

Economics Values of Coastal Erosion Management

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Coastal Erosion

- Large amounts of capital investment along the coastal margin – high **risk/amenity** zone
- Beaches provide for recreation & storm protection



Superstorm Sandy – Kitty Hawk, NC



Nice Day in Nags Head, NC

Coastal Erosion in North Carolina

- How do NC households perceive / support various approaches to shoreline erosion management?
- How might erosion and management impact visitation patterns?
- What are the economic values stemming from:
 - Increasing beach width
 - Environmental impacts of MGMT
- What are households WTP for different management approaches?
- Use v. Non-use values

Survey of North Carolina Households

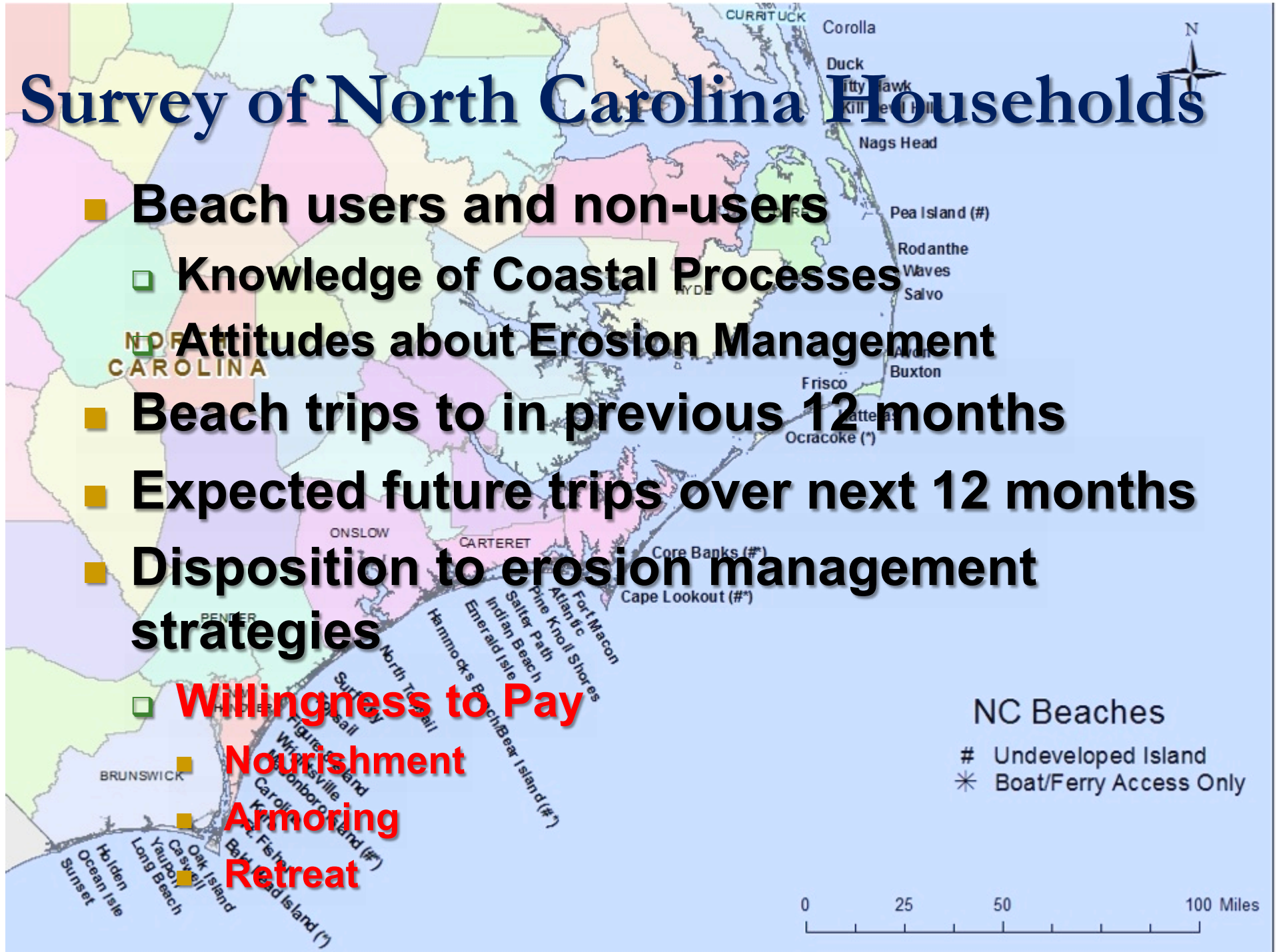
- Beach users and non-users
 - Knowledge of Coastal Processes
 - Attitudes about Erosion Management
- Beach trips to in previous 12 months
- Expected future trips over next 12 months
- Disposition to erosion management strategies

□ Willingness to Pay

■ Nourishment

■ Armoring

■ Retreat



Experimental Design

- **Status Quo**

(100 feet)



- **Significant Erosion**

(30 feet)



- **Wider**

(150 feet)



- **Widest**

(250 feet)



Support for Coastal Erosion MGMT

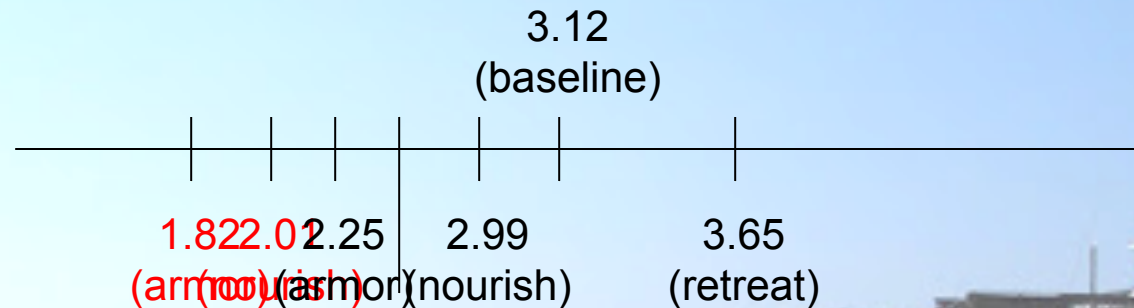
- Beach Nourishment: 67.2%
- Shoreline Armoring: 58.1%
- Shoreline Retreat: 71.3%
- Household Willingness to Pay:
 - Replenishment: \$18.84 (\$8.77) per HH/year
 - Armoring: \$9.20 (\$6.40) per HH/year
 - Retreat: \$23.41

Habitat disruption,
turbidity, burial of
organisms



Coastal Recreation & Tourism

Average Trips per Household



- **Consumer Surplus Estimates**
 - **Baseline:** \$477 per HH/year
 - **Replenishment:** \$457 (**\$306**) per HH/year
 - **Armoring:** \$344 (**\$291**) per HH/year
 - **Retreat:** \$558 (**\$334**) per HH/year

2.41
(retreat)