



ROY COOPER
Governor

MICHAEL S. REGAN
Secretary

BRAXTON C. DAVIS
Director

CRC-18-12

March 16, 2018

MEMORANDUM

TO: Coastal Resources Commission

FROM: Mike Lopazanski

SUBJECT: Inlet Hazard Areas

The Ocean Hazard Area of Environmental Concern (AEC) is a grouping of geographic areas considered vulnerable to natural hazards along the Atlantic shoreline. These areas are designated as hazard areas due to the increased risk of erosion and the adverse effects of sand, wind and water which can endanger both life and property. Your rules define three specific Ocean Hazard Areas of Environmental Concern in 15A 7H.300: the Ocean Erodible AEC, Inlet Hazard AEC (IHA), and Unvegetated Beach AEC. The IHA boundaries, unlike many of the other CRC jurisdictional areas, are defined in a report referenced in 7H.0304(2). The IHA boundaries correspond to maps originally developed by Priddy and Carraway (1978) for all of the State's then-active inlets, and which were adopted by the CRC in 1979. Minor amendments were made by the Commission in 1981.

Inlet Hazard AEC History

The CRC's initial discussions regarding inlets began soon after the passage of CAMA and were part of the general discussion of AECs. Drawing on inlet-related studies conducted by NC State University and the US Army Corps of Engineers (USACE), the CRC decided in 1977 to designate IHAs based on the delineation of an inlet's migratory history. Using aerial photography, the initial IHAs incorporated either the inlet's migration over the past 25 years, or the predicted migration 25 years into the future, whichever was less. The development standards adopted by the Commission for IHAs were the same as those existing for the Ocean Hazard AEC at that time and included: permanent non-water dependent development seaward of the frontal dune was prohibited; a prohibition on the removal of sand and vegetation from the frontal dune, and; a prohibition on state supported public facilities.

By 1981, the Commission began to recognize that inlet areas were more hazardous than the rest of the oceanfront, noting that out of the 70 structures impacted by erosion, 60 were near inlets. The CRC began to re-evaluate the IHAs and considered expanding the AEC to include all areas that were previously underwater, however they instead chose a statistical approach similar to the one used to calculate the newly adopted oceanfront setbacks. In addition to setbacks from the first line of stable and natural vegetation, the Commission included density restrictions, lot- and structure-size limits, a public access provision, and a prohibition on permanent erosion control structures outside of public projects.

Due to challenges over the accuracy of the data used in the statistical determination of inlet shoreline setbacks from both the private sector and academia, the Commission instead utilized the setback requirements of the adjacent Ocean Erodible AEC in determining setbacks with in IHAs.

Inlet Hazard AECs have also been subject of legislative interest by the NC General Assembly. The 2012 N.C. General Assembly directed the Commission to study the feasibility of creating a new AEC for the lands adjacent to the mouth of the Cape Fear River. Session Law 2012-202 required the CRC to consider the unique coastal morphologies and hydrographic conditions of the Cape Fear River region, and to determine if action was necessary to preserve, protect, and balance the economic and natural resources of this region through the elimination of current overlapping AECs by incorporating appropriate development standards into a single AEC unique to this location. For the purposes of this feasibility study, the CRC was directed to consider a region that encompassed the Town of Caswell Beach, the Village of Bald Head Island, and surrounding areas.

The Commission responded by conducting a comprehensive review on inlet management issues. This initiative centered on soliciting stakeholder input, beginning with a panel discussion where several regional beach project managers, engineers, dredging industry representatives, the USACE, and environmental advocates provided their views and concerns regarding inlet management. In-water issues (dredging), erosion control alternatives, and development standards on adjacent lands were all raised as topics of concern. DCM also arranged a series of regional forums to elicit from stakeholders a range of management options and regulatory reforms related to inlet management. At these regional meetings, local governments and other entities adjacent to inlets were invited to present their specific concerns related to the inlet(s) within their jurisdiction. Written comments were also accepted from the general public.

Stakeholder input was summarized and categorized at the May 2014 CRC meeting. After discussion, the Commission prioritized inlet management topics and directed staff to consider the following inlet management priorities:

Short Term Priorities

Dredging Depths and Sediment Criteria Rules
Erosion Rate Calculations for Inlet Hazard Areas
Emergency Permitting/Beach Bulldozing
Static Vegetation Lines
Stockpiling of Sand

Long Term Priorities

Beneficial Use of Dredged Material
Inlet Management Plans
Funding Sources and Partnerships
Dredging Windows/Moratoria
Monitoring Conditions

Actions taken by the Commission and Division on these priorities include:

- Completing the Science Panel technical study of Inlet Hazard Areas.
- Establishing a Deep Draft/Port/Navigation-Based Inlet Management Area of Environmental Concern (State Ports Inlet Management AEC).
- Meeting with the US Army Corps of Engineers regarding beach bulldozing permitting procedures (Beach bulldozing is now allowed below mean high water).
- Developing policy alternatives to the existing static vegetation line and static line exception rules (Development Line).

In addition, the legislature through SL 2014-120 removed the Inlet Hazard Area designation for areas meeting one of the following three criteria: the location of a former inlet which has been closed for at least 15 years; inlets that due to shoreline migration, no longer include the current location of the inlet; and for inlets providing access to a State Port via a channel maintained by the United States Army Corps of Engineers.

Current Rules

As mentioned previously, the Inlet Hazard AEC is described in 15A NCAC 7H .0304(2) and references maps in the report entitled Inlet Hazard Areas, The Final Report and Recommendations to the Coastal Resources Commission, 1978, as amended in 1981, by Loie J. Priddy and Rick Carraway. Excluded from the IHA designation by action of the General Assembly (SL 2014-120) are Cape Fear River Inlet and Beaufort Inlet as they are navigation channels providing access to a state port, and Mad Inlet which has been closed for at least 15 years.

The IHA rules (15A NCAC 7h .03010 - attached) have remained relatively unchanged since their adoption in 1981. Use standards specific to IHAs include:

- All development is required to be setback from the first line of stable and natural vegetation utilizing the erosion rate setback of the adjacent Ocean Erodible AEC.
- Density is restricted to no more than one commercial or residential unit per 15,000 square feet of land area.
- Only residential structures of four units or less or non-residential structures of less than 5,000 square feet are allowed.
- Access roads and the replacement of existing bridges are allowed (Added in 1995).
- Residential piers are allowed along shorelines exhibiting features of estuarine shorelines (Clarified in 1995).

Other Inlet Hazard AEC-related rules include:

- 15A NCAC 7H .0308(b)(5) Specific Use Standards for Ocean Hazard Areas, which prohibits the creation of new dunes in IHAs.
- 15A NCAC 7H .0309(b) Use Standards for Ocean Hazard Areas: Exceptions, in which certain lots platted prior to June 1, 1979 are eligible for an exception to the oceanfront setback rules is not applicable to the IHA.
- 15A NCAC 7H .1800 General Permit to Allow Beach Bulldozing in the Ocean Hazard AEC, which is not applicable to IHAs.

Future Inlet Hazard Area Management

The CRC's Science Panel has been focusing on a methodology for determining the "area of inlet influence that can be used in delineating IHAs for management by the Commission. Staff is not proposing major changes to the existing IHA rules. However, for the upcoming discussion, the CRC should consider a grandfathering provision for lots not previously in an IHA, removing the distinction between commercial and residential structures, limiting the size of all structures regardless of use (as is the case on the oceanfront), and, based on new methodologies, using the actual erosion rates in the IHA rather than the erosion rate of the adjoining Ocean Erodible AEC.

Staff looks forward discussing IHA management at the upcoming meeting in Manteo.

SECTION .0300 – OCEAN HAZARD AREAS

15A NCAC 07H .0304 AECS WITHIN OCEAN HAZARD AREAS

The ocean hazard AECs contain all of the following areas:

- (1) Ocean Erodible Area. This is the area where there exists a substantial possibility of excessive erosion and significant shoreline fluctuation. The oceanward boundary of this area is the mean low water line. The landward extent of this area is the distance landward from the first line of stable and natural vegetation as defined in 15A NCAC 07H .0305(a)(5) to the recession line established by multiplying the long-term annual erosion rate times 90; provided that, where there has been no long-term erosion or the rate is less than two feet per year, this distance shall be set at 120 feet landward from the first line of stable natural vegetation. For the purposes of this Rule, the erosion rates are the long-term average based on available historical data. The current long-term average erosion rate data for each segment of the North Carolina coast is depicted on maps entitled “2011 Long-Term Average Annual Shoreline Rate Update” and approved by the Coastal Resources Commission on May 5, 2011 (except as such rates may be varied in individual contested cases or in declaratory or interpretive rulings). In all cases, the rate of shoreline change shall be no less than two feet of erosion per year. The maps are available without cost from any Local Permit Officer or the Division of Coastal Management on the internet at <http://www.nccoastalmanagement.net>.
- (2) **Inlet Hazard Area.** The inlet hazard areas are natural-hazard areas that are especially vulnerable to erosion, flooding, and other adverse effects of sand, wind, and water because of their proximity to dynamic ocean inlets. This area extends landward from the mean low water line a distance sufficient to encompass that area within which the inlet migrates, based on statistical analysis, and shall consider such factors as previous inlet territory, structurally weak areas near the inlet, and external influences such as jetties and channelization. The areas on the maps identified as suggested Inlet Hazard Areas included in the report entitled INLET HAZARD AREAS, The Final Report and Recommendations to the Coastal Resources Commission, 1978, as amended in 1981, by Loie J. Priddy and Rick Carraway are incorporated by reference and are hereby designated as Inlet Hazard Areas, except for:
 - (a) the Cape Fear Inlet Hazard Area as shown on the map does not extend northeast of the Bald Head Island marina entrance channel; and
 - (b) the former location of Mad Inlet, which closed in 1997.In all cases, the Inlet Hazard Area shall be an extension of the adjacent ocean erodible areas and in no case shall the width of the inlet hazard area be less than the width of the adjacent ocean erodible area. This report is available for inspection at the Department of Environmental Quality, Division of Coastal Management, 400 Commerce Avenue, Morehead City, North Carolina or at the website referenced in Item (1) of this Rule. Photocopies are available at no charge.
- (3) Unvegetated Beach Area. Beach areas within the Ocean Hazard Area where no stable natural vegetation is present may be designated as an Unvegetated Beach Area on either a permanent or temporary basis as follows:
 - (a) An area appropriate for permanent designation as an Unvegetated Beach Area is a dynamic area that is subject to rapid unpredictable landform change due to wind and wave action. The areas in this category shall be designated following studies by the Division of Coastal Management. These areas shall be designated on maps approved by the Coastal Resources Commission and available without cost from any Local Permit Officer or the Division of Coastal Management on the internet at the website referenced in Item (1) of this Rule.
 - (b) An area that is suddenly unvegetated as a result of a hurricane or other major storm event may be designated by the Coastal Resources Commission as an Unvegetated Beach Area for a specific period of time, or until the vegetation has re-established in accordance with 15A NCAC 07H .0305(a)(5). At the expiration of the time specified or the re-establishment of the vegetation, the area shall return to its pre-storm designation.

History Note: Authority G.S. 113A-107; 113A-107.1; 113A-113; 113A-124;
Eff. September 9, 1977;
Amended Eff. December 1, 1993; November 1, 1988; September 1, 1986; December 1, 1985;
Temporary Amendment Eff. October 10, 1996;
Amended Eff. April 1, 1997;
Temporary Amendment Eff. October 10, 1996 Expired on July 29, 1997;
Temporary Amendment Eff. October 22, 1997;
Amended Eff. July 1, 2016; September 1, 2015; May 1, 2014; February 1, 2013;
January 1, 2010, February 1, 2006; October 1, 2004; April 1, 2004; August 1, 1998.

15A NCAC 07H .0310 USE STANDARDS FOR INLET HAZARD AREAS

(a) Inlet areas as defined by Rule .0304 of this Section are subject to inlet migration, rapid and severe changes in watercourses, flooding and strong tides. Due to this extremely hazardous nature of the Inlet Hazard Areas, all development within these areas shall be permitted in accordance with the following standards:

- (1) All development in the inlet hazard area shall be set back from the first line of stable natural vegetation a distance equal to the setback required in the adjacent ocean hazard area;
- (2) Permanent structures shall be permitted at a density of no more than one commercial or residential unit per 15,000 square feet of land area on lots subdivided or created after July 23, 1981;
- (3) Only residential structures of four units or less or non-residential structures of less than 5,000 square feet total floor area shall be allowed within the inlet hazard area, except that access roads to those areas and maintenance and replacement of existing bridges shall be allowed;
- (4) Established common-law and statutory public rights of access to the public trust lands and waters in Inlet Hazard Areas shall not be eliminated or restricted. Development shall not encroach upon public accessways nor shall it limit the intended use of the accessways;
- (5) All other rules in this Subchapter pertaining to development in the ocean hazard areas shall be applied to development within the Inlet Hazard Areas.

(b) The inlet hazard area setback requirements shall not apply to the types of development exempted from the ocean setback rules in 15A NCAC 7H .0309(a), nor, to the types of development listed in 15A NCAC 7H .0309(c).

(c) In addition to the types of development excepted under Rule .0309 of this Section, small scale, non-essential development that does not induce further growth in the Inlet Hazard Area, such as the construction of single-family piers and small scale erosion control measures that do not interfere with natural inlet movement, may be permitted on those portions of shoreline within a designated Inlet Hazard Area that exhibit features characteristic of Estuarine Shoreline. Such features include the presence of wetland vegetation, lower wave energy, and lower erosion rates than in the adjoining Ocean Erodible Area. Such development shall be permitted under the standards set out in Rule .0208 of this Subchapter. For the purpose of this Rule, small scale is defined as those projects which are eligible for authorization under 15A NCAC 7H .1100, .1200 and 7K .0203.

*History Note: Filed as a Temporary Amendment Eff. October 30, 1981, for a period of 70 days to expire on January 8, 1982;
Filed as an Emergency Rule Eff. September 11, 1981, for a period of 120 days to expire on January 8, 1982;
Authority G.S. 113A-107; 113A-113(b); 113A-124;
Eff. December 1, 1981;
Amended Eff. April 1, 1999; April 1, 1996; December 1, 1992; December 1, 1991;
March 1, 1988.*