

TO: Sunset Beach Town Council

FROM: Environmental Resource Committee of Sunset Beach

RE: Recommendation Pertaining to the Proposed Shoreline Management Project

Date: 1/4/2017

At the request of the Town Council, the Environmental Resource Committee (ERC) has performed extensive research on the proposed Shoreline Management Project and has discussed the project with several academic scientists who have expertise in shoreline management and who have no financial interest in the proposed project. We have also compared the proposed project to other dredging projects along the North Carolina coast. Furthermore, we have discussed the project with boat owners and concerned citizens. Based on the research and discussions the committee has two recommendations.

Our first recommendation is for the Council to allow the dredging of the feeder and finger canals along with Mary's and Turtle Creeks. Since this dredging is maintenance dredging, it will ensure property owners with boats will have access to Jinks Creek and the Intracoastal Waterway (ICW). Our second recommendation is to delay dredging of Jinks Creek until the following questions can be addressed and resolved at the next scoping meeting.

1. If Jinks Creek is to be dredged should a new primary nursery area study be performed?

Dredging is not permitted in primary nursery areas (PNAs). The areas on both sides of North Jinks Creek have been designated as PNAs. Jinks Creek has been designated as a non-PNA. However, the study to designate it as a non-PNA was performed in the 1970s. A lot can change in almost a half century! One of the scientists who participated in this study verbally informed Richard Hilderman that, in his opinion, the study was not adequate because it wasn't sufficiently funded for the scientists to obtain an adequate number of samples to make the study statistically valid. Gregg Bodnar of CAMA attempted to get a copy of the non-PNA designation report for the ERC to review. Gregg reported: "With data and reports from almost 40 years ago from a time of paper archival systems, there unfortunately may be some lost information. I've been told a report was done around the mid70's for the central portion of the state, but indicates there was no report completed for the southern region, though data was available" (Attachment I).

The lack of a report reinforces the concern pertaining to the validity of the non-PNA designation of Jinks Creek. Based on this information along with the fact that the study was performed over 40 years ago, the ERC recommends that a new PNA study should be performed prior to applying for a permit to dredge Jinks Creek.

2. If Jinks Creek is to be dredged should an environmental impact study (EIS) be performed?

Faculty at the Program for the Developed Shorelines at Western Carolina University reviewed our 45 minute PowerPoint presentation. Their conclusions are: "we agree

with the contention that it is reasonable to support (not vigorously challenge) ongoing maintenance dredging of previously dredged channels (assuming best management practices and all permits are obtained), but advise against dredging previously undredged channels-such as N. Jinks Creek-due to the potential for significant environmental impacts; even in consideration of the limited economic/recreational benefits that might result.” “Regarding Jinks Creek: We concur with the statement that the North End and South End have different dynamic and should be viewed as discrete dredging areas/projects, although the position that it is reasonable to consider the South End of Jinks Creek for dredging is not supported by any data/evidence. We assume this position is based on the fact that the south Jinks Creek is heavily influenced by Tubbs Inlet and that, as a result, it is highly dynamic and less susceptible to the impacts of dredging. While this may, in fact, be the case, it is important to understand that the removal of sediment from any marine ecosystem will result in some kind of impact. It is also unclear whether the southern end of Jinks Creek has been previously dredged. If it has, we agree that it is reasonable to consider the South End of Jinks Creek for dredging. If not, the degree and extent of initial dredging, along with the potential demand (need) for future maintenance dredging, must be considered when deciding whether to artificially-and permanently-alter this location.” (Attachment II)

Jan Harris and Richard Hilderman had a conference telephone call about the dredging of Jinks Creek with Dr. Paul Gayes, Director for Marine and Wetland Studies, Coastal Carolina University (Attachment III). Dr. Gayes is worried that the dredging of Jinks Creek will have a negative impact on the houses on the west end of Ocean Isle Beach (OIB). He said inlets typically wag back and forth but that is not the case with Tubbs Inlet. The pressure and channel of Tubbs Inlet have for decades, been moving consistently eastwards towards the west end of OIB. He stated that dredging Jinks Creek deeper would increase water velocity but would not change the direction of migration of the Tubbs Inlet channel. He believes the channel will continue on an eastward path closer to OIB and which will put more pressure on the west end of OIB. However, he also feels a hurricane could change the water dynamics such that the channel could cut through the spit of sand now called Palm Cove on the east end of Sunset Beach (SSB). A peer-reviewed scientific publication by Budde and Cleary is consistent with the concerns expressed by Dr. Gayes (Attachment IV). Note Dr. Cleary is a member of the Coastal Resource Commission Scientific Panel.

Since the two groups of scientists raise concerns about the impact that dredging of Jinks Creek will have on the environment, in addition, to potential increase in erosion on both the west end of OIB and the east end of SSB (Palm Cove), the ERC recommends that dredging of Jinks Creek be delayed until an EIS is performed.

- 3. If Jinks Creek is to be dredged should a shellfish map be performed?** North Jinks Creek has a high density of oyster beds. CAMA regulations states that dredged channels must be aligned to avoid shellfish beds (Attachment V).

The ERC recommends that a shellfish map needs to be performed prior to approval of any dredging permit for Jinks Creek.

- 4. If Jinks Creek is to be dredged should the navigational channel follow the natural channel created by Mother Nature?** According to Moffatt and Nichols the dredging of Jinks Creek will be in the middle of the creek at a depth of 6 feet below mean low water. Since Jinks Creek has two 90 degree bends, this raises two questions:
- a. **Knowing the creek is deepest at the outer edge of each of the 90 degree bends in Jinks Creek, shouldn't the dredging take place at the outer edge of each bend and not in the center of the creek. Dredging the navigational channel in the middle of Jinks Creek will go against Mother Nature and the middle of the creek will fill in with sand faster than it would in the natural channel. This will increase the frequency of maintenance dredging and thus the cost.**
 - b. CAMA regulations state that the dredging depth of a navigational channel can't be deeper than the original depth of the creek (Attachment V). **Has the historical depth of Jinks Creek ever been at 6 feet below mean low tide water?**

The ERC recommends that the dredged navigational channel follows the natural channel created by Mother Nature. The committee also recommends that the depth of the natural channel be determined prior to approval of a permit to dredge Jinks Creek.

- 5. How is it possible to restore a marsh area that is already a protected PNA which only occur in healthy salt water marshes?** Moffatt and Nichol's November 12, 2016 Public Meeting update states: (page 13) "beach compatible material exists above-5 MLW in a portion of Jinks Creek. Separating the non-compatible material may be cumbersome and add additional costs. The material may be a viable source of material for a marsh restoration initiative."

On page 23 of the November 12th update, Moffat and Nichols identify two potential marsh restoration sites. One site is the Big Narrows which is located adjacent to the Sunset Beach Causeway that connects the island to the mainland and is a regularly flooded wetland. CAMA regulations state that under no circumstances shall dredged material be placed on regularly flooded wetlands (Attachment V). The second site where

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Moffatt and Nichols propose to deposit the dredging spoils in the area called “Jinks Creek” on the northern or mainland side of the ICW. This area has been identified as a PNA.

The ERC recommends that the spoils generated from the proposed dredging project should not be placed in the two sites proposed by Moffatt and Nichols. The committee also recommends that Moffatt and Nichols come up with alternative proposals for disposition of these spoils.