



# Constructing Oyster Castle Reefs for Increased Resilience at Chincoteague National Wildlife Refuge

Kevin S. Holcomb<sup>1</sup> & Bowdoin W. Lusk<sup>2</sup>

<sup>1</sup>U.S. Fish & Wildlife Service; <sup>2</sup>The Nature Conservancy

## Project Overview

The U.S. Fish and Wildlife Service, The Nature Conservancy, and Virginia Marine Resources Commission, constructed three living shorelines and two-and-a-half acres of oyster reefs, above mean low water, that will:

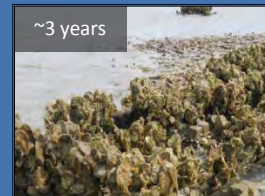
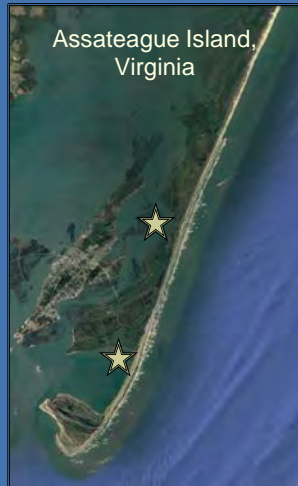
- increase resiliency of saltmarsh habitat and adjacent infrastructure to withstand future storms
- provide ecosystem services such as nutrient removal, uptake of sediments, water filtration, increased water quality and increased biomass, and habitat for other marine organisms

## Project Outcomes

- constructed 3,550 linear feet of living shoreline, totaling 13,750 oyster castles at two sites:
  - ✓ Little Tom's Cove/Beach Road (1,400')
  - ✓ Assateague Bay/Service Road (2,150')
- constructed 2.5 acres of oyster reef composed of dredged fossil oyster/clam shell in Tom's Cove
- engaged volunteers and citizen scientists
- successful media outreach and interpretation
- created a living demonstration area for visitors to witness coastal resilience in action

## Next Step

- oyster reefs will be assessed and monitored annually for structural and functional parameters
  - ✓ reef areal dimensions, reef height, oyster density, and oyster size–frequency distribution
  - ✓ environmental variables: water temperature, salinity, and dissolved oxygen
- continuing the Saltmarsh Habitat & Avian Research Program (SHARP) protocols at each site to detect change in habitat and wildlife use



## Oyster Castle Layout

Each site consists of two staggered rows of 7 foot long arrays of oyster castles.



## Acknowledgements:



SeaDuce, LLC



VES Land Trust

