



**Reference SON:** 2016-ER-21;  
2017-ER-8

**Lead PI:** *Michael P. Guilfoyle*  
(ERDC)

### **Project Development**

**Team (PDT):** *Jacob Jung,*  
*Richard Fisher, Dena Dickerson*  
(ERDC)

**District Collaborators:** *Ed*  
*Creaf (MVN), Keith McMullen (MVS),*  
*Keith Lockwood (NAB), Chris Akios,*  
*Rene Weichenberg (NAD), John*  
*Winkleman (NAE), Robert Smith, Peter*  
*Weppler (NAN), Robert Pruhs (NAO),*  
*Beth Brandreth (NAP), Mike Scuderi*  
*(NWS), Jon Hosaka (POH), Mark*  
*Messersmith (SAC), Eric Summa (SAJ:*  
*CoP Lead), Elizabeth Godsey, Aubrey*  
*Hershorem, Terri Jordon-Sellers,*  
*Michael Simmons, Paul Stodola (SAJ),*  
*Chris Jones, Bonnie Rodgers (SPL),*  
*Caree Kovacevich (SAM), Mary*  
*Richards, Alan Shirey (SAS), Teresa*  
*Bullard, Lisa Finn, Emily Hughes*  
(SAW)

**Funded:** 2018 - 2021

**Keywords:** *Best management*  
*practices, Birds, Coastal engineering,*  
*Satellite tags, Seasonal habitat use,*  
*Tracking*

**Last updated:**

08/13/2025

## Compilation and Assessment of USACE Suggested Management Practices used during Coastal Engineering to Benefit Coastal Shoreline-dependent Species along the Atlantic Coast

### **Research Need**

A large number of shoreline-dependent species, some of which are listed under the Endangered Species Act (ESA), are impacted by coastal engineering operations. USACE Districts need improved Suggested Management Practices (SMPs) to create, enhance or mitigate for coastal habitats degraded or lost during coastal engineering.

### **Project Objectives & Plan**

The objective of this project is to work with USACE Districts and other stakeholders to compile and assess SMPs to improve habitats for coastal species while maintaining environmental compliance and meeting coastal engineering mission objectives. This will be accomplished by:

1. Compiling, adapting, and revising existing SMPs for implementation during USACE coastal engineering projects to benefit shoreline-dependent birds and nesting sea turtles
2. Leveraging existing projects to procure monitoring data from pre-engineering, post-engineering, and beach nourishment projects for shoreline-dependent birds and turtles
3. Selecting two or more demonstration sites to implement a suite of several SMPs for pre- and post-implementation monitoring
4. Using ongoing projects to assess physiological condition or other population parameters on engineered and non-engineered sites and/or sites where selected SMPs have been implemented
5. Capturing and affixing 5 g satellite tags on 3-4 shorebirds before spring and/or fall migration
6. Integrating coastal SMPs into the USFWS Information and Planning for Consultation (IPAC) online tool (<https://ecos.fws.gov/ipac/>).

7. Transferring knowledge gained on SMPs through series of ERDC Technical Reports, Webinars, Workshops, Peer-reviewed manuscripts and conference participation

## Payoff

The final products of this effort will provide the foundation of more informed planning efforts and coastal engineering along the Atlantic Coast. Implementation of SMPs in a proactive manner will improve flexibility of USACE engineering mission requirements, particularly through streamlining of ESA Section 7 consultations. SMP implementation also should provide measurable benefits to shoreline-dependent bird and turtle populations. This effort can also serve to promote proactive efforts that may minimize or reverse ongoing declines in shoreline-dependent birds and turtle populations. Reducing or eliminating declines of non-listed shoreline-dependent species may serve to limit or prevent future listings under the ESA.

## Products

### Technical Reports (TRs)

Guilfoyle, M.P., Golder, W., Winn, B., Fischer, R.A., Jung, J.F. (*In review*) Suggested Management Strategies to Benefit Seasonal Coastal Bird Populations during Coastal Engineering Projects, Technical Report. U.S. Army Engineer Research and Development Center, Vicksburg, Mississippi.

Reine, K. (2022). A literature review of beach nourishment impacts on marine turtles (ERD/EL TR-22-4) Technical Report. U.S. Army Engineer Research and Development Center, Vicksburg, Mississippi.

### Technical Notes (TNs)

Guilfoyle, M.P., Jung, J.F., Fisher, R.A., Dickerson, D.D. (2019). Developing Best Management Practices for Coastal Engineering Projects that Benefit Atlantic Coast Shoreline-Dependent Species (ERDC/TN-EMRRP-SI-38), Technical Note. U.S. Army Engineer Research and Development Center, Vicksburg, Mississippi.

Guilfoyle, M.P., Catlin, D., Karpanty, S., Fraser, J., Alvino, C., Britton, W., Gibson, D., Hunt, K., Morelli, J., Weithman, C. (*In Prep*). Application of GPS/GMS Tag Technology to Investigate Seasonal Habitat Use by Coastal Bird: A Pilot Study Using the Royal Turn (*Thalasseus maximus*), Technical Note. U.S. Army Engineer Research and Development Center, Vicksburg, Mississippi.

### Conference Presentations/Webinars/Workshops

(2018). Best management practices to benefit coastal bird and turtle populations along the Atlantic coast during coastal engineering operations, Poster. Super RARG.

(2018). Kick-off meeting with Audubon North Carolina and Manomet Center for Conservation Science, Meeting. Wilmington, NC.

(2019). Coastal States Organization Annual Meeting with Manomet Center for Conservation Science, Meeting. Providence, RI

(2019). Coastal States Organization Regional Meeting, Meeting. Richmond, VA

(2019). Meeting with Wilmington, Jacksonville, and Philadelphia Districts for establishing SMP demonstration sites, Meeting.