



NORTH CAROLINA
Environmental Quality

ROY COOPER

Governor

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Director

CRC-23-08

March 28, 2023

MEMORANDUM

TO: NC Coastal Resources Commission
FROM: Ken Richardson
SUBJECT: Science Panel Scope of Work: Erosion Rate Methods & Inlet Hazard Areas

When the NC Coastal Resources Commission's Science Panel presented updated Inlet Hazard Area (IHA) boundaries to the Commission in late 2019, the Panel recommended that boundaries be re-evaluated every five years to coincide with the Division of Coastal Management's routine oceanfront erosion rate updates. After the first round of public IHA workshops and public hearings in 2019, the CRC extended the rulemaking process to consider stakeholder concerns and DCM recommendations for additional rule amendments and clarifications.

More recently, DCM Staff and the Commission have received multiple requests to re-evaluate the methods used to determine IHA boundaries and to include data collected since the 2019 study. Public comments included requests that the Science Panel reconsider alongshore boundary determinations based on standard deviation vs. linear regression of those data, and to also consider any additional statistical techniques for evaluating the boundary and determining long-term shoreline change rates (i.e., linear regression residuals, multiple linear regression). Concerns were also raised regarding boundary modifications based on the expert opinions from the geologists and engineers on the Science Panel vs. a method or formula that can be used without modifications based on panel expertise. Multiple public comments also requested that the Commission consider updating the long-term erosion rates with shoreline data collected since 2019 in order to take into account recent beach nourishment and terminal groin projects. DCM Staff believe that this is a reasonable request as we approach the five-year (anticipated) IHA re-evaluation and coast-wide oceanfront erosion rate updates.

The next update to the oceanfront erosion rates is planned for the 2024-25 timeframe. In preparation for this update, the Division will be working with the Commission's Science Panel to evaluate oceanfront erosion rates using the current method (end-point) and the method utilized in the recent IHA update (linear regression). The Division has utilized the end-point method since 1979. The end-point method considers distance and time between early (1970's) and recent shorelines. The linear regression method can utilize DCM's large inventory of ocean shorelines. Both methods will



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also capture the effects of beach nourishment, temporary erosion control structures, and terminal groins.

Since the updated studies of oceanfront and inlet shoreline changes would occur simultaneously, DCM Staff are recommending that the CRC consider temporarily postponing adoption of the 2019 updated IHA boundaries and issuing a new Charge to your Science Panel on Coastal Hazards. If the Commission adopts this approach, Staff will work with the Science Panel to complete the Charge and provide the Commission updated IHA maps, erosion rates, along with DCM's recommendations for corresponding IHA Use Standards (at a date to be agreed upon, recommending summer 2024). In the interim, Staff will separately propose rule amendments to the Commission to address the issue raised by the repeal of 15A NCAC 07H .0104.