

# Maine Sea Grant Strategic Plan 2018–2021

## 21<sup>st</sup> Century Marine Science for Maine People



### Introduction

Maine Sea Grant's mission is to support the responsible use and conservation of coastal resources in order to create thriving coastal communities and ecosystems. Sea Grant has been supporting marine science for Maine people since 1971.

The Maine Sea Grant College Program is a state-federal partnership based at the University of Maine and sponsored by the National Oceanic and Atmospheric Administration (NOAA) and the State of Maine. Part of a network of 33 Sea Grant programs throughout the coastal and Great Lakes states and territories, Maine Sea Grant supports integrated scientific research, outreach, and education programs. This plan is aligned with the 2018-2021 National Sea Grant College Program Strategic Plan.

A twenty-five-member Policy Advisory Committee (PAC) provides input to strategic planning, programmatic direction, and funding decisions. Members are nominated by committee, with an effort to seek a balanced representation of the interests and expertise of Maine's geographically distinct and socially, culturally, and economically diverse coastal communities and stakeholder groups. They work closely with Maine Sea Grant staff to evaluate opportunities and gaps in research, outreach, programming, and evaluation.





## Research

We support scientific research that is relevant to the issues and needs of coastal communities in Maine and the northern Gulf of Maine region. Research in our program is accomplished in three ways, which are often connected: 1) competitive research grants from Maine Sea Grant funds and separate national NOAA Sea Grant initiatives; 2) smaller program development grants; and 3) research conducted by our Marine Extension Team (MET). We serve as unbiased liaisons between research institutions throughout the state and our diverse constituents and stakeholders of all ages, sharing critical research findings with our many audiences in the forms that serve each best.

## Extension

In partnership with University of Maine Cooperative Extension, place-based members of the Marine Extension Team focus on issues of concern to Maine's coastal communities, connecting Maine people with current knowledge and expertise, while ensuring that Sea Grant supports research that is relevant to Maine people. From the Wells National Estuarine Research Reserve in southern Maine to the Eastport waterfront at America's eastern edge, MET staff live and work in the communities they serve. A fundamental feature of Maine Sea Grant, the MET makes us unique within the state, as no other coastal or marine-focused organization in Maine has such a reach, or such a long history in Maine's coastal communities. Extension staff work closely with the Communications Team to address information needs.

## Education

Our formal and informal education and communication programs foster an environmentally literate public who can use scientific knowledge to identify questions, draw evidence-based conclusions, and make decisions about issues that affect them. We support development of a workforce skilled in disciplines critical Maine's coast. Our programs include place-based participatory research opportunities and citizen science programs that link volunteers with local scientists and resource managers around locally relevant issues or themes.

## Strategic Planning Process

This strategic plan reflects input collected in 2015 and 2016 from stakeholders, the Maine Sea Grant Policy Advisory Committee (PAC), and staff through meetings, informal surveys, and review of the National and Maine 2014-2017 strategic plans. Staff attended two full-day strategic planning sessions, in sharing individual thinking and reviewing stakeholder input. After several reviews by staff, PAC members, and national Sea Grant representatives, the plan was revised and approved by the National Sea Grant Office in February 2017. We will be evaluated against this plan in 2022.





## FOCUS AREA: Healthy Coastal Ecosystems

### ***Why is Maine Sea Grant concerned?***

Maine's diverse coastal and marine ecosystems support commercial fisheries and tourism, quality of life and local economies. Compared to other Eastern states, Maine's population is small and our coastal ecosystems are relatively intact, but change is occurring, sometimes at unprecedented rates.

### ***What do we want to see? Our vision for Maine.***

People will understand the links between healthy ecosystems and resilient communities, and take action to ensure the long-term health of coastal resources.

### ***How do we get there? What are our objectives?***

- Protect and restore coastal ecosystem health and function.
- Protect and improve coastal water quality.
- Protect and improve habitat for native sea-run fish.

### ***How will we measure success?***

- Sea Grant tools, technologies, and information are used to manage, protect, or restore ecosystems.
- Communities are engaged in research, outreach, or education related to sea-run fish.
- Communities upgrade water infrastructure or implement best management practices for water and wastewater.
- Coastal waters experience water quality improvements.
- Coastal or marine ecosystems are protected or restored.





## FOCUS AREA: Resilient Communities

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### ***Why is Maine Sea Grant concerned?***

Social, demographic, and economic changes in coastal communities increase stress on people and the coastal environment, creating conflict and eroding well-being and Maine's natural and cultural heritage. To be resilient to changing environmental and social conditions, communities need skills, knowledge, and resources to plan for, cope with, and thrive into the future.

### ***What do we want to see? Our vision for Maine.***

Maine's coastal communities will draw upon their assets to adapt to, prepare for, address, and recover from the environmental, economic, and social/cultural vulnerabilities they have identified and prioritized.

### ***How do we get there? What are our objectives?***

- Enhance public decision-making processes.
- Assist communities in their efforts to value and preserve coastal and marine heritage.
- Identify and prioritize economic opportunities and vulnerabilities.
- Facilitate collaboration across sectors, e.g. seafood, tourism, and fisheries heritage sectors, for mutually beneficial action.
- Support outreach and community engagement efforts related to offshore wind and tidal renewable energy development.

### ***How will we measure success?***

- Communities, partnerships, and businesses use Sea Grant training or resources to support diverse, healthy economies, and sustain traditional working waterfronts or other natural or cultural assets.
- Training improves community engagement or facilitation of public decision-making processes.
- Constituents use Sea Grant resources or training to identify, share, or preserve historical assets, fisheries heritage, or sense of place.
- Communities address coastal access and working waterfronts; evaluate assets and opportunities in order to plan for their preferred futures; realized sustainable recreation and tourism products and opportunities; and/or evaluate and implement alternative ocean-based energy strategies.
- Communities, initiatives, and businesses engage in cultural heritage and tourism development opportunities.





## FOCUS AREA: Safe & Sustainable Seafood

### ***Why is Maine Sea Grant concerned?***

Maine's coastal economy depends heavily on the lobster fishery. Because of the overwhelming importance of fisheries to the state, a sustainable future demands diversification along the working waterfront: what we catch or grow, how to broaden income opportunities for those in the seafood industry, widening the geographic scope of working waterfronts, and expanding opportunities for Maine citizens to enter the seafood industry. We also seek to address general seafood knowledge of residents and visitors.

### ***What do we want to see? Our vision for Maine.***

Maine's wild harvest and aquaculture sectors and the communities that depend on them are economically viable and environmentally sustainable.

### ***How do we get there? What are our objectives?***

- Provide opportunities for wild harvesters and aquaculture producers to strengthen or diversify their seafood-related businesses.
- Support applied research initiatives to diversify commercial seafood species through aquaculture and harvesting innovation.
- Research and extension services improve coastal and marine resource monitoring and management, and inform community, regional, and statewide management planning processes.
- Communities identify and prioritize opportunities and vulnerabilities related to marine business and infrastructure.
- Consumers have access to science-based information about Maine seafood.

### ***How will we measure success?***

- Seafood industry members expand and/or diversify their businesses, products, collaborations, and/or sources of income.
- Maine seafood consumers use Sea Grant information or resources to help guide their seafood choices.
- Legislation, policy, or management changes result from Sea Grant activities.





## FOCUS AREA: Preparing for a Changing Climate

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### ***Why is Maine Sea Grant concerned?***

Coastal residents and towns need strategies to prepare for and adapt to climate change and its local effects on extreme weather events, sea-level rise, shoreline erosion, marine and coastal resources, and coastal flooding. Ocean acidification, increasing ocean water temperatures, and other climate-related changes in Maine's coastal ecosystems threaten Maine's valuable wild and culture fisheries, and the marine heritage and cultural identity of many coastal communities.

### ***What do we want to see? Our vision for Maine.***

Communities understand the risks and opportunities that may result from a changing climate, and develop effective strategies that enhance preparedness for and resilience to uncertainty and change in environmental conditions.

### ***How do we get there? What are our objectives?***

- Support efforts to understand, communicate, and respond to climate-related changes.
- Research, risk assessment, and planning address the impacts of sea-level rise, extreme storm events, flooding, and erosion.
- Enhanced and expanded climate literacy and citizen science initiatives increase understanding of the expected impacts of climate change.



### ***How will we measure success?***

- Communities implement climate-related planning, risk assessment, environmental monitoring, or formal or informal education.
- Citizen scientists observe and record climate-related phenology or coastal erosion data through Sea Grant-supported programs.
- Seafood industry members apply knowledge gained as a result of Sea Grant activities.





## FOCUS AREA: Environmental Literacy

### ***Why is Maine Sea Grant concerned?***

Sea Grant staff work in collaboration with formal and informal education institutions, researchers, and others throughout the state, region, and nation to provide professional training, participatory research opportunities, citizen science programs, informal education, and free-choice learning opportunities.

### ***What do we want to see? Our vision for Maine.***

An environmentally literate public can use scientific knowledge to identify questions, draw evidence-based conclusions, and make decisions about issues that affect the ecological health, economic vitality, and resilience of Maine's coastal communities and ocean-related resources.

### ***How do we get there? What are our objectives?***

- Provide science-based information related to issues affecting Maine's coastal communities and ecosystems.
- Facilitate use of Sea Grant resources and other scientific information to support evidence-based learning.
- Support participation in citizen science and applied research activities.
- Facilitate engagement in free-choice learning and informal education activities.

### ***How will we measure success?***

- Sea Grant facilitated curricula are used by educators.
- The public participates in informal education programs.
- Sea Grant-trained citizens collect and submit environmental data that are used to improve resource management and advance environmental research.
- Educators use Sea Grant resources to engage students in evidence-based learning.





## FOCUS AREA: Workforce Development

### **Why is Maine Sea Grant concerned?**

Graduate and undergraduate students working with faculty on a wide range of marine-related research projects need support for assistantships, travel, and equipment. Graduate students interested in marine-related careers have fellowship opportunities through Sea Grant and NOAA. Sea Grant training and education programs address workforce needs throughout coastal Maine.

### **What do we want to see? Our vision for Maine.**

Maine has a diverse workforce skilled in disciplines critical to the ecological health, economic vitality, and resilience of Maine's coastal communities and ocean-related resources.

### **How do we get there? What are our objectives?**

- Support academic and professional training opportunities in marine-related fields.
- Broaden academic and professional networks through cross-sector engagement.
- Recruit diverse applicants for Sea Grant opportunities.

### **How will we measure success?**

- Sea Grant-supported graduates become employed in a career related to their degree within two years of graduation.
- Coastal and marine industry members develop new skills and diversify their businesses, products, collaborations, and/or sources of income.



## OUR APPROACH

### **Maine Sea Grant will:**

- Support scientific research that addresses the needs of coastal communities and ecosystems in Maine.
- Serve as a liaison between researchers and coastal communities.
- Serve as a trusted source and honest broker of science-based information.
- Support educational opportunities that increase environmental literacy and build a skilled workforce prepared to serve the needs of Maine's communities and marine resources.
- Serve as objective facilitators to support communities attempting to address complex or controversial issues.
- Provide organizational development and training to promote effective collaboration on ocean and coastal initiatives.
- Leverage partnerships and resources to reflect the diversity and depth of expertise available to address multi-faceted marine issues.
- Facilitate access to state, regional, and national networks, services, and resources provided by the National Sea Grant Program, and state, federal, and private partners.

### **A commitment to responsiveness**

As always, this strategic plan is a living document. A hallmark of the National Sea Grant Program is its ability to respond to new and emerging coastal issues around the country, and we will retain our flexibility to adapt as new priorities arise here in Maine over the next four years.

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