ROY COOPER
Governor

MICHAEL S. REGAN
Secretary

BRAXTON DAVIS
Director, Division of Coastal Management

June 21, 2019

MEMORANDUM:

FROM: **Courtney Spears, Assistant Major Permits Coordinator**
NCDEQ - Division of Coastal Management
127 Cardinal Drive Ext., Wilmington, NC 28405
Fax: 910-395-3964 ***(Courier 04-16-33)***
courtney.spears@ncdenr.gov

SUBJECT: *CAMA / Dredge & Fill Application Review*

Applicant: ***Town of Sunset Beach***

Project Location: *East end Canals, Feeder Channel, Bay Area of Sunset Beach, Jinks Creek and the oceanfront beach between 5th and 12th street, Adj to AIWW in Brunswick County*

Proposed Project: *Perform navigational dredging through residential systems*

Please indicate below your agency's position or viewpoint on the proposed project and ***return this form to Courtney Spears*** at the address above by ***July 17, 2019.*** If you have any questions regarding the proposed project, contact Tara MacPherson at (910) 796-7425 when appropriate, in-depth comments with supporting data is requested.

REPLY:

____ This agency has no objection to the project as proposed.
Additional comments may be attached

____ This agency has no comment on the proposed project.

X This agency approves of the project only if the recommended changes are incorporated. See attached.

____ This agency objects to the project for reasons described in the attached comments.

PRINT NAME Curt Weychert

AGENCY DMF

SIGNATURE Curt Weychert

DATE 7-19-19

ROY COOPER
Governor

MICHAEL S. REGAN
Secretary

STEPHEN W. MURPHEY
Director

MEMORANDUM:

TO: Courtney Spears, DCM Assistant Major Permit Coordinator

FROM: Curt Weychert, DMF Fisheries Resource Specialist

SUBJECT: Town of Sunset Beach Navigation Dredging and Beach Armoring Project

DATE: July 19, 2019

A North Carolina Division of Marine Fisheries (DMF) Fisheries Resource Specialist has reviewed the CAMA Major Permit application for proposed actions that impact fish and fish habitats. The town of Sunset Beach is proposing a maintenance dredging and beach nourishment project. The town is proposing to dredge areas on the east end of Sunset Beach referred to as Canals A-D, the Feeder and Finger Canals, Bay Area, and an area of South Jinks Creek. 40,500 cubic yards of beach-compatible sand will be placed along 1600 linear feet of oceanfront beach. The project is located in waters classified by the NC Division of Water Resources as SA; high quality waters (HQW). The finger and feeder canals are closed to the harvest of shellfish by the NC Division of Marine Fisheries Shellfish Sanitation Program, however, the waters of the Bay Area and South Jinks Creek are open. The area of dredging near the North portion of the South Jinks Creek dredge footprint is designated as a primary nursery area (PNA) by the NC Division of Marine Fisheries (NCDMF). PNAs are estuarine waters where initial post-larval development occurs. Species within this area are early post-larval to juvenile and include finfish, crabs, and shrimp.

The proposed project has the potential to impact several different fisheries habitat types such as coastal marsh, shallow soft bottom habitat, shell bottom habitat, as well as water quality impacts associated with dredging. In the EFH documentation, the Applicant identifies the areas within the project as oligohaline. Upon review of DMF biological and environmental monitoring programs, the salinity classification is polyhaline (18-30 parts per thousand). This salinity regime would increase possible interaction with specific species such as mackerel and others mentioned in the EFH as unlikely to be impacted.

Shell bottom is an extremely productive self-building three-dimensional habitat that can be impacted long term through dredging and filling, pollution and other contaminants. This vital estuarine habitat is very limited in North Carolina, and restoration and conservation of shellfish habitat is at the forefront. The presence of live shellfish that historically or currently survive due to favorable conditions is considered shellfish habitat. Increased

sedimentation raises concern for shellfish and shellfish habitat by either the direct burial of oyster beds or reductions in filtration efficiency, respiration rates, and/or reproduction and settlement. Larval oysters require a clean hard bottom for attachment and sedimentation as little as 1 or 2 mm may inhibit settlement. Duration of sedimentation suspension and water quality degradation has been shown to result in juvenile oyster mortality. Oysters can only survive burial for 6 days by resorting to anerobic metabolism, but experience 100% mortality on day 7 (Wilbur et al. 2001).

Through multiple scoping meetings and conversations between NCDMF and the Town of Sunset Beach, concerns were expressed regarding the removal of significant areas of shellfish habitat. After performing a shellfish survey, the applicant removed the dredging of North Jinks Creek upon the request of NCDMF and other resource agencies. While NCDMF supports the decision to remove areas of significant subtidal and intertidal shellfish habitat, it is still important to recognize that much of the intertidal areas of the Finger and Feeder Canals, and the Bay area have a significant presence of shellfish habitat which is likely to be impacted by the dredge footprint and associated sloughing. For this reason, NCDMF would request that the Town of sunset beach create a plan to relocate any shellfish resource located within the dredging footprint as well as any resource located within a buffer of 3:1 to the proposed depth of the dredge cut (see attached request for additional information dated February 12, 2019). DMF would request to review and approve this relocation plan to ensure no transfer of oysters from closed areas of harvest have the potential to lead to human consumption.

Shallow soft bottom is an important foraging habitat for juvenile and adult fish and invertebrates, and aids in storing and cycling of sediment, nutrients, and toxins between the bottom and water column. Soft bottom habitat is used to some extent by most native coastal fish species in North Carolina. The habitat is particularly productive and, by providing refuge from predators, is an important nursery area. Species dependent on shallow soft bottom include clams, crabs, flounder, spot, Atlantic croaker, sea mullet, and rays (Deaton et al. 2010). Many benthic predators are highly associated with the shallow soft bottom habitat, including flounders, weakfish, red drum, sturgeon and coastal sharks, although almost all fish will forage on microalgae, infauna, or epifauna on the soft bottom. Tidal flats are inhabited by many species that are food sources for larger marine predators. These flats are utilized by anadromous, estuarine and marine species, such as cobia, red drum, gag grouper, king mackerel, shrimp, flounder and Atlantic sharpnose sharks (USFWS 2002). These species utilize the tidal flats for refuge, corridors, and nursery and spawning purposes (Deaton et al. 2010).

The applicant has stated that dredging operations will be conducted between November 16th and April 30th of any year to reduce potential environmental impacts. Because the dredge areas are part of an inlet complex and are connected to designated PNA areas, the NCDMF would request that no dredging occur after March 31st. In other words, to avoid impacts to fisheries resources and maintain consistency with similar projects in the area, NCDMF would request a moratorium period of April 1 to September 30.

Contact Curt Weychert at (252) 808-8050 or Curt.Weychert@ncdenr.gov with further questions or concerns.

Deaton, A.S., W.S. Chappell, K. Hart, J. O'Neal, B. Boutin. 2010. North Carolina Coastal Habitat Protection Plan. North Carolina Department of Environment and Natural Resources. Division of Marine Fisheries, NC. 639 pp.

USFWS (U. S. Fish and Wildlife Service. 2002. Draft Fish and Wildlife Coordination Act Report Bogue Banks Shore Protection Project, Carteret County, North Carolina.

Wilber, D. H., and D. G. Clarke. 2001. Biological effects of suspended sediments: A review of suspended sediment impacts on fish and shellfish with relation to dredging activities in estuaries. North American Journal of Fisheries Management 21(4):855-875.

ROY COOPER
Governor

MICHAEL S. REGAN
Secretary

STEPHEN W. MURPHEY
Director

MEMORANDUM:

TO: Courtney Spears, DCM Assistant Major Permit Coordinator

FROM: Curt Weychert, DMF Fisheries Resource Specialist

SUBJECT: Town of Sunset Beach Navigation Project

DATE: February 12, 2019

The North Carolina Division of Marine Fisheries (DMF) requests additional information prior to the submission of a CAMA Major Permit Application pursuant to General Statute §113-131. Through scoping meetings, site visits, and correspondence with the environmental consultant, the DMF has raised concerns for shellfish resources within the proposed dredge areas of "Jinks Creek". DMF has not had the opportunity to address concerns of shellfish resources located in the proposed dredging areas of the canals.

The sides of the canal's bulkheads contain intertidal beds of shellfish and marsh. Navigation dredging has the potential to indirectly impact these shellfish and coastal wetland species through sloughing. Sloughing occurs as a result of gravity normalizing slopes of a dredged area, usually at a 3:1 ratio. If sloughing occurs in shellfish habitat, this results in a change of vertical distribution in the water column. Oysters grow in intertidal areas because it provides them refuge from predators, relief from epiphyte competition, and protection from parasites. Altering this vertical distribution in the water column could result in the direct mortality of shellfish in the project vicinity.

Instead of requiring a shellfish survey to be conducted along the impact area of the proposed dredging, DMF would request that the applicant includes in their application a shellfish relocation plan. This plan should address what will be done with shellfish that fall within the impact area of the proposed dredging. The impact area will be defined as any area within a buffer that is 3 times the dredge depth; meaning, if a channel is proposed to be dredged to -5'NLW, the impact area would be a 15-foot buffer around the edges of the dredge footprint. Any shellfish identified within this impact area should be relocated to a nearby area in the same vertical distribution along the water column. In the past, raking shellfish away from the impact area to surrounding areas where shellfish are present, transporting to non-dredged areas within the project area where oysters are present, or relocation to natural shoreline to protect marsh within the project area where oysters are present have been utilized and proven effective. The applicant should identify where relocation areas are so that the DMF may comment.

When a shellfish relocation proposal is submitted, the DMF will approve the plan or make recommendations through comments on the Major Permit application.

Contact Curt Weychert at (252) 808-8050 or Curt.Weychert@ncdenr.gov with further questions or concerns.