

**Fish America Foundation
Jockey's Ridge State Park Shoreline Restoration Project, FAF-22-01
Final Report
August 2023**

The Coastal Federation is grateful for the support of the Fish America Foundation to install an adaptive management strategy at Jockey's Ridge State Park to stabilize the eroding shoreline, provide coastal habitat and protect water quality, educate and engage the public, and provide safe access for over 1.9 million visitors to this public resource. The project is now complete and working beautifully to stabilize the park's estuarine shoreline, creating new fish habitat and improving water quality along the Roanoke Sound. A detailed comprehensive summary of progress is included below.



Offshore granite sill installed and newly planted marsh grasses along the shoreline at Jockey's Ridge State Park, August 2023.

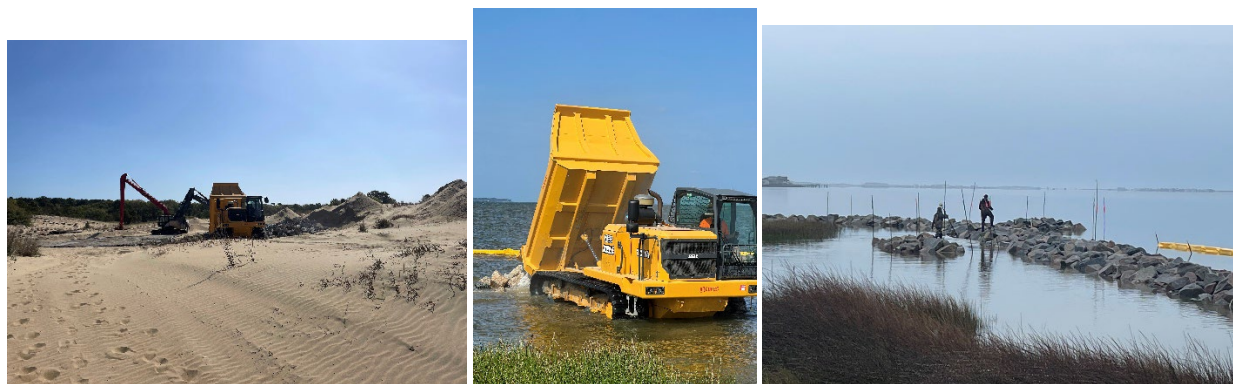
Shoreline Stabilization at Jockey's Ridge State Park

During the project the Federation evaluated two adaptive management options to address the severe erosion at the site and selected the option to cap the existing oyster sill with granite to protect the shoreline and minimize disturbance during construction. Construction drawings, construction preparation work, and construction bidding were completed on schedule. The final restoration design included 1,059 linear feet of granite sill to protect 834 linear feet of the park's shoreline (109 feet longer than originally proposed). Those designs are enclosed.

Permit application documents for the project were completed on schedule and submitted to the N.C. Division of Coastal Management in May 2022. Unfortunately, the permit application was not received by the Division; the permit was resubmitted and received by the Division in September 2022. The permitting delay impacted the project timeline, pushing the project back several months.

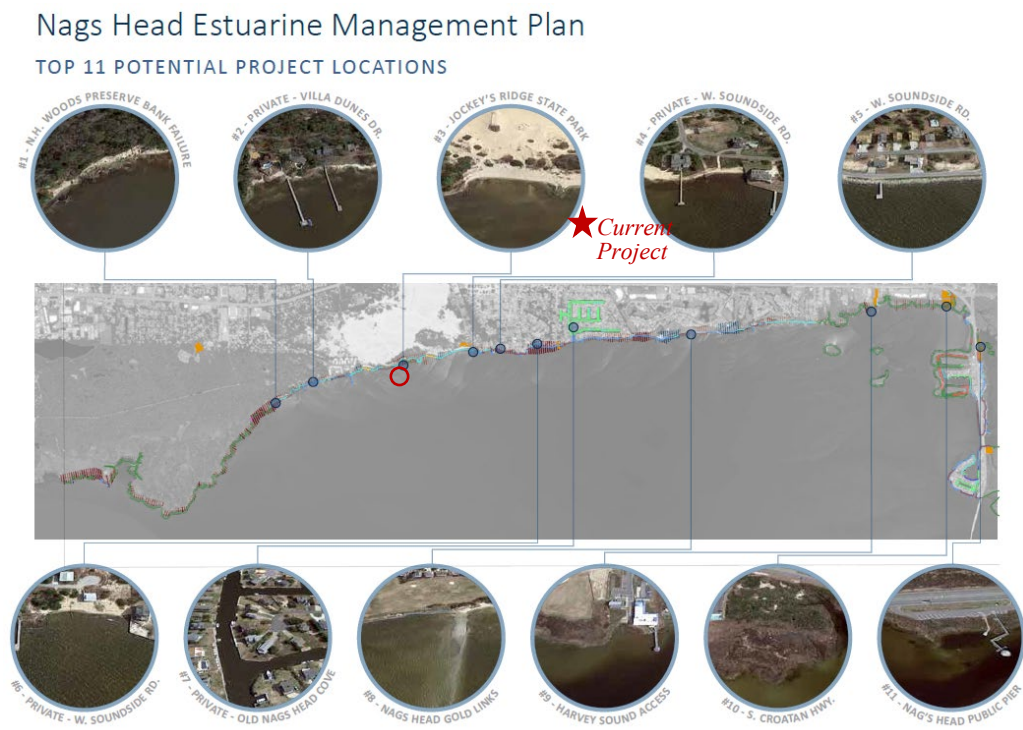
The Federation and State Parks received the DWR 401 Certification #20180415 v 2 on January 11, 2023 (Attachment A), the DCM CAMA Major Permit #29-23 (Attachment B) was received a month later on February 22, 2023. The Federation and State park requested a construction moratorium wavier to allow work to occur in spring 2023. The waiver was received on March 15, 2023 (Attachment C) allowing work to occur as long as proper turbidity curtains were used to protect against potential SAV impacts (until June 1, 2023). The Federation and Park received the final verification they needed to proceed with construction, when the Corps of Engineers provided their General Permit Verification 2022-02251 (Attachment D) on April 13, 2023. With all permits in and approvals necessary, the Federation entered into a construction contract with Total Marine Services on April 13, 2023 (Attachment E).

Total Marine Services immediately began to mobilize and secure the necessary materials for construction. They began receiving materials to the site on April 18. Construction began the last week of April. The crews worked quickly and completed all rock work by May 12. They spent a few days cleaning up and removing equipment. All-in-all the project took five weeks of active construction to complete.



Construction lasted approximately 5 weeks in Spring 2023 and included the use of several long arm excavators, a track dump truck, ATV and turbidity booms.

This project is already inspiring plans for similar habitat restoration projects in the area. The Town of Nags Head developed an Estuarine Shoreline Management Plan that includes Jockey's Ridge State Park as one of eleven priority areas to explore for additional shoreline protection. The superintendent of Jockey's Ridge also publicly expressed her desired to prioritize additional areas of the park for shoreline protection and restoration. The final shoreline management plan was completed in December 2022 and can be accessed here: <https://www.nagsheadnc.gov/1057/Estuarine-Shoreline-Management-Plan>.



Education and Outreach

In 2022, the Federation used the shoreline and park for educational and outreach activities, including two field trips with River City Community Development Corporation YouthBuild and with the Northeast Academy for Aerospace and Advanced Technologies, where students learned about living shorelines and explore the park.

The Federation also included the project in local presentations on the Outer Banks, at more than ten events during the grant period. The Federation enjoyed working with the Archer Malmo team to capture footage for a promotional video about the shoreline restoration work in June 2022. The final video can be downloaded here

https://app.wipster.io/Review/CeT8QQAxvR8tybSoqsE_7oM6MRvr0lxfbS_m5IZgmOdImGOGXA.

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In addition to the Federation's outreach, Jockey's Ridge State Park hosted ten kayak trips each summer to educate visitors about the estuarine environment, reaching over 200 participants. The kayak trips visit the project site on the estuarine side of the park. Jockey's Ridge State Park received a total of 1.8 million visitors in 2021, and 1.9 million visitors in 2022, a large number of which access the estuarine shoreline via the trail to the site. During the grant period, the Park completed a remodel of its Visitor's Center; the new center includes an interactive display about the park and includes information about this project for all visitors to experience.



The River City Community Development Corporation YouthBuild program participated in a day-long field trip to Jockey's Ridge State Park in May 2022 to learn about the park, estuaries and living shorelines.



Students from the Northeastern Academy of Aerospace and Advanced Technologies visit Jockey's Ridge State Park in early June 2022.

In Summer 2023, the Federation organized several marsh grass plantings along the shoreline. Three days of plantings with staff and volunteers resulted in approximately 4,000 salt marsh cordgrass plugs (*S. alteriniflorus*) being planted along the shoreline. A summer camp with students from the Coastal Studies Institute helped to plant marsh grasses on June 13th and a

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group of adult volunteers and local interns assisted with planting grasses on June 14th. A site visit with staff from the park system including the coastal biologist and permit officer as well as the superintendent from the park was held on July 25th. Park staff was pleased with the revamped living shoreline project and talked about the need and desire to possibly extend the effort to protect more of the park's one-mile shoreline in future projects.



Campers from the Coastal Studies Institute helped in planting marsh grasses along the shoreline at Jockey's Ridge State Park in June 2023.



Members of the public and local Friends of Jockey's Ridge Group assisted with a marsh grass planting at Jockey's Ridge in June 2023. Middle picture shows nearly 3,000 marsh grasses waiting to be planted, stored in baby pools.

Several social media posts and press releases were issued to announce the construction of the living shoreline project. Press release ran on April 20, 2023 letting the public know to expect construction along the shoreline.

https://www.carolinacoastonline.com/news-times/news/article_427e71ce-df7b-11ed-a176-93db979ce8b9.html

A ribbon cutting ceremony to open the newly re-designed visitor's center was held on May 25, 2023 the living shoreline project was commented on during the event.

A social media post (reel) featuring the park living shoreline work was issued on June 3, 2023. Additional social media stories were issued on planting days in June. The Federation developed a "Story from the Coast" which aired on WRAL in June 2023.

<https://youtu.be/QfhMwxOPCW8?feature=shared>

The Federation designed a sign to educate shoreline visitors about the project and the project partners.

Jockey's Ridge State Park Living Shoreline

Jockey's Ridge State Park and the North Carolina Coastal Federation installed this living shoreline. The living shoreline includes an offshore granite sill that acts as a speed bump for waves while protecting the marsh and shoreline from erosion. Additional marsh grasses were planted with the help of volunteers to create important habitats for the fish and other creatures that live along the shore. Their roots also help hold the shoreline in place. This living shoreline provides habitat, protects water quality, reduces erosion, and serves as an outdoor classroom for education programs. You can learn more about living shorelines at nccoast.org.

EROSION



RESTORATION



PROTECTION



This project was made possible thanks to the generous support from: Camp Younts Foundation, The Stephenson Pope Babcock Foundation, and these partners



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