



CRC-25-44

November 11, 2025

MEMORANDUM

TO: Coastal Resources Commission
FROM: Ken Richardson
SUBJECT: Ocean Erodible and Inlet Hazard Areas of Environmental Concern: 2025 Long-Term Average Annual Shoreline Change Rates and Setback Factor Update Studies

Background

Since 1979, the North Carolina Division of Coastal Management (DCM) has used long-term erosion data to determine construction setbacks in Ocean Hazard Areas and establish the landward boundaries of Ocean Erodible Areas of Environmental Concern (15A NCAC 07H.0304). However, due to limited data and resources, erosion rate setback factors within Inlet Hazard Areas (IHA) have been based on the rates of adjacent Ocean Erodible Areas, as specified in Rule 15A NCAC 07H.0310. Given the rapid changes that can occur at inlets, this method has often resulted in setback factors that underestimate the true erosion dynamics of these areas.

In addition, since 2013, shoreline change rates must be updated every five years to maintain North Carolina's compliance with Federal Emergency Management Administration (FEMA) guidelines for the Community Rating System (CRS). This requirement helps ensure that property owners in coastal communities participating in the National Flood Insurance Program can earn an additional 50 CRS points, potentially lowering insurance rates. The most recent erosion rate update took effect on December 1, 2020.

The Coastal Resources Commission's (CRC) setback rules are used to site oceanfront development based on the size of the structure according to the graduated setback provisions in 15A NCAC 7H .0306(a). In areas where there is a high rate of erosion, buildings must be located farther from the shoreline than in areas where there is less erosion. The construction setback equation depicted in Table 1 is used to site oceanfront development and determine the extent of the CRC's jurisdictional area for the Ocean Erodible Area of Environmental Concern (OEA) - the area where there is a substantial possibility of shoreline erosion. A minimum setback factor of two (2) is



applied if the erosion rate is less than two feet per year or where there is accretion. This method of siting oceanfront development was initially established by the CRC in 1979. Again, erosion rate setback factors currently applied inside Inlet Hazard Areas are those carried over from its adjacent Ocean Erodible Area.

Structure Size (square feet)	Construction Setback Equation	Minimum Setback (calculated using Setback Factor = 2 ft./yr.)
Less than 5,000	30 x Setback Factor	60
=>5,000 and < 10,000	60 x Setback Factor	120
=>10,000 and < 20,000	65 x Setback Factor	130
=>20,000 and < 40,000	70 x Setback Factor	140
=>40,000 and < 60,000	75 x Setback Factor	150
=>60,000 and < 80,000	80 x Setback Factor	160
=>80,000 and < 100,000	85 x Setback Factor	170
Greater than 100,000	90 x Setback Factor	180

Table 1. This table demonstrates an example of minimum construction setbacks based on structure size and the minimum setback factor of 2.

Erosion rates have traditionally been determined by using the "end-point" method, which measures changes in shoreline position between the earliest available and most recent datasets. In March 2023, the CRC directed its Science Panel on Coastal Hazards to explore alternative approaches for calculating oceanfront erosion rates, alongside updating Inlet Hazard Area (IHA) boundaries and inlet erosion rates. These efforts align with the Panel's longstanding recommendations to the CRC and DCM and are now more feasible due to the Division's ongoing shoreline data collection efforts and advancements in spatial analysis tools designed for tracking shoreline changes over time.

Erosion rates for OEAs (oceanfront) and IHAs are documented in two separate reports. The oceanfront report compares results from the end-point and least squares regression methods, along with past studies. Based on a unanimous recommendation from the Science Panel, setback factors are calculated based on rates measured using the least squares regression method. For IHAs, the erosion rates that informed the Science Panel's Inlet Hazard Area Methodology (IHAM) and guided their recommended updates to IHA boundaries were also used to establish erosion setback factors within the revised boundaries using the same method.

Summary of Results

Ocean Erodible Areas (OEA): North Carolina 2025 Oceanfront Setback Factors & Long-Term Average Annual Erosion Rate Update Study: Methods Report

Statewide, the least squares regression method calculated an average erosion rate of -1.9 feet per year. Erosion rates below -2.0 feet per year were recorded at 4,343 transects, covering 134.9 miles (42.4% of the analyzed shoreline), while rates exceeding -2.0 feet per year were measured at 4,485 transects, spanning 139.3 miles (43.8%). Accretion was observed at 3,193 transects across 99.2 miles (31% of the analyzed shoreline). Despite using least squares regression, the results align closely with previous studies that employed the end-point method (Tables 2 and 3).

Relative to the current setback requirements established in 2020, the 2025 setback requirements within the Ocean Erodible Area (OEA) will remain unchanged along 201.4 miles of shoreline. In total, 70.3 miles will reflect a reduction in setback factors, with rates of change ranging from 0.5 to 14.0 feet per year (mean: 1.5 feet per year), while 12.6 miles will reflect an increase ranging from 0.5 to 32.0 feet per year (mean: 3.0 feet per year).

Focusing on segments of developed shorelines only (144.6 miles), within the OEA, and excluding areas within the proposed 2025 IHA updated boundaries:

- 124.9 miles (86%) will see no change in setback factors
- 17.7 miles (12%) will experience a decrease between 0.5 and 3.5 feet per year (average: 1.0 foot), and
- 2.0 miles (2%) will see an increase between 0.5 and 3.5 feet per year (average: 1.0 foot per year)



Parameter	Lengths of shoreline for each parameter	
	End-Point Method Miles of Shoreline (%)	Least Squares Regression Method Miles of Shoreline (%)
Miles of Shoreline Mapped & Analyzed	317.8	317.8
Measured Accretion	109 (34.3%)	99.2 (31.2%)
Measured Erosion	208.5 (65.6%)	218 (68.6%)
No Change or No Output (no data)	0.3 (<1%)	0.6 (<1%)
Setback Factor = 2.0	196.8 (61.9%)	193.7 (61%)
Setback Factor = 2.5 to 5.0	63.8 (20.1%)	66.5 (20.9%)
Setback Factor = 5.5 to 8.0	34.1 (10.7%)	33.7 (10.6%)
Setback Factor > 8.0	23.1 (7.2%)	23.8 (7.5%)

Table 2. This table presents the length and percentage of the total shoreline, comparing the calculated erosion rate setback factors determined by both the least squares and end-point methods. It is important to note that the minimum setback factor is 2, as defined in Rule 15A NCAC 07H.0306. A setback factor of 2 indicates that erosion is either less than -2.4 feet per year or that accretion was measured. Setback factors greater than 2 correspond to calculated erosion rates.

Statewide Summary	2025 Miles (% of total)	2020 Miles (% of total)	2013 Miles (% of total)	2004 Miles (% of total)	1997 Miles (% of total)	1986* Miles (% of total)	1980* Miles (% of total)
Miles of Shoreline Mapped/Analyzed	317.8	304.5	307.4	312	300	237*	245*
Setback Factor (2 ft/yr.)	193.7 (61%)	174.6 (57.3%)	190.2 (61.9%)	193 (62%)	165 (55%)	144 (61%)	149 (61%)
Setback Factor (2.5 to 5.0 ft/yr.)	66.5 (20.9%)	67.1 (22.1%)	62.1 (20.2%)	64 (21%)	54 (18%)	43 (18%)	52 (21%)
Setback Factor (5.5 to 8.0 ft/yr.)	33.7 (10.6%)	38.7 (12.7%)	31.5 (10.2%)	28 (9%)	30 (10%)	20 (8%)	22 (9%)
Setback Factor (>8.0 ft/yr.)	23.8 (7.5%)	22.7 (7.4%)	20.8 (6.8%)	27 (8%)	32 (10.7%)	22 (9%)	22 (9%)
No Data	0.0	1.4 (<0.5%)	2.8 (<1%)	0	19 (6%)	8 (4%)	0

Table 3. This table presents a summary of length of analyzed shoreline and blocked shoreline change rates (Setback Factors) relative to previous studies dating back to 1980. Where the study year is marked with an asterisk (*), the total shoreline length is lower because either some or all the National Seashore was not mapped and analyzed (e.g., Shackleford Banks, Core Banks).

Inlet Hazard Areas (IHA): North Carolina 2025 Inlet Hazard Area (IHA) Erosion Rate & Setback Factors: Update Study

As anticipated, the analysis of inlet shoreline change rates along the study area reveals a fluctuating trend of shoreline retreat (erosion) and accretion, with a collective average erosion rate of less than -2 feet per year within the 2025 IHAs. However, this average should not be misinterpreted as indicative of minimal risk at each inlet, as this average is heavily influenced by the balance between very high erosion rates exceeding -20 feet per year and significant accretion rates resulting in construction setback factors ranging between 2 and 18. These findings underscore the substantial impact of natural inlet processes, such as tides, wave action, storm events, and sea-level rise, compounded by anthropogenic influences like coastal development and engineering practices, including dredging, beach nourishment, and erosion control structures.

As noted, erosion rate setback factors within IHAs have historically been adopted from adjacent OEAs. While this approach has aligned with past setback requirements in some inlets, others will see increased setback requirements as they are now based on inlet-specific erosion rates rather than oceanfront-derived values.

For each proposed updated Inlet Hazard Area (IHA) boundary, the tables below illustrate the blocked setback factor sections within the 2025 IHAs and compares the calculated results to those from previous erosion rate studies for the same geographic areas. For example, in the **Shallotte**

Inlet–Ocean Isle table, the row corresponding to the section of beach with a 2025 erosion setback factor of **SBF=4** also summarizes the setback factors measured for that same section of beach in each prior study (2020=2 to 4, 2013=4, 2004=2, 1997=2, 1986=2, 1983=3, & 1980=2).

Tubbs Inlet - Sunset Beach:

Area Inside 2025 IHA	2020	2013	2004	1997	1986	1983	1980
SBF = 2	2	2	2	2	2	2	2

Tubbs Inlet - Ocean Isle:

Area Inside 2025 IHA	2020	2013	2004	1997	1986	1983	1980
SBF = 10	2	2	2	2	2	2	2
SBF = 2	2	2	2	2	2	2	2

Shallotte Inlet - Ocean Isle:

Area Inside 2025 IHA	2020	2013	2004	1997	1986	1983	1980
SBF = 2	2	2 to 4	2	2	2	2 to 3	2
SBF = 4	2 to 4	4	2	2	2	3	2
SBF = 7	4	4 to 6.5	2 to 4.5	2	2	3	2
SBF = 10	5	6.5	4.5	2	2	3	2
SBF = 14	5	6.5	4.5	2	2	3	2
SBF = 17.5	5	6.5	4.5	2	2	3	2
SBF = 17	5	6.5	4.5	2	2	3	2
SBF = 9	5	6.5	4.5	2	2	3	2

Shallotte Inlet - Holden Beach:

Area Inside 2025 IHA	2020	2013	2004	1997	1986	1983	1980
SBF = 2	2	2	2	2	2	2	2
SBF = 9	2	2	2	2	2	2	2
SBF = 16	2	2	2	2	2	2	2

Lockwood Folly Inlet - Holden Beach:

Area Inside 2025 IHA	2020	2013	2004	1997	1986	1983	1980
SBF = 2	4 to 6	3.5 to 7	6.5 to 7.5	4	3	4	2
SBF = 5	6	7	7.5	4	3	4	2

Lockwood Folly Inlet - Oak Island:

Area Inside 2025 IHA	2020	2013	2004	1997	1986	1983	1980
SBF = 2	2	2	2	2	2	2 to 4	2

Carolina Beach Inlet - Carolina Beach:

Area Inside 2025 IHA	2020	2013	2004	1997	1986	1983	1980
SBF = 2	3 to 7	3 to 6.5	2 to 8	2 to 5	7 to 10	5 to 10	2 to 10

Masonboro Island:

Area Inside 2025 IHA	2020	2013	2004	1997	1986	1983	1980
SBF = 2	2 to 29	2 to 12.5	2 to 12	4 to 7	5 to 7	4 to 12.5	2.4

Masonboro Inlet - Wrightsville Beach:

Area Inside 2025 IHA	2020	2013	2004	1997	1986	1983	1980
SBF = 2	2	2	2	2	2	2	2

Mason Inlet - Wrightsville Beach:

Area Inside 2025 IHA	2020	2013	2004	1997	1986	1983	1980
SBF = 2	2	2	2	2	2	2	2

Mason Inlet - Figure Eight Island:

Area Inside 2025 IHA	2020	2013	2004	1997	1986	1983	1980
SBF = 2	2	2	2	2	2	5	2.3

Rich Inlet - Figure Eight Island:

Area Inside 2025 IHA	2020	2013	2004	1997	1986	1983	1980
SBF = 2	2	2	2	2	2	2	2.3
SBF = 3.5	2	2	2	2	2	2	2.3
SBF = 5	2	2	2	2	2	2	2.3
SBF = 2	2	2	2	2	2	2	2.3

Lea-Hutaff Island:

Area Inside 2025 IHA	2020	2013	2004	1997	1986	1983	1980
SBF = 3 to 12.5	4 to 10	2 to 10	2 to 7	2 to 6	5 to 6	2 to 5	2 to 5.7

New Topsail Inlet - Topsail Beach:

Area Inside 2025 IHA	2020	2013	2004	1997	1986	1983	1980
SBF = 2	2	2	2	2	2	2	2

New River Inlet - North Topsail Beach:

Area Inside 2025 IHA	2020	2013	2004	1997	1986	1983	1980
SBF = 2	2	2	2	2	2	2	2.5
SBF = 2.5	2	2	2	2	2	2	2.5
SBF = 5	2	2	2	2	2	2	2.5
SBF = 7	2	2	2	2	2	2	2.5
SBF = 6	2	2	2	2	2	2	2.5
SBF = 10	2	2	2	2	2	2	2.5

Bogue Inlet - Emerald Isle:

Area Inside 2025 IHA	2020	2013	2004	1997	1986	1983	1980
SBF = 2	2	2	2	3	5	3	NA

Current and proposed updated IHA boundaries, erosion rates, and setback factors can be viewed or downloaded on the [DCM's online map viewer](#), and reports downloaded from:

- [North Carolina 2025 Inlet Hazard Area \(IHA\) Erosion Rate & Setback Factors: Update Study](#)
- [Inlet Hazard Area Boundaries, 2025 Update: Science Panel Recommendations to the North Carolina Coastal Resources Commission](#)
- [North Carolina 2025 Oceanfront Setback Factors & Long-Term Average Annual Erosion Rate Update Study: Methods Report](#)

Rule Amendments

Historically, CRC approved erosion rate and setback factor update studies have required only a single rule amendment to 15A NCAC 07H .0304(1) to reference the most recent update since erosion rates inside IHA have been carried over from their adjacent OEA, and IHA boundaries have not been updated. For example, the following section of the rule cites the most current CRC-approved study:

“...The current long-term average erosion rate data for each segment of the North Carolina coast is depicted on maps entitled "North Carolina 2019 Oceanfront Setback Factors & Long-Term Average Annual Erosion Rate Update Study" and approved by the Coastal Resources Commission on February 28, 2019...”



However, because there are three separate, but related reports that support the next update of the Inlet Hazard Area boundaries, and oceanfront (OEA) and inlet (IHA) erosion rates, there are additional rule amendments needed in 15A NCAC 07H.0304 and 07H.0310:

1. 15A NCAC 07H .0304 (1) reference new Ocean Erodible Area erosion rates
2. 15A NCAC 07H .0304(2) reference new Inlet Hazard Area erosion rates
3. 15A NCAC 07H .0304(2) reference new Inlet Hazard Area Boundaries. You may recall that OEA boundaries are dynamic and can change daily so they are not mapped; whereas IHA boundaries are static and mapped, so there would need to be a reference to the maps and report.
4. 15A NCAC 07H .0310 change 0310(a)(1) so that IHA erosion rates are used instead of the adjacent OEA.
5. 15A NCAC 07H .0304(3) - Additionally, since amendments are being made to 07H .0304, DCM Staff have determined that Unvegetated Beach AEC designations are no longer needed at Surf City, North Topsail Beach, and Oak Island; therefore, staff is proposing the CRC consider removal of this temporary designation which would also remove the requirement that setbacks be measured from a Measurement Line at these locations instead of the Pre-Project Vegetation or First Line of Stable and Natural Vegetation. You may recall that this temporary AEC was designated by the CRC following major storm events that destroyed all vegetation at specific locations within these communities:
 - a. Surf City – 2018 Hurricane Florence
 - b. North Topsail Beach – 2018 Hurricane Florence
 - c. Oak Island - 2020 Hurricane Isaias
6. Clean up both rules for the purpose of clarification and re-organization of existing rules.

Use of Hybrid-Vegetation for Measuring Setbacks:

Currently, new construction setbacks within the IHA are measured from the first line of stable and natural vegetation, the pre-project vegetation line, or the measurement line, whichever applies. As discussed at the August meeting, the CRC's Science Panel on Coastal Hazards is recommending that setbacks within an IHA instead be measured from the hybrid vegetation line (HVL). The HVL represents the landward-most position of vegetation during the study period and accounts for the potential that future erosion could move the vegetation line significantly landward, an important consideration in areas that have experienced long-term accretion. If the Commission chooses to consider this recommendation, rule amendments would be required in 15A NCAC 07H .0310(a)(1) to update the reference point from which setbacks within an IHA are measured and definition of a hybrid-vegetation line in 15A NCAC 07H .0305.

- 07H .0310(a)(1): Development setbacks within Inlet Hazard Areas shall be measured in a landward direction from the first line of stable and natural vegetation, pre-project vegetation line, **hybrid-vegetation line**, or measurement line as defined in 15A NCAC 07H .0305, whichever is applicable.
- 07H .0305(10): Where Hybrid-Vegetation Line would be included under Definitions and Descriptions of Landforms.

Table 1 provides a comparison of structures within the proposed IHAs. Of the 866 total structures, 193 may not meet the current setback requirements when measured from the current vegetation

line and erosion rates. Under the updated erosion rates, this number increases to 243 when measured from the current vegetation line, and to 506 when measured from the hybrid-vegetation line (HVL). Thus, adopting the HVL as the setback reference could result in an additional 263 structures being unable to meet the setback requirements.

Table 1. The table below summarizes the total number of structures inside the 2025 updated IHA and: 1) number of structures that may not meet the current setback requirement, 2) number of structures that may not meet setback from the current vegetation line using updated 2025 setback, and 3) number of structures that may not meet setback from hybrid-vegetation (HVL) using updated 2025 setback requirements.

Location	Total Structures (Inside 2025 IHA)	May not meet current (2020) effective setback	May not meet updated 2025 setback	May not meet 2025 setback from HVL
Sunset Beach - Tubbs Inlet	17	0	0	5
Ocean Isle - Tubbs Inlet	30	1	12	13
Ocean Isle - Shallotte Inlet	200	66	113	122
Holden Beach - Shallotte Inlet	144	0	0	97
Holden Beach - Lockwood Folly Inlet	42	34	2	20
Oak Island - Lockwood Folly Inlet	105	24	24	76
Carolina Beach - CB Inlet	18	2	1	15
Wrightsville Beach - Masonboro Inlet	3	0	0	1
Wrightsville Beach - Mason Inlet	16	0	0	3
Figure Eight - Mason Inlet	10	9	9	10
Figure Eight - Rich Inlet	62	14	22	33
Topsail Beach - New Topsail Inlet	17	2	2	7
N. Topsail Beach - New River Inlet	123	41	58	68
Emerald Isle - Bogue Inlet	77	0	0	36
Total:	866	193	243	506

Staff Recommendation

DCM staff are requesting the CRC's approval of Science Panel's IHA Boundary Update recommendations, the OEA and IHA Long-Term Average Annual Erosion Rate & Setback Factor update studies, and the Commission's decision on the use of the Hybrid Vegetation Line. If approved, this will start the rule-making process which will include a fiscal analysis that has to be approved by the NC DEQ, Office of State Budget and Management (OSBM) and the CRC followed by public hearings in each of the effected counties (Brunswick, New Hanover, Pender, Onslow, Carteret, Hyde, Dare and Currituck).



Attachment A: Rules Pertaining to Ocean Hazard Areas & Staff's Proposed Rule Amendments.

Attachment B: 2025 Oceanfront Setback Factors & Long-Term Average Annual Erosion Rate Update Study: Methods Report ([download](#))

Attachment C: NC 2025 Inlet Hazard Area (IHA) Erosion Rate & Setback Factors: Update Study ([download](#))



Attachment A: Rules Pertaining to Ocean Hazard Areas & Staff's Proposed Rule Amendments

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 vegetation line 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 180 feet landward from the vegetation line. 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 "North Carolina 2019 Oceanfront Setback Factors & Long Term Average Annual Erosion Rate Update Study" and approved by the Coastal Resources Commission on February 28, 2019 (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.ncccoastalmanagement.net>. These are oceanfront areas vulnerable to chronic or rapid erosion resulting from the combined effects of wind, ocean waves, current, tides, dredging activities, nearshore bathymetry, and erosion control structures.
 - (a) The oceanward boundary of this area is the mean low water line;
 - (b) The landward extent of this area is 180 feet or 90 times the erosion rate, whichever is greater, and is measured landward from the first line of stable and natural vegetation as definition as defined in 15A NCAC 07H .0305(5), the pre-project vegetation line as defined in 15A NCAC 07H .0305(6) or the measurement line as defined in 15A NCAC 07H .0305(9);
 - (c) For the purposes of this Rule, erosion rates are long-term averages based on historical shoreline data. The current erosion rate data for each segment of the North Carolina coast is depicted on maps entitled "North Carolina 2025 Oceanfront Setback Factors & Long-Term Average Annual Erosion Rate Update Study" and approved by the Coastal Resources Commission on <<DATE>>;
 - (d) For the purpose of siting development, the minimum erosion rate shall be two feet per year;
 - (e) Data and maps are available from the Division of Coastal Management online at <https://www.deq.nc.gov/coastal-management/north-carolina-2025-oceanfront-setback-factors-long-term-average-annual-erosion-rate-update-study/open>
- (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 encompassing 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, terminal groins, and channelization. The areas on the maps identified as 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 location of a former inlet which has been closed for at least 15 years;
 - (b) inlets that due to shoreline migration, no longer include the current location of the inlet; and
 - (c) inlets providing access to a State Port via a channel maintained by the United States Army Corps of Engineers.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. These are areas vulnerable to severe erosion driven by the

dynamic nature of ocean inlets where natural processes and can undergo rapid shoreline change as inlet movement redistributes sand along adjacent beaches through the combined effects of wind, waves, current, dredging activities, nearshore bathymetry, and erosion control structures.

- (a) The Inlet Hazard Area erosion rates are the long-term average erosion rates for each inlet hazard area and depicted in the report entitled "Inlet Hazard Area Boundaries, 2025 Update: Science Panel Recommendations to the North Carolina Coastal Resources Commission" and approved by the Coastal Resources Commission on <<DATE>>, except for inlets providing access to a State Port via a channel maintained by the United States Army Corps of Engineers.
 - (b) For the purposes of this Rule, the areas on the maps identified as inlet hazard areas are included in the report entitled, "Inlet Hazard Area Boundaries, 2025 Update: Science Panel Recommendations to the North Carolina Coastal Resources Commission" which were approved by the Coastal Resources Commission on <<DATE>> and are incorporated by reference and hereby designated as Inlet Hazard Areas.
 - (c) For the purpose of siting development, the minimum erosion rate shall be two feet per year.
 - (d) Data and maps are available from the Division of Coastal Management online at:
 - (i) Inlet hazard area boundaries: <https://www.deq.nc.gov/coastal-management/documents/north-carolina-2025-inlet-hazard-area-ih-a-boundary-update/open>
 - (ii) Inlet hazard area erosion rates and setback factors: <https://www.deq.nc.gov/coastal-management/north-carolina-2025-inlet-hazard-area-ih-a-erosion-rate-setback-factors-update-study/open>
- (3) Unvegetated Beach Area. Beach areas within the Ocean Hazard Area of Environmental Concern where no stable and natural vegetation is present may be designated as Unvegetated Beach Areas on either a permanent or temporary basis as follows:
- (a) ~~The areas in this category shall be designated following studies by the Division of Coastal Management to determine if the area is subject to rapid unpredictable landform change due to wind and wave action.~~ Areas in this category shall be designated based on studies conducted by the Division of Coastal Management to determine whether the area is subject to rapid and unpredictable landform change, characterized by significant shoreline or inlet movement occurring over short-time periods and high variability in erosion patterns caused by wind, waves, and tidal processes. 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 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 Division has determined 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.
 - ~~(c) The Commission designates as temporary unvegetated beach areas those oceanfront areas of:~~
 - ~~(i) Surf City and North Topsail Beach in which the vegetation line as shown on the United States National Oceanic and Atmospheric Administration imagery dated September 17, 2018 was destroyed as a result of Hurricane Florence in September 2018; and~~
 - ~~(ii) Oak Island in which the vegetation line as shown on the United States National Oceanic and Atmospheric Administration and Geological Survey imagery dated August 4, 2020 was destroyed as a result of Hurricane Isaias in August 2020.~~
- ~~The designation AEC boundaries can be found on the Division's website at https://files.nc.gov/ncedeq/Coastal%20Management/GIS/unvegetated_beach_aec.pdf and https://files.nc.gov/ncedeq/Coastal%20Management/GIS/unveg_beachAEC_Oak_Island.zip.~~

- (4) State Ports Inlet Management Area. These are areas adjacent to and within Beaufort Inlet and the mouth of the Cape Fear River, providing access to a State Port via a channel maintained by the United States Army Corps of Engineers. These areas are unique due to the influence of federally-maintained channels, and the critical nature of maintaining shipping access to North Carolina's State Ports. These areas may require specific management strategies not warranted at other inlets to address erosion and shoreline stabilization. State Ports Inlet Management Areas shall extend from the mean low water line landward as designated on maps approved by the Coastal Resources Commission and available without cost from the Division of Coastal Management, and on the internet at the website at https://files.nc.gov/ncdeq/Coastal%20Management/GIS/state_port_acc.pdf.

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. April 1, 2020; 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;
Readopted Eff. December 1, 2020;
Amended Eff. August 1, 2022; September 1, 2021.

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

- (a) Inlet Hazard Areas of Environmental Concern as defined by Rule .0304 of this Section are subject to 15A NCAC 07H .0304(2) may experience rapid inlet migration, changes in watercourses, flooding high rates of shoreline erosion, flooding, and strong tides. Due to the 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 vegetation line a distance equal to the setback required in the adjacent ocean hazard area; Development setbacks within Inlet Hazard Areas shall be measured in a landward direction from the first line of stable and natural vegetation, pre-project vegetation line, hybrid-vegetation line, or measurement line as defined in 15A NCAC 07H .0305, whichever is applicable;
 - (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 with less than 5,000 square feet total floor area shall be allowed within the inlet hazard area, 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; and
 - (4) Notwithstanding any other setback requirement in Rule 15A NCAC 07H .0306(a)(5), replacement of a structure within the Inlet Hazard Area greater than 5,000 square feet, or more than one unit per 15,000 square feet of land area, shall be allowed provided the structure meets criteria defined in Rule 15A NCAC 07H .0306(a)(3)(L); and
 - (5) All other rules in this Subchapter pertaining to development in the ocean hazard areas Ocean Hazard Areas shall be applied to development within the Inlet Hazard Areas.
 - (b) The inlet hazard area Inlet Hazard Area setback requirements shall not apply to the types of development exempted from the ocean setback rules in 15A NCAC 07H .0309(a), or to the types of development listed in 15A NCAC 07H .0309(c).
 - (c) In addition to the types of development excepted under Rule .0309 of this Section, small scale 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 Erodeable 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 07H .1100, .1200, and 07K .0203.

History Note: Authority G.S. 113A-107; 113A-113(b); 113A-124;
Eff. December 1, 1981;
Emergency Rule Eff. September 11, 1981, for a period of 120 days to expire on January 8, 1982;
Temporary Amendment Eff. October 30, 1981, for a period of 70 days to expire on January 8, 1982;
Amended Eff. April 1, 1999; April 1, 1996; December 1, 1992; December 1, 1991; March 1, 1988;
Readopted Eff. December 1, 2020;
Amended Eff. August 1, 2022.



Attachment B: 2025 Oceanfront Setback Factors & Long-Term Average Annual Erosion Rate Update Study: Methods Report ([download](#))



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Attachment C: NC 2025 Inlet Hazard Area (IHA) Erosion Rate & Setback Factors: Update Study ([download](#))



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