

SOUTHERN ENVIRONMENTAL LAW CENTER

Telephone 404-521-9900

TEN 10TH STREET NW, SUITE 1050
ATLANTA, GA 30309-3848

Facsimile 404-521-9909

May 23, 2018

Via U.S. Mail and E-mail

Colonel Marvin Griffin, Commander
Attention: Sarah E. Wise
U.S. Army Corps of Engineers
Savannah District
100 West Oglethorpe Avenue
Savannah, Georgia 31401-3640
Sarah.E.Wise@usace.army.mil
John.E.Ballard@usace.army.mil

Re: Sea Island Groin, Application Number SAS-2015-00742

Dear Colonel Griffin:

The Southern Environmental Law Center submits the following comments on behalf of One Hundred Miles, Altamaha Riverkeeper, and the Surfrider Foundation. In these comments we oppose Sea Island Acquisition, LLC's (SIA) request for a U.S. Army Corps of Engineers permit (1) to construct a new T-head groin in front of SIA's newest development, the Reserve at Sea Island; (2) to dredge between 1,315,000 to 2,500,000 cubic yards of sand from an offshore source; and (3) to renourish approximately 15,000 linear feet, or over 2.8 miles, of beach on Sea Island.

FACTUAL BACKGROUND AND SUMMARY

Sea Island Acquisitions, LLC is a private resort and real estate development company that owns and operates Sea Island Resorts. In an effort to protect the beach on Sea Island, SIA constructed two T-head groins on the island in 1991 and 1992. The first groin was constructed at the northern end of the island. The second groin was constructed at the southern end of the developed portion of the island immediately north of the Spit, as shown in the aerial photograph below:

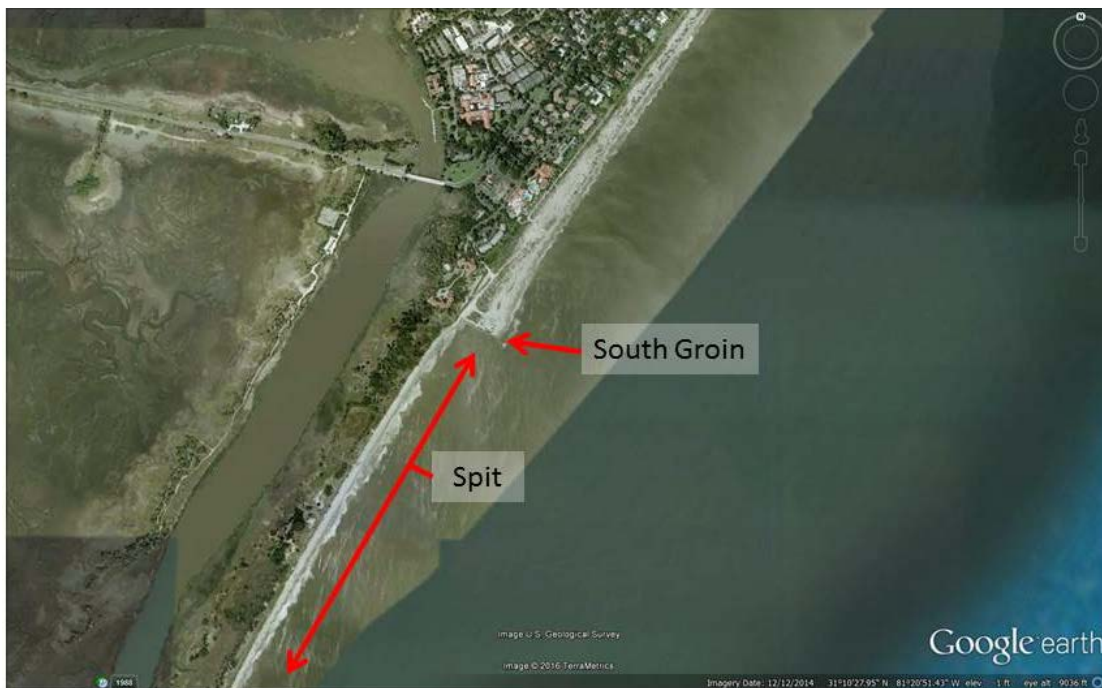


Figure 1. Aerial image of south groin and Sea Island Spit.

SIA has renourished the beach between the two existing groins on multiple occasions since their construction. However, SIA has never nourished the beach south of the south groin.

Since the existing groins were constructed, the Spit has eroded rapidly, as demonstrated in the comments below. Indeed, after weighing days of testimony from five expert witnesses (including the original project engineers and SIA experts), an administrative law judge concluded:

Based on the evidence presented, the Court finds that the pre-installation rate of shoreline retreat in the area south of the south groin was substantially less than the post-installation rate of shoreline retreat in the same area, and that the existing groins have caused this accelerated rate of retreat by trapping sand and reducing historical longshore transport rates in the area.

OSAH Final Decision at 15; *see also* OSAH Final Decision at 18 (“[T]he Court is persuaded . . . that the existing groins have caused erosion along the shoreline south of the south groin.”). Still, even though the groins were constructed using Campbell Units to allow for their removal if erosion were to occur on the Spit, no government agency has ordered SIA to alter the groins in any way.

Despite these documented negative impacts, SIA is now seeking an Army Corps of Engineers permit authorizing it to construct yet another T-head groin 1,200 feet south of the existing south groin. The portion of the proposed groin perpendicular to the beach would be 350-feet in crest length; the portion parallel to the beach would be 120-feet in crest length. The permit would also authorize SIA to dredge between 1,315,000 and 2,500,000 cubic yards of sand from an offshore source and nourish approximately 15,000 linear feet, or over 2.8 miles, of beach between the proposed groin and the existing north groin on Sea Island.

Importantly, there are no homes located on the Sea Island Spit. In other words, no existing structures are threatened by the beach erosion downdrift of the south groin. Instead, SIA desires to construct the proposed groin to protect eight undeveloped lots that make up the proposed 7.3-acre Reserve development. The protection of these eight lots, however, would jeopardize the integrity of the Spit. As one of our experts has stated, the proposed groin could lead to a breach of the Spit immediately downdrift of the proposed groin.

The proposed groin would also adversely affect federally protected sea turtles and shorebirds, as documented by the United States Fish and Wildlife Service (FWS) and the Wildlife Resources Division of the Georgia Department of Natural Resources (WRD) and discussed in detail below.

PROCEDURAL BACKGROUND

In October 2015, SIA submitted a permit application seeking to construct a groin, a beach, and six dunes in front of the Reserve property. The Corps issued a public notice of the permit application on December 16, 2015. On January 15, 2016, the Conservation Groups submitted comments opposing SIA's permit application (SELC 2016 Comments and GreenLaw 2016 Comments). In their comments, the Conservation Groups explained that the proposed project would cause significant erosion along the Sea Island Spit south of the proposed groin and would adversely impact habitat for a number of federally protected species, including the Loggerhead Sea Turtle, the Green Sea Turtle, the Leatherback Sea Turtle, the Piping Plover, and the Red Knot. Nearly two hundred other groups and individuals submitted comments opposing the project as well. According to the Corps, the agency received comments from 197 individual commenters. Of those 197 commenters, 194 opposed the project. Of the nine commenters who live on Sea Island, seven opposed the project. Nearly one hundred groups and individuals, including state and federal agencies, submitted comments to the Georgia Department of Natural Resources Coastal Resources Division opposing the project as well.

Several major developments have occurred since the Conservation Groups submitted their original comments. First, in May 2016 the Georgia Office of State Administrative Hearings held a four-day hearing (the OSAH hearing) to determine the validity of the state Shore Protection Act permit for SIA's proposed project. During that hearing, each side presented expert testimony about the impacts of the proposed project on the sand-sharing system and federally protected wildlife, as well as expert testimony regarding potential alternatives. One Hundred Miles and Altamaha Riverkeeper submitted supplemental comments in February 2017 addressing the OSAH testimony and the ALJ's findings (SELC 2017 Comments).

Second, in October 2016, Hurricane Matthew hit the Georgia Coast, causing substantial damage to the Sea Island Spit. As the Conservation Groups explained in their February 2017 comments, the trajectory of the storm and its duration offshore resulted in a prolonged period of elevated water levels and large waves, which combined to severely erode the beach face and remaining frontal dunes along the southern portion of Sea Island. Large sections of many of the dunes in the proposed project site were swept out to sea.

Third, in September 2017, Hurricane Irma hit the Georgia Coast. Like Hurricane Matthew, Hurricane Irma sliced through many of the dunes in the proposed project site. Instead of leaving escarpments like those that had been present prior to Hurricanes Matthew and Irma, the Irma storm surge flattened the dunes making them more accessible. When Matthew and Irma retreated, they also carried with them a tremendous amount of sand. Posts located on the Spit well above the mean high tide line that had been buried for decades were uncovered by the hurricanes.

The damage that the hurricanes wreaked upon the Sea Island Spit spurred the need for significant modifications to critical aspects of the project's design – for example, the required volume of fill to establish the desired shoreline position, an additional volume of rock for the groin to account for the erosion of the beach face and shoreline retreat, a larger volume of sand to restore (and replace) the frontal dunes, and an entirely new source of sand given the loss of the original sand source. The storms also damaged the main reach of the Sea Island beach. The storms stripped much of the sand from between the existing groins, which demonstrates how ineffective groins can be when faced with major storms.

In light of these impacts, on March 6, 2018, SIA submitted an addendum to its October 2015 permit application, seeking authorization (1) to construct the previously proposed T-head groin on the Sea Island Spit; (2) to dredge between 1,315,000 to 2,500,000 cubic yards of sand from an offshore source, and (3) to renourish approximately 15,000 linear feet, or over 2.8 miles, of beach on Sea Island. Although the revised application addresses certain aspects of the storm

damage, it fails to address others and largely ignores the impact the changed shoreline has on important aspects of the groin's design.

For the reasons discussed below, the Corps must deny the permit. To do otherwise would violate federal law.

COMMENTS

Physical, Biological, and Recreational Impacts

1. The proposed groin would cause significant erosion on the Sea Island Spit.

a. The negative effects of groins are widely recognized.

Groins cause serious disruption of the sand-sharing system, erosion, and loss of wildlife habitat. Due to these negative effects, groins are now largely disfavored and are regulated in all states, including Georgia. *See* Young Written Direct Testimony (Ex. C to SELC 2017 Comments) at ¶¶ 30, 32.

The negative effects of groins are widely recognized. The Corps' own Coastal Engineering Manual describes groins as "probably the most misused and improperly designed of all coastal structures" and explains that "[c]oastal structures such as ... groins ... are probably the most dramatic cause of man-induced coastal erosion." *See* USACE Manual at IV-1-7; V-3-59. It should come as no surprise, therefore, that the Manual goes on to recognize that "[c]oastal zone management policy in many countries and the United States presently discourages the use of groins for shore protection." *Id.* at V-3-61.

In addition, no fewer than twenty-two peer-review journal publications describe, or at least reference, the negative impacts of improperly designed groins to a downdrift shoreline where a dominant direction of longshore sand transport exists.¹

¹ *See generally* Mohanty, P.K.; Patra, S.K.; Bramha, S.; Seth, B.; Pradhan, U.; Behera, B; Mishra, P., and Panda, U.S., 2012. Impacts of groins on beach morphology: a case study near Gopalpur Port, east coast of India. *Journal of Coastal Research*, 28(1), 132-142; Cooper, J.A.G., and Pilkey, O., 2012. Pitfalls of Shoreline Stabilization. *Coastal Research Library Vol. 3*. Springer, New York, NY. 340 pp.; Barnard, P.L.; Hansen, J.E., and Erikson, L.H., 2012. Synthesis study of an erosion hot spot, Ocean Beach, California (USA). *Journal of Coastal Research*, 28(4), 903-922. West Palm Beach (Florida), ISSN 0749-0208; Wallace, D.J.; Anderson, J.B., and Rodriguez, A.B., 2009. Natural versus anthropogenic mechanisms of erosion along the upper Texas coast. *Geological Society of America*, SP(460), 137-147; Kana, T.W.; White, T.E., and McKee, P.A., 2004. Management and engineering guidelines for groin rehabilitation. *Journal of Coastal Research*, SI(33), 57-82; Aminti, P.; Cammelli, C.; Cappiotti, L.; Jackson, N. L.; Nordstrom, K. F., and Pranzini, E., 2004. Evaluation of Beach Response to Submerged Groin Construction at Marina di Ronchi, Italy, Using Field Data and a Numerical Simulation Model.

Forty-three of the leading coastal scientists in this country have signed on to a letter that agrees. *See Coastal Scientist Statement (Ex. B to SELC 2017 Comments)*. As the coastal scientists put it, “There is no debate. Groins cause downdrift erosion.” *Id.*

Put simply, groins are widely known to cause accelerated downdrift erosion and are largely disfavored as a result.

b. The existing groins on Sea Island are causing the Spit to erode.

In addition to widespread scientific consensus on the adverse impacts of groins generally, the documented impacts of Sea Island’s existing groins show that the proposed project will cause significant adverse impacts to the Spit.

At the OSAH hearing, the Conservation Groups presented expert testimony by Dr. Chester Jackson and Dr. Bret Webb regarding historical shoreline change on Sea Island before

Journal of Coastal Research, 99–120; Bruun, P., 2001. The development of downdrift erosion: an update of paper in JCR, Vol. 11(4). Journal of Coastal Research, 17(1), 82-89; Daniel, H., 2001. Replenishment versus retreat: the cost of maintaining Delaware’s beaches. *Ocean & Coastal Management*, 44, 87-104; Farrell, S.; Lepp, T.; Speer, B., and Mauriello, M., 1999. Mapping erosion hazard areas in Ocean County, New Jersey. *Journal of Coastal Research*, SI(28), 50-57. Royal Palm Beach (Florida), ISSN 0749-0208; McQuarrie, M.E., and Pilkey, O.H., 1998. Evaluation of alternative or non-traditional shoreline stabilization devices. *Journal of Coastal Research*, SI(26), 269-272; Pope, J., 1997. Responding to coastal erosion and flooding damages. *Journal of Coastal Research*, 13(3), 704-710; Fletcher, C.H.; Mullane, R.A., and Richmond, B.M., 1997. Beach loss along armored shorelines on Oahu, Hawaiian Islands. *Journal of Coastal Research*, 13(1), 209-215. Fort Lauderdale (Florida), ISSN 0749-0208; Rosati, J.D., and Ebersole, B.A., 1996. Littoral impact of Ocean City Inlet, Maryland, USA. In: *Proceedings of the International Conference on Coastal Engineering, ASCE, 2779-2792*; Kana, T.W., 1995. A mesoscale sediment budget for Long Island, New York. *Marine Geology*, 126, 87-110; Nersesian, G.K.; Kraus, N.C., and Carson, F.C., 1992. Functioning of groins at West Hampton Beach, Long Island, New York. In: *Proceedings of the International Conference on Coastal Engineering, ASCE, 3357-3370*; Hall, M.J., and Pilkey, O.H., 1991. Effects of hard stabilization on dry beach width for New Jersey. *Journal of Coastal Research*, 7(3), 771-785; Griggs, G.B., and Tait, J.F., 1988. The effects of coastal protection structures on beaches along Northern Monterey Bay, California. *Journal of Coastal Research*, SI(4), 93-111; Dean, R.G., 1984. Coastal armoring: effects, principles, and mitigation. In: *Proceedings of the 20th International Conference on Coastal Engineering, ASCE, 1843-1857*; Dick, J.E., and Dalrymple, R.A., 1984. Coastal changes at Bethany Beach, Delaware. In: *Proceedings of the 20th International Conference on Coastal Engineering, ASCE, 1650-1667*; Walker, J.R.; Clark, D., and Pope, J., 1980. A detached breakwater system for beach protection. In: *Proceedings of the International Conference on Coastal Engineering, ASCE, 1968-1987*; Duane, D.B., 1976. Sedimentation and coastal engineering: beaches and harbors. In: *Marine Sediment Transport and Environmental Management*, Stanley, D., and Swift, D.J.P. (Eds.), Wiley, New York, NY, 493-517; Dean, R.G., and Walton, T.L., 1975. Sediment transport processes in the vicinity of inlets with special reference to sand trapping. In: Cronin LE (Ed.) *Proceedings of the Estuarine Research Conference*, Vol. 2. Academic, New York, pp 129–149.

and after the current groins were installed. That testimony included an analysis of the existing south groin to determine what impact, if any, the groin has had on the shoreline. As recognized by the administrative law judge, Dr. Jackson and Dr. Webb's testimony at the hearing convincingly demonstrated that the existing south groin on Sea Island has caused an increased rate of shoreline retreat south of the south groin since the groin was installed. *See* OSAH Final Decision at 15, 18.

Given the impacts of the existing groin, it follows that the proposed project would have a similar impact, worsening the existing downdrift erosion and threatening federally protected sea turtles and shorebirds and their habitat.

i. Dr. Jackson's Analysis

Dr. Jackson is an Associate Professor of Geology at Georgia Southern University. Dr. Jackson's research has focused on quantifying and predicting shoreline and inlet changes, determining how the inherited geological framework plays a role in the evolution of the coast, and developing software tools for analyzing shoreline and vulnerability to coastal hazards. His research has been funded through NOAA and various state and local agencies over the past decade and has included assessing historical changes along tens of thousands of kilometers of shorelines.

Dr. Jackson used a visible feature-based methodology (the high water line) to measure shoreline change on Sea Island from 1869 to 2013. *See* OSAH Transcript (Ex. A to SELC 2017 Comments) at 859:1-3; *see also* Jackson Report (Ex. 1 to GreenLaw 2016 Comments) at 1, 4. More specifically, Dr. Jackson obtained geo-referenced aerial photography in digital format referenced to a coordinate system, put it into his geographic information system, and made measurements from it. He obtained the geo-referenced aerial photography from the U.S. Department of Agriculture, the U.S. Geological Survey, and other agencies. *Id.* at 859:11-17. He also obtained aerial photography that was not geo-referenced, but he followed established protocols that were designated by the appropriate agency in order to geo-reference the data and make it compatible for mapping change. Dr. Jackson assessed all of the photography for accuracy and applied a conservative potential rate of error to each photo. *Id.* at 859:19-860:7.

For earlier times where no photographs were available, Dr. Jackson was able to obtain U.S. Coast and Geodetic topographic sheets (T-sheets), which are recognized as highly accurate depictions of the shoreline. *Id.* at 862:15-863:13. The T-sheets contain benchmarks that allowed Dr. Jackson to scan them into his computer, geo-reference them thereby enabling him to measure their accuracy, and digitally trace the high water line. In doing so, he followed established NOAA protocols. *Id.* at 864: 3-12; 865:20-866:4.

Once everything was scanned into his computer, Dr. Jackson created transects and applied a software program that he developed known as AMBUR (Analyzing Moving Boundaries Using R) to measure the distances and rates of change along the transect lines over time. *Id.* at 862:2-14. AMBUR is a widely used computer software program that utilizes geographic information system (GIS) data and a suite of algorithms to calculate change in the position of a boundary, such as a shoreline, over time. *Id.* at 840:1-19; p. 869:2-4; *see also* Jackson Report (Ex. 1 to GreenLaw 2016 Comments) at 2.

Dr. Jackson initially applied his methodology to take measurements from seven data points at eleven transects south of the existing south groin and at eleven transects north of the existing south groin on Sea Island. As explained in GreenLaw's 2016 comments and Dr. Jackson's attached report, that analysis showed that, since the existing groins were installed, the area south of the south groin has been an extraordinary erosion hotspot, with a rate of erosion that is three times higher (-3.02 meters/year) than the threshold rate for an erosion hotspot. *See* OSAH Transcript (Ex. A to SELC 2017 Comments) at 880:21-25; Jackson Report (Ex. 1 to GreenLaw 2016 Comments) at 1-2.

Following his initial analysis, Dr. Jackson performed a more comprehensive analysis of shoreline change at the same twenty-two transects on Sea Island by making measurements for every time step for which he could find an aerial photo that was not initially available. OSAH Transcript (Ex. A to SELC 2017 Comments) at 869:23-24; 876: 9-10. This analysis included seventeen data points (as opposed to the original seven data points) covering almost every decade in the 20th and 21st centuries.

Dr. Jackson's additional analysis was consistent with his initial conclusion: the shoreline north and south of the existing south groin on Sea Island was fairly uniform until the south groin was installed. However, once Sea Island installed the south groin, the area downdrift of the groin suddenly began eroding at a significant rate, whereas the area north of the groin changed from erosion to accretion. *Id.* at 884: 21-885:1; p. 929: 6-930:10. This phenomenon is seen in the color-coded figure below which shows a virtually solid blue square (representing accretion) for all of the transects north of the south groin from 1993 to 2015 (after the south groin was installed) and a virtually solid red square (representing erosion) for all transects south of the south groin for that same time period.

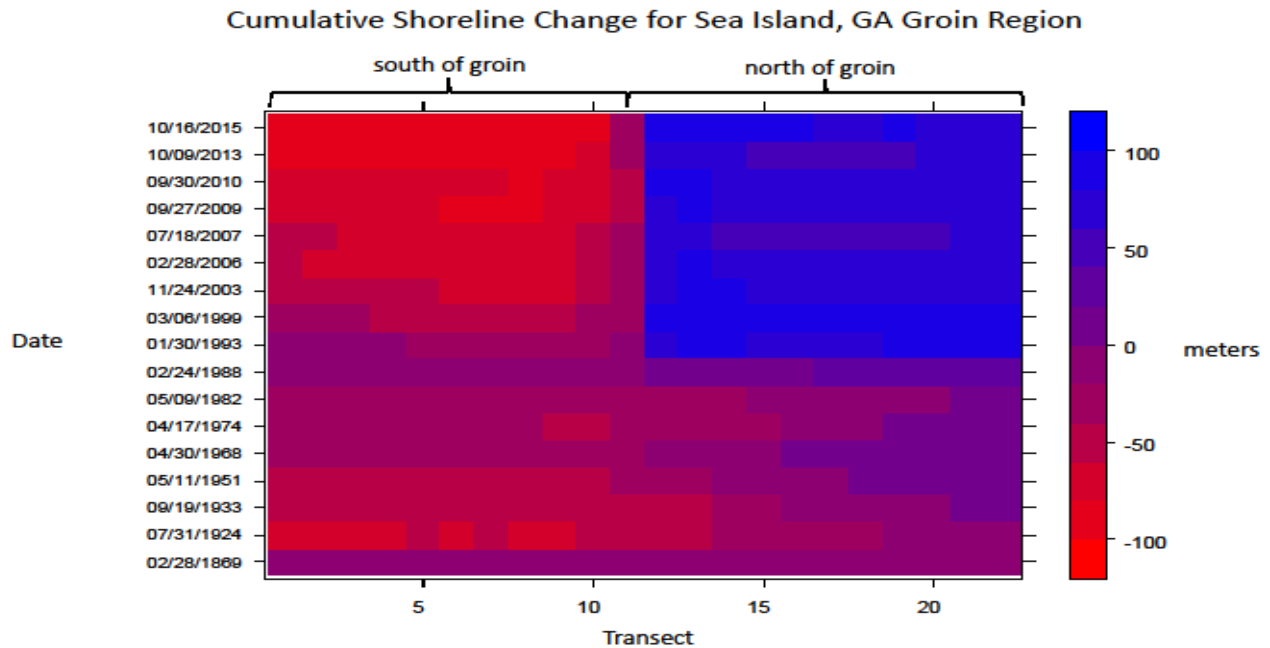


Figure 2: Cumulative Shoreline Change for Sea Island, GA Groin Region. Positive numbers indicate accretion (blue colors) and negative numbers indicate erosion (red colors). Prepared by Dr. Chester Jackson.

After conducting this additional analysis, Dr. Jackson concluded that “it is clear from the shoreline’s shape and movements that the groin has had a noticeable impact following its installation” on the Sea Island shoreline. *See* Jackson Report (Ex. 1 to GreenLaw 2016 Comments) at 1; OSAH Transcript (Ex. A to SELC 2017 Comments) at 885:21-24. Dr. Jackson calculated that this “noticeable impact” is approximately 100 meters or over 300 feet. OSAH Transcript (Ex. A to SELC 2017 Comments) at 894:16-23. This amount of shoreline retreat is well within Dr. Jackson’s conservative potential margin of error of 0.31 meters/year (approximately 1.0 feet/year or a total of 25 feet for the time period measured). *Id.*; Jackson Report (Ex. 1 to GreenLaw 2016 Comments) at 8, Table 1.

In short, Dr. Jackson’s analysis convincingly shows that, since the south groin was installed, the area south of that groin has experienced a significantly accelerated rate of erosion.²

² Relevant portions of Dr. Jackson’s testimony are attached as Exhibit A to SELC’s 2017 Comments, and his expert report is attached as Exhibit A to GreenLaw’s 2016 Comments. Those attachments provide additional details about his methodology, analysis, and conclusions.

ii. Dr. Webb's Analysis

Dr. Bret Webb, Ph.D., P.E., D.CE, is an Associate Professor of Civil Engineering at the University of South Alabama and a licensed professional engineer in the states of Alabama and Florida. Dr. Webb has more than ten years of coastal engineering experience related to shore protection and coastal hydrodynamics and has authored or co-authored numerous publications, presentations, manuals and reports on the topic of coastal engineering.

Dr. Webb also used a feature-based methodology to measure shoreline change on the Sea Island Spit since the installation of the groins. Dr. Webb reviewed a series of twelve Google Earth images for Sea Island from 1988 to 2014 near the current south groin, traced the wet-dry line on the beach for each image, and superimposed them on the 2014 base image for comparative purposes. *See Webb Written Direct Testimony (Ex. D to SELC 2017 Comments) at ¶ 55.* The result was the following image, which shows substantially increased rates of erosion since the construction of the groins in the early 1990s:

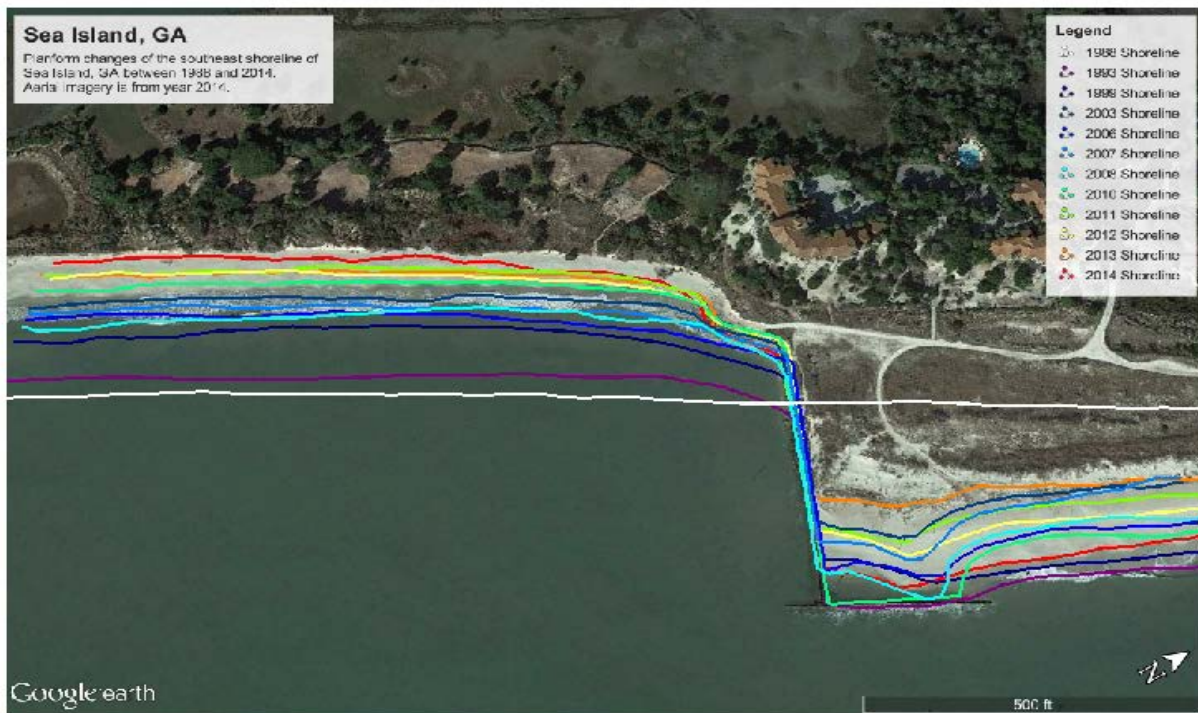


Figure 3: Locations of previous dry beach shorelines near the south groin on Sea Island between the years 1988 and 2014. Prepared by Dr. Bret Webb.

In his written direct testimony, Dr. Webb described how the existing groins have, predictably, trapped sand between the groins, blocked the historic littoral drift to the south, and

removed sand from Sea Island's littoral system.³ *See generally* Webb Written Direct Testimony (Ex. D to SELC 2017 Comments). Specifically, as a result of the groin construction, Dr. Webb estimated there has been a three- to nine-fold increase in the rate of shoreline retreat between Gould's Inlet and the south groin on Sea Island. According to Dr. Webb, the shoreline in this area – which was accreting prior to the groin construction – has retreated over 270 feet since construction of the groins, and the primary frontal dunes have been substantially eroded with reduced heights and volumes.

c. The proposed groin would act like the existing south groin and cause significant erosion downdrift of that groin.

There is no reason to believe that the proposed groin would act any differently from the existing south groin, or any other groin for that matter. Groins, by design, are intended to capture sand moving in the sand-sharing system and thus have the effect of starving the areas downdrift of the groin of sand. Like the existing groins, the proposed groin will further deplete the availability of sand in the littoral system by impounding an additional 1,200 feet of available shoreline sediments, leading to an increase in downdrift erosion and shoreline retreat as those shorelines respond to yet another sand deficit in the littoral system.

2. The proposed groin could cause a breach in the Spit that would redirect the tidal flow in that area and cause further erosion of the Spit.

The location of the proposed groin makes it particularly problematic. As Dr. Webb describes in his written direct testimony, Ex. D to SELC 2017 Comments, the erosion caused by the proposed groin would likely occur at a particularly vulnerable area of the Spit near an old borrow pit. That area has a narrow width and low volume density, and the walls of the borrow pit have already been breached by incoming waves on high tides. The frontal dunes have eroded to

³ At the OSAH hearing and in their response to comments on the initial permit application, Sea Island argued that Dr. Webb's use of aerial photographs could potentially be imprecise because the lunar cycle can affect the tides and thus the wet-dry line. While this may be true, Figure 3 plainly shows that there has been a considerable trend of retreat of the shoreline south of the south groin after the groin was installed. That amount of retreat is far greater than any potential error associated with determining the location of the wet-dry line on a series of photographs. Webb Written Direct Testimony (Ex. D to SELC 2017 Comments) at ¶ 57. In addition, the validity of Dr. Webb's findings was confirmed by Dr. Jackson's similar findings, which, as described above, was derived using a methodology that accounted for the location of the tide on the days the aerial photos were taken because he had the exact times and dates that each photograph was taken. OSAH Transcript (Ex. A to SELC 2017 Comments) at 912:11-24.

the point where waves are overwashing sediment from the beach face into a low area behind the frontal dune system.

For his analysis, Dr. Webb used LiDAR data collected by the Corps to determine the volume density of this portion of the Spit. By using these data, Dr. Webb was able to determine the volume of sand relative to a chosen elevation (in this case, 0 NAVD). Ex. D to SELC 2017 Comments (Webb WDT) at ¶¶ 80-90. His volume density analyses are shown below:

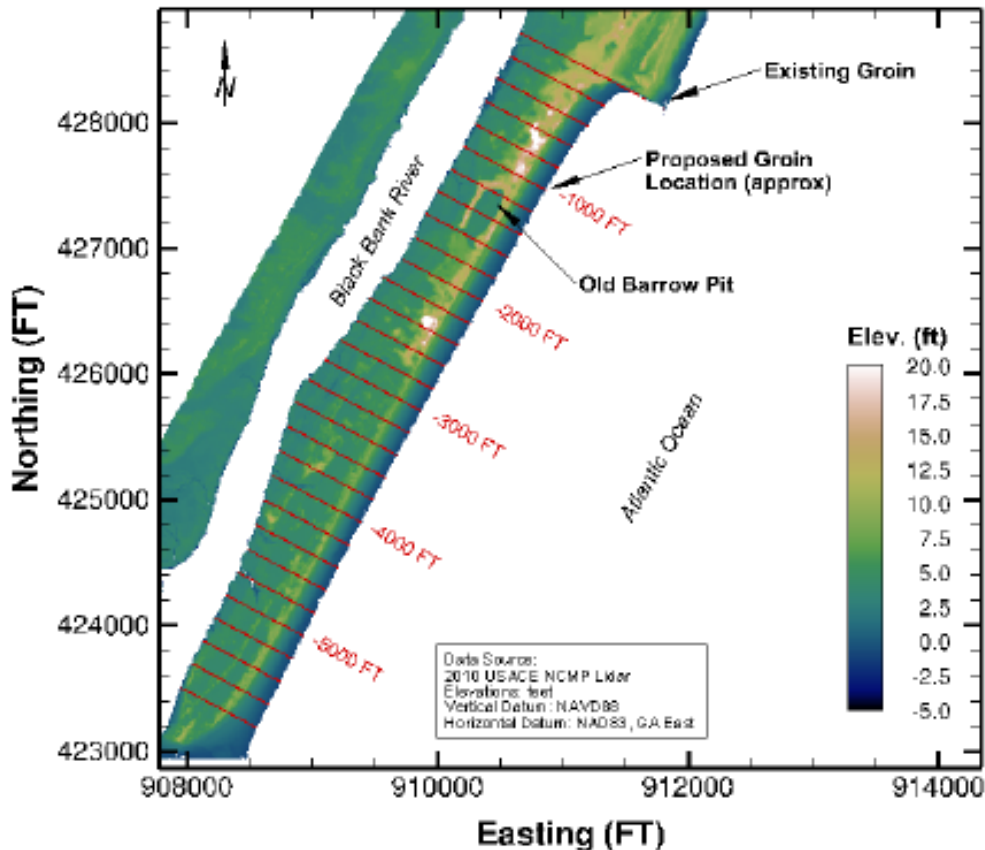


Figure 4: Location and data overview for the volume density calculations showing the 2010 LiDAR data (contours), transect locations for analysis (red lines), and pertinent features. Prepared by Dr. Bret Webb.

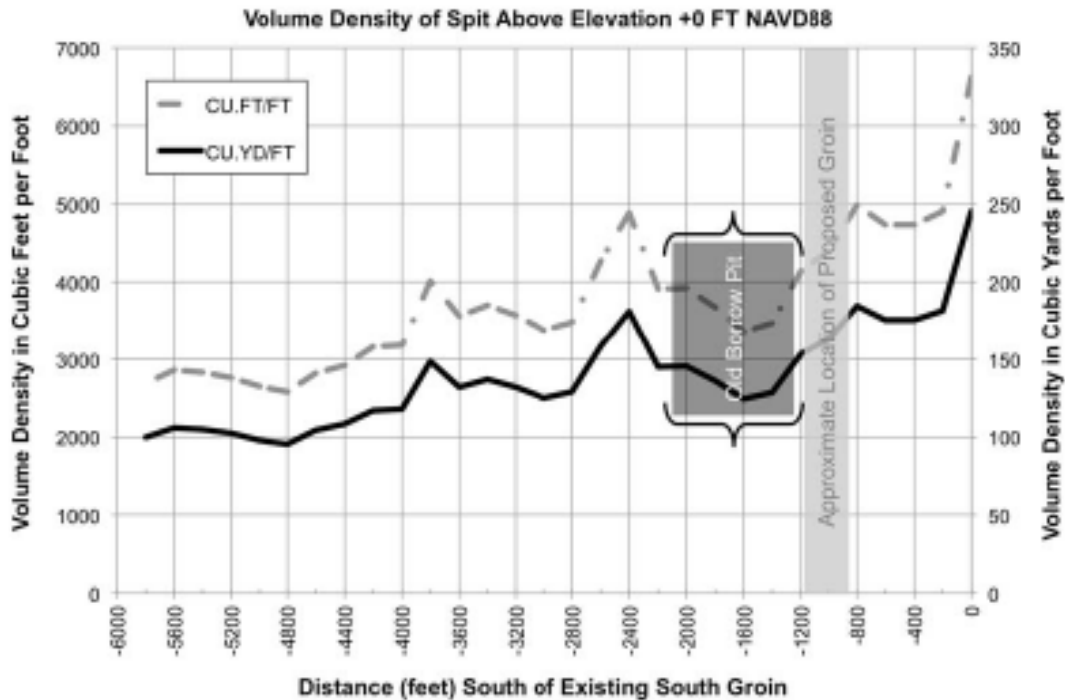


Figure 5: Calculated volume density of Sea Island, above elevation 0 NAVD88, based on analysis of 2010 LiDAR elevation data at transects spaced 200 feet apart. Prepared by Dr. Bret Webb.

As shown in the above figures, there is a substantial decrease in the volume density of the island immediately south of the proposed groin location.⁴ Because this area has such a low volume density, it is more prone to breach during a significant storm event. To determine the likelihood of a breach, Dr. Webb analyzed storm data, FEMA flood hazard data, and 2010 island elevations (obtained from US Army Corps of Engineers NCMP LiDar data).⁵ Based on his analysis, Dr. Webb concluded that a 1-year return period storm would completely inundate the old borrow area south of the groin location and a 100-year return storm period would overtop this portion of the Spit, possibly causing a breach.

⁴ The data included in this figure is from 2010. Significant erosion of the frontal dune and retreat of the shoreline have occurred on the seaward side of this part of the Spit since that time.

⁵ Dr. Webb's written direct testimony from the OSAH hearing is attached as Exhibit D to SELC's 2017 Comments. That testimony provides additional details about his methodology, analysis, and conclusions.

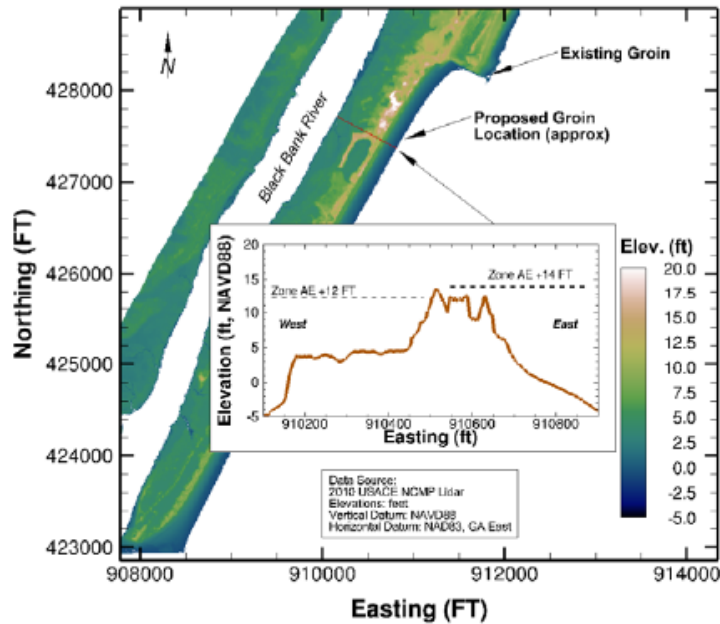


Figure 6: Sea Island elevations (2010 LiDAR data) and corresponding FEMA 100-yr flood hazard elevations near the site of the proposed groin in a portion of the Spit with the lowest volume density. Prepared by Dr. Bret Webb.

These calculations, which were prepared in 2016, were borne out during Hurricane Irma, with aerial photographs like the one below showing a substantial overwash of sand on the Spit.



Figure 7: Aerial Photograph of Sea Island Spit following Hurricane Irma in September 2017

Needless to say, a breach of the Spit would cause substantial physical, biological, and recreational impacts to both the Sea Island Spit and neighboring St. Simon's Island.

3. The proposed groin would adversely impact federally protected sea turtles.

The proposed project area includes nesting habitat used by three species of federally protected sea turtles: the Loggerhead Sea Turtle, the Green Sea Turtle, and the Leatherback Sea Turtle. According to the Georgia Department of Natural Resources Wildlife Resources Division (WRD) and the U.S. Fish and Wildlife Service (FWS), the proposed groin would adversely impact sea turtles by (1) inhibiting nesting females from reaching the beach, (2) functioning as a barrier to hatchling migration to the ocean, (3) entrapping hatchlings within the structure, (4) concentrating predators in the vicinity of the groin resulting in increased hatchling mortality; and (5) reducing downdrift nesting habitat. *See* WRD Comments (Ex. 1 to SELC 2016 Comments) and FWS Comments (Ex. 2 to SELC 2016 Comments).

Although SIA has repeatedly claimed the proposed groin would not adversely impact sea turtles, its arguments are wholly unsupported and have been thoroughly rejected by state and federal agencies. For example, in its comments to the Shore Protection Committee, WRD rejected SIA's claim that the proposed groin would not result in accelerated downdrift erosion and habitat loss, explaining that "[t]he analysis provided by the applicant uses data from the early 1980's and does not use the best available technology and analysis for assessing coastal erosion rates." WRD Comments (Ex. 1 to SELC 2016 Comments) at 3. FWS was likewise unconvinced by SIA's claim that the proposed groin would not result in downdrift erosion and habitat loss, noting, "There is little data or analysis to support this." FWS Comments (Ex. 2 to SELC 2016 Comments) at 2.

In addition to the WRD and FWS written comments, two expert witnesses, Dr. Kirt Rusenko and Mark Dodd, offered additional testimony regarding the impacts to sea turtles at the OSAH hearing. Mr. Dodd has been employed by the Georgia Department of Natural Resources for over seventeen years as a Senior Wildlife Biologist and the State of Georgia's Sea Turtle Program Coordinator. His duties include establishing protocols for sea turtle conservation in Georgia and reviewing and commenting on permit applications for projects that might impact sea turtles. *See* OSAH Transcript (Ex. A to SELC 2017 Comments) at 224:25-225:12; 226:3-12; 227: 20-24; 229:5-13. Mr. Dodd helped author the Recovery Plan for the Northwest Atlantic Population of the Loggerhead Sea Turtle in partnership with the National Marine Fisheries Service and the United States Fish and Wildlife Service. *Id.* at 232:2-11.

Dr. Rusenko has worked for 20 years as the Marine Conservationist for the City of Boca Raton, Florida's Gumbo Limbo Center where he manages the Boca Raton Sea Turtle Conservation and Research Program. Dr. Rusenko supervises nine sea turtle specialists and reviews and reports on all beachfront construction permits and monitors all beach renourishment projects for the city. Rusenko Written Direct Testimony (Ex. E to SELC 2017 Comments) at ¶¶ 1, 5-7.

Both Mr. Dodd and Dr. Rusenko testified unequivocally that the proposed t-head groin would have unreasonable impacts on federally protected sea turtles. *See* OSAH Transcript (Ex. A to SELC 2017 Comments); Rusenko Written Direct Testimony (Ex. E to SELC 2017 Comments).

4. The proposed groin will adversely impact habitat for federally threatened shorebirds.

It goes without saying that if the Spit erodes, shorebird habitat on the Spit would be reduced a commensurate amount. This area is designated critical wintering habitat for the federally threatened Piping Plover and is heavily used by the federally protected Red Knot, as well as the American Oystercatcher and Least Tern, both state species of concern. According to WRD, “[a]ll of these species require the natural sand-sharing system to build up appropriate nesting, roosting, and foraging habitat.” WRD Comments (Ex. 1 to SELC 2016 Comments) at 8. As WRD has noted, “[s]horeline engineering projects (including groins), particularly near inlets are listed as one of the major threats to shorebird conservation in shorebird conservation plans . . . because they disrupt the natural sand sharing system.” *Id.*

Given the history of the existing groins, this should come as no surprise to SIA. According to WRD, the south groin – which, despite much evidence to the contrary, has been hailed as a success by SIA – “was likely responsible for the loss of a site protected by the Bird Island Rule called Pelican Spit, which at the time was one of the most important seabird nesting sites in Georgia.” *Id.*⁶

⁶ Like with this application, prior to the 1991 project, Sea Island assured the public in a written statement that Pelican Island Spit “is not being disturbed.” *See* Sea Island Beach Renourishment Project Informational Materials.

Clean Water Act

1. SIA has not demonstrated the project complies with the Clean Water Act Section 404(b)(1) Guidelines and thus the proposed project should not be permitted.

To secure a Section 404 permit from the Corps, an applicant must demonstrate that its project complies with the 404(b)(1) Guidelines. Under the Guidelines, the Corps cannot issue a Section 404 permit if any of the following are true:

- a. there is a less environmentally damaging practicable alternative to the project;
- b. the project would violate the Endangered Species Act;
- c. the project would cause or contribute to significant degradation of the waters of the United States, except as provided under section 404(b)(2); or
- d. if the project did not incorporate appropriate and practicable steps to minimize potential adverse impacts of the discharge on the aquatic ecosystem, except as provided under section 404(b)(2).

40 C.F.R. § 230.10. The SIA project satisfies none of these requirements.

2. The Corps cannot legally issue a permit to SIA because there are less environmentally damaging practicable alternatives to the project.

The Corps cannot issue a Section 404 permit under Clean Water Act if there is a practicable alternative to the proposed project which would have a less damaging impact on the aquatic ecosystem. *See National Wildlife Federation v. Whistler*, 27 F.3d 1341 (8th Cir. 1994); *Alliance to Save the Mattaponi v. U.S. Army Corps of Engineers*, 606 F. Supp. 2d 121 (D.D.C. 2009); *Korteweg v. Corps of Engineers of U.S. Army*, 650 F. Supp. 603 (D. Conn. 1986).

As the Guidelines state:

Except as provided under section 404(b)(2), no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so

long as the alternative does not have other significant adverse environmental consequences.

40 C.F.R. § 230.10(a). The Guidelines go on to explain that “[a]n alternative is practicable if it is available and capable of being done after taking into consideration cost, existing technology, and logistics in light of *overall project purposes*.” 40 C.F.R. § 230.10(a)(2) (emphasis added). How the overall project purpose is defined is often determinative of whether an application is approved by the Corps or not. As the Court of Appeals for the Eighth Circuit explained in *National Wildlife Federation v. Whistler*, it is the Corps’ duty to determine a purpose that is not too restrictive. 27 F.3d 1341, 1345 (8th Cir. 1994); *see also* 40 C.F.R. § 230.10(a)(2)-(3).

A. The Corps should deny SIA’s application because the proposed project purpose is too narrow.

SIA states in its original application that “[t]he purpose of the project is to stabilize the eroding beach south of the existing south groin and to provide storm protection to the adjacent upland.” SIA Application at 1. Considering the facts in this case, this project purpose is far too narrow, at least with respect to the proposed groin construction.

If not for the proposed Reserve development, SIA would not be seeking an application to build a groin, renourish the portion of the beach in front of the Reserve Property, or build dunes in front of the Reserve Property. In other words, the construction of a groin and renourishment of the beach in front of the Reserve development is simply a component of the overall activity SIA is pursuing, which is to develop another high end, waterfront, residential development in the St. Simons/Sea Island area. This purpose reflects the real project that SIA is pursuing with respect to this section of the beach. In short, SIA wants to make money by developing a parcel of land. In light of this purpose, SIA is required to identify and analyze other parcels of land in the area that would provide SIA with similar opportunities at a lesser environmental price.

It does not matter whether SIA owns any of the parcels that SIA identifies; the parcels just need to be available for purchase at a reasonable price. The Guidelines provide that an alternative may be practicable if a plaintiff could obtain other upland property that the plaintiff did not already own. *See* 40 C.F.R. § 230.10(a)(1)-(2); *see also O’Connor v. U.S. Army Corps of Engineers*, 801 F. Supp. 185, 194-96 (N.D. Ind. 1992); *Slagle v. United States*, 809 F. Supp. 704, 713 (D. Minn. 1992).

B. There are practicable alternatives to what SIA is proposing.

Even if the Corps were to determine that the project purpose proposed by SIA were appropriate, there are practicable alternatives to the proposed groin with lesser environmental impacts. For example, SIA has not adequately considered nourishment without a groin, a less-damaging alternative that has been chosen in over 96% of similar projects in the Southeast over the past decade.

i. Groins are generally disfavored tools of shoreline stabilization in the United States and around the world.

As recognized by the Corps, because groins increase erosion and harm wildlife habitat, the “[c]oastal zone management policy in many countries and the United States presently discourages the use of groins for shore protection.” U.S. Army Corps of Engineers Coastal Engineering Manual at Part V, Chapter 3, p. V-3-61. Indeed, according to an analysis by Dr. Robert Young, over the past decade coastal engineers have shown a near universal preference for beach nourishment without a groin over similar projects with a groin or other stabilization structure.

Dr. Young is the Director of the Program for the Study of Developed Shorelines (PSDS), a joint research and policy center at Duke University and Western Carolina University. Young Written Direct Testimony (Ex. C to SELC 2017 Comments) at ¶ 2. The PSDS maintains a national database called the Beach Nourishment Database that catalogs every beach and dune construction project in the country. *Id.* at ¶ 7. It is by far the most comprehensive catalog of beach and dune restoration projects available. *Id.* As part of this work, Dr. Young is funded by the United States Geological Survey to map, in detail, every beach nourishment project on the United States East Coast. *Id.* at ¶ 8. Through Dr. Young’s database, the PSDS has been tracking beach nourishment activities on Sea Island and across the country for more than twenty years. *Id.* at ¶ 8. The beach nourishment projects mapped by Dr. Young have been implemented in areas with a wide variety of coastal features including barrier islands with longshore transport rates and inlet settings similar to those of the proposed project. *Id.* at ¶ 22.

Based on his experience with the Beach Nourishment Database, Dr. Young concluded that beach nourishment without a groin is, by far, the most common configuration for beach nourishment projects in the United States. In the Southeast, for example, there have been 139 beach nourishment projects during the past ten years. *Id.* at ¶ 27. Of those 139 projects, *only five* have involved a groin.⁷ *Id.* at ¶ 27; *see also* Webb Written Direct Testimony (Ex. D to 2017

⁷ Of those five, three were built at the very end of the island – unlike Sea Island’s proposed groin. Young Written Direct Testimony (Ex. C to SELC 2017 Comments) at ¶ 27. The other two projects with

SELC Comments) at ¶ 95 (noting that almost every beach nourishment and/or renourishment project in Florida over the past twenty years has been done without a groin).

Put differently, coastal engineers have found less damaging practicable alternatives that have allowed them to nourish beaches without building groins in over 96 percent of similar projects conducted in this region over the past ten years. Id.

Further from home, after Hurricane Sandy devastated the New Jersey coast, the Army Corps of Engineers implemented twenty-two beach nourishment projects, covering almost the full length of the state. Young Written Direct Testimony (Ex. C to SELC 2017 Comments) at ¶ 26. According to Dr. Young, not one of them involved the construction of a groin or other artificial shoreline stabilization device.⁸ *Id.*

The bottom line is that beach nourishment without a groin is now the preferred method in the United States for restoring shorelines.

groins were special circumstances not related to cost. *Id.* There are no such special circumstances with respect to Sea Island's proposed project. *Id.*

⁸ Some portions of the New Jersey shore do have small, existing groins that were built many decades ago. The Corps does not take these existing groins into account when it designs beach nourishment projects. The Corps has gone so far as to alter some of these groins to increase sand passage past the groins to rehabilitate the sand sharing system. Young Written Direct Testimony (Ex. C to SELC 2017 Comments) at ¶ 26.

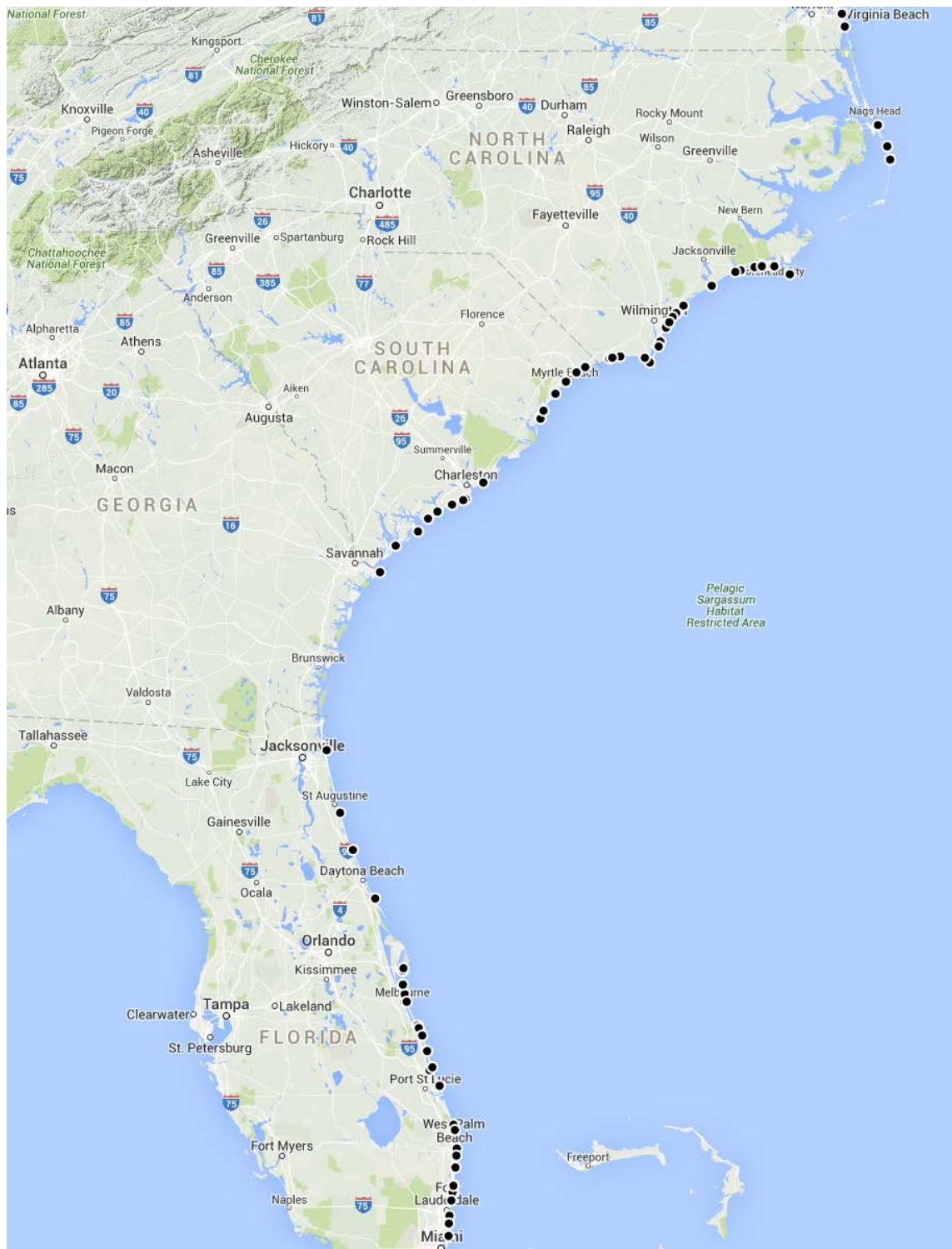


Figure 8: Map of nourishment projects constructed without groins in southeast United States over the past decade. Prepared by Dr. Robert Young.

ii. Despite the near universal preference for nourishment projects without groins, SIA failed to adequately consider this alternative.

Despite these overwhelming statistics, in their October 2015 application, SIA initially failed to even consider beach nourishment without a groin. Even when the Corps requested a more thorough alternatives analysis, SIA summarily dismissed nourishment without a groin in fewer than three sentences. Specifically, SIA concluded that because of its length, a 1,200 foot nourishment project without a groin would have a limited half-life. Instead of examining whether a more extensive nourishment project would have an acceptable half-life, SIA prematurely ended its inquiry. Tellingly, multiple experts at the OSAH hearing testified that a longer nourishment project without a groin is a reasonable and viable alternative that would work on the Spit.

SIA represented to the Corps in its January 5, 2017 letter that “as part of the [state] permitting process of the Shore Protection Committee, the applicant fully considered an alternative of beach nourishment without a groin.” That simply is not the case. In its application to the Shore Protection Committee, SIA did not consider nourishment without a groin. In fact, when the Conservation Groups challenged SIA’s failure to consider nourishment without a groin as an option, SIA argued to the administrative law judge that (1) the Georgia Shore Protection Act’s requirement to consider alternatives did not apply to this project and (2) if it did, the burden was on the Conservation Groups, not SIA, to consider alternatives like nourishment without a groin. Far from “fully considering” nourishment without a groin, SIA’s own expert, Dr. David Basco, candidly admitted at the OSAH hearing that he had *not* considered a longer nourishment project without a groin because SIA had not asked him to do so:

Q: So what you're saying is that you did not consider building a beach nourishment project [without a groin] that would extend down to Gould's Inlet?

Basco: Correct. I only considered the concern of a beach nourishment project with no groin in which the beach nourishment project was only 1200 feet. And I immediately concluded that that was not economically feasible because it would not last more than a few months. So we completely didn't include that in our list of possible alternatives. We were not asked to design a project that would extend all the way down to the end of Gould's Inlet.

...

Q: ... [W]hat you're saying is you looked at what Sea Island told you to look at?

Basco: Well, that's normally what we do as professionals. We take what their design criteria is and we follow their desires, so to speak.

OSAH Transcript (Ex. A to 2017 SELC Comments) at 722:14–723:13.

This testimony reveals that SIA has not performed a complete alternatives analysis. Section 404 permit requirements clearly mandate consideration of less environmentally damaging practicable alternatives. *See* 40 C.F.R. 230.10(a). Because SIA has not done so, the Corps may not issue the permit.

iii. Nourishment without a groin is a practicable alternative here.

Two experts, Dr. Bret Webb and Dr. Robert Young, testified at the OSAH hearing that a beach nourishment without a groin is a practicable alternative to SIA's proposed project. *See* Webb Written Direct Testimony (Ex. D to SELC 2017 Comments) at ¶ 95; Young Written Direct Testimony (Ex. C to SELC 2017 Comments) at ¶ 45. To address concerns about maintenance, the length of the project could be extended in either of two directions: north or south. Both alternatives would require additional analyses to ensure that no more sand than necessary or prudent was placed on the beaches.

a. Nourishment without a groin from the existing South Groin to Gould's Inlet

First, as Dr. Webb explained at the OSAH hearing, the nourishment project proposed by SIA, with dunes, could be constructed as planned in the 1,200-foot original project area and then extended south down the Spit without dunes (where dunes are not needed to protect any structures).

According to Dr. Webb, that project would require approximately 350,000 to 500,000 cubic yards of sand. Webb Written Direct Testimony (Ex. d to SELC 2017 Comments) at ¶ 95. To calculate this number, Dr. Webb estimated the length of the shoreline from the existing south groin to Gould's Inlet and applied a beach fill density of 100 cubic yards per running foot, which accounts for the fact that the renourished shoreline could be tapered as it reached Gould's Inlet. Dr. Webb explained that this number (100 cubic yards per running foot) is common in modern nourishment projects in the United States.

During the OSAH hearing, SIA argued in response to this alternative that nourishment south of the proposed project area would violate a conservation easement that SIA had placed on

the Spit.⁹ However, the conservation easement states that if an activity does not impair conservation values and the holder of the conservation easement approves, the activity may proceed.¹⁰

In any event, the Spit could be nourished from the southern groin to its tip without affecting the portion of the beach protected by the conservation easement. As Dr. Webb explained in his testimony and in his attached expert report, machinery used to nourish the beach could remain below the high water line and thus not disturb the area covered by the conservation easement, which only reaches seaward to the high water line. As SIA acknowledged on several occasions, within the project site, the high water line touches the seaward toe of the dunes in many areas. As a result, approximately 88% of proposed beach fill for the proposed project would be placed below the high water line. A beach nourishment project extending to the tip of the Spit would have a similar profile, except it would not include any dunes.

In his 2017 report, Dr. Webb describes a number of nourishment projects without groins that have been successfully conducted entirely below the high water line, as well as several projects that have been successfully conducted entirely below the *low* water line. His report, which includes an analysis of potential costs and other details showing that nourishment without a groin is a practicable alternative, is attached as Exhibit G to SELC's 2017 Comments.

b. Removal of existing south groin and nourishment from the Spit to the existing north groin

SIA could also extend the length of the nourishment project, and thus the project half-life, by removing the existing south groin and completing a single, contiguous nourishment project beginning in the 1,200 foot project area and extending north. This alternative would nourish

⁹ A copy of the Deed of Conservation Easement is attached as Exhibit F to SELC's 2017 Comments.

¹⁰ Under the terms of the easement, "Shoreline Engineering Activities" [including 'beach restoration or re-nourishment'] more than 160 feet south of the northern boundary are not specifically listed under the "Prohibited Uses" provision. Conservation Easement (Ex. F to SELC 2017 Comments) at p. 7, ¶ 8. Instead, these activities would fall under ¶ 8(k), which prohibits "any [other] unanticipated use or activity on or at the Property which would impair conservation values . . ." *Id.* at p. 8, ¶ 8(k). That section, however, is modified as follows: "unless such use or activity is necessary for the protection of the Conservation Values that are the subject of this Easement, in which case such use or activity shall be subject to the approval of Grantee [St. Simons Land Trust], which approval shall not be unreasonably withheld." *Id.* at p. 8, ¶ 8(k) (emphasis added). Under these limited circumstances, it is possible that the grantee would find that nourishment from the existing south groin to Gould's Inlet – for the limited purpose of avoiding the detrimental impacts of an updrift groin – would further the Conservation Values referenced in the Easement and thus permit such nourishment.

those areas already identified for renourishment in SIA's application (or a shorter distance, as appropriate), but the removal of existing groin would allow for a longer contiguous project length, thus eliminating the alleged need for a new groin. As SIA acknowledged in its original application, the existing south groin was constructed from Campbell units "because it was a test project." The purpose of using the Campbell units, according to SIA, was that "[i]f the project had failed to function as designed, the Campbell units could have been removed" SIA Application at 2-3.

In its March 6, 2018 Supplemental Application, SIA summarily dismisses this alternative in a few short sentences because (1) "the life expectancy of the project without groins would be extremely short and unsustainable" and (2) "the accelerated erosion of nourished sand without groins would result in the continued loss of sea turtle nesting habitat." Supplemental Application at 11.

During the OSAH hearing, however, Dr. Basco, SIA's own expert, explained that the half-life of a beach nourishment project like the one proposed by SIA varies as the square of the project length. Applying a formula from Dean, 2002, Dr. Basco concluded that, while the half-life of a 1,200 foot nourishment project on Sea Island would be short, increasing the project length to approximately 10,560 feet (or 2 miles) would increase the half-life of the project to approximately six years. He further explained that these half-life projections were based on a beach fill project with sand spreading in both directions, and acknowledged that an existing groin to the north of a nourishment project – as there would be here – could "double or triple" the project's half-life.

Here, if SIA removed the south groin and extended the nourishment to the original 1,200 foot project area, the contiguous length of SIA's proposed nourishment project could be expanded north to extend the length of the nourishment project, thus removing the concern that the project would have an "extremely short and unsustainable" life expectancy.

SIA's second concern – that fewer groins would somehow harm sea turtles – is entirely inconsistent with the opinions of WRD, FWS, and other experts in this matter.

3. SIA has not discussed in its application what the cumulative effects of the proposed groin would be when considered in combination with the two existing groins.

To determine the adverse impacts of a proposed project, the Corps must consider cumulative impacts. The Guidelines require the Corps to predict, to the extent "reasonable and practicable," the cumulative effects of the project. 40 C.F.R. § 230.11(g)(2). This should include the impact of the proposed groin in conjunction with the two existing groins, as well as the

impact of the proposed 2.8 mile nourishment project in conjunction with the previously proposed project. In addition, the cumulative impacts analysis should include discussion of the cumulative impacts of the erosion caused by Hurricanes Matthew and Irma in 2016 and 2017. As discussed above, the trajectory and duration of these storms severely eroded the beach face and remaining front dunes on Sea Island, making the threat of exacerbated erosion caused by the proposed groin even more detrimental to the Spit. Yet SIA has offered nothing in its application to address this question. SIA should provide this information before the Corps evaluates the permit application.

4. The Corps cannot legally issue a permit to SIA because the proposed project would adversely affect threatened and endangered species.

As the Guidelines provide, the Corps cannot issue a Section 404 permit if the proposed project would jeopardize the continued existence of threatened or endangered species under the Endangered Species Act of 1973, or would result in the likely “destruction or adverse modification” of critical habitat. 40 C.F.R. § 230.10 (b)(3). The burden is on the applicant to demonstrate that such harms would not occur. *See Riverside Irr. Dist. V. Andrews*, 1985, 758 F.2d 508 (10th Cir. 1985).

As explained above and in the FWS and WRD’s comments, Ex. 1 and 2 to SELC 2016 Comments, the proposed groin would decrease the habitat for federally listed sea turtle and shorebird species. In its application, SIA turns a blind eye to this important inquiry. Although SIA acknowledges that the Spit is habitat for many federally listed species, SIA is unwilling to acknowledge that there would be any erosion on the Spit south of the proposed groin. Nor does SIA discuss the hazard the structure itself would cause for nesting sea turtles and hatchlings.

5. The Project would significantly degrade waters of the United States.

As the Guidelines provide, the Corps cannot issue a permit to SIA if the proposed project would cause or contribute to significant degradation of the waters of the United States. This includes “loss of fish and wildlife habitat,” as well as significant adverse effects on “recreational, aesthetic, and economic values.” 40 C.F.R. § 230.10(c)(3-4). The Guidelines do not focus merely on water quality, but on all of the effects on the aquatic environment caused by replacing water with fill material. *See Riverside Irr. Dist. V. Andrews*, 758 F.2d 508 (10th Cir. 1985).

As explained above, the proposed groin would in all likelihood cause the destruction of critical habitat of the Piping Plover in addition to the habitat of thousands of shore birds that frequent the Sea Island Spit. It could also destroy nesting grounds for endangered sea turtles.

Furthermore, the probable erosion caused by the proposed groin would destroy areas that are visited by numerous kayakers, surfers, paddlers, and bird-watchers for recreation.

6. SIA has not taken adequate steps to minimize the adverse impacts of the proposed project.

As the Guidelines provide, “no discharge of dredged or fill material shall be permitted unless appropriate and practicable steps have been taken which will minimize potential adverse impacts of the discharge on the aquatic ecosystem.” 40 C.F.R. § 230.10 (d). Contrary to this requirement, SIA has not proposed adequate measures to decrease the adverse impacts of the proposed project. For example, with respect to mitigation, SIA argues that because of “the restorative nature of the project,” “no mitigation for the action [should] be required.” Revised Application at 29.

Endangered Species Act

1. Because the proposed project would adversely affect the habitat of five federally listed species, the Corps may not issue a Section 404 permit until it completes a consultation with the Fish and Wildlife Service and the National Marine Fisheries Service.

Section 7(a)(2) of the Endangered Species Act requires federal agencies to “insure” that the actions they fund, authorize, or undertake “[are] not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification” of those species’ designated critical habitat. 16 U.S.C. § 1536(a)(2). In fulfilling this duty, “each agency shall use the best scientific and commercial data available.” *Id.* If a proposed action “may affect” an ESA-listed species, federal agencies are required to formally consult with the National Marine Fisheries Service (NMFS) or the Fish and Wildlife Service (FWS) unless the agency can demonstrate to the resource agencies’ satisfaction that the proposed action will not *adversely* affect any listed species. 50 C.F.R. § 402.14(a) & (b)(1). Thus, section 7(a)(2) imposes both a procedural and substantive duty on agencies. “Substantively, it requires that agencies ensure that their actions are not likely to jeopardize the existence of an endangered species,” and “[p]rocedurally, it requires adequate consultation between the [a]gency and the FWS” to ensure that the substantive protections are met. *Defenders of Wildlife v. Jackson*, 791 F. Supp. 2d 96, 113 (D.D.C. 2011).

The “may affect” threshold in the ESA regulations is very low. FWS’s ESA consultation handbook defines “may affect” as “the appropriate conclusion when a proposed action may pose *any* effects on listed species or designated critical habitat.” *See* U.S. Fish & Wildlife Serv. & Nat’l Marine Fisheries Serv., *Endangered Species Consultation Handbook: Procedures for Conducting Consultation and Conference Activities Under Section 7 of the ESA* xvi (Mar. 1998).

These thresholds have been surpassed here. As discussed above, numerous experts have counseled that groins adversely impact sea turtles by (1) inhibiting nesting females from reaching the beach, (2) functioning as a barrier to hatchling migration to the ocean, (3) entrapping hatchlings within the structure, (4) concentrating predators in the vicinity of the groin resulting in increased hatchling mortality; and (5) reducing downdrift nesting habitat. The increased downdrift erosion caused by the proposed groin will also impact shorebirds on the southern end of the Spit. This area is designated critical wintering habitat for the federally threatened Piping Plover and is heavily used by the federally protected Red Knot, as well as the American Oystercatcher and Least Tern, both state species of concern. WRD Comments (Ex. 1 to SELC 2016 Comments) at 8.

Put simply, because the proposed groin would adversely affect several federally listed species, the Corps may not issue a Section 404 permit until it completes a consultation with FWS and NMFS.

National Environmental Policy Act

1. The National Environmental Policy Act requires the Corps to prepare an EIS.

The National Environmental Policy Act (NEPA) requires the Corps to prepare a detailed EIS for all “major Federal actions significantly affecting the quality of the human environment.” 42 U.S.C. § 4332(2)(C). “If *any* ‘significant’ environmental impacts *might* result from the proposed agency action then an EIS must be prepared *before* agency action is taken.” *Sierra Club v. Peterson*, 717 F.2d 1409, 1415 (D.C. Cir. 1983) (emphasis in original). To determine the “significance” of an action’s impacts, the agency must consider a number of factors, including:

- “Impacts that may be both beneficial and adverse. A significant effect may exist even if the Federal agency believes that on balance the effect will be beneficial”;

- “[U]nique characteristics of the geographic area such as proximity to ... ecologically critical areas”;
- “The degree to which the effects on the quality of the human environment are likely to be highly controversial”;
- “The degree to which the possible effects on the human environment are highly uncertain”
- “Whether the action is related to other actions with individually insignificant but cumulatively significant impacts”; and
- “The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under [the ESA].”

Id. § 1508.27(b).

The existence of even one of these factors can mandate the preparation of an EIS. *See Fund for Animals v. Norton*, 281 F. Supp. 2d 209, 235 (D.D.C. 2003). Here, each of the significance factors described above are implicated. Given the size of the project and the potential adverse impacts to the Spit and a number of federally threatened and endangered species, the effect of the project on the coastal ecosystem should not be discounted as insignificant. Instead, preparation of an EIS is necessary to determine the extent of those impacts. The Corps has not taken a “hard look” at direct, indirect, and cumulative impacts of the proposed project.

Public Interest Considerations

1. The proposed project should not be permitted because it does not comply with 33 C.F.R. § 320.4(a) public interest considerations.

Under 33 C.F.R. § 320.4, the decision whether to issue a permit must “be based on an evaluation of the probable impacts, including cumulative impacts, of the proposed activity and its intended use on the public interest.” 33 C.F.R. § 320.4(a)(1). Evaluating the probable impact that a proposed activity may have on the public interest requires a careful weighing of all those factors that are relevant in each particular case. In this case, at least the following factors are implicated and weigh against permitting the proposed project:

- (i) Conservation, aesthetics, recreation, and general environmental concerns – the project’s foreseeable exacerbation of erosion threatens loss and destruction of the Spit, which is protected by a conservation easement and enjoyed aesthetically by those who recreate in Gould’s Inlet, in the tidelands, and across the inlet at St. Simons.
- (ii) Fish and wildlife values¹¹ – as the above expert testimony describes, the project threatens destruction of the Spit, which serves as critical habitat for numerous threatened and endangered species.
- (iii) Shore erosion and accretion – as the expert testimony referenced above illustrates, the proposed groin will exacerbate shoreline erosion of the Spit.

Additionally, the Corps must consider the following criteria in the evaluation of every application:

- (i) The relative extent of the public and private need for the proposed structure or work;
- (ii) Where there are unresolved conflicts as to resource use, the practicability of using reasonable alternative locations and methods to accomplish the objective of the proposed structure or work; and
- (iii) The extent and permanence of the beneficial and/or detrimental effects which the proposed structure or work is likely to have on the public and private uses to which the area is suited.

Id. at § 320.4(a)(2). As part of this analysis, “full consideration and appropriate weight” must be given to “all comments, including those of federal, state, and local agencies.” *Id.* at § 320.4(a)(3).

Here, the proposed groin is plainly not in the public interest. The proposed Reserve Development is located on private property within a gated community. And there are no homes

¹¹ Pursuant to 33 C.F.R. § 320.4(c), in accordance with the Fish and Wildlife Coordination Act (33 C.F.R. § 320.3(e)) district engineers will consult with the Regional Director, U.S. Fish and Wildlife Service, the Regional Director, National Marine Fisheries Service, and the head of the agency responsible for fish and wildlife for the state in which work is to be performed, with a view to the conservation of wildlife resources by prevention of their direct and indirect loss and damage due to the activity proposed in a permit application. The Army will give full consideration to the views of those agencies on fish and wildlife matters in deciding on the issuance, denial, or conditioning of individual or general permits.

located on the Sea Island Spit. In other words, no existing structures are threatened by the beach erosion downdrift of the south groin. Instead, SIA desires to construct the proposed groin to protect just *eight* undeveloped lots – and very exclusive, private lots at that.

The protection of those eight lots, however, would come at a steep price to the public. As discussed above, the proposed groin would jeopardize the integrity of the Spit, which has been largely protected by a conservation easement, adversely affect federally protected sea turtles and shorebirds, cause increased erosion on land protected by a conservation easement, and disrupt the public's right to use public tidelands on the Spit (and potentially nearby St. Simons Island) for their recreation and enjoyment.

Given these detrimental impacts to the public interest, it should come as no surprise that public opposition to this project has been overwhelming. As discussed above, nearly two hundred groups and individuals submitted comments to the Corps opposing the SIA's permit application. According to the Corps, the agency received comments from 197 individual commenters. Of those 197 commenters, 194 opposed the project. Of the nine commenters who live on Sea Island, seven opposed the project. In addition, nearly one hundred groups and individuals, including state and federal agencies, submitted comments to the Georgia Department of Natural Resources Coastal Resources Division opposing the project. Even state legislators weighed in. Representative Alex Atwood asked the State Shore Protection Committee for a reconsideration hearing "after hearing the concerns of several constituents [he] represent[s]." Representative Steve Jones did the same.

Put simply, building a groin that will substantially harm the public interest for the sake of eight undeveloped lots is entirely contrary to the public interest analysis required by 33 C.F.R. § 320.4(a).

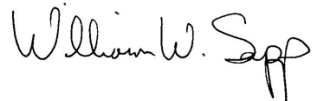
CONCLUSION

For the reasons discussed above, we oppose SIA's request for a Corps permit to (1) to construct a new T-head groin in front of SIA's newest development, the Reserve at Sea Island; (2) to dredge between 1,315,000 to 2,500,000 cubic yards of sand from an offshore source; and (3) to renourish approximately 15,000 linear feet, or over 2.8 miles, of beach on Sea Island. To support these comments, our experts are preparing a supplemental report.

Colonel Griffin
May 23, 2018
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Thank you for the opportunity to comment on the proposed project. If you have any questions concerning these comments, please feel free to contact me by email at bsapp@selcga.org or by telephone at 404-521-9900.

Sincerely,

Handwritten signature of William W. Sapp in black ink.

William W. Sapp
Senior Attorney

Handwritten signature of Megan Hinkle Huynh in black ink.

Megan Hinkle Huynh
Staff Attorney

cc: Megan Desrosiers, One Hundred Miles
Jen Hilburn, Altamaha Riverkeeper
Staley Prom, Surfrider Foundation
Steve Combs, Surfrider Foundation