

NORTH CAROLINA
Environmental Quality

ROY COOPER
Governor

MICHAEL S. REGAN
Secretary

BRAXTON C. DAVIS
Director

CRC-20-24

August 27, 2020

MEMORANDUM

TO: Coastal Resources Commission

FROM: Ken Richardson

SUBJECT: Unvegetated Beach Designation at Oak Island

On August 3, 2020, Hurricane Isaias severely impacted the oceanfront dune system along portions of Oak Island, completely washing away the primary frontal dune along with the established vegetation, from which oceanfront setbacks are measured. The geographic extent of the two affected areas make it impossible to identify a vegetation line by using interpolation from vegetation on adjacent properties. The Commission can designate Unvegetated Beach Areas of Environmental Concern (AEC) in these two locations for the purpose of authorizing staff to establish a Measurement Line. This process does require amendments to 7H .0304(3) to first designate Unvegetated Beach AECs.

The Unvegetated Beach Area of Environmental Concern (AEC) is defined in 15A NCAC 07H .0304(3), and is one of three AECs within the Ocean Hazard system. An Unvegetated Beach can be designated by the Commission in areas where no stable and natural vegetation is present, including areas that have suddenly become unvegetated due to a hurricane or other major storm event. Under 15A NCAC 07H .0304(3)(b), the Unvegetated Beach designation may be for a specific period of time, or until stable and natural vegetation has re-established. Once the CRC designates an Unvegetated Beach, Division of Coastal Management (DCM) staff can establish a Measurement Line (15A NCAC 07H .0305(a)(9)) to serve as the reference feature from which oceanfront construction setbacks are measured until vegetation has re-established. Staff mapped the location of the Measurement Line by determining the average distance the pre-storm vegetation line receded at both of the nearest, vegetated sites adjacent to the area being designated by the Commission as the Unvegetated Beach AEC.

Two separate areas are proposed for designation, from west to east: 1) starting from 6725 W. Beach Drive and stopping at 6601 W. Beach Drive, where the average vegetation recession equaled 81.4 feet, and; 2) starting from 2357 W. Beach Drive and stopping at 1429 E. Beach Drive, where the average vegetation line recession equaled 41.3 feet. The Division has determined that there are 191 oceanfront structures adjacent to the proposed Measurement Lines. Of those, it is estimated that 178 (93%) could not meet the minimum setback when measured from a pre-storm vegetation



line (January/February 2019), and all 191 (100%) cannot meet the minimum setback measured from the proposed Measurement Line. Essentially, the status of most existing structures within the proposed Unvegetated Beach AEC will not be affected, as most did not meet the minimum setback requirement measured from the pre-Hurricane Isaias “First Line of Stable and Natural Vegetation.”

The Division of Coastal Management does not anticipate any increase in expenditures in the government or private sector because of this action. The proposed amendments to 15A NCAC 07H .0304 are necessary for the Division to implement the Coastal Resources Commission’s administrative rules as they apply to any proposed oceanfront development in the proposed Unvegetated Beach AEC.

Staff Recommendation:

Although the fiscal analysis has been submitted to the Office of State Budget and Management (OSBM), it has not yet been approved. DCM staff are recommending that the Commission consider approval of both the rule amendments (07H. 0304) and the fiscal analysis conditioned on no substantial changes being requested by OSBM.

Attachment A: Proposed Amendments to 07H. 0304

Attachment B: Fiscal Analysis

Attachment C: Maps Illustrating Extent of Proposed Unvegetated Beach AEC & Location of Proposed Measurement Line



Attachment A: Proposed Amendments to 07H. 0304

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 180 feet landward from the first line of stable and 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 "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.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 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.



- (3) Unvegetated Beach Area. Beach areas within the Ocean Hazard Area 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) 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 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.

The Commission designates as temporary unvegetated beach areas those oceanfront areas ~~of: of 1)~~ 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; 2018.~~ 2) Oak Island in which the vegetation line as shown on the National Oceanic and Atmospheric Administration and U.S. 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/ncdeq/Coastal%20Management/GIS/unvegetated_beach_aec.pdf

and https://files.nc.gov/ncdeq/Coastal%20Management/GIS/unveg_beachAEC_Oak_Island.zip. This designation shall continue until such time as the stable and natural vegetation has reestablished, or until the area is permanently designated as an unvegetated beach area pursuant to Sub-Item (3)(a) of this Rule.

- (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_aec.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.



Attachment B: Fiscal Analysis
Fiscal & Regulatory Impact Analysis

Areas of Environmental Concern
15A NCAC 07H .0304

Prepared by

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Shoreline Management Specialist
NC Division of Coastal Management
(252) 808-2808 Ext. 225

August 27, 2020



Basic Information

Agency	DEQ, Division of Coastal Management (DCM) Coastal Resources Commission (CRC).
Title	Designation of Unvegetated Beach Area of Environmental Concern (AEC) Amendments
Citation	15A NCAC 07H .0304
Description of the Proposed Rule	7H .0304 defines and establishes AECs that are within the Ocean Hazard Areas along the State's Atlantic Ocean shoreline. Ocean Hazard Area AECs include the Ocean Erodible Area, Inlet Hazard Area and the Unvegetated Beach Area.
Agency Contact	Ken Richardson Shoreline Management Specialist Ken.Richardson@ncdenr.gov (252) 808-2808 ext. 225
Authority	113A-107(a) & (b); 113A-118.1
Necessity	Due to overwash impacts to vegetation caused by Hurricane Isaias at Oak Island, the Coastal Resources Commission is proposing to amend its administrative rules in order to reflect physical changes that occurred at two locations by establishing Unvegetated Beach Areas of Environmental Concern (AEC) and Measurement Lines from which setbacks are temporarily measured until vegetation is re-established and is considered stable and natural.
Impact Summary	State government: No Local government: No Federal government: No Private property owners: Yes Substantial impact: No



Summary

The Unvegetated Beach Area of Environmental Concern (AEC) is defined in 15A NCAC 07H .0304(3) and is one of three AECs within the Ocean Hazard system. An Unvegetated Beach can be designated by the CRC in areas where no stable and natural vegetation is present, including areas that have suddenly become unvegetated due to a hurricane or other major storm event. Under 15A NCAC 07H .0304(3)(b) the Unvegetated Beach designation may be for a specific period, or until stable and natural vegetation has re-established. Once the CRC designates an Unvegetated Beach, the Division of Coastal Management can establish a Measurement Line (15A NCAC 07H .0305(a)(9)) to serve as the reference feature from which oceanfront construction setbacks are measured until vegetation has re-established.

Hurricane Isaias (August 2020) severely impacted the oceanfront dune system along portions of Oak Island, completely washing away the primary frontal dune along with any established vegetation. The geographic extent of the affected areas makes it impossible to identify a vegetation line by conventional means; and the CRC is proposing to designate the affected portions of Oak Island as an Unvegetated Beach AEC.

15A NCAC 07H .0304 defines Areas of Environmental Concern (AECs) within the Ocean Hazard Areas. Amendments are proposed for 15A NCAC 07H .0304(3) to establish Unvegetated Beach AECs. With these areas designated, the CRC can then approve Measurement Lines as defined in 15A NCAC 07H .0305(a)(9) from which oceanfront setbacks are temporarily measured until vegetation is re-established and is considered stable and natural.

The Division of Coastal Management does not anticipate any increase in expenditures in the government or private sector because of this action. The proposed amendments to 15A NCAC 07H .0304 are necessary for the Division to implement the Coastal Resources Commission's administrative rules as they apply to any proposed oceanfront development in the proposed Unvegetated Beach AEC.

The Division has determined that there are 191 oceanfront structures adjacent to the proposed Measurement Lines. Of those, it is estimated that 178 (93%) could not meet the minimum setback when measured from a pre-storm vegetation line (January/February 2019), and all 191 (100%) cannot meet the minimum setback measured from the proposed Measurement Line. Essentially, the status of existing structures within the proposed Unvegetated Beach AEC will not be affected, as most did not meet the minimum setback requirement measured from the pre-Hurricane Isaias "First Line of Stable and Natural Vegetation," or from the proposed Measurement Line. Pursuant to G.S. 150B-21.4, the agency declares that the proposed amendments to 15A NCAC 7H .0205 will not affect environmental permitting for the NC Department of Transportation and there will be no financial impacts to local government.



Description of Rule Amendment

The Division of Coastal Management utilizes the First Line of Stable and Natural Vegetation as a reference feature in the application of oceanfront setbacks used to site oceanfront development. The Unvegetated Beach Area of Environmental Concern (AEC) is defined in 15A NCAC 07H .0304(3) and is one of three AECs within the Ocean Hazard system. An Unvegetated Beach can be designated by the CRC in areas where no stable and natural vegetation is present, including areas that have suddenly become unvegetated due to a hurricane or other major storm event. In conjunction with the designation, the Division of Coastal Management establishes a measurement line that is to be used as a reference feature in the determination of oceanfront development setbacks. The Measurement Line is established by determining the degree to which the pre-storm vegetation line retreated in adjacent areas and applying that amount of recession to the designated area utilizing aerial imagery.

15A NCAC 07H .0304 is being amended to temporarily designate the areas Oak Island as an Unvegetated Beach AEC. This proposed designation shall continue until such time as stable and natural vegetation has reestablished pursuant to Sub-Item 3(a) of this Rule. These areas were severely impacted by Hurricane Isaias and the existing vegetation line was destroyed making it impractical to utilize it as reference feature in the application of oceanfront setbacks.

Affected Parties

Private Property Owners:

DCM does not anticipate any increased costs to private property owners because of the proposed rule amendments. There are 191 oceanfront structures within the proposed Unvegetated Beach Area of Environmental Concern. Of those, 178 oceanfront structures cannot meet the minimum oceanfront setback measured from the pre-Hurricane Isaias vegetation line, so their non-conforming status will not change because of the establishment of a measurement. Establishment of the measurement line is necessary as the reference feature used to determine the setback for oceanfront structures in this area until natural and stable vegetation is re-established.

NC Department of Transportation (DOT):

Pursuant to G.S. 150B-21.4, the agency declares that the proposed amendments to 15A NCAC 7H .0205 will not affect environmental permitting for the NC Department of Transportation. While the DOT maintained road within the unvegetated beach area is within the oceanfront setback,



DOT actions regarding the roadbed would likely be considered maintenance and repair and not affected by the establishment of a measurement line.

Local Government:

DCM does not anticipate any increased costs to local governments because of the proposed rule amendments as there on no local government facilitates in the area.

Division of Coastal Management:

The designation of an Unvegetated Beach AEC and delineation of a measurement line are routine actions of the Division to establish permitting jurisdiction for regulatory purpose. The Division does not foresee any change in permit requests and does anticipate any change in permit receipts.

Cost/Benefits Summary

The Division of Coastal Management does not anticipate any increase in expenditures in the government or private sector because of this action. The proposed amendments to 15A NCAC 07H .0304 are necessary for the Division to implement the Coastal Resources Commission's administrative rules as they apply to any proposed oceanfront development in the proposed Unvegetated Beach AEC. The Division has determined that the nonconforming status of structures within the proposed Unvegetated Beach AEC will not be affected as they currently did not meet the minimum setback requirement measured from pre-Hurricane Isaias First Line of Stable and Natural Vegetation or from the proposed Measurement Line. However, it is estimated that the 13 structures that could meet the minimum setback prior to Hurricane Isaias, cannot meet the minimum setback when measured from the proposed measurement line. Once the vegetation is re-established and considered stable and natural, it anticipated that those structures would likely meet the setback requirements.



Attachment C: Maps Illustrating Extent of Proposed Unvegetated Beach AEC & Location of Proposed Measurement Line






Oak Island - DRAFT Unvegetated Beach AEC



Legend

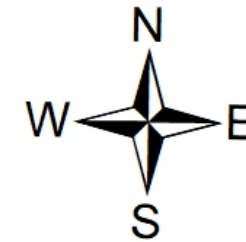
 Unvegetated Beach AEC (DRAFT)

An Unvegetated Beach Area of Environmental Concern (AEC) is being proposed for this portion of Oak Island because of significant overwash and loss of vegetation caused by Hurricane Isaias (08/03/2020).

A Measurement Line is being proposed as a temporary feature from which oceanfront setbacks are measured until the vegetation is re-established, and considered stable and natural.

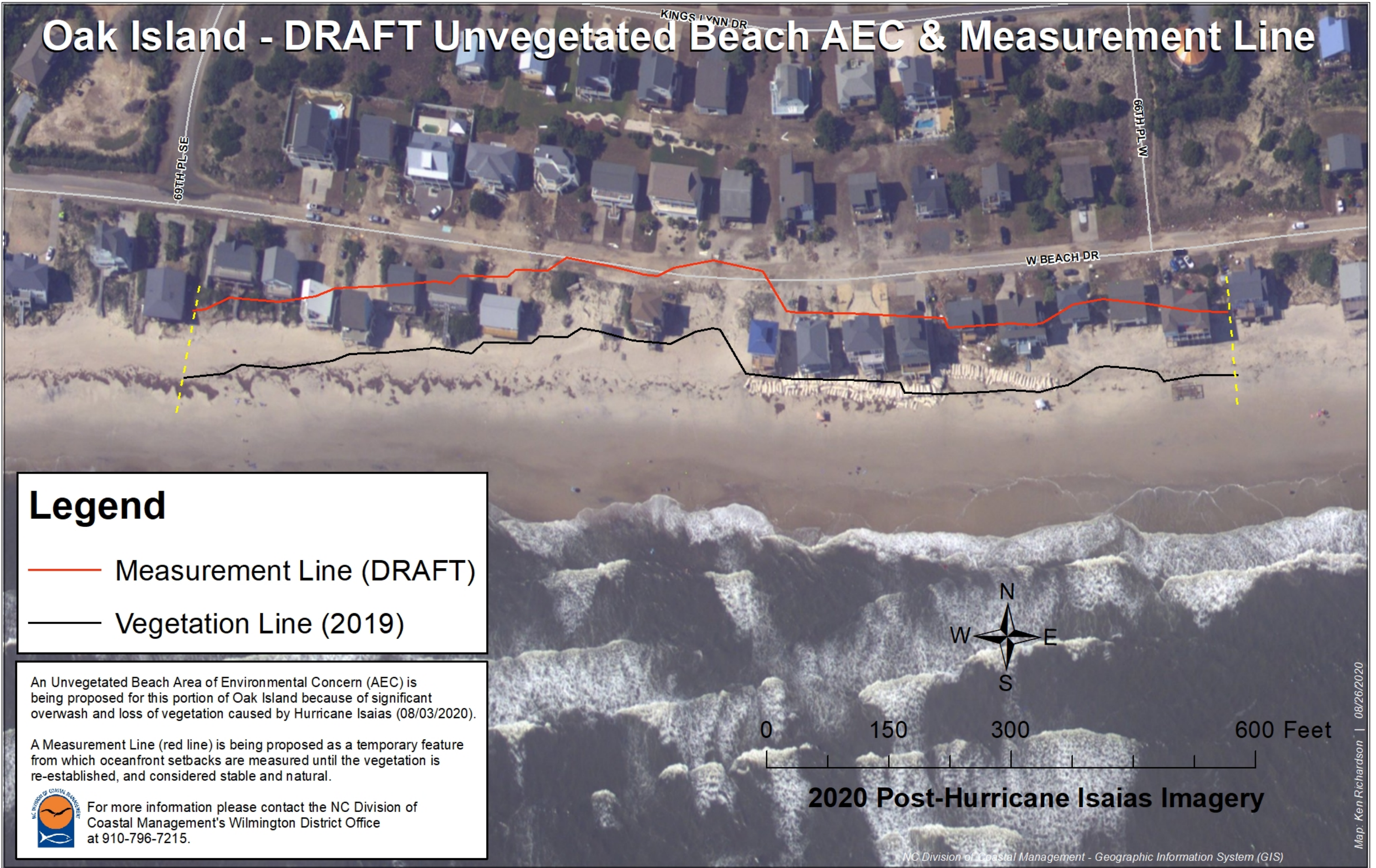


For more information please contact the NC Division of Coastal Management's Wilmington District Office at 910-796-7215.



2019 Brunswick County Imagery

Oak Island - DRAFT Unvegetated Beach AEC & Measurement Line



Legend

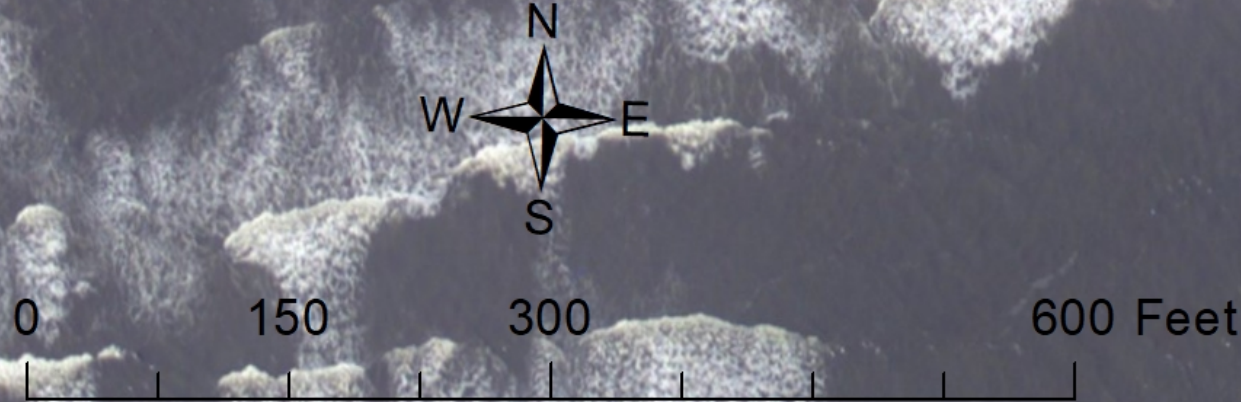
- Measurement Line (DRAFT)
- Vegetation Line (2019)

An Unvegetated Beach Area of Environmental Concern (AEC) is being proposed for this portion of Oak Island because of significant overwash and loss of vegetation caused by Hurricane Isaias (08/03/2020).

A Measurement Line (red line) is being proposed as a temporary feature from which oceanfront setbacks are measured until the vegetation is re-established, and considered stable and natural.



For more information please contact the NC Division of Coastal Management's Wilmington District Office at 910-796-7215.



2020 Post-Hurricane Isaias Imagery

NC Division of Coastal Management - Geographic Information System (GIS)

Map: Ken Richardson | 08/26/2020

Oak Island - DRAFT Unvegetated Beach AEC & Measurement Line



Legend

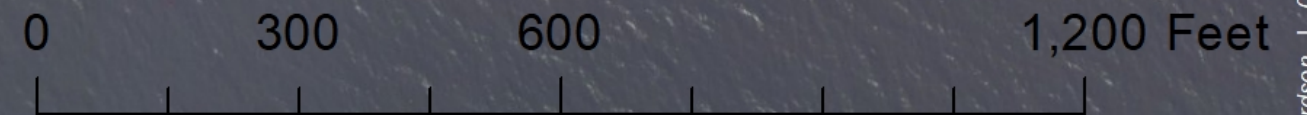
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An Unvegetated Beach Area of Environmental Concern (AEC) is being proposed for this portion of Oak Island because of significant overwash and loss of vegetation caused by Hurricane Isaias (08/03/2020).

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2020 Post-Hurricane Isaias Imagery

NC Division of Coastal Management - Geographic Information System (GIS)

Map: Ken Richardson | 08/26/2020

Oak Island - DRAFT Unvegetated Beach AEC & Measurement Line



Legend

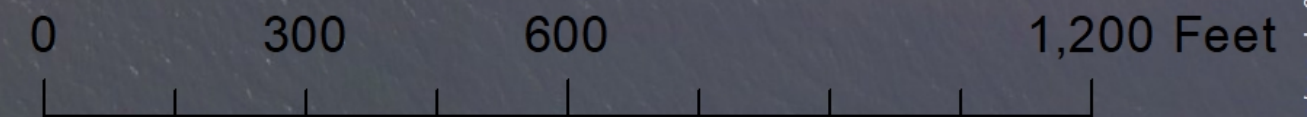
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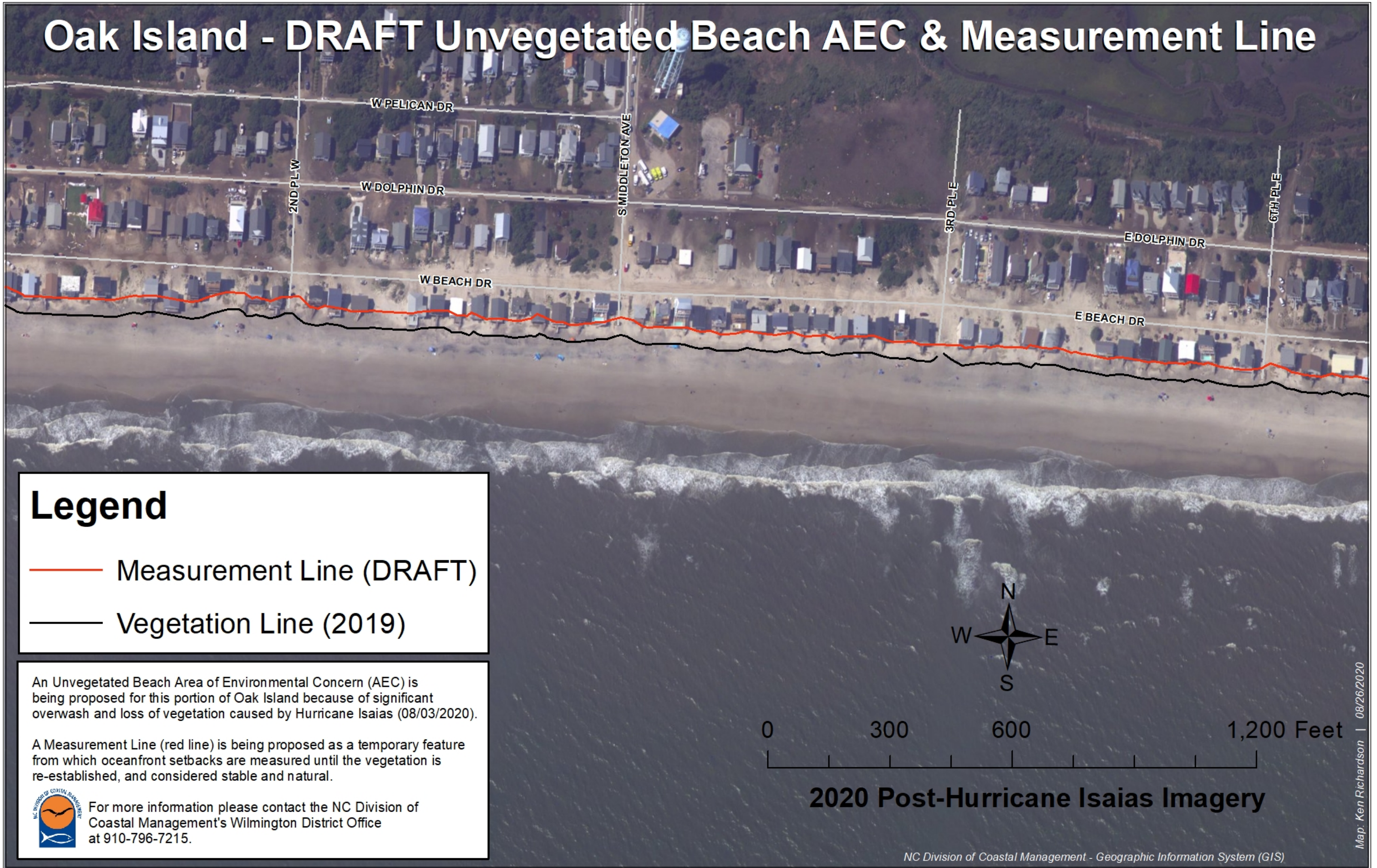


2020 Post-Hurricane Isaias Imagery

NC Division of Coastal Management - Geographic Information System (GIS)

Map: Ken Richardson | 08/26/2020

Oak Island - DRAFT Unvegetated Beach AEC & Measurement Line




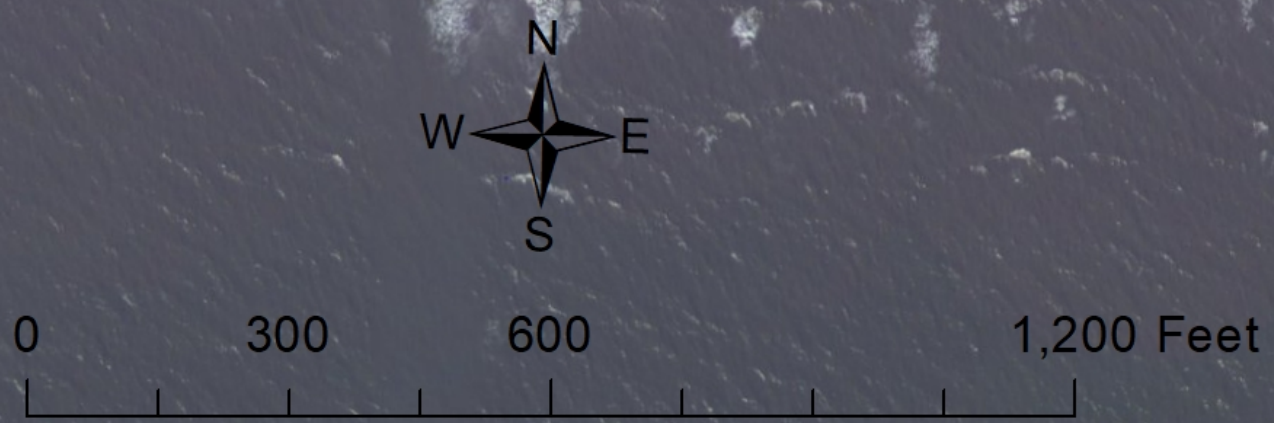
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- Measurement Line (DRAFT)
- Vegetation Line (2019)

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A Measurement Line (red line) is being proposed as a temporary feature from which oceanfront setbacks are measured until the vegetation is re-established, and considered stable and natural.

 For more information please contact the NC Division of Coastal Management's Wilmington District Office at 910-796-7215.

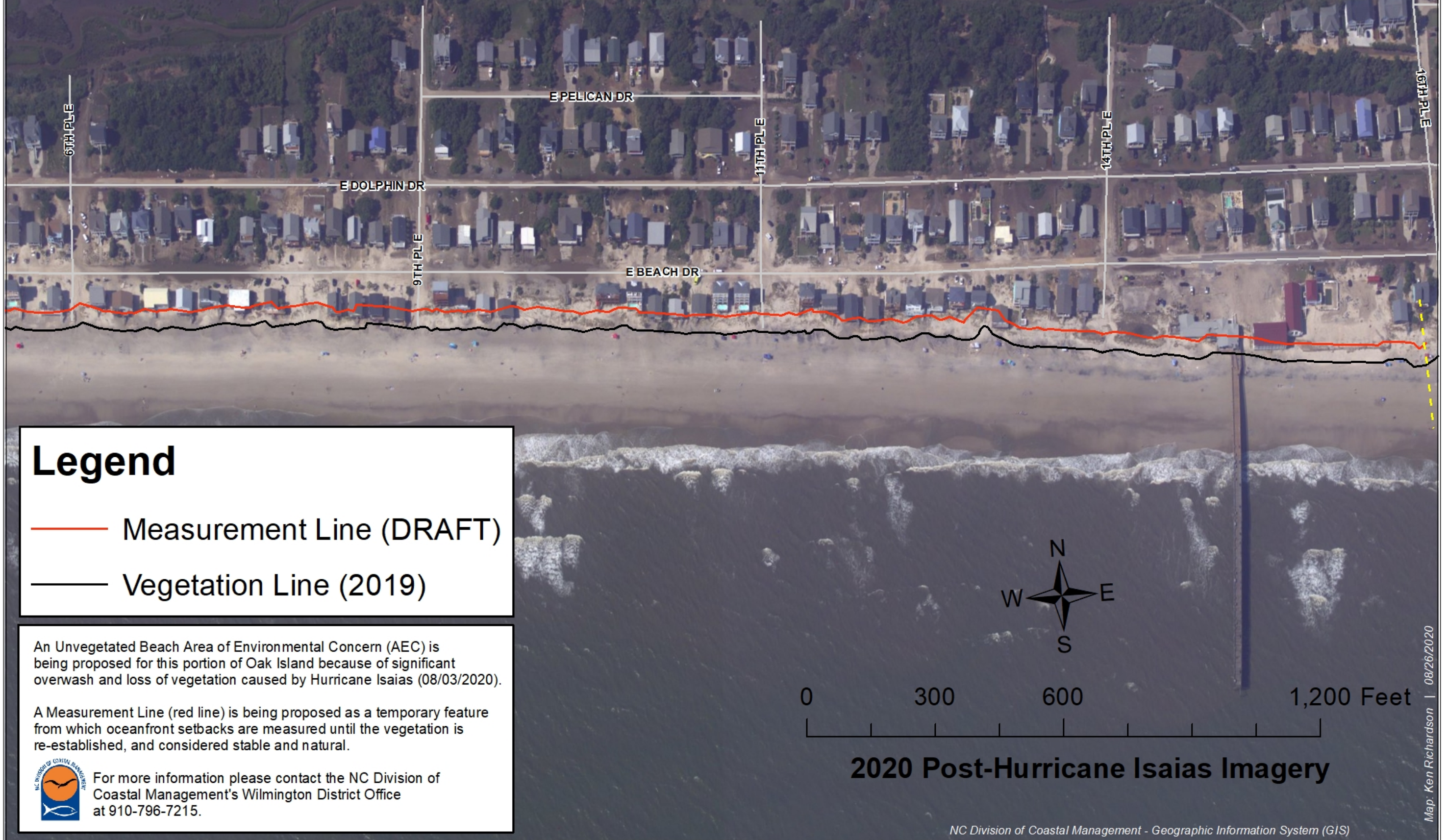


2020 Post-Hurricane Isaias Imagery

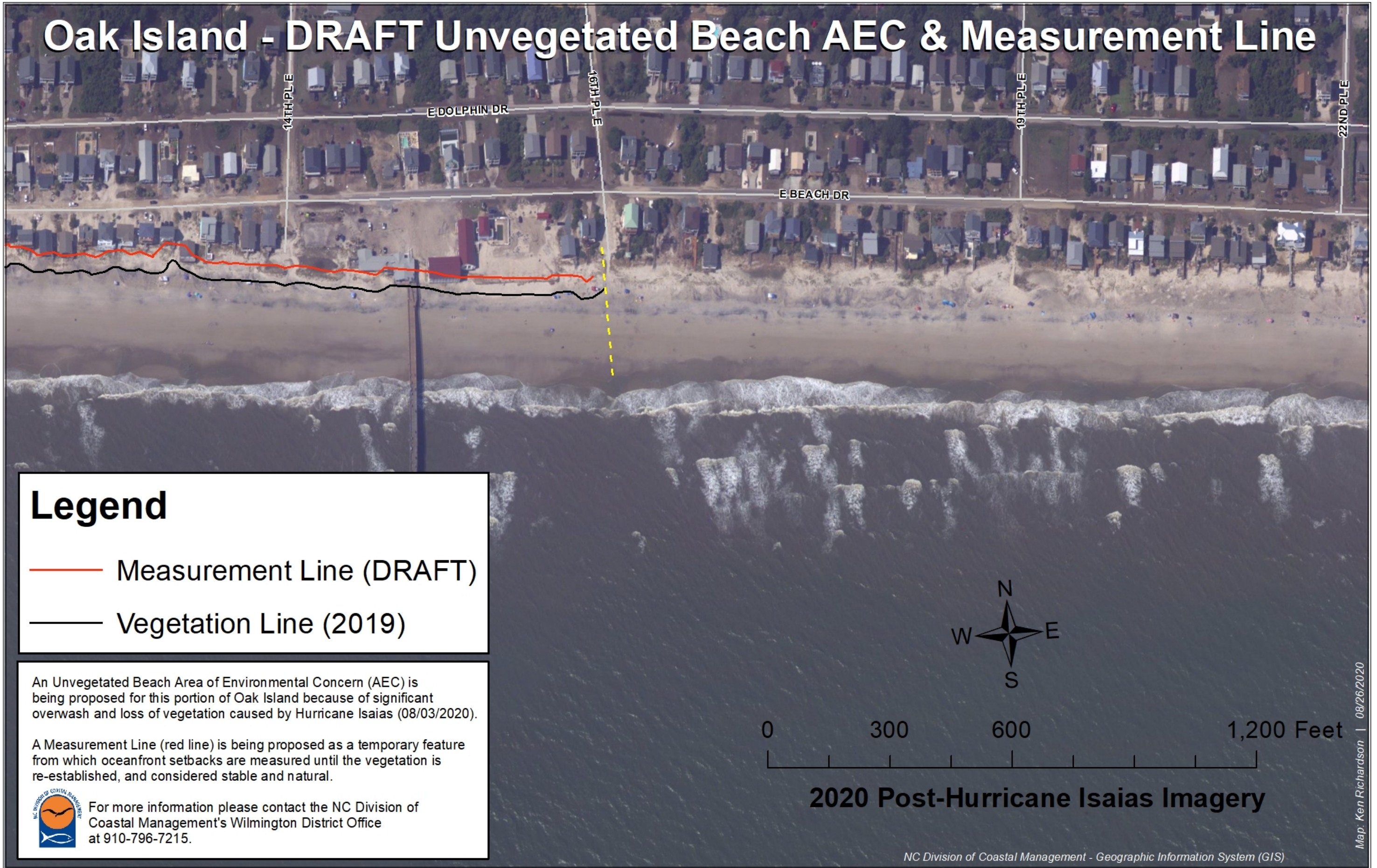
NC Division of Coastal Management - Geographic Information System (GIS)

Map: Ken Richardson | 08/26/2020

Oak Island - DRAFT Unvegetated Beach AEC & Measurement Line



Oak Island - DRAFT Unvegetated Beach AEC & Measurement Line




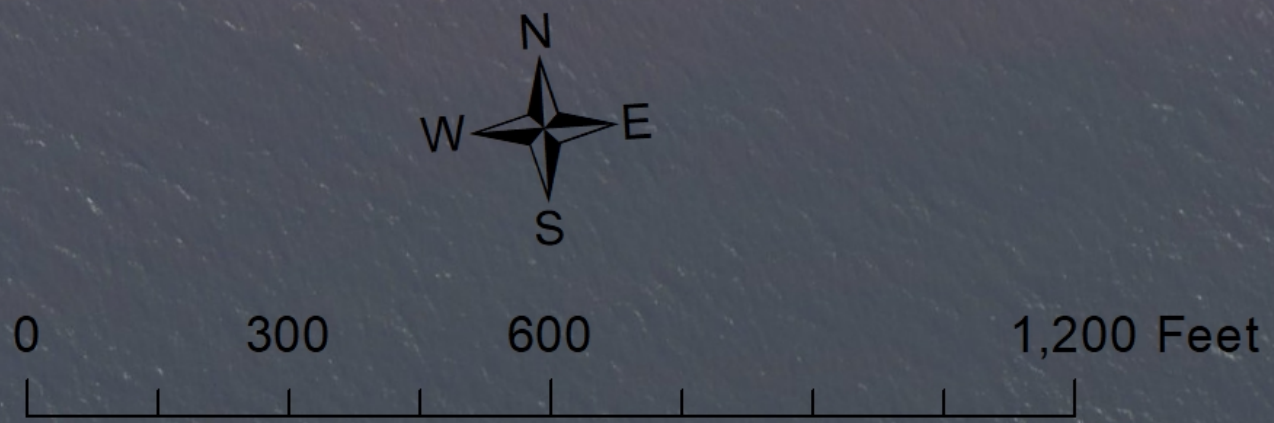
Legend

- Measurement Line (DRAFT)
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 For more information please contact the NC Division of Coastal Management's Wilmington District Office at 910-796-7215.



2020 Post-Hurricane Isaias Imagery

NC Division of Coastal Management - Geographic Information System (GIS)

Map: Ken Richardson | 08/26/2020