



# CRC Inlet Management Study

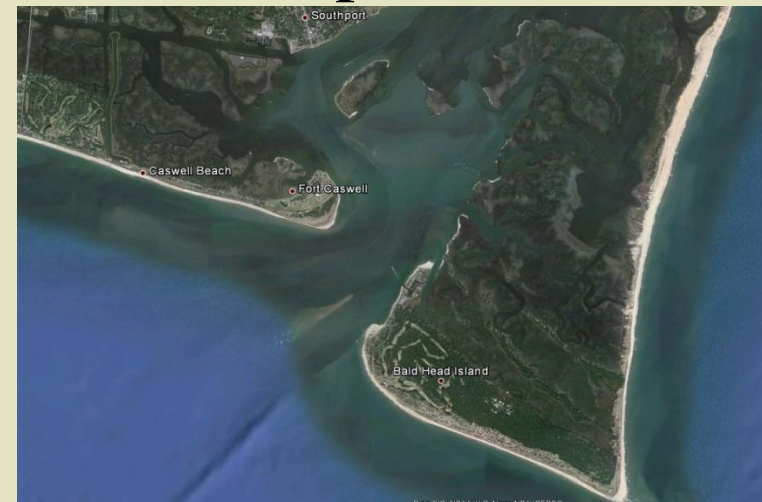
Matt Slagel  
Shoreline Management Specialist





# Study Origin

- CRC “shall study feasibility of creating new AEC” for lands adjacent to mouth of Cape Fear River (**HB 819**)
  - Collaborate with the Town of Caswell Beach and Village of Bald Head Island, landowners and stakeholders
  - Report to DENR, Governor, Gen. Assembly on Dec. 31, 2013
- Based on regulatory issues identified in the report, the Commission decided to undertake a comprehensive, coast-wide inlet management study in 2014





## Related Initiatives

- **S.L. 2012-202 (HB 819): Inlet Hazard Areas**
  - Determine feasibility of eliminating IHA AEC and incorporating appropriate development standards adjacent to developed inlets.
  - Past and ongoing Science Panel work
- **S.L. 2013-138: Ensure Safe Navigation Channels**
  - Permit mechanisms to streamline inlet dredging projects
- **S.L. 2013-413: Regulatory Reform Act of 2013**
  - Re-evaluate the merits of all existing rules



# Study Topics

- 1) Beneficial use of dredged materials (beach placement)
- 2) Dredging windows / moratoria
- 3) Dredging depths and sediment criteria rules
- 4) Channel realignment projects
- 5) Development standards / erosion setbacks / local vs. state authorities
- 6) Volumetric triggers for beachfront “static lines”
- 7) Emergency permitting: beach bulldozing & sandbags
- 8) Terminal groins and sand bypassing
- 9) Erosion rate calculations for Inlet Hazard Areas
- 10) Monitoring conditions associated with projects



## Study Schedule / Milestones

- **Expert panel at Feb. 2014 CRC Meeting**
- **Four regional meetings by end of April 2014**
- **Written comments accepted through April 15**
  - [Matthew.Slagel@ncdenr.gov](mailto:Matthew.Slagel@ncdenr.gov)
- **May 15:** Comments summarized/categorized for CRC
- **July 31:** Final draft findings/recommendations
- **September 30:** Submit proposed rulemaking changes for public comment
- **December 31, 2014:** Final report to Governor & G.A.



# Public Meetings

- Regional Inlet Management Meeting Locations

**March 6, 2016 4:00 PM**

Fessenden Center  
46830 Hwy 12  
Buxton NC 27920

**March 26, 2014 6:00 PM**

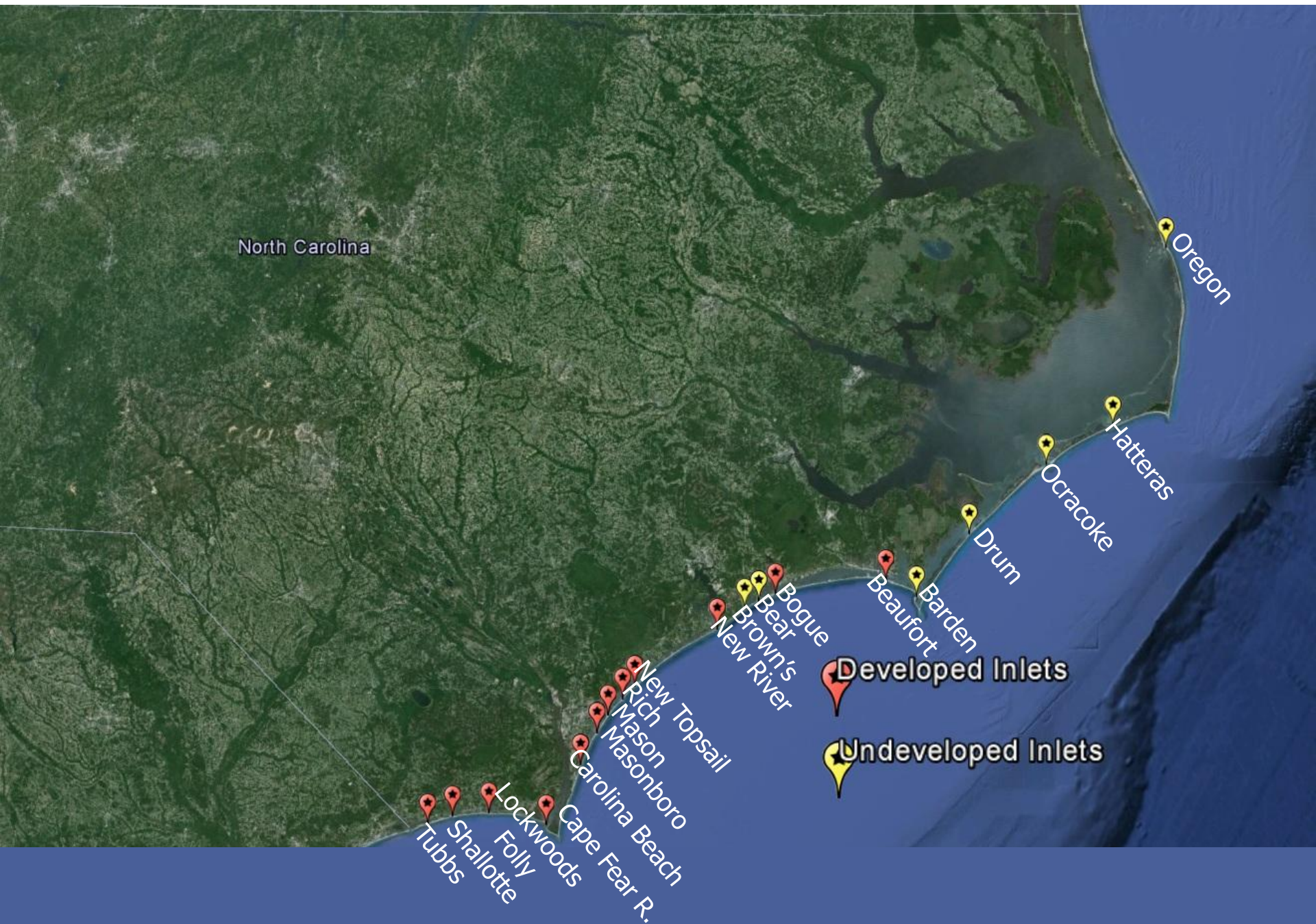
Ocean Isle Beach Town Hall  
3 West Third Street  
Ocean Isle Beach, NC 28469

**March 12, 2014 6:00 PM**

NOAA/NERR Administration Bldg  
101 Pivers Island Road  
Beaufort, N.C. 28516

**April 2, 2014 6:00 PM**

New Hanover County Gov't Center  
30 Government Center Drive  
Wilmington, NC 28403



North Carolina

Oregon

Hatteras

Ocracoke

Drum

Beaufort

Barden

Bogue

Bear

Brown's

New River

New Topsail

Rich

Masonboro

Carolina Beach

Cape Fear R.

Masonboro

Lockwoods

Folly

Shallotte

Tubbs

Developed Inlets

Undeveloped Inlets

# Oscillating



# Migrating

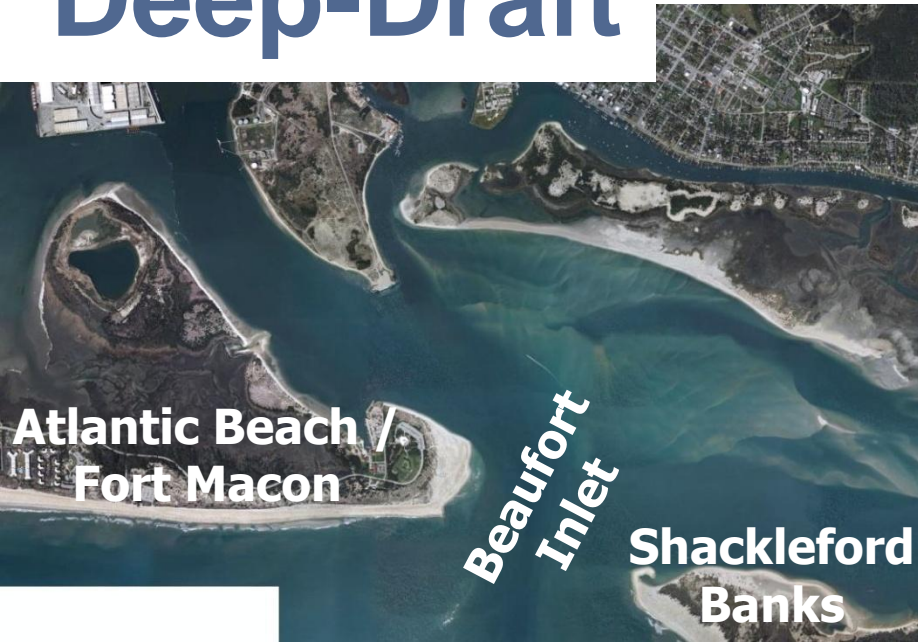




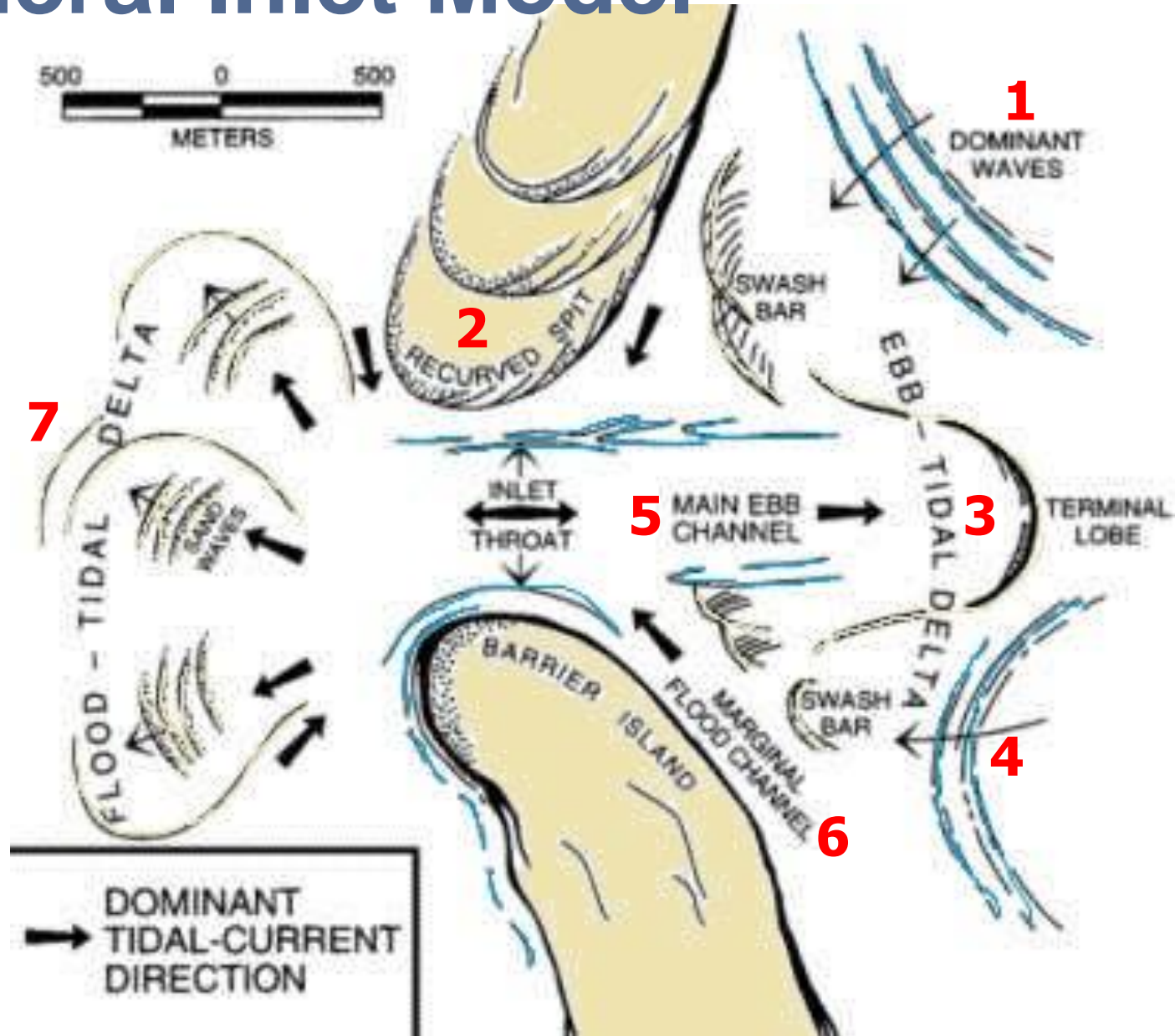
# Shallow-Draft



# Deep-Draft



# General Inlet Model





# N.C. Division of Coastal Management

## Overview of Inlet Management

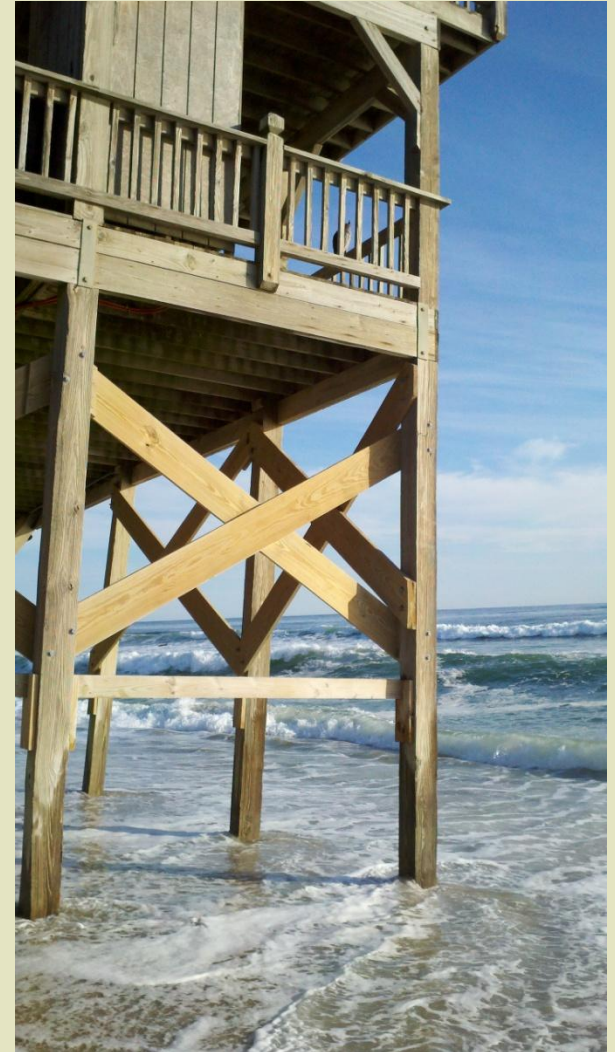
Heather Coats  
DCM Field Representative





# Ocean Hazard Areas

- DCM jurisdiction includes:
  - *Ocean Erodeable Area*
  - *High Hazard Flood Areas*
  - *Inlet Hazard Areas*
  - *Unvegetated Beach Area*
- Erosion rate-based setbacks based on size of structures
- Erosion-control structures
- Beach and inlet projects





# Ocean Hazard Setbacks

Total Square Footage	Setback Factor	Setback Distance Based on Erosion Rate				
		2 ft/year	3 ft/year	4 ft/year	5 ft/year	6 ft/year
less than 5,000 sq ft	30	60'	90'	120'	150'	180'
5,000 - 9,999 sq ft	60	120'	180'	240'	300'	360'
10,000 - 19,999 sq ft	65	130'	195'	260'	325'	390'
20,000 - 39,999 sq ft	70	140'	210'	280'	350'	420'
40,000 - 59,999 sq ft	75	150'	225'	300'	375'	450'
60,000 - 79,999 sq ft	80	160'	240'	320'	400'	480'
80,000 - 99,000 sq ft	85	170'	255'	340'	425'	510'
100,000 sq ft or greater	90	180'	270'	360'	450'	540'



# Inlet Hazard Areas (IHA)

- Areas especially vulnerable to erosion and flooding due to proximity to ocean inlets
- IHA boundaries designated in 1981
- Structures < 5,000 sf
- Density restrictions
- No dune building





# Sandbags in Inlet Hazard Areas

- If community is actively pursuing inlet relocation or stabilization project, sandbags may remain in place for up to 8 years from date of approval, and may be used more than once.
- Bags can be used to protect septic systems.

New River Inlet



Shalotte Inlet



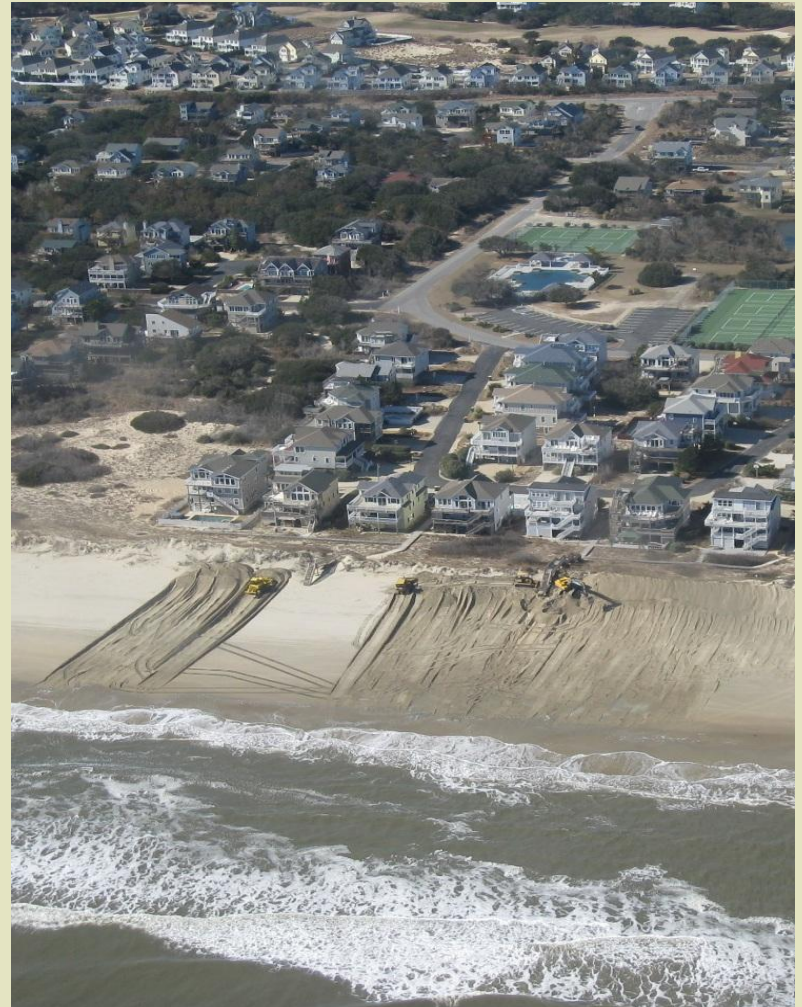
Tubbs Inlet





# Bulldozing in Inlet Hazard Areas

- GP 1800 (15A NCAC 7H.1800) allows beach bulldozing landward of the MHW mark in the Ocean Hazard AEC, but does not apply to IHAs.
- 15A NCAC 7H.0308(b)(5) “no new dunes shall be created in inlet hazard areas.”







# Timing of Projects

- 15A NCAC 7H.0308(a)(1)(F) states that “project construction shall be timed to minimize adverse effects on biological activity.”



# “Umbrella Permitting”

- Hold pre-application meetings
  - Staff work with the applicant to develop a project that will likely meet CRC and other state and federal regulations.
- Assist applicants in filling out permit applications, which also meet req’s for:
  - Water Quality Certification (DWR)
  - Federal Wetlands Permit (USACE)
  - Section 10 (Navigation) Permit (USACE)



# Sediment Criteria Rules

- Recent rule changes have reduced the burden on project applicants for sampling and analysis.
- Changes were based on DCM experience with implementing the rules.
  - Adequate sediment sampling is maintained.
  - Costs for applicants are decreased.



# Beneficial Use of Dredged Materials



Dredging of Cape Fear River Inlet with Sand Placed  
on Bald Head Island



# Inlet Channel Realignment

Figure Eight Island



Mason Inlet

Shell  
Island  
Resort

Before

Figure Eight Island



Mason Inlet

Shell  
Island  
Resort

After

Wrightsville Beach

Wrightsville Beach



# Inlet Channel Realignment



ASSOCIATED PRESS  
Sandbags hold back the sea from Shell Island Resort in Wrightsville Beach in this photo taken Oct. 21.



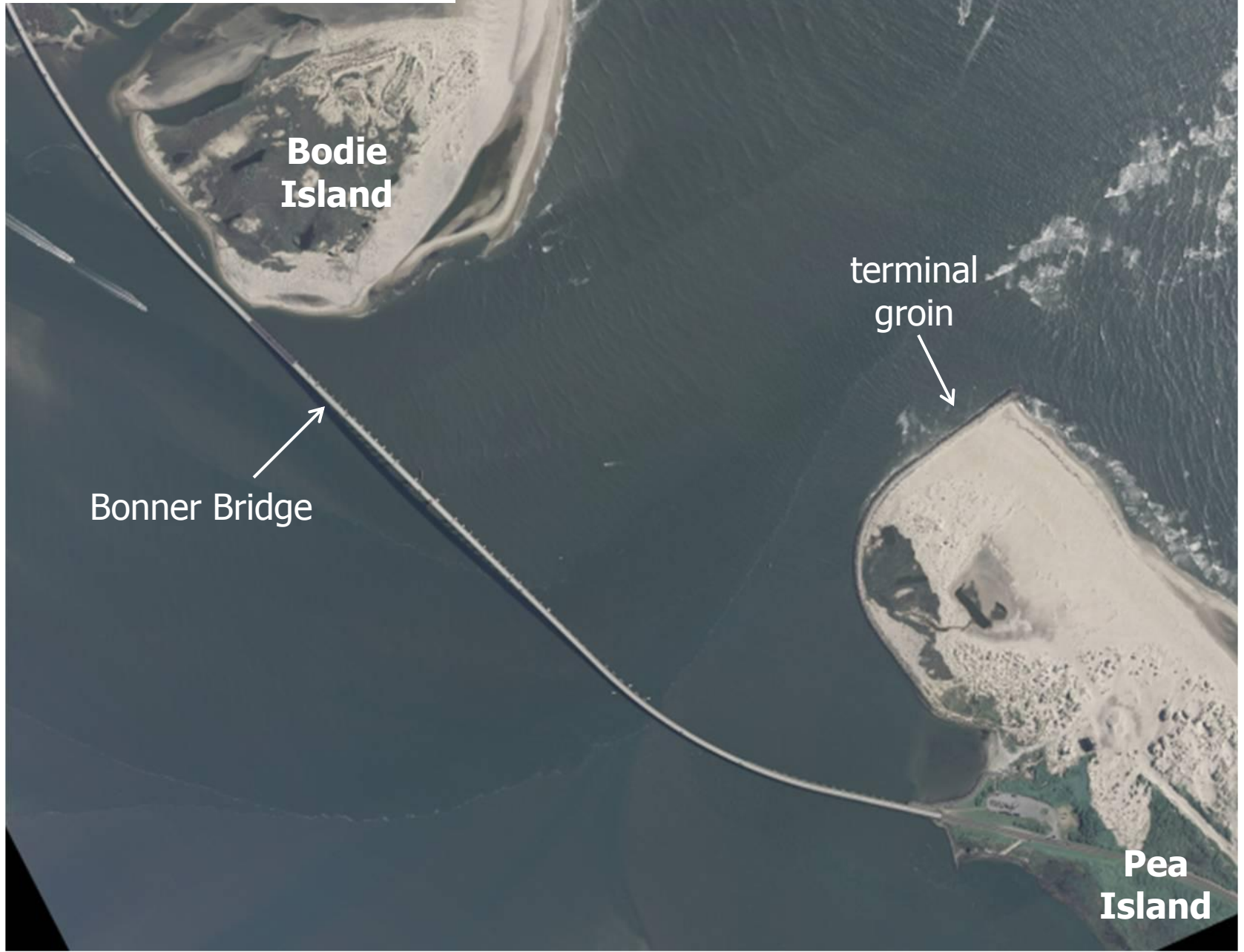
# Terminal Groins

- SB 151 allows 4 terminal groins to be permitted
- In various stages of the process:
  - Bald Head Island, Figure Eight Island, Holden Beach, Ocean Isle Beach



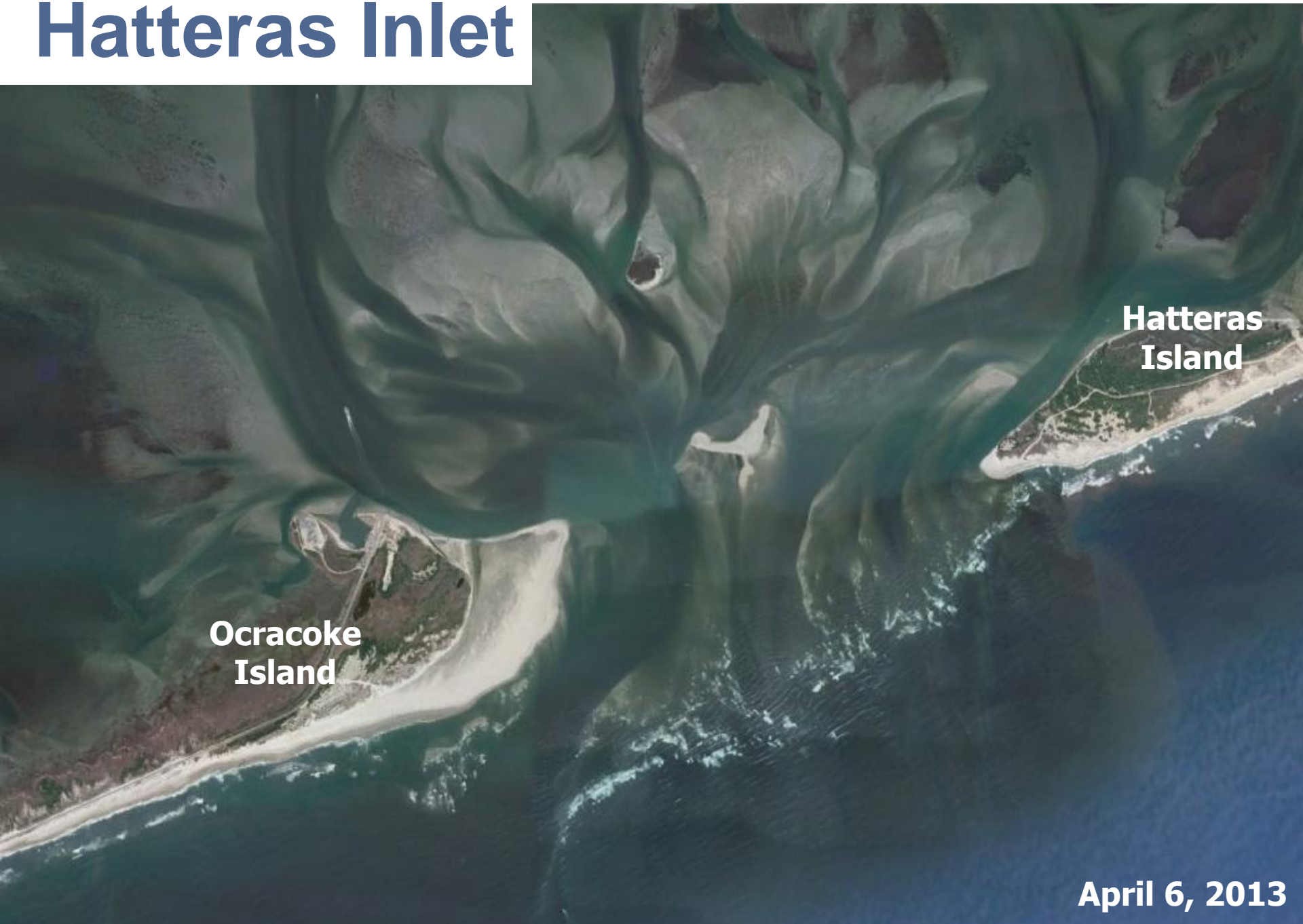
# Oregon Inlet

June 15, 2013





# Hatteras Inlet



**Hatteras  
Island**

**Ocracoke  
Island**

**April 6, 2013**

# Ocracoke Inlet



Ocracoke  
Island

Portsmouth  
Island

April 6, 2013

# Drum Inlet



**North  
Core Banks**

**South  
Core Banks**

**April 6, 2013**

# Barden Inlet

Shackleford  
Banks

Cape  
Lookout

April 6, 2013



# Beaufort Inlet



Morehead  
City

Beaufort

Atlantic  
Beach

Fort  
Macon

Shackleford  
Banks

December 31, 2011

# Bogue Inlet



**Bear Island**

**Emerald Isle**

**December 31, 2011**

# Bear Inlet



**AIWW**

**Bear Island**

**Brown's Island**

**December 31, 2011**

# Brown's Inlet



**Camp  
Lejeune**

**Brown's  
Island**

**AIWW**

**Onslow  
Beach**

**December 31, 2011**



# New River Inlet



**AIWW**

**Onslow  
Beach**

**North Topsail  
Beach**

**December 31, 2011**

# New Topsail Inlet



**AIWW**

**Topsail Beach**

**Lea-Hutaff  
Island**

**January 3, 2013**

# Rich Inlet



**AIWW**

**Lea-Hutaff  
Island**

**Figure Eight  
Island**

**January 3, 2013**

# Mason Inlet



**AIWW**

**Figure Eight  
Island**

**Wrightsville  
Beach**

**January 3, 2013**

# Masonboro Inlet



January 3, 2013

# Carolina Beach Inlet



**Masonboro  
Island**

**Carolina  
Beach**

**AIWW**

**January 3, 2013**

# Cape Fear River Inlet



**Caswell Beach**

**Bald Head  
Island**

**January 3, 2013**

# Lockwoods Folly Inlet



January 3, 2013



# Shallotte Inlet



**AIWW**

**Ocean Isle  
Beach**

**Holden  
Beach**

**January 3, 2013**

# Tubbs Inlet



**AIWW**

**Ocean Isle  
Beach**

**Sunset  
Beach**

**January 3, 2013**