

Enhancing Resilience on Maryland's Deal Island

Project Location

Chesapeake Bay Maryland National Estuarine Research Reserve, Maryland

Project Lead

Sasha Land, Chesapeake Bay Maryland Reserve
Sasha.Land@maryland.gov

Targeted End Users and Products

- [Project overview](#)
- [Project final report](#)
- [Stakeholder engagement process](#)

Project Partners

- [Chesapeake Bay Maryland Reserve](#)
- [Maryland Department of Natural Resources](#)
- [Maryland Coastal Bays Program](#)
- [Smithsonian Environmental Research Center](#)
- [University of Maryland](#)

About the Science Collaborative

The National Estuarine Research Reserve System's Science Collaborative supports collaborative research that addresses coastal management problems important to the reserves. Learn more at www.nerrs.noaa.gov.

Overview

Maryland's coastal marshlands are under siege from rising sea levels and historic land use practices, such as intensive wetland ditching. When the marshlands go they take vital services with them, such as protection from storm surge and flooding. While there is an urgent need to address this problem, decision-makers lack the collaborative partnerships and science-based information needed to develop and apply effective management solutions. A team from the Chesapeake Bay Maryland reserve and the University of Maryland helped address this need by developing a strong regional stakeholder network focused on coastal resilience and by integrating economic, anthropological, and ecological research to help these stakeholders understand how different management practices will impact marsh and community resilience on the state's Deal Island Peninsula.

Project Benefits

- Established robust partnerships between local, state, and regional decision-makers and developed a broadly transferable stakeholder engagement process for optimizing and implementing strategies to restore and conserve marshes.
- Improved local understanding of the importance of marshes and their value to surrounding communities.
- Enhanced scientific understanding of ditch-drained marsh restoration techniques in the Chesapeake Bay. Working with the Maryland Department of Natural Resources, the team filled marsh ditches to restore wetland hydrology and established marsh monitoring infrastructure and protocols that have positioned Deal Island Peninsula to become a climate change sentinel site.
- An improved awareness of how understanding private and public heritage can promote community identity, environmental awareness of marshlands and a sense of belonging on the peninsula.

Project Approach

An interdisciplinary team of researchers from the Chesapeake Bay Maryland reserve and the University of Maryland partnered with government agencies, coastal managers, and local communities to increase marsh and community resilience in the face of sea level rise on the Deal Island Peninsula.

- **Partnerships and Restoration:** The team partnered with local organizations to restore ditch-drained marshes on the Deal Island Peninsula. This restoration project served as a case study for conducting the necessary science, developing partnerships, and testing a stakeholder-driven process for honing management strategies that protect the resilience of marshlands and the communities that depend on them.
- **Stakeholder Engagement:** Using interviews, surveys, and workshops, the team identified which ecosystem services provided by marshlands were most highly valued by local communities and explored how current management practices are impacting the marshes' ability to provide those services. The team engaged local communities through experiential learning and a community conversation series. They also worked with small citizen working groups to implement focused research initiatives on local heritage, flooding, and marsh restoration.

