



COASTAL RESOURCES DIVISION
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COASTALGADNR.ORG

MARK WILLIAMS
COMMISSIONER

DOUG HAYMANS
DIRECTOR

FEB 20 2020

Tim Keyes
Georgia Department of Natural Resources
Wildlife Resources Division
One Conservation Way
Brunswick, GA 31520

Re: Letter of Permission (LOP), Sand Fence Placement, Temporary Activities in the State's Shore Protection Act Jurisdiction, Little Egg Island Bar Natural Area, McIntosh County, Georgia

Dear Mr. Keyes:

This Letter of Permission (LOP) is in response to your request dated January 22, 2020 to install sand fence on the dry sand beach seaward of the seaward toe of the dune on Little Egg Island Bar (LEBI), McIntosh County. This project involves the installation of sand fence within five (5) designated areas and post installation monitoring of sand transport within the project areas. According to your request, the proposed project is an attempt to enhance habitat and improve the probability of nesting success among American Oystercatcher, a species of high concern listed in the US Shorebird Conservation Plan and a designated a priority species in the Georgia State Wildlife Action Plan. This project also has the potential to benefit other beach nesting birds, including high priority colonial seabirds such as Black Skimmer, Gull-billed Tern and Least Tern. The temporary project will begin no sooner than 15 days after the date of this letter and be completed no later than six months from the date of this letter.

As proposed, the project scope includes the installation of no more than five (5) separate sand fence strategies utilizing one, or a combination of, sand fence configurations consistent with the Georgia Department of Natural Resources Sand Fence Guidelines within three (3) separate and distinct monitoring areas: LEBI Northeast; LEBI Southeast; LEBI Northwest (see attached exhibits)

In addition, the project proposes the strategic placement of marsh wrack collected in accordance with the Department's guidance document "Removal/Relocation of Natural Vegetative Material dated July 2012." Installation will be done by hand without the use of mechanized equipment.

The Department authorizes the temporary installation of sand fence as depicted in the attached site plan. This LOP is valid for the above referenced project. Any change in the use, location, dimensions, or configuration of the approved project, without prior notification and approval from this office could result in revocation of this permission and in the required removal of the materials and related structures. This LOP is not meant to exempt the above referenced activity from future environmental laws. **No unauthorized equipment, materials or debris may be disposed of, or stored in jurisdictional areas.**

Thank you for working with the Department on this project. Please do not hesitate to contact me or Deb Barreiro 912.266.3695, if you have any questions or concerns.

Sincerely,



Jill Andrews
Chief, Coastal Management Section

Enclosures: LEIB Project Description, LEIB Project Exhibit; GA DNR Sand Fence Guidelines;
Removal/Relocation of Natural Vegetative Material-July 2012

cc: Jason Lee
Georgia Department of Natural Resources
Wildlife Resources Division
One Conservation Way
Brunswick, GA 31520

LOP20200008

Temporary Sand Fencing LOP to enhancing beach bird nesting habitat on Little Egg Island Bar Natural Area.

Georgia DNR Wildlife Conservation Section requests a Letter of Permission to enhance seabird and shorebird nesting habitat at Little Egg Island Bar through the experimental use of sand fences. Little Egg Island Bar Natural Area is one of our more important beach nesting bird locations. The goal is to increase elevation for nesting sites on a bar that has suffered significant erosion from Hurricanes Matthew and Irma, and continues to experience occasional tidal overwash during the nesting season associated with sea level rise (figure 1) and storms, lowering nesting productivity of a number of high priority beach nesting birds.

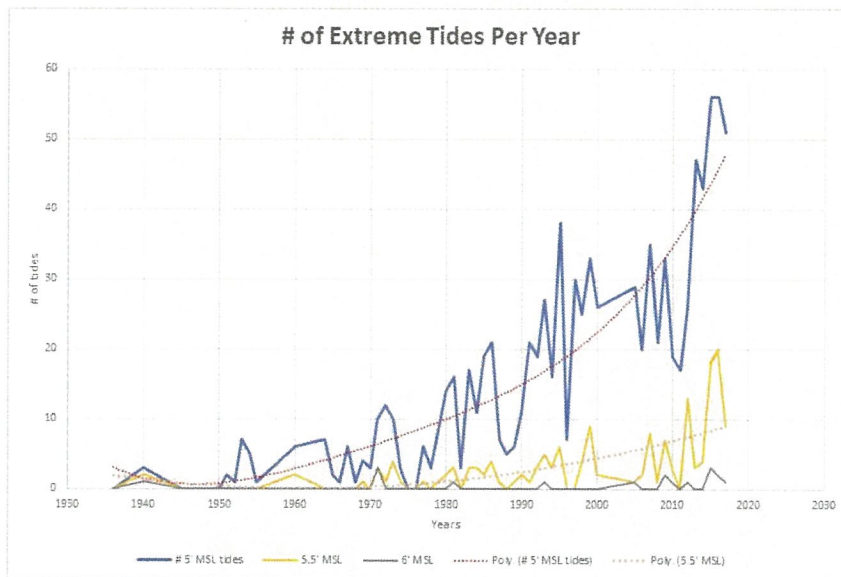


Figure 1: Extreme Tides at Fort Pulaski GA gauge: 1935-2019

The two largest threats to nesting success of our priority Beach Nesting Bird species are tidal overwash of nests, and nest depredation. Historically, some of the highest nest productivity for beach nesting birds has come from offshore bars that do not have any mammalian predators (Little Egg Island Bar, Ogeechee Bar, Pelican Spit and St Catherines Island Bar). Recent storms have

removed St Catherines Island Bar entirely, and greatly diminished Ogeechee Bar and Pelican Spit.

Over the past 10 years, Little Egg Island Bar Natural Area (Figure 2) has gone from one of the largest seabird colonies on the South Atlantic coast, to a sporadically used bar with low productivity in many years (Figure 3). Little Egg Bar historically hosted up to 9,000 pairs of Royal Terns. These appear to have moved primarily to 2 dredge spoil islands (Tompkins Island on the Savannah River and Bird Island in Brunswick Harbor). In the 1990's up to 4,000 Brown Pelicans nested on Little Egg Bar. As conditions worsened, numbers declined until a major flooding event associated with Tropical Storm Beryl in May 2012 led to abandonment. The Bar has also gradually migrated westward, bringing it closer to Egg Island (part of Wolf Island NWR) allowing for easy access by predators like raccoons. All of these factors have reduced the use of Little Egg Island Bar by seabirds. While most seabirds have abandoned the bar, it remains one of the most important nesting areas for American Oystercatcher in Georgia with approximately 14% of the state's population (Figure 4).



Figure 2: Little Egg Bar is a 65 acre bar located in the mouth of the Altamaha River between Little St Simons to the south and Wolf Island NWR to the west and north.

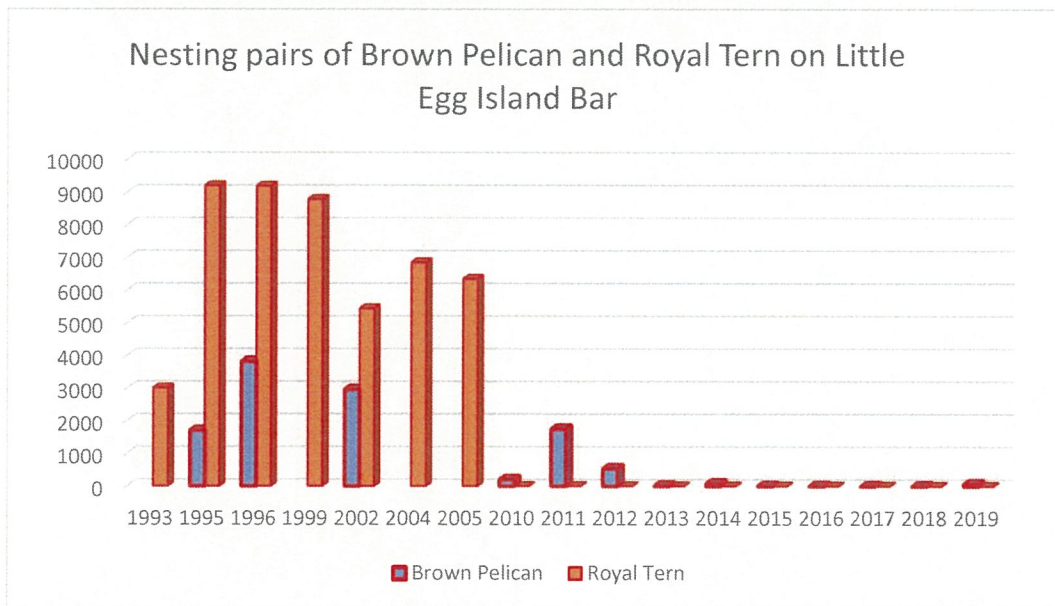


Figure 3. Number of pairs of Brown pelican and Royal Tern nesting on Little Egg Island Bar (1993-2019)

American Oystercatcher are a high priority species of temperate nesting shorebird that faces a number of challenges (Brown et al. 2001, Winn et al. 2013). Approximately 120 American Oystercatcher nest on the Georgia coast annually. In most years we have struggled to meet replacement productivity levels (0.33 chicks per nesting pair). Annual productivity of American Oystercatcher on Little Egg Island Bar is highly variable depending on predator densities and high tides or storms during the nesting season (mid-March through July). It can be one of our most productive sites in the state producing up to 13 fledglings, or be essentially a loss with as few as 1 or 2 chicks fledged.

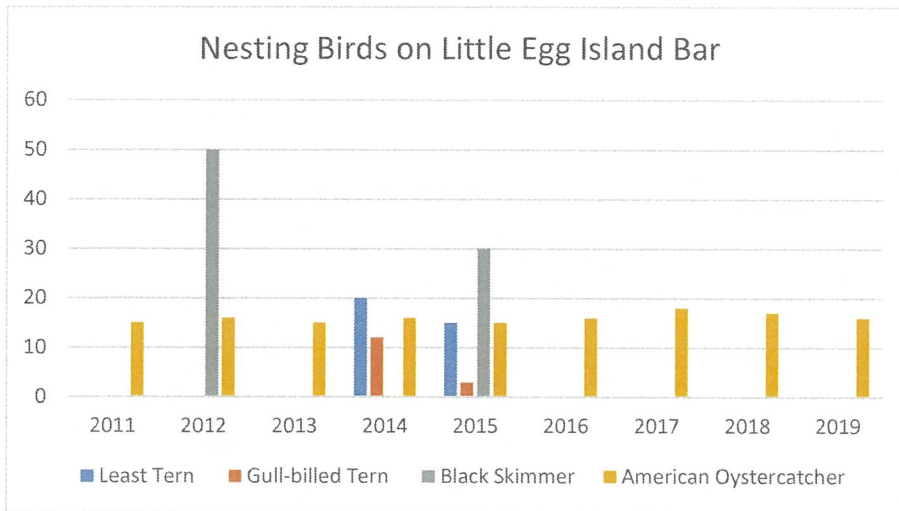


Figure 4. Sporadic use of the bar by seabirds, and consistent use by American Oystercatcher (2011-2019)

In order to determine the importance of nest elevation for successful nesting, we took detailed elevation data from 37 nests and compared it to nest productivity for those nests (Figure 5). None of the 9 nests with elevations between 3'-4' NAVD88 were productive. Nests with elevations between 4'-5' NAVD 88 produced 0.875 chicks per pair, and nests in the 5'-6' range produced 1.36 chicks per pair. These data give us a useful target to use for restoration planning, as we can plan to restore nest elevations to 5'-6' NAVD88.

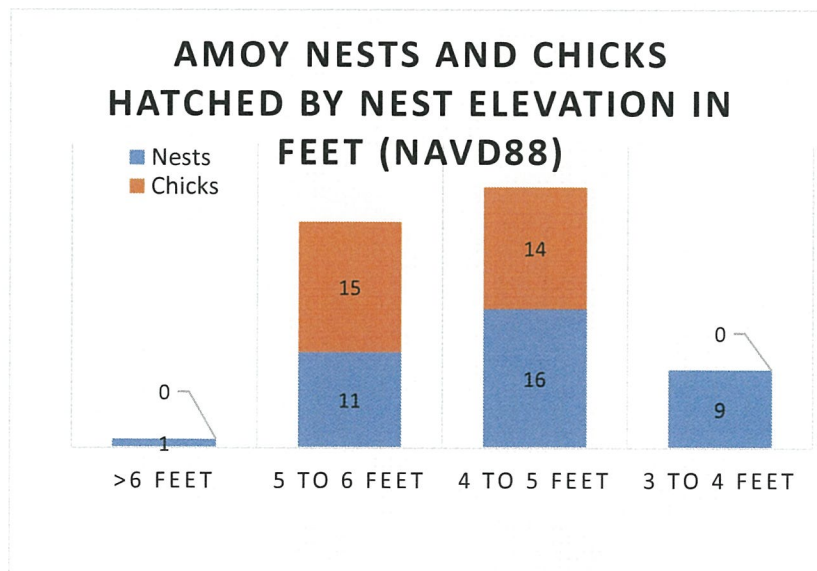


Figure 5: American Oystercatcher nest success by nest elevation

Proposed action:

Sand fencing has been recommended as a BMP for coastal engineering projects for bird habitat enhancement and restoration (Rice 2009, Guilfoyle et al. 2019, Havens 2019). We propose the

temporary experimental use of sand fences to build elevation during the winter months so that birds during the nesting season (April- July) will have a better chance of producing young. We will target 5 areas around Little Egg Island Bar for sand fencing (Figure 6 & 7). Each area will cover about 60'x20' portion of beach with 10' sand fences, potentially providing 5 pairs of AMOY with a higher elevation. Each area will be adjacent to many acres of exposed sand at low tide that could serve as a sand source. Our goal is to produce nesting areas that are roughly 5-7' NAVD88. Each site would be at least 100meters from another site so they will be in the territories of different Oystercatcher pairs.

This project will comply with all Georgia DNR Sand Fence Guidelines. Relevant guidelines include:

- 40-60% open to closed space ratio on fence
- seasonal restrictions to minimize sea turtle impacts (October 16-April 30),
- fence placement should be 45 degree angle from shoreline and perpendicular to prevailing winds
- no sand fencing can be placed in intertidal zone (placed above highest spring tide, preferably adjacent to primary dune
- cannot be placed within 7' of a scarp
- fence must be maintained and removed if damaged

While we cannot combat the large scale erosion or westward migration, we may well be able to elevated areas of dune such that we reduce the chance of tidal flooding during the nesting season. We would focus on areas approximately 60X20 feet in size adjacent to dunes and in areas where there is large areas of exposed sand at low tide. We will couple this activity with predator management in order to increase the likelihood of nest success.

If this proves successful on Little Egg Island Bar, we could use this project as a model for other sites, including Little Tybee Natural Area and Pelican Spit.

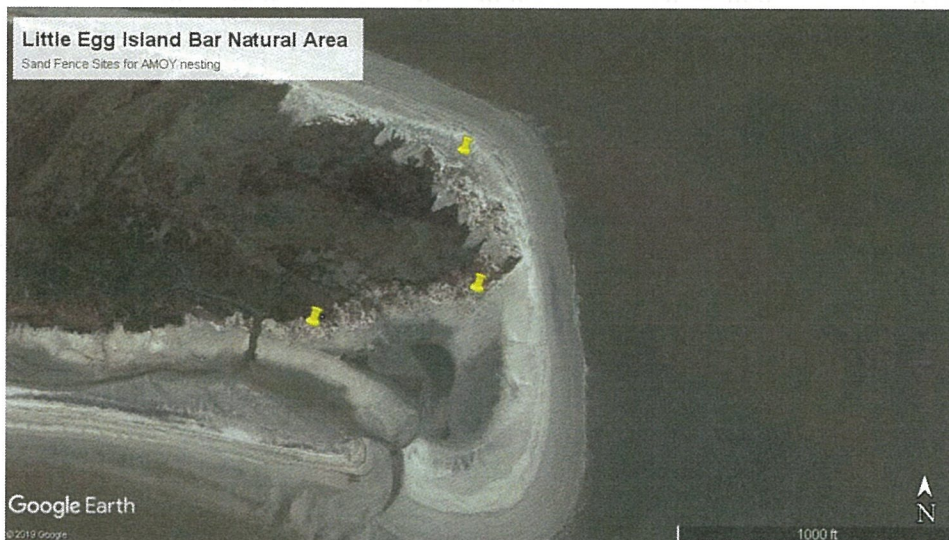


Figure 6: 3 sites for sand fencing on the east side of Little Egg Island bar.



Figure 7: Area for two sets of sand fencing on the northwest corner of Little Egg Island Bar.

REFERENCES:

Brown, S. C. Hickey, B. Harrington and R. Gill, Editors. 2001. United States Shorebird Conservation Plan. Second Edition.

Guilfoyle, M. P., J. F. Jung, R. A. Fischer and D. D. Dickerson. 2019. Developing Best Management Practices for Engineering Projects that Benefit Atlantic Coast Shoreline Dependent Species. ACOE Report EERDC/TN EMRRP-SI-38

Havens, T. 2019. Georgia Shorebird Nesting- Engineering Report.

Winn, B., S. Brown, C. Spiegel, and S. Johnston. 2013. Atlantic Flyway Shorebird Business Strategy: A Call to Action, Phase 1.

Rice, T. M. 2009. Best management practices for shoreline stabilization to avoid and minimize adverse environmental impacts. Prepared for the U.S. Fish and Wildlife Service, Panama City Ecological Services Field Office by Terwilliger Consulting, Inc., Locustville, VA.

Sand Fencing

Little Egg Island Bar - North



Legend
Sand Fence



Google Earth

300 ft



Sand Fencing

Little Egg Island Bar - ~~Northwest~~ ~~Southwest~~



Legend

 Sand Fence

Google Earth

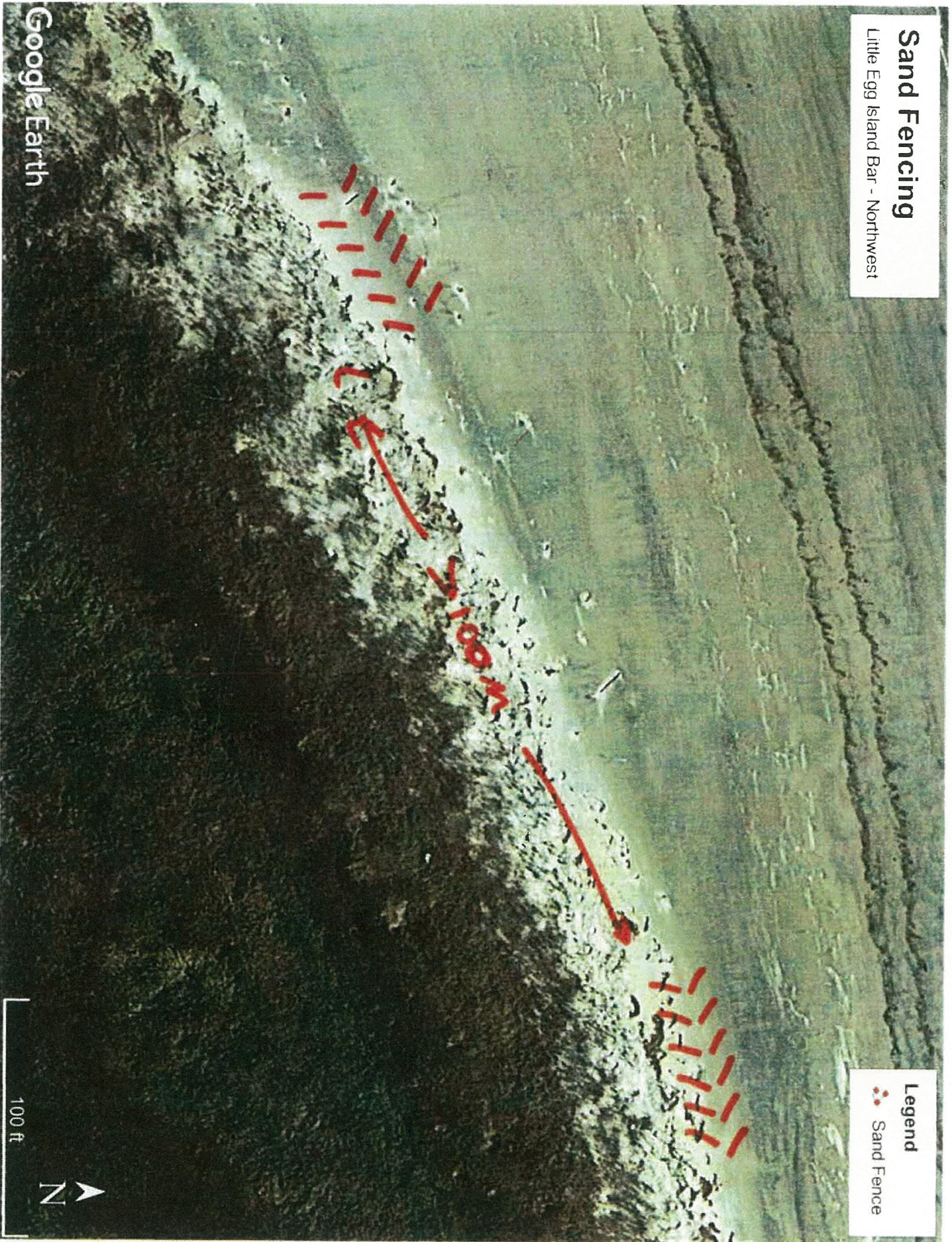
300 ft



Sand Fencing

Little Egg Island Bar - Northwest

Legend
Sand Fence



Google Earth

100 ft





MARE WILLIAMS
COMMISSIONER

A.G. STUD WOODWARD
DIRECTOR

**Removal/Relocation of Natural Vegetative Material
Barrier Islands along the coast of Georgia
July 2012**

Purpose: To provide guidance to local governments regarding removal/relocation of natural vegetative materials within the jurisdiction of the Shore Protection Act. The intent of this guidance is balance the ecological and habitat benefits of such natural materials with the need to provide safe and convenient public access to public beaches.

Approach: For the purposes of this document, natural vegetative material is defined as marsh wrack (aggregated stems of dead *Spartina alterniflora*), *Sargassum* and other vegetative materials subject to be deposited on the beach through a combination of current, wave and wind movement.

Three scenarios are described below. Local officials are encouraged to coordinate with the Department and obtain any needed authorizations prior to conducting activities. Many environmental variables are associated with areas of activity and timing of such activity that must be considered by the State. Such variables include but are not limited to impacts to federally and state protected wildlife species.

This is not a document authorizing any of the activities described.

Scenario 1:

The immediate removal/relocation of natural vegetative materials within the inter-tidal area (seaward of the dunes) prior to such material being covered with sand, hence becoming incorporated in the dynamic dune system.

The State has no objection of such removal as described in Scenario 1 under the condition that all Best Management Practices are used, including but not limited to the area being surveyed for turtle nest(s) by a person in possession of a DNR Sea Turtle Cooperators Permit.

Scenario 2:

The removal/relocation of natural vegetative material within areas of the beach that have been covered by sand, hence becoming incorporated in the dynamic dune system.

Such activity is considered “Shoreline Engineering Activity,” as defined by O.C.G.A. § 12-5-233, and requires a Shore Protection Act permit from the Shore Protection Committee. Items

needed for a complete request and consideration using this scenario are outlined in O.C.G.A §12-5-238.

Scenario 3:

The removal/relocation of natural vegetative material on or landward of an exposed, functioning revetment. This does not include revetments that are not serviceable or have been covered with sand.

The State has no objection of such removal as described in Scenario 3 under the condition that all Best Management Practices are used

Assistance:

If the local governmental entity requires assistance to determine a case-by-case determination the following must be provided to the Habitat Management Program of the Coastal Resources Division: 1) a written request supported by a statement of need; 2) a description of the means and methods by which the material will be removed and handled; 3) a map showing the location of the material to be removed; and 4) a material relocation or disposal plan, whichever is appropriate.

Relocation or Removal Options Include:

- Relocating the natural material to areas on the beach below the Ordinary High Tide Line. Wave, wind, and current action can move the material to a more desirable location. However, this option does not assure that the material will not return to an undesirable location.
- Relocating the natural material to areas immediately seaward of vegetated dunes. This assures the material will not return to an undesirable location but keeps it in the dynamic dune system.
- Removal of the natural material to an upland disposal site. This assures that the material will not return to an undesirable location but removes it from the dynamic dune system.



Georgia Department of Natural Resources Sand Fence Guidelines



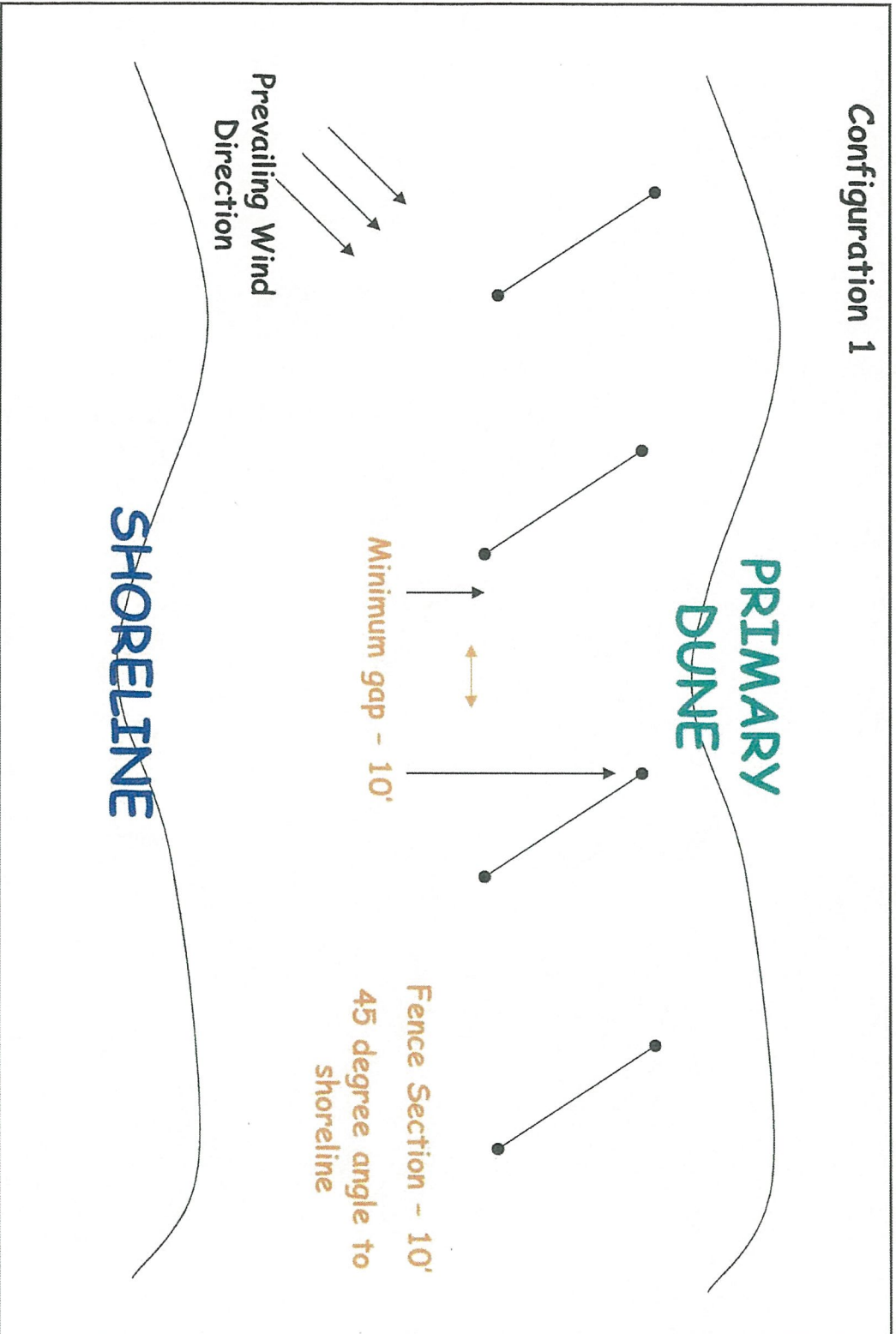
Sand fencing is used extensively along the Atlantic Coast to build and stabilize dunefields and control human access to the beach. Unfortunately, some sand fence configurations have been shown to restrict or inhibit sea turtle nesting. The **Management Plan for the Protection of Nesting Loggerhead Sea Turtles and their Habitat in Georgia** (II, B, 2, C) stipulates that "fencing must be placed so as not to deter turtles' access to nesting areas, and arranged to prevent trapping nesting turtles". The following sand fence guidelines are designed to provide good dune building and stabilization performance, while minimizing impacts to sea turtles.

Standard sand fencing consists of 4' wooden slats wired together with spaces between the slats. Woven fabric type fencing has also been successfully used in dune restoration projects. However, it is important that fabric fencing have a 40% to 60% open to closed space ratio to be effective. Fabric fencing is susceptible to ultraviolet degradation causing it to sag and lose its original shape. With sufficient maintenance, this problem may be avoided.

Guidelines for Sand Fence Placement:

1. Installation and repositioning of sand fences shall be conducted outside the marine turtle nesting season (May 1 – October 15) unless approved by the USFWS or GADNR Nongame-Endangered Wildlife Program.
2. Sand fence shall be installed in a temporary manner in accordance with the attached conceptual drawing. Configuration 1 consists of 10 foot sections of fence spaced at a minimum of 10 feet on a diagonal alignment to the shoreline (facing the prevailing wind). Configuration 2 consists of two 10 foot sections placed in an "open V" shape with the wider end facing the shoreline. Minimum space between ends of the "V" is 10 feet, and minimum width between the close ends of the "V" is 7 feet. For both configurations, the approximate angle of the fence to the shoreline is 45 degrees.
3. Sand Fence shall not be placed in the inter-tidal zone. Sand Fence must be placed above the highest spring high tide line, preferably adjacent to the primary dune.
4. Sand Fence shall not be placed within 7' of a beach scarp.
5. Sand Fence shall not be placed in front of an existing fence until the existing fence is completely buried.
6. Sand fences shall not be placed to control pedestrian traffic seaward of the secondary dunes. A post and rope fence may be used to restrict pedestrian access without impacting nesting marine turtles.
7. If fence material is damaged, debris must be removed from the beach area by the owner in an expeditious manner.

Configuration 1



Configuration 2

