discussions were held with the Army Corps of Engineers regarding the Jax Harbor Deepening Project and ongoing maintenance dredging of Blount Island Marine Terminal. The Harbor Deepening Project occurs to the south and east of the shoal area. All dredged material is transported by scow to the Jacksonville Ocean Dredged Material Disposal Site (ODMDS), which is located offshore of Jacksonville Beach. Turbidity monitoring and scow tracking monitoring completed along the federal channel subject to deepening does not indicate a loss of material in that location. Due to the lack of vessels requiring the use of the authorized 30-foot project depth, back River Channel Cut A to the west of the shoal has not been dredged for maintenance in over 17 years. This permit authorized by the department includes a multitude of requirements that are designed to ensure the project does not cause any unanticipated impacts to the river system. Examples of the requirements of these conditions are physical profile monitoring of the river, water quality monitoring, protected species monitoring, wetland habitat monitoring, submerged aquatic vegetation monitoring, etc. There are also monitoring and sophisticated analyses that must be conducted annually to ensure the project performs as expected and in accordance with permitted conditions.

The only dredging project utilizing a pipeline to the DMMA to the north in that vicinity would be the annual/bi-annual maintenance dredging events by the U. S. Marine Corps at Blount Island. The Marine Corps is permitted by the department to complete this maintenance. The authorization requires several impact minimization measures such as ensuring previously unimpacted areas are not impacted and that state water quality standards are not exceeded.

The USACOE is the permitting and construction agent to the Marine Corps for this project. The USACOE reviewed the construction records and found no evidence of a pipe break between the dredge and DMMA. Such a pipe break would be visible to the contractor and on-site USACOE Construction Division Quality Assurance staff and would be also indicated in the slurry density records of the material being pumped to the DMMA. No such observations have been recorded.

At this time, we have no evidence that the shoal/sandbar is associated with any dredging permitted activity. Further discussion with coastal engineering staff in our Office of Resilience and Coastal Protection indicated there could potentially be naturally occurring sources of such shoaling.

An aerial photograph taken in 2013 depicts a submerged shoal at low tide in the area of interest. The shoal at that time apparently did not pose an obstruction to boat traffic. Hydrographic surveys and other measurements indicate approximate depths of one to two feet now exists in some areas. Given the general width and length of the shoal a rough approximation of the volume of material that would raise the bottom elevation by six feet over the last eight years is at most 120,000 cubic yards. There is insufficient information available to the department to determine the rate of shoaling; however, material can accumulate rapidly after a shoal reaches a size sufficient to affect the flow of water. Also, the deeper water of the adjacent channel provides the better course for the currents that flow through this segment of river from tides and from water discharged by the adjacent creeks. The main river is the general source of sediment that could contribute to this Back River shoal just as it does the adjacent port berths and navigation channels, but the water discharge from the adjacent creeks also carries a sediment load. Sediment within the creeks accumulates in shoals and bars where it can reside until transported during periods of higher velocity water discharge from the creeks. The linear, elongated shoal is indicative of the gradual accumulation of sediments, and where a rapid accumulation could occur from the transport of sediment during certain conditions. It is certainly feasible, and even likely that the approximate volume of sediment that has accumulated on this Back River shoal occurs when conditions move sediment from the surrounding areas.

The department shares the Commission's concerns regarding the safety of citizens regarding the shoal and supports utilizing markings and signage to protect boaters and other traffic in this area. The Florida Fish and Wildlife Commission is the authority to make this determination. We understand Captain Jim Suber has been in touch with FWC regarding this. Should the Waterways Commission, the City or a group of homeowners wish to dredge and remove

the shoal, the department role would be in regards to the permitting required to complete this activity.