

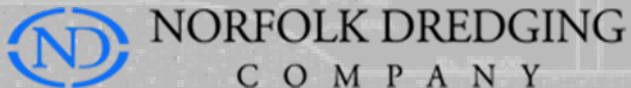
IF YOU BUILD IT, THEY WILL COME – RESTORATION OF THE CRAB BANK SEABIRD SANCTUARY IN CHARLESTON HARBOR

2022 WEDA Eastern Chapter Meeting
Albany, NY
October 18-20, 2022

Alan Shirey, USACE
Lorianne Riggin, SCDNR
Felicia Sanders, SCDNR
Janet Thibault, SCDNR
Mike Bushery, Norfolk Dredging

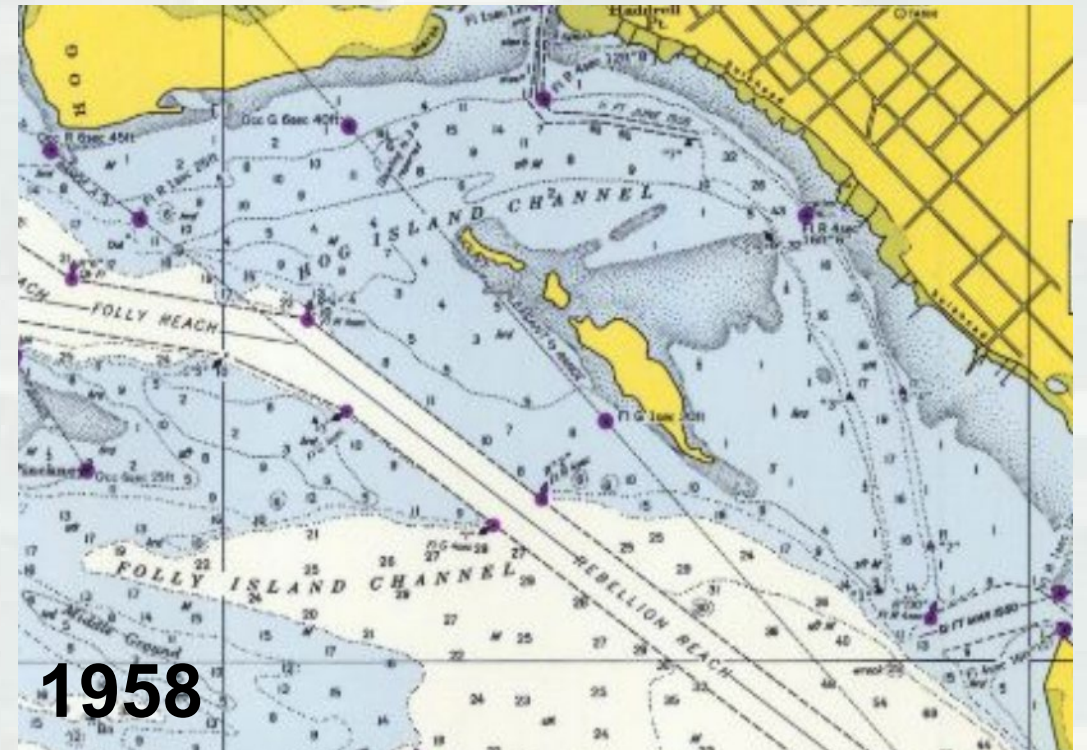
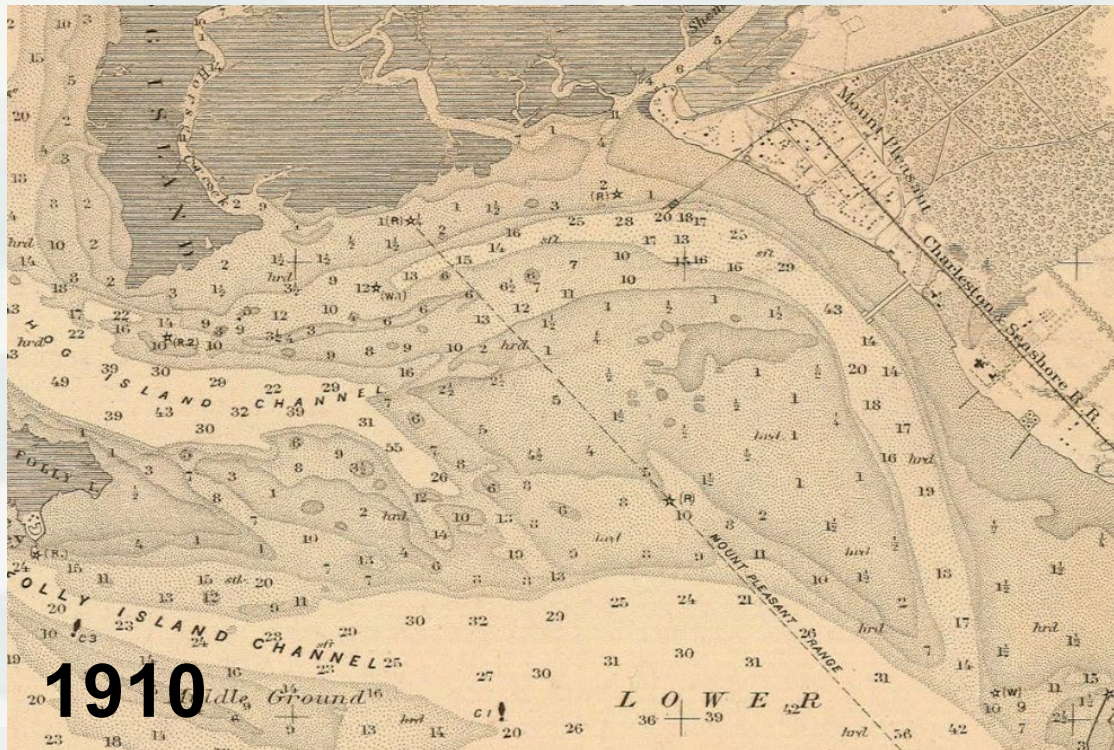


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CRAB BANK HISTORY

Crab Bank was originally created as an inner-harbor dredge spoil area by the USACE in the early-to-mid 1900s.



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COMPANY



CRAB BANK SEABIRD SANCTUARY HISTORY

- Supported waterbird nesting since at least 1979
- Designated as a SCDNR Heritage Preserve in 1999
- Designated as a SCDNR Seabird Sanctuary in 2006
 - ▶ One of five seabird sanctuaries in South Carolina
- >15 species of nesting waterbirds, up to 5000 nests/year
- All nesting ceased in 2017 after a series of tropical cyclones in 2015, 2016, and 2017



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Prior to 2017, Crab Bank was an eco-tourism attraction generating an estimated \$5.18 million (2019 dollars) economic benefit to local economy.



CRAB BANK RESTORATION PROJECT HISTORY

- 2011: Crab Bank identified as a beneficial use alternative for dredged material during the Charleston Harbor Post 45 Deepening Project feasibility study.
- 2016: SCDNR requested evaluation of several beneficial use alternatives, including Crab Bank, under the Continuing Authorities Program (CAP) Section 204 – Beneficial Use of Dredge Material.
- 2018: Feasibility Report Approved in May; Cost share agreement signed with SCDNR in July (65%/35% cost share).

Charleston Harbor Section 204 Beneficial Use of Dredged Material Charleston,
South Carolina



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Charleston Harbor Section 204

*Beneficial Use of Dredged Material, Charleston, South
Carolina*

Detailed Project Report



March 2018

CRAB BANK RESTORATION PROJECT FUND RAISING

- Original cost estimate exceeded SCDNR's available funding for the 35% cost share match
- SCDNR established the South Carolina Coastal Bird Conservation program as fundraising vehicle
- SCDNR, conservation organizations, local businesses, and public raised necessary funds
- Final bids lower than expected
- Excess funds will support coastal bird conservation efforts throughout South Carolina



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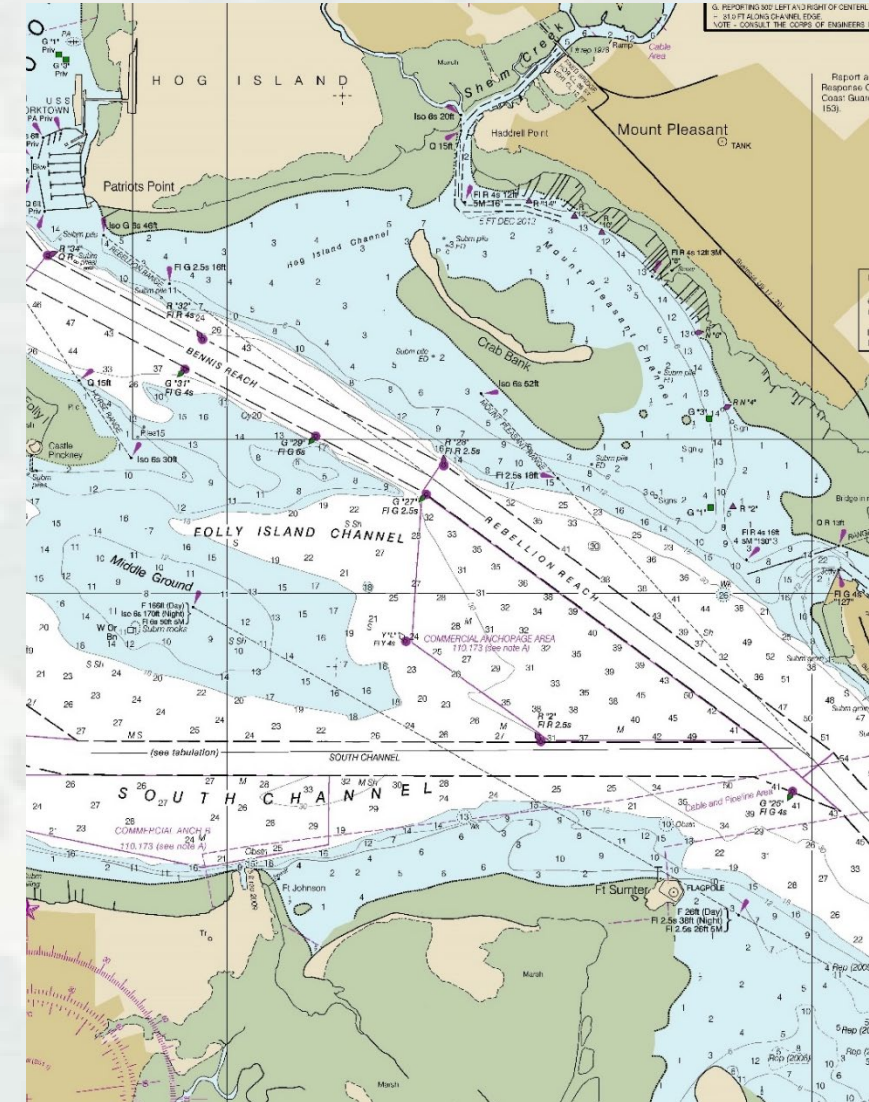


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CRAB BANK RESTORATION PROJECT SUMMARY

- Construction began September 14, 2021
- Construction completed November 5, 2021
- Cost: ~\$377,000 (65% Fed/35% non-Fed)
- ~660,000 cy of sandy material
- Targeted elevation of -7.5' MLLW to -10.5' MLLW
- ~32 acres of nesting habitat for numerous species of colonial waterbirds (brown pelicans, black skimmers, terns, American oystercatchers)



14 Sept 2021



Photo courtesy of Norfolk Dredging Company

15 Sept 2021



Land Ho!!

Photo courtesy of Norfolk Dredging Company

18 Sept 2021



Photo courtesy of Norfolk Dredging Company

2 Oct 2021



Photo courtesy of Norfolk Dredging Company

21 Oct 2021



Photo courtesy of Norfolk Dredging Company

CRAB BANK LESSONS LEARNED

- This was not a typical beach nourishment project
 - ▶ Mixture of shell hash, silt/clay, and clean sand was desirable
 - ▶ More y-valves needed
 - ▶ Very topo survey intensive
 - ▶ Perform final grading to achieve undulating surface at end of project
- Fine-grained sediments hard to contain (but that was OK!)
 - ▶ Remnants of existing Crab Bank island helped as a backstop
- Partnerships are important
 - ▶ Template change after award
 - ▶ Discarded military munitions



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Birds coming soon in 2022 and beyond

2022 CRAB BANK NESTING SUMMARY

- Over 500 waterbird nests laid in 2022
 - ▶ First nest documented on April 1st
 - ▶ 283 black skimmer nests (33% of nests in SC)
 - ▶ 192 gull-billed tern nests (75% of nests in SC)
 - ▶ 107 least tern nests (11% of nests in SC)
 - ▶ 11 American oystercatcher nests (3 pairs nested twice)
- High nesting success & high hatching success
- Many non-nesting waterbirds used Crab Bank for resting/roosting



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CRAB BANK FUTURE

- Expect nesting to return to historical numbers
- Monthly waterbird surveys (International Shorebird Survey protocol)
- Annual nesting census
- Annual vegetation surveys
- Return of the “Pelicam” (<https://www.youtube.com/watch?v=vaBUi934Owg>)
- S.C. Coastal Bird Conservation program initiatives
 - ▶ Restore & protect habitat
 - ▶ Increase nesting success
 - ▶ Increase community awareness
 - ▶ Increase knowledge



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IF YOU VISIT

- Crab Bank is completely closed to the public from March 15 – October 15 during nesting and breeding season.
- From October 16 – March 14 public access on Crab Bank is allowed only in the intertidal zone.
- Dogs and camping are prohibited year-round on Crab Bank.

Questions?

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Photo credit: Adam Boozer