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March 27, 2018

MEMORANDUM **CRC-18-13**

TO: Coastal Resources Commission

FROM: Ken Richardson, *Shoreline Management Specialist*

SUBJECT: CRC Science Panel Inlet Hazard Area (IHA) Delineation Update

Background:

At the July 2016 CRC meeting in Beaufort, the Commission issued the following scope of work to the Science Panel:

1) **Develop a methodology for calculating inlet shoreline change rates**
The Science Panel has chosen the linear regression method to measure shoreline change at inlets. This method incorporates multiple shorelines, versus the end-point method currently used to calculate rates on the oceanfront which only uses two shorelines (early and current). Inlet shoreline changes rates have not historically been used for determining construction setbacks at inlets.

2) **Re-evaluate points along the oceanfront shoreline where inlet processes no longer influence shoreline position**
When the Science Panel first started working on updating IHA boundaries in 2005, the Panel evaluated changes in shoreline position over time to determine the location along the shoreline where inlet-related processes no longer have a dominant influence on the shoreline's position.

3) **Present results at a CRC Meeting**
Initially, the goal was to present results to the CRC in 2017. However, due to computer and software issues, delays were unavoidable. Draft maps have been prepared using the linear regression methodology and will be reviewed by the Science Panel in April. Staff will present the drafts to the CRC later this year.

Since the 2016 CRC meeting, the Panel has been working with staff to delineate updated IHA boundaries using statistical methods and historical data, professional knowledge and updated mapping methodologies. In December 2017, the Panel met in New Bern to review results from the analyses, and agreed that additional modifications to the methodology were needed before a proposal could be endorsed.

The current techniques being considered for the update of the IHA boundaries utilize statistical methods to: 1) determine the transitional point along the oceanfront shoreline where inlet processes

no longer dominate shoreline position; 2) calculate the average shoreline orientation, and; 3) determine the landward-most boundary.

Staff has reanalyzed data based on the Panel's recommendations and using most up to date data, and plan to submit results to the Panel for their review at their May 3, 2018 meeting in New Bern. Staff is preparing to present updated boundaries and rule language at the Commission's September meeting.