National Park Service
Cape Lookout National Seashore

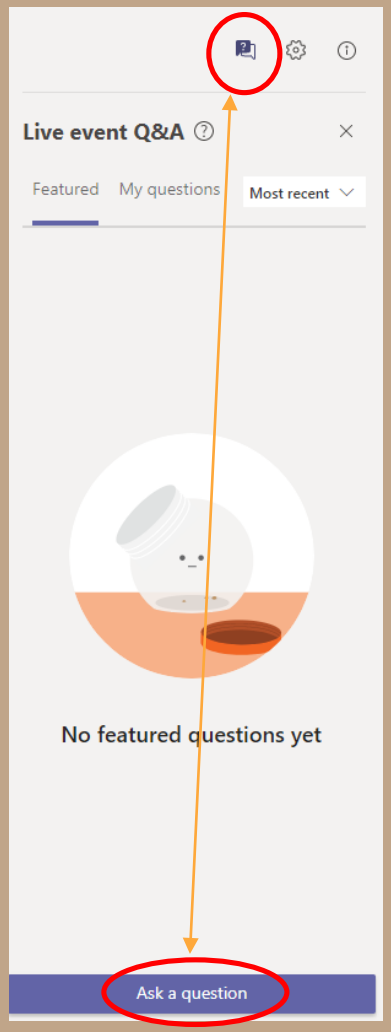
Introductions

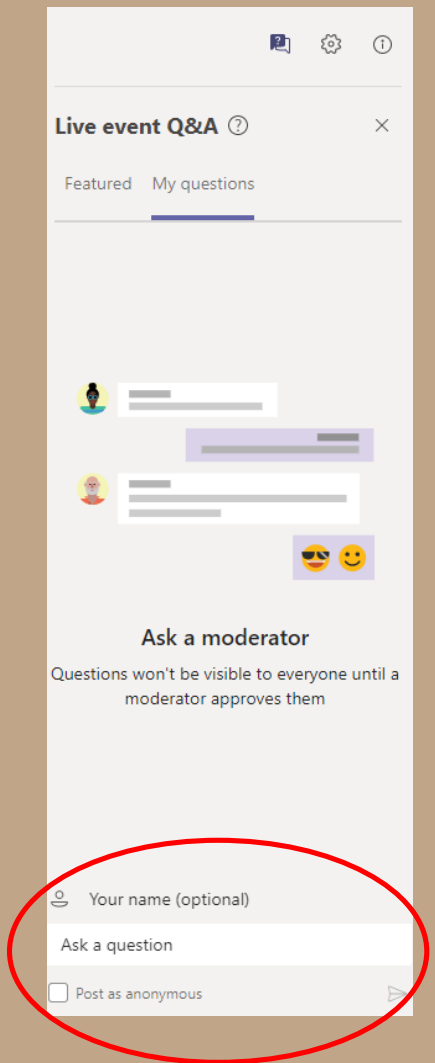
- Sabrina Henry - Storm Recovery Team, South Atlantic Gulf Region
- Jason Blount - Environmental Protection Specialist, Cape Lookout NS
- Linda York- Coastal Geologist, South Atlantic Gulf Region
- Jeff West - Superintendent, Cape Lookout NS

National Park Service

Teams Live Event Control Panel - QUESTIONS

- As an attendee, you will be in listen-only mode.
- Type your questions at any time during the meeting into the Ask a Question Box in the Control Panel.
- Questions will be answered at the end of the presentation, as time allows.
- To provide comments on the project, <u>after</u> the presentation please visit:
  - https://parkplanning.nps.gov/CALO





Presentation Overview:

1. Background
2. Current Conditions
3. Visitor Access
4. Special Considerations & Potential Locations

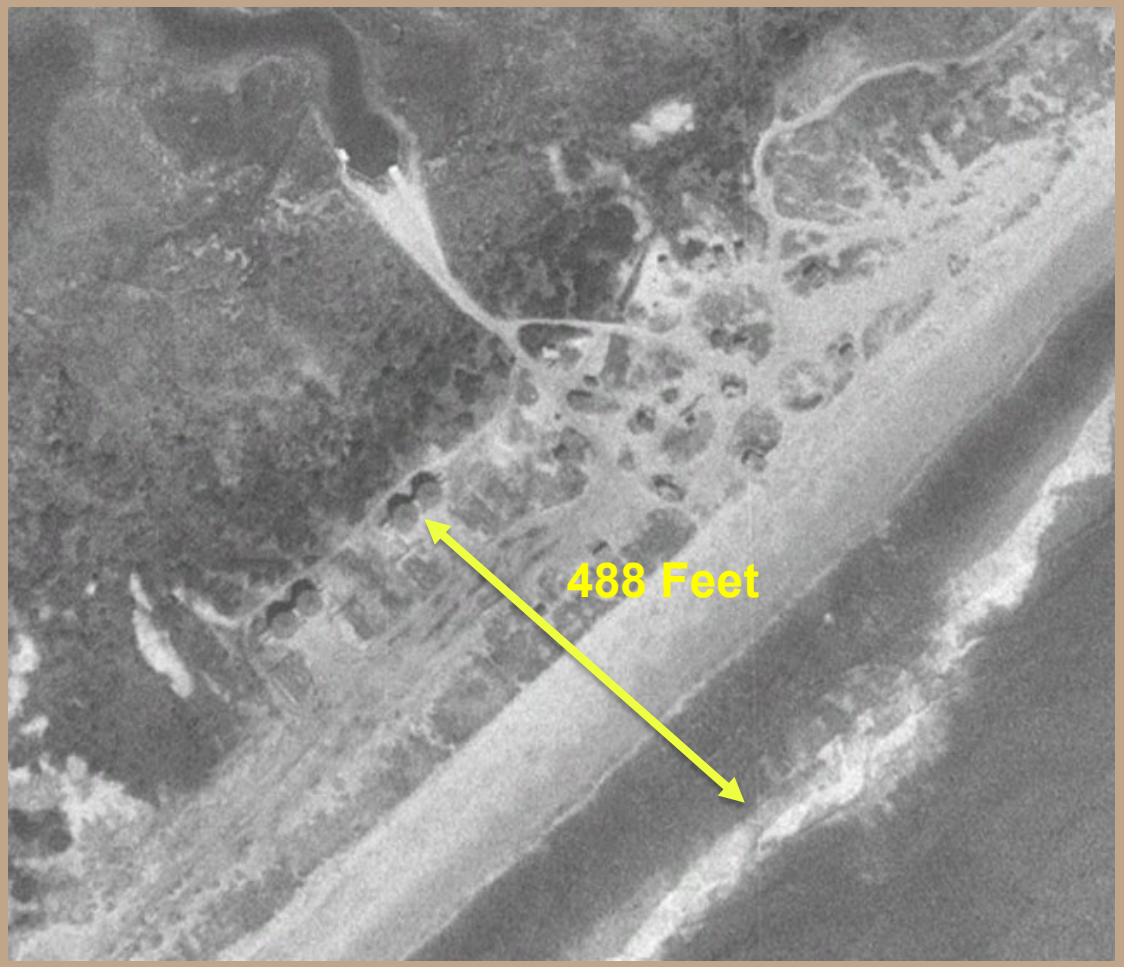
BACKGROUND

North Core Banks: Long Point

1997

North Core Banks: Long Point 2020

1993 – 488 feet from cabins to waterline



2005 – 403 feet from cabins to waterline

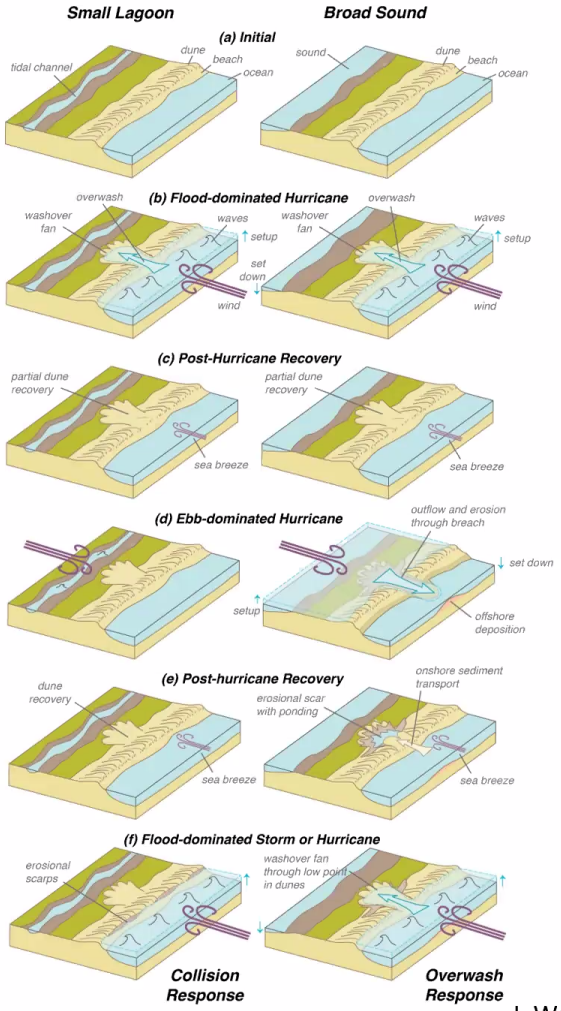
2018 – 185 feet from cabins to waterline

(Net loss of 303 feet / 101 yards of beachfront)

WHAT HAPPENED?

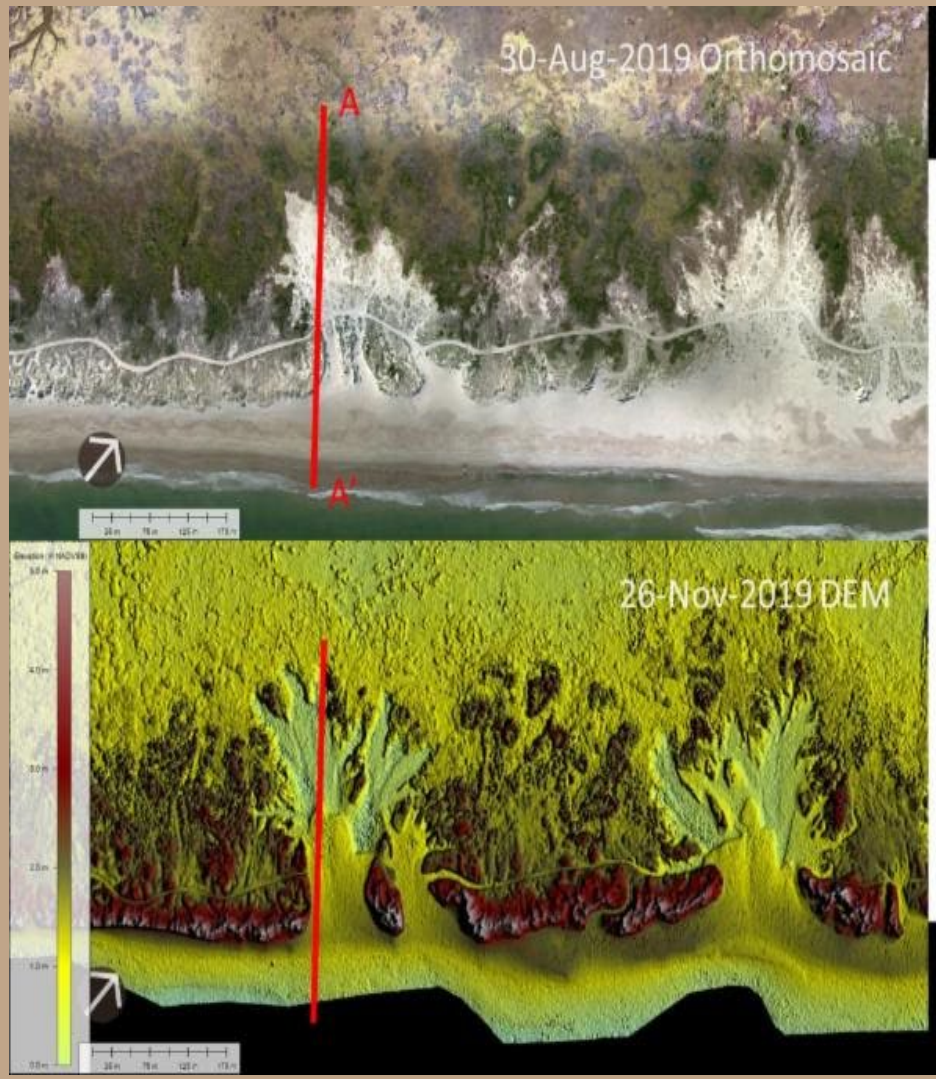
Extend conceptual model

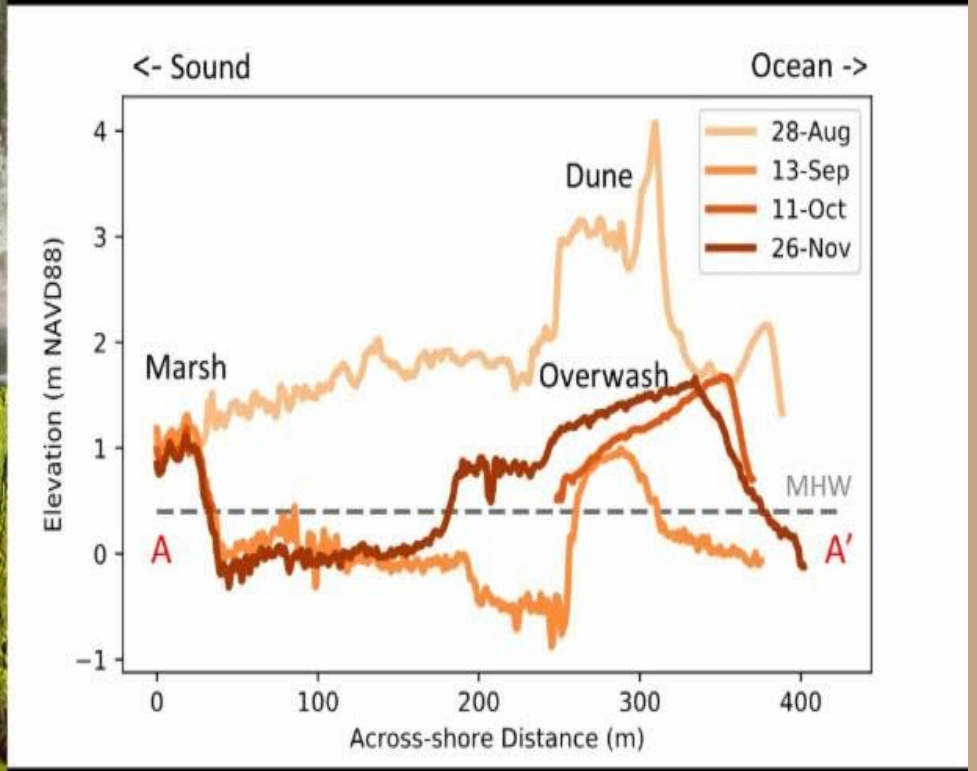
- Sound-side inundation and erosion is not recognized in the canon of barrier transgression processes
- Conditions conducive for SSIE
  - Large sound / bay
  - Low elevation dune lines
  - Location on hurricane tracks
- SSIE impedes barrier transgression by moving barrier volume down and seaward
- Is there a characteristic SSIE marsh-side morphology?
- SSIE generates unique habitat



J. Warrick

National Park Service
Recovery





Approx. percentage of island volume lost

Volume change

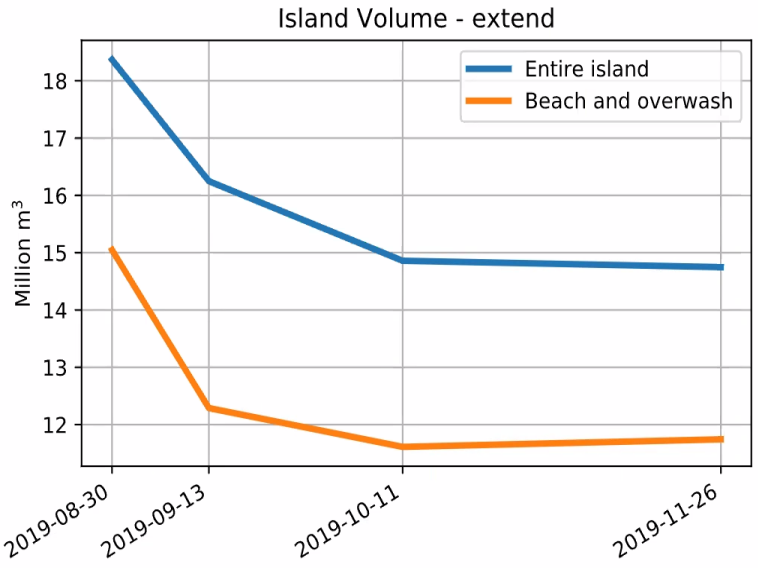
Aug – Sep: minus 11%

Sep – Oct: minus 8% (gain in washover, loss on beaches)

Oct – Nov; ~0 (gain in washover, loss on some dunse)

Overall: -20%

Only minor recovery in beach and overwash areas



North Core Banks:
54 Major Breaches, 99 total Breaches

Courtesy of Western Carolina University
Program for the Study of Developed Shorelines

CURRENT CONDITIONS

North Core Banks: 2019 (Post Dorian)
Long Point

North Core Banks: 2019
Long Point

North Core Banks: Long Point

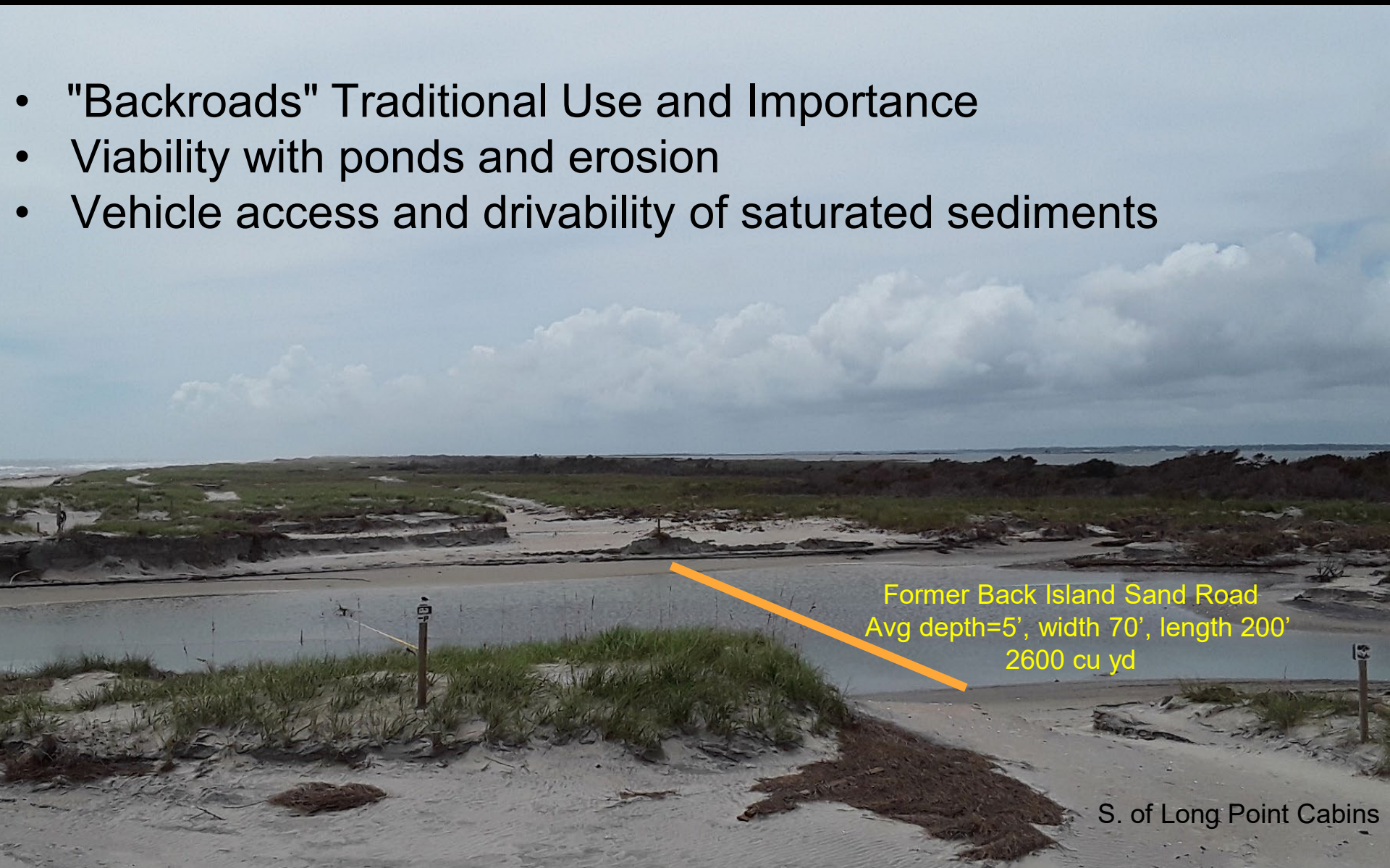
VISITOR ACCESS

North Core Banks:
Long Point Boat Access

Beach Access

Accessibility

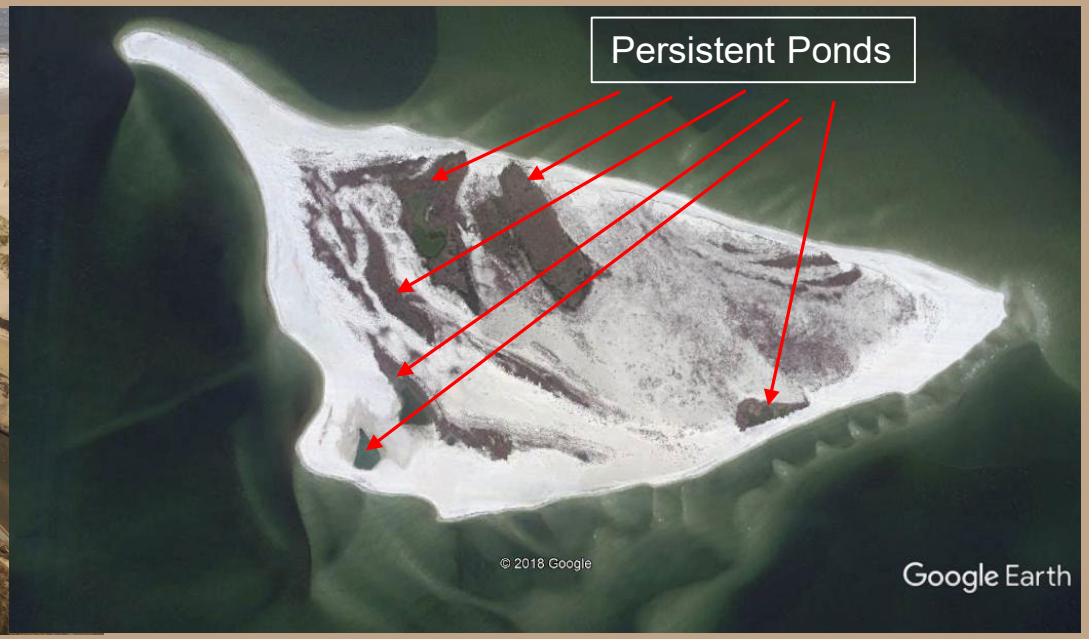
- "Backroads" Traditional Use and Importance
- Viability with ponds and erosion
- Vehicle access and drivability of saturated sediments



Considerations-

- Many think cuts will **all** fill
- Experience at other parks- we know deep ponds sometimes do not fill but instead persist
- Could remain salty or convert to fresh water ponds and/or marshes. Depends upon influence of FW aquifer
- Ecologically not a problem, but on North Core, reestablishing the ORV roads problematic
- Ferry service is critical, must consider impacts to sound side marshes from private boat access landings
- Any additional docks and piers will impact wetlands. Compliance and compensation will be required.

Long Point Cut 2019



West Petit Bois GUIS March 2019

IMPORTANT CONSIDERATIONS & POTENTIAL LOCATIONS

Important Considerations

- **Adaptive Coastal Processes**

*The **natural** dynamic geologic processes that formed the spectacular landscapes of Cape Lookout National Seashore **remain active today**.*

This includes:

- Flooding (storm surge, sea level rise, sound seiches and high-tide flooding)
- Shoreline movements (coastal erosion, over-wash)

*These natural processes present risk **only** when we add the human element.*

Important Considerations

- **Wetlands**
- **Wildlife**
- **Vegetation**
- **Soils**
- **Cultural resources**
- **Visitor Use and Experience**

Potential Locations

1. Existing Location
2. Southern Location
3. Northern Location

1. Existing Location

Pros:

• Close to the existing ferry dock.

Cons:

- Area has narrowed significantly since the cabins were built.
- Past erosion reduction efforts have not worked.
- Accretion occurs but mostly on the sound side.
- Previous storms resulted in impacts similar to Hurricane Dorian.

2. Southern Location

Pros:

• Close proximity to ferry dock (1 mile).

Cons:

• Breaches occurred to the immediate north and south of this site during Hurricane Dorian from sound side surges.

• Elevation is low and sand dunes are small, providing limited protection.

• Width of North Core Banks here is narrow.

3. Northern Location

Pros:

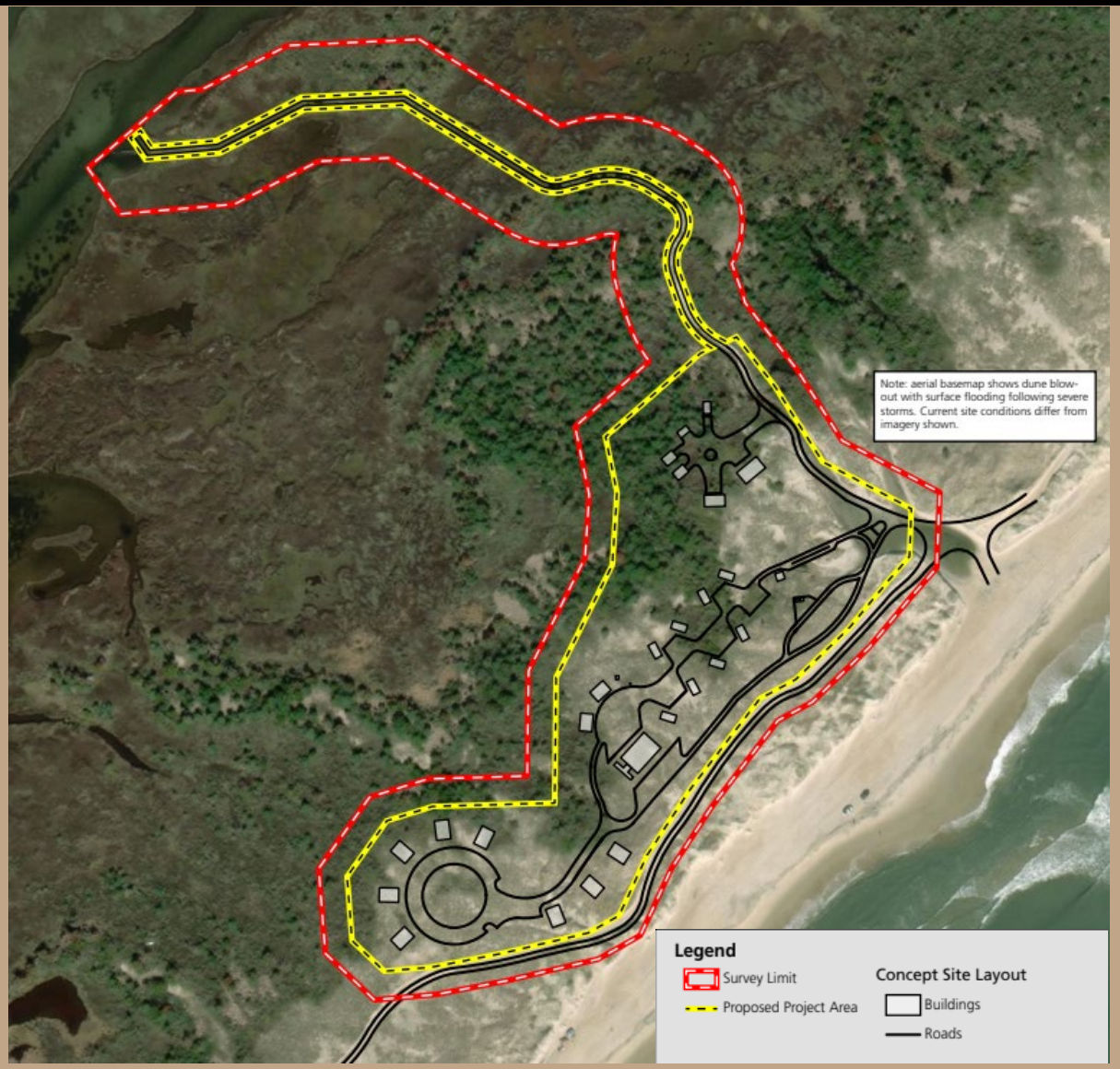
- No major previous storm impacts.
- Widest area on the island.
- Wetlands provide a buffer to sound side surge.

Cons:

- Further from the ferry dock (~4 miles).
- Would require some construction within a wetland.
- Need to rebuild the existing dock and re-establish the road from the dock to the site.

Northern Location

Conceptual Site Layout



Questions?

Please Use the "Ask a Question Box"

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Thank you for your participation!

Additional questions or comments can be provided at:

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through January 25, 2021