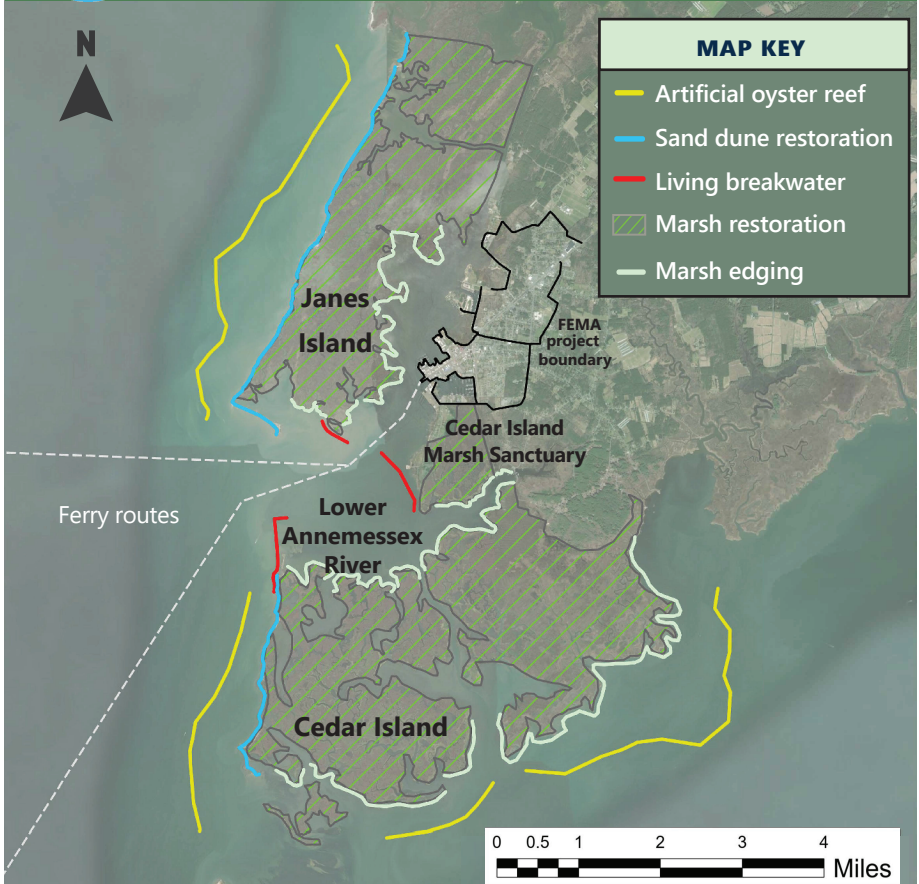




# NATURE-BASED STRATEGIES FOR COASTAL RESILIENCE

POTENTIAL IMPLEMENTATION IN CRISFIELD, MARYLAND\*



This map indicates where strategies may be most effective based on research co-produced by the EPA's Office of Research and Development (ORD) and Crisfield community.

*\*Disclaimer: The views expressed in this presentation do not necessarily represent the views or policies of the U.S. Environmental Protection Agency.*

# NATURE-BASED STRATEGIES FOR COASTAL RESILIENCE

*Crisfield's unique coastal location makes it vulnerable to flooding, storm events, higher tides, sinking land and erosion. To support Crisfield's resilience goals of protecting infrastructure, enhancing recreation, and growing business and jobs, EPA's ORD is co-producing research and offering educational training and leadership opportunities for members of the Crisfield community.*



## Artificial Oyster Reefs

Rocks or oyster shell bags offshore create artificial reefs that break up incoming wave energy headed towards Crisfield. They can also make new habitat for oysters which support aquaculture and serve as natural filters for cleaner water.

## Sand Dune Restoration

Sand dunes act as natural protection against storm surges. Raising and vegetating existing dunes would prevent sand loss and erosion, help decrease water heights of incoming storms before they reach Crisfield's shores and increase habitat for wildlife.



## Living Breakwaters

Living breakwaters extend above the water's surface to obstruct waves. Calm areas behind breakwaters also create habitat for fish and crab of importance to Crisfield's seafood industry and recreational fishing.

## Marsh Restoration

Salt marshes are central components of healthy and resilient coastal ecosystems. Sediment placement, vegetation plantings and edge protection can help marshes slow wave energy and decrease flooding and erosion, while attracting tourists and Crisfielders looking to hunt, fish and birdwatch in these areas.

