

South Carolina Department of Natural Resources

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Alvin A. Taylor
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March 6, 2018

United State Army Corps of Engineers
Directorate of Civil Works, Operations
& Regulatory Community of Practice
441 G Street NW
Washington, DC 20314

REFERENCE: Request for Proposal for Beneficial Use of Dredged Material Pursuant to Section 1122 of the Water Resources Development Act, Beneficial Use of Dredged Material

To Whom It May Concern,

The South Carolina Department of Natural Resources (SCDNR) is the state agency charged by state law with the management, protection, and enhancement of wildlife, fisheries, and marine resources in South Carolina. As such, we oversee the management of many coastal bird species, including seabirds, shorebirds and wading birds.

Thus, SCDNR is encouraged and interested in the Pilot Program for the Beneficial Use of Dredged Material under Section 1122 of the Water Resources Development Act to renourish Crab Bank, a state owned and managed seabird sanctuary with protections under the South Carolina Heritage Trust Act (SC Code of Laws §51-17), located prominently in Charleston Harbor which has severely eroded due to wind energy, tropical storms and hurricanes. Over the last few years, SCDNR has worked closely with the U.S. Army Corps of Engineers (USACE) during the environmental review process on the Charleston Harbor Post-45 Deepening Project. As a part of that process, SCDNR requested that Crab Bank be considered as an option for the beneficial use of dredged material.

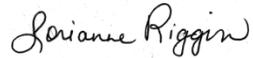
However, following analysis, the renourishment of Crab Bank was not the least cost alternative for the dredged material. Due to interest expressed from SCDNR, local ecotourism outfitters from Shem Creek and various conservation organizations, the USACE Charleston District pursued, with SCDNR agreeing to be the non-Federal Sponsor, an opportunity to cost-share the renourishment of Crab Bank under Section 204 of the Continuing Authorities Program. A draft Feasibility Study has been completed and it is our understanding that it awaits final approvals from the USACE South Atlantic Division.

The cost-share on this project has been estimated at a little over a million dollars for SCDNR as the non-Federal Sponsor. Knowing that the non-Federal share could increase following design and with the construction estimates, SCDNR concluded that we could not continue down this path alone and fortunately a group of conservation-minded individuals had already begun to gather to "Save Crab Bank." Working with this group of interested organizations, including Audubon South Carolina, the Coastal Conservation League, Coastal Expeditions and others, SCDNR established a new program designated as the Coastal Bird Conservation Program under the Nongame and Natural Areas Trust Fund (SC Code of

Laws §50-1-280). This program will establish a means for SCDNR and supporting organizations to collect donations to support the renourishment of Crab Bank and other coastal bird conservation efforts. However, we understand the timeline to dredge Charleston Harbor for the Post-45 Deepening Project and the group's ability to raise the needed funds may not coincide. Therefore, SCDNR believes that our best opportunity to support the protection of Crab Bank, an important seabird sanctuary, is to seek funding for our proposal to renourish of Crab Bank under Section 1122 of the Water Resources Development Act's pilot program.

Please find the enclosed proposal for submission and review. If you have any questions regarding our proposal, please don't hesitate to contact me via phone 803-734-4199 or email at RigginL@dnr.sc.gov.

Sincerely,



Lorianne Riggin
Office of Environmental Programs
1000 Assembly Street Suite 336
PO Box 167
Columbia, SC 29202

**Department of the Army, U.S. Army Corps of Engineers;
Request for Proposal for Beneficial Use of Dredged Material
Pursuant to Section 1122 of the Water Resources Development Act**

South Carolina Department of Natural Resources Crab Bank Proposal

1. Project Name & Location

Crab Bank Seabird Sanctuary

Crab Bank is a dedicated Heritage Trust Property and a Seabird Sanctuary managed and owned by the South Carolina Department of Natural Resources (SCDNR) located in the Charleston Harbor, near the mouth of Shem Creek (Appendix 1).

2. Purpose of the Proposed Project

The purpose of the renourishment of Crab Bank would be to provide:

- restoration and enhancement to an important Seabird Sanctuary supporting seabird nesting, foraging and loafing;
- protection for the salt marsh located across the Shem Creek channel from additional waves and wake in the Charleston Harbor; and
- a wildlife viewing and educational opportunity for Shem Creek ecotourism and the greater Charleston area; as well as
- a beneficial use option for the Charleston Harbor Post-45 Deepening Project.

Crab Bank was originally formed with the placement of dredged material in the 1950s that has eroded significantly over time due to wave action, tropical storms and hurricanes (Appendix 2). In the early 2000s, Crab Bank was approximately 23 acres; in 2017, Hurricane Irma washed away most of the remaining high ground, removing any opportunity for nesting birds at this Seabird Sanctuary in 2018.

Prior to Hurricane Irma, the island served as a predator-free refuge for nesting, resting and foraging for a variety of State Wildlife Action Plan (SWAP) conservation priority species. Although all species may not nest on the island each year, examples of species that have nested on the island include: brown pelican, royal tern, sandwich tern, gull-billed tern, black skimmer, laughing gull, American oystercatcher, willet, snowy egret and tricolored heron (Appendix 3). Besides providing nesting habitat, the sanctuary provides winter loafing and feeding habitat for numerous species, including large flocks of shorebirds that roost on the island at night.

Although Crab Bank is a small island, it has large potential to provide needed habitat for birds that are in decline. Of the 65 seabird, shorebird, and wading bird species, collectively known as waterbirds, that utilize South Carolina's coastal habitats throughout the year, 47 are listed in the SWAP as highest or high conservation concern, 3 are federally listed and 5 are state listed. Shorebirds are of highest conservation concern due to small and highly threatened global populations. Shorebird populations have shrunk by 70% across North America since 1973¹. The coast of South Carolina is the most rapidly developing area of the state and much of this is occurring along shorelines, which has the potential to decrease abundance and distribution of coastal waterbirds throughout their life cycle. In addition, increased recreational use along our shorelines further limits available nesting habitat.

¹ Munro, Margaret. "What's Killing the World's Shorebirds?" *Nature*, January 4, 2017.
<https://www.scientificamerican.com/article/what-rsquo-s-killing-the-world-rsquo-s-shorebirds/>

South Carolina provides important habitat for large numbers of seabirds, shorebirds and wading birds. Efforts to conserve birds in South Carolina will help region-wide populations rebound. Seabirds, such as pelicans, terns, skimmers and gulls gather in large groups to nest together in colonies during the breeding season. South Carolina has approximately 25% of all brown pelicans nesting on the Atlantic coast and some of the largest colonies of skimmers and terns in the Southeast. Shorebirds are some of the world's most amazing migrants. Many species nest in the arctic and sub-arctic zones of the globe and spend the winter in the Southern Hemisphere. During their travels, they stop in large groups to rest and fuel themselves to sustain their migration. South Carolina provides both migration stop-over sites for flocks of thousands of these birds and wintering grounds for birds that do not travel as far south. For example, South Carolina winters, over a third, of all American oystercatchers on the Atlantic and Gulf coasts of the United States and is the most important wintering site for this species.

As one of five seabird sanctuaries on South Carolina's Coast and as a National Audubon Society Globally Important Bird Area, Crab Bank serves as an instrumental area for seabirds and shorebirds, especially brown pelicans, skimmers and terns (Table 1). Additionally, Crab Bank serves to dissipate wave energy, thus protecting the salt marsh (Essential Fish Habitat) to its east, on the edge of the Town of Mount Pleasant. Nestled near the mouth of Shem Creek, Crab Bank is a popular wildlife viewing area, especially during nesting season, for the ecotourism outfitters, from the local Shem Creek area and the greater Charleston area, that provide paddling, paddle-boarding and recreational fishing trips (Appendix 4). One of these outfitters, Coastal Expeditions, provides educational tours via paddle trips for school groups within the Charleston area. Since 2013, 9,000 middle schoolers have paddled around Crab Bank for free, thanks to grant funding for science education. To say the community feels ownership over Crab Bank is an understatement, which is evident from the many news articles in the local paper, The Post & Courier, regarding its fate, the over 34,000 views on the "Pelicam" operated by the Coastal Conservation League (Appendix 5), and the 20 public comments during the National Environmental Policy Act (NEPA) scoping process asking for dredged material to be used to enhance the island. The opportunity to benefit the USACE Charleston Harbor Post-45 Deepening Project and the citizens of South Carolina by renourishment of Crab Bank with dredged material is a positive arrangement for all.

Table 1. Seabird Nesting Numbers for Crab Bank (2009-2017)

Species	2009	2010	2011	2012	2013	2014	2015	2016	2017
Black Skimmer	51	112	53	79	8	10	50	33	0
Brown Pelican	907	74	722	463	304	517	647	360	93
Gull-Billed Tern	13	89	42	0	62	0	9	0	0
Royal Tern	1466	1032	2661	1581	1140	1337	1677	1630	1955
Sandwich Tern	6	0	320	475	347	240	603	297	20

3. Proposed Project Description

Construction of the project would include a one-time placement of approximately 660,000 cubic yards of dredged material at Crab Bank to create a total of 80 acres of island, with approximately 28 acres above mean high water available for nesting brown pelicans. After the initial construction, neither the USACE nor SCDNR will be obligated to perform any additional renourishment of Crab Bank. SCDNR will continue to manage Crab Bank for birds as a Heritage Preserve and Seabird Sanctuary.

The recommended plan, if implemented, must be constructed simultaneously with the deepening and widening of the Lower Harbor as a part of the Post-45 project, currently planned to start in the second quarter of federal fiscal year 2019. A clamshell dredge or a cutterhead pipeline dredge will be used to excavate the material which would then be transported via pipeline and discharged on a designated placement area on Crab Bank. The material placement will be in a non-uniform pattern to allow for greater topographic complexity and therefore greater habitat diversity. Island height will range between 6.5' (roughly 1' above mean high tide) and 10' mean lower low water. Shore-based mechanical equipment will be required to build temporary containment berms and spread the placed material.

4. Non-federal Sponsor & Contributors

Crab Bank beneficial placement is a project within the CAP 204 program that could be cost shared; SCDNR has committed to be the non-federal sponsor. Additionally, the renourishment of Crab Bank is also expected to receive contributions toward the non-federal share through the Coastal Bird Conservation Program, which is currently being supported by: Audubon South Carolina, the Coastal Conservation League, Coastal Expeditions, Ducks Unlimited, the South Carolina Aquarium and the South Carolina Wildlife Federation.

Over the last few years, SCDNR has worked closely with the USACE during the environmental review process on the Charleston Harbor Post-45 Deepening Project. As a part of that process, SCDNR requested that Crab Bank be considered as an option for the beneficial use of dredged material. However, following analysis, the renourishment of Crab Bank was not the least cost alternative for the dredged material. Due to interest expressed by SCDNR, local ecotourism outfitters from Shem Creek and various conservation organizations, the USACE Charleston District pursued, with SCDNR agreeing to be the non-Federal Sponsor, an opportunity to cost-share the renourishment of Crab Bank under Section 204 of the Continuing Authorities Program. A draft Feasibility Study has been completed and it is our understanding that it awaits final approvals from the South Atlantic District and USACE Headquarters.

The cost-share on this project has been estimated at a little over a million dollars for SCDNR as the non-Federal Sponsor. Knowing that the non-federal share could increase following design and with the construction estimates, SCDNR determined that we could not continue down this path alone and fortunately a group of conservation-minded individuals had already begun to gather to “Save Crab Bank.” Working with this group of interested organizations, including Audubon South Carolina, the Coastal Conservation League, Coastal Expeditions and others, SCDNR established a new program designated as the Coastal Bird Conservation Program under the Nongame and Natural Areas Trust Fund (SC Code of Laws §50-1-280). This program will establish a means for SCDNR and supporting organizations to collect donations to support the renourishment of Crab Bank and other coastal bird conservation efforts.

However, we understand the timeline to dredge Charleston Harbor and the group’s ability to raise the needed funds may not coincide. Therefore, SCDNR believes that our best opportunity to support the protection of Crab Bank, an important seabird sanctuary, is to seek funding for our proposal to renourish Crab Bank under Section 1122 of the Water Resources Development Act’s pilot program.

5. USACE Water Resources Development Project with Proposed Beneficial Use

USACE Charleston District Charleston Post-45 Harbor Deepening

6. Project Costs

Draft Estimated Implementation Costs

Total Costs:	\$3,984,000
Federal:	\$2,589,000
Non-Fed:	\$1,394,000

7. Benefits of the Project

The coast of South Carolina is the most rapidly developing area of the state and much of this is occurring along shorelines, which has the potential to decrease abundance and distribution of coastal water birds throughout their life cycle. In addition, increased recreational use along our shorelines further limits available nesting habitat. The use of dredged material to renourish Crab Bank would enhance and prolong the existence of this important refuge for coastal birds to loaf and forage, as well as nesting habitat for brown pelicans, several species of terns, and other wading birds.

Additionally, Crab Bank serves to dissipate wave energy, thus protecting the salt marsh (Essential Fish Habitat) to its east, on the edge of the Town of Mount Pleasant.

Due to its prominent location in the Charleston Harbor and its proximity to Shem Creek, Crab Bank plays a vital role in the ecotourism economy. In a recent study on “The Economic Contribution of Natural Resources to South Carolina’s Economy” published by Clemson University, coastal tourism brought in \$9 billion per year to South Carolina.

Although going ashore Crab Bank is prohibited to protect the birds, it provides an opportunity for seabirds to be observed from the water without disturbance to nesting activities and behaviors. The island’s proximity to the mouth of Shem Creek and its sheltered location in Charleston Harbor make it a safe destination for kayakers launching on nearby Shem Creek. This accessibility provides a unique opportunity for scientific study of seabird ecology. Many graduate projects have focused on understanding seabird ecology by viewing nesting activity via kayaks at Crab Bank. This type of research is essential for conservation of seabirds, yet can be difficult, costly, and disruptive to bird behavior at more remote sites.

Crab Bank is a popular wildlife viewing area, especially during nesting season, for the Shem Creek ecotourism outfitters that provide paddling, paddle-boarding and recreational fishing trips. One of these outfitters, Coastal Expeditions, provides educational tours via paddle trips for school groups in the Charleston area. Since 2013, 9,000 middle schoolers have paddled around Crab Bank for free, thanks to grant funding for science education.

The visibility and access to view wildlife at Crab Bank provides an opportunity for the connectivity between man and the environment, fostering stewardship and a desire to protect these coastal resources.

8. Local Support

As one of five seabird sanctuaries on South Carolina’s Coast and as a National Audubon Society Globally Important Bird Area, Crab Bank serves as an instrumental area for seabirds and shorebirds, especially brown pelicans, skimmers and terns. Situated at the mouth of Shem Creek, just to the west of the Town of Mount Pleasant, across the Harbor from James Island to the south and the City of Charleston to the east, and an additional location of interest for visitors to the SC Aquarium, Patriot’s Point and both Fort Sumter and Moultrie, Crab Bank is an iconic symbol of Charleston Harbor.

Avid and amateur birders, recreational and commercial fishermen, paddle boarders, kayakers and other recreationist enjoy the sights of bird activity on this island. Nestled near the mouth of Shem Creek, Crab Bank is a popular wildlife viewing area, especially during nesting season, for the Shem Creek ecotourism outfitters that provide paddling, paddle-boarding and recreational fishing trips (Appendix 4). One of these outfitters, Coastal Expeditions, provides educational tours via paddle trips for school groups within the Charleston area. Since 2013, 9,000 middle schoolers have paddled around Crab Bank for free, thanks to grant funding for science education.

To say the community feels ownership over Crab Bank is an understatement, which is evident by:

- the many news articles in the local paper, The Post & Courier (Appendix 6), regarding its fate;
- the over 34,000 views on the “Pelicam²” (Appendix 5); and
- the 20 public comments during the National Environmental Policy Act (NEPA) scoping process asking for dredged material to be used to enhance the island.

² This camera was made possible by a partnership and determination of many community members including the Coastal Conservation League, Charleston Harbor Pilots, Coastal Expeditions, Stasmayer, Mount Pleasant Radio and SCDNR. The pelicam video was accessible on the internet and live on a monitor at the South Carolina Aquarium in Charleston.

The opportunity to benefit the USACE Charleston Harbor Post-45 Deepening Project and the citizens of South Carolina by renourishment of Crab Bank with dredged material is a positive arrangement for all.

Local support includes: Audubon South Carolina, Coastal Expeditions, Coastal Conservation League, SC Aquarium, Ducks Unlimited, Charleston Harbor Pilots, Mount Pleasant Radio, South Carolina Wildlife Federation, The Nature Conservancy (Appendix 7 Letters of Support)

9. Non-federal Financial Ability

SCDNR is the state agency charged by state law with the management, protection, and enhancement of wildlife, fisheries, and marine resources in South Carolina. Funding sources for the agency includes state appropriated funds, license revenue, Heritage Trust funds, and federal grants.

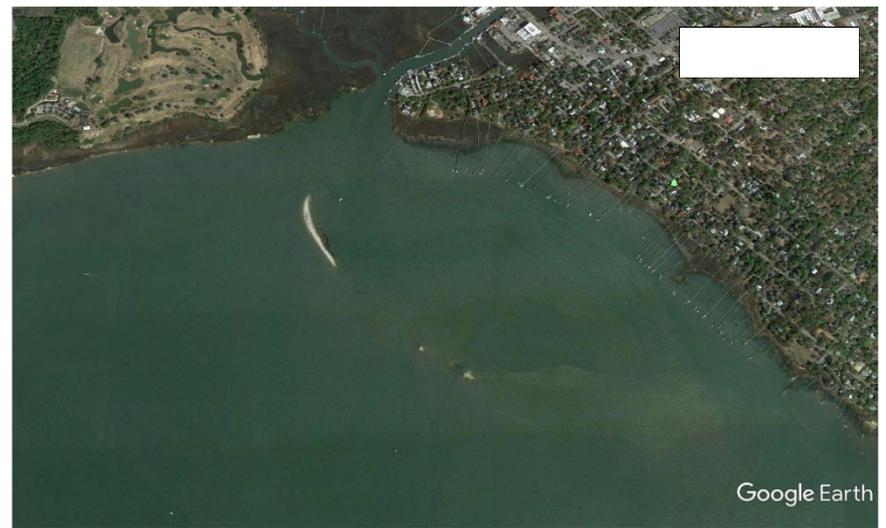
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Appendix 1. Location of Crab Bank



Crab Bank Location

Appendix 2. Erosion of Crab Bank



Appendix 3. Nesting Terns & Brown Pelicans 2015



Appendix 4. Crab Bank View with Shem Creek



Appendix 5. Pelicam View

Crab Bank- image from the Pelicam after severe erosion <http://coastalconservationleague.org/pelicam/>

