



Natural Resource Management of the Sebastian Inlet

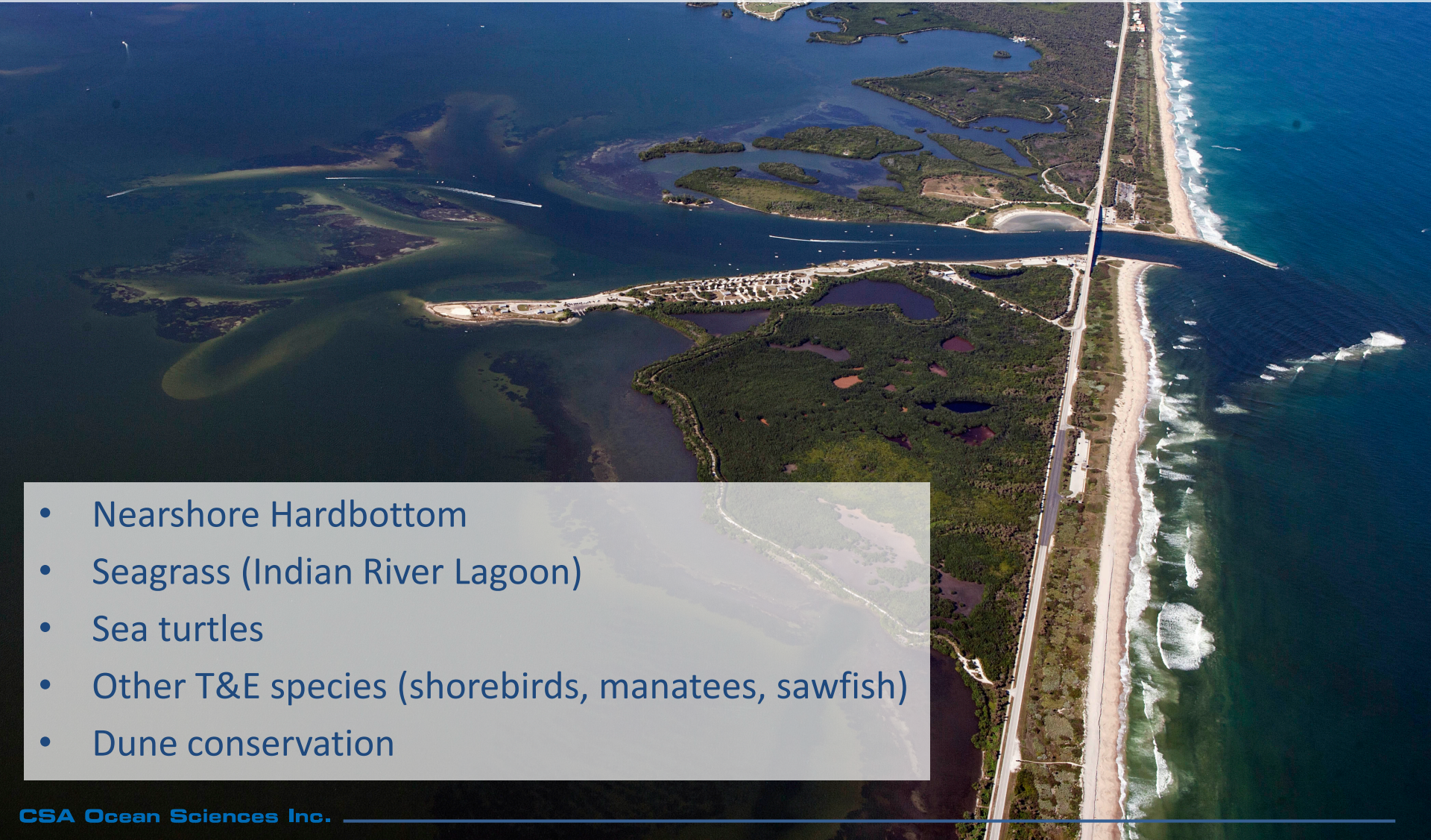
Erin Hodel – CSA Ocean Sciences Inc.
FSBPA Technical Conference
February 6, 2019





Natural Resource Management Programs

Natural resources surrounding the Sebastian Inlet are diverse and include upland, beach, dune, estuarine, and marine habitats.



- Nearshore Hardbottom
- Seagrass (Indian River Lagoon)
- Sea turtles
- Other T&E species (shorebirds, manatees, sawfish)
- Dune conservation



Nearshore Hardbottom & Sand Bypassing

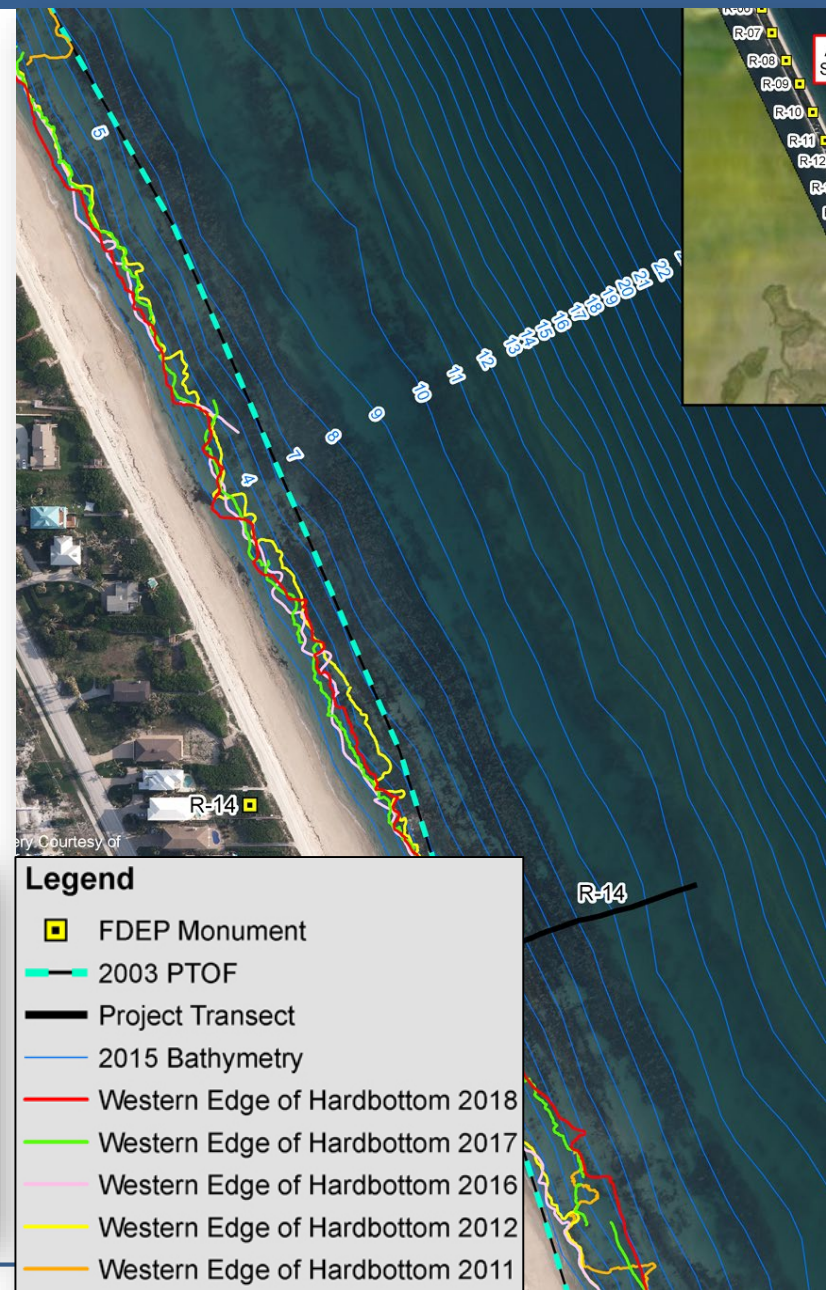
- IRC has prolific nearshore hardbottom.
- Services: nursery grounds, critical habitat to T&E species, shoreline stability, etc.
- Annual physical and biological monitoring since 2003 – beach restoration, nourishment, and sand bypassing projects.
- S.I. sand bypassing requirement = 90,000 yds³/year.





Nearshore Hardbottom & Sand Bypassing

- Mitigation reefs constructed for 2003 beach restoration required.
- NSHB re-exposed in areas previously mitigated for.
- No impacts in subsequent monitoring for nourishment and sand bypassing projects (2007-2018).
- Full-scale monitoring program despite low volume placements, successful track record, and sand bypassing mandate.





Seagrasses and the Indian River Lagoon

- Comprehensive annual seagrass monitoring program (25+ years).
- Slow recovery following lagoon-wide die-offs in 2012.
- Conversely, threatened Johnson's seagrass has increased in all monitored areas of the flood shoal.





Seagrasses and the Indian River Lagoon

Sebastian Inlet Navigation Guide



Atlantic Ocean

Sebastian Inlet



The new channel connecting the Intracoastal Waterway with the Sebastian Inlet passes through sensitive seagrass areas. Authorization to dredge this channel was based on efforts to protect these seagrass beds



This Aerial Photograph is for General Reference Only, and is Not Intended to be Used for Navigation. It is Recommended that NOAA and USCG Navigation Charts be used for Navigation

Sebastian Inlet is a Very Dangerous Inlet, with Extremely Strong Currents and Standing Waves in the Entrance

Intracoastal Waterway

Slow Speed west of Intracoastal Waterway



Dredged Material Management Area (DMMA)



Gopher Tortoise Relocation - DMMA

- DMMA Berms = superb gopher tortoise habitat.
- Relocation of 8 individuals and excavation of 26 burrows prior to use of the DMMA in Jan 2019.
- Important protective signage. Do not add water!!!





Threatened & Endangered Species

- Marine mammals
- Sea turtles
- Shorebirds
- Beach mice
- Native dune plants



Image: NOAA

A highly endangered female North Atlantic right whale and calf spent 29 hours in the Sebastian Inlet in February 2016!

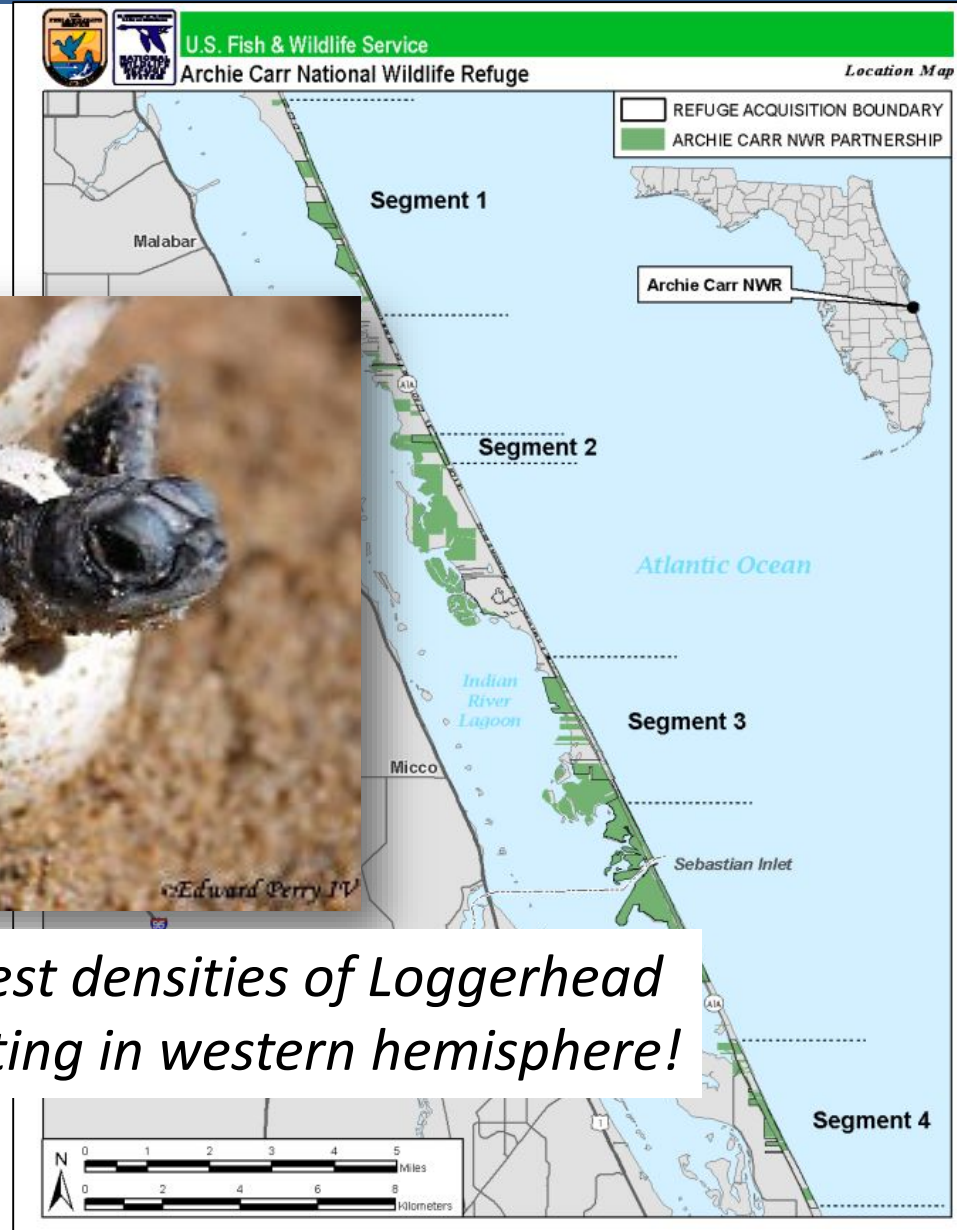


Photo: J. Albert, Marine Resources Council



Threatened & Endangered Species

- Marine mammals
- **Sea turtles**
- Shorebirds
- Beach mice
- Native dune plants



Archie Carr NWR – highest densities of Loggerhead and Green sea turtle nesting in western hemisphere!



Acknowledgements & Thank You

- Michelle Malyn – SID
- Dr. Mike Jenkins – ATM
- Julie Albert – Marine Resources Council
- Atkins North America
- Ecological Science Associates

