



# Protecting and restoring healthy coastal habitats

Fall 2020

Sea Grant programs work across institutional barriers to help coastal communities and businesses engage with federal, state and local entities on important coastal issues.



The U.S. manages millions of square miles of coastal ecosystems that support recreational, commercial and subsistence activities. Sea Grant uses a combination of research, education and technology transfer to protect and restore healthy coastal habitats. The work of Sea Grant programs has helped position the U.S. as the world leader in the wise-use of its coastal resources to ensure continued ecosystem and public well-being.

**842**  
communities implemented sustainable environmental & economic development practices

**1,825,793**  
acres of habitat restored or protected

**268**  
ecosystem-based management tools developed

## Sea Grant facilitates the use of ecosystem-based management

More information at [seagrants.noaa.gov/Our-Work/HCE](https://seagrants.noaa.gov/Our-Work/HCE)

Residents, natural resource managers and businesses look to Sea Grant for the tools and knowledge they need to maintain healthy coastal ecosystems. One way Sea Grant helps is by supporting ecosystem-based management. This method maintains ecosystems in a healthy, productive and resilient condition by focusing on the ecosystem as a whole, rather than just one species or area of concern. For example, tools such as multi-species stock assessment of fisheries can be used to understand how management strategies or other stressors affect the whole community of fish, instead of just one species.

**3,993**  
resource managers used ecosystem-based management approaches

### Meet Jessica Brown, Stormwater Specialist, Georgia Sea Grant



As the Stormwater Specialist at Georgia Sea Grant, Jessica works with coastal communities and decision makers to implement cutting-edge management strategies that reduce flooding and treat polluted runoff.

As part of this work, she empowers communities by providing the tools and knowledge they need to take action.



\*Metrics reported in Summer 2020 for work conducted February 1, 2019 to January 31, 2020  
Graphic credit: Slidesgo

## Sea Grant bolsters coastal ecosystems and communities against sea-level rise

Hawai'i Sea Grant is playing an integral role in the assessment and preparation for sea level rise in Hawai'i. They were a key contributor to the 2017 Hawai'i Sea Level Rise Vulnerability and Adaptation Report and online mapping tool, which has been used by decision makers and featured in the Fourth National Climate Assessment. Based on

information from the report and tool, the Mayor of Honolulu released a directive requiring all city departments to consider sea-level rise risks in all future planning and decision-making. In 2018, Hawai'i Sea Grant continued their work on sea-level rise by collaborating with county planners to research, develop, and propose new tools and policies for adaptive responses, including beach restoration and shoreline development.



Hawai'i Sea Grant is working to protect coastal ecosystems and communities that are at risk from sea level rise. Credit: Hawai'i Sea Grant



Educating recreational boaters about cleaning equipment after use is a key way that Sea Grant prevents the spread of invasive species. Credit: Michigan Sea Grant

The Great Lakes Sea Grant Network works with communities and tourists to protect coastal ecosystems from invasive species. The programs have developed an aquatic invasive species outreach campaign. Alongside informational signage, identification guides, and social media posts, they conduct outreach at boat shows, marinas, youth programs, and workshops. In 2018 alone, Minnesota, Ohio, and Wisconsin Sea Grant interacted directly with over 24,000 people, inspected over 8600 watercraft and 422 boaters pledged to stop the spread of invasive species. New York and Pennsylvania Sea Grant reached new audiences through technology: New York's educational webinar reached over 500 people across the U.S. and Pennsylvania released a new app to identify and report invasive species.

## Sea Grant prevents the spread of aquatic invasive species in the Great Lakes

### Sea Grant guides Ocean Acidification Action Plan creation

California Sea Grant supported a fellowship to assist with the creation of a 10-year vision for addressing ocean acidification and create a series of steps to work towards the vision. The fellow collaborated with a variety of stakeholders to create the plan, which is designed to integrate into public agency operations and inform decision makers. The plan helps anticipate, mitigate and adapt to the negative impacts caused by ocean acidification. So far, it has already been showcased at international conferences and has been used as a model by the state of Oregon.

### Sea Grant citizen scientists slow spread of invasive crab

Washington Sea Grant's citizen science group Crab Team detected the beginning of a European green crab invasion in 2016 and has managed its potential spread since then. The crabs have devastated fisheries and ecosystems along the eastern U.S. coast for years. In 2017, the team increased monitoring sites to 54, trained 225 volunteers and 25 partners, and set over 14,000 traps. In 2018, they continued efforts and partnered with the Makah Tribe for further trapping and removal. A social media and public relations campaign was used to support the effort.

### Sea Grant tool maximizes benefits of oyster restoration

North Carolina Sea Grant-funded researchers developed a tool that guides oyster restoration efforts to maximize their effectiveness. Oyster reefs are key to the health of many coastal ecosystems because they provide valuable ecosystem services. But, the magnitude of the ecosystem services provided varies depending on an oyster reef's location. The model can be used to identify areas that maximize water filtration benefits, best sustain oyster populations or a balance between the two. Several groups have used the tool, including The Nature Conservancy and NOAA.