

Maine Sea Grant Strategic Plan 2024–2027





Introduction

The coastal and marine ecosystems of the Gulf of Maine have supported vibrant communities, economies, and cultures for thousands of years, beginning with indigenous people. They provide inspiration for expressions and celebrations of art, culture, and heritage, and support millions of residents and visitors' quality of life and prosperity, including commercial and recreational fisheries and aquaculture, and other marine and coastal industries. Maine Sea Grant envisions thriving coastal communities and ecosystems supported by an engaged, knowledgeable public and informed decision-makers. Our mission is *to support the responsible use and conservation of coastal resources to sustain diverse, thriving coastal communities and ecosystems.*

With such a broad mission comes broad responsibility to help identify and address both challenges and opportunities for our communities and ecosystems. Our efforts require a wide variety of partnerships and sources of knowledge to navigate the impacts of ecological, economic, and social changes at all scales. Advancing our mission must ultimately help increase resilience to change of all kinds and help turn challenges into opportunities.

As part of a network of 34 Sea Grant programs throughout the coastal and Great Lakes states and territories, Maine Sea Grant integrates scientific research, outreach, and education programs. To ensure continued relevance, responsiveness, and accountability to those we serve, all 34 Sea Grant programs review and revise their strategic plans every four years and report impacts and accomplishments annually to a set of common National Sea Grant Program performance measures and metrics. Maine Sea Grant's proposed activities for the 2024–2027 period reflect our intent to continue supporting innovative applied research, and to provide evidence-based information and extension, education, and community engagement efforts that meet our coastal communities' needs and priorities as they face economic, environmental, and cultural transitions in the 21st century.

Maine Sea Grant's core values are essential and enduring tenets that guide our actions. Our core values support a culture of integrity and engagement, with the intent to maintain our role as a trusted source of evidence-based information among all people with whom we live and work. We begin with listening and learning from our many partners and other interested parties about their needs and assets. All of our work centers the following values: Accountability, Collaboration, Connectedness, Objectivity, Service, and Sustainability.

A twenty-five member Program Advisory Committee provides guidance for strategic planning, programmatic direction, and funding decisions. Members are nominated by committee, with an effort to seek a balanced representation of the interests of Maine's coastal communities and other parties with expertise related to ocean and coastal issues. Members are appointed by the University of Maine President and serve renewable three-year terms. They work closely with Maine Sea Grant staff to evaluate opportunities and gaps in research and programming, set priorities, and provide guidance and feedback on each new strategic plan.

All our work fosters the development of collaborative exchange of information, wherein questions from the field can inform research and education activities, and outreach is continually adapted to the needs of those we serve. To achieve the outcomes listed in this plan, we work with a wide range of specific audiences, depending on the topic or issue at hand. While coastal communities are the focus of our work, we also recognize the need to work at a broader, regional scale to address some issues such as water quality, fisheries and aquaculture research and development, and coastal storm preparedness. Solutions to these challenges often arise from interdependence and collaboration among coastal and inland communities, or coordinated actions on a larger scale.

Vision

Maine Sea Grant envisions diverse, thriving coastal communities and ecosystems supported by an engaged, environmentally literate public and informed decision-makers.

Mission

Our mission is to support the responsible use and conservation of coastal resources to sustain diverse, thriving coastal communities and ecosystems.

Core values

Maine Sea Grant's core values are essential and enduring tenets that guide our actions. Our core values support a culture of integrity and inclusivity, with the intent to maintain our role as a trusted source of evidence-based information among all people with whom we live and work. We begin with listening and learning from our diverse partners and other interested parties about their needs and assets. We strive to center the following values in all we do:

- **Accountability** – We strive to deliver our research, extension, education, and communications services fairly, and with integrity, and develop and maintain trust through our actions. We operate with honesty and transparency and work to develop and adapt our capacity and resources to meet the needs of our constituents.
- **Collaboration** – We seek and nurture partnerships that amplify our impact. We approach our partnerships with responsiveness and respect and strive to include all perspectives and types of knowledge. In our work, we begin with listening and facilitate communication among a wide range of interests.
- **Connectedness** – We recognize and value land-sea and socio-ecological connectivity, and the complexity of relationships between terrestrial and marine/coastal ecosystems, including humans, and human dependence on healthy ecosystems. We work to address linkages between ecosystem health and human health, watersheds, weather and atmospheric processes, migration, nutrient and hydrologic cycling, and social interactions.
- **Objectivity** – We maintain a commitment to objective research and programming that avoids bias and advocacy in the development and delivery of information, tools, and services.
- **Service** – We work with our national, state, and local partners to understand and address complex challenges and seize new opportunities using multiple sources of knowledge and expertise. We draw upon resources and expertise from NOAA, the University of Maine, and community, state, national, and tribal networks to help meet the needs of those we serve. We strive to make sense of changes and trends and address emerging challenges with innovative engagement approaches and collaborations.
- **Sustainability** – We practice and promote efforts to enhance the health and function of marine and coastal ecosystems, both for the sake of these ecosystems and to increase resilience within the communities they support. We build capacity for applied research, responsive monitoring and management, stewardship, and planning to identify and support ecologically and economically sustainable practices.

How we work

Building partnerships: Maine Sea Grant strives to leverage its capacity, expertise, and resources at every opportunity, and we rarely enter into any project or program without numerous partners. We carefully consider our own role and capacity to be effective and define the scope of our engagement, with formal or informal partnership agreements in each project proposal or contract. Our capacity to develop and support multidisciplinary and often unconventional partnerships enables us to leverage resources and expertise that would not otherwise be available and facilitate far greater outcomes than we could accomplish on our own.

Working across functional areas: Sea Grant programs integrate efforts across five functional areas: research, extension, education, communications, and management. These represent different ways we collaborate with partners and other interested parties to generate, transmit, translate, and integrate knowledge in support of our mission, creating the backbone of our work.

Research. Maine Sea Grant supports scientific research that is relevant to the issues and needs of coastal communities in Maine and the Gulf of Maine region. Research in our program is accomplished in three ways, which are often interconnected: 1) competitive research grants from Maine Sea Grant, the Northeast Sea Grant Consortium, and the National Sea Grant Program; 2) program development grants to investigators in the state; and 3) research activities conducted by our Marine Extension Team (MET). Maine Sea Grant staff cultivate effective working relationships with the research community by staying engaged with research and scholarship relevant to each of our extension, education, and communications efforts. We take seriously our responsibility to work at the intersection of research institutions, resource managers, and the multifaceted needs and interests of our many constituents. We are a non-advocacy organization and strive to facilitate communication and collaboration. We support and share information and resources related to our strategic goals with our many audiences in 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 our coastal communities. They extend current knowledge and expertise to constituents, helping to ensure that Maine Sea Grant supports research that is relevant to their needs, and integrating their needs and ideas into the research enterprise. As a fundamental feature of Maine Sea Grant, the MET makes us unique within the state. From the Piscataqua River to Passamaquoddy Bay, MET extension staff live in the communities they serve. No other coastal or marine focused organization in Maine has such reach, or such a long history in Maine's coastal communities. Our formal partnership with University of Maine Cooperative Extension has been called a model for the National Sea Grant Network.

Education. Our formal and nonformal education activities support the ecological and economic health, vitality, and resilience of Maine's coastal communities and marine-related resources by: 1) fostering a knowledgeable public who can use scientific information to identify questions, draw evidence-based conclusions, and make decisions about issues that affect them and 2) supporting the development of a workforce skilled in science, technology, engineering, art, mathematics, and other critical disciplines. We strive to reach audiences across the age and socioeconomic spectrums, serve their needs, address their questions, and work together to identify new questions. Our place-based participatory research opportunities and community science programs link volunteers with local scientists and resource managers around locally relevant issues. Our staff engage undergraduate and graduate students through mentorship, internship, and fellowship programs, and professional development opportunities. We also provide training programs that support professionals and students seeking workforce development opportunities in marine and coastal sectors, including education, industry, resource management, and conservation-related fields. We provide K-12 audiences with authentic, hands-on learning opportunities that connect students and educators to real-world marine science, as well as educational and career pathways.

Communications. A communications team with skills in science communication, graphic design, web design and programming, writing, and editing supports all elements of the program, with a long-term goal of enhancing environmental literacy among public audiences. Our communications strategies and products are developed with our research, extension, and education programs and in partnership with constituents and the research community, who help identify information needs of target audiences. In addition to communicating the results of Sea Grant-funded research and other research related to our strategic goals, the communications team produces independent projects to advance the Maine Sea Grant mission.

Management. A six-member management team facilitates coordination and co-management across our functional areas and cultivates a culture of collaborative leadership. The team discusses programmatic initiatives, considers proposals for program development funds (twice per year), provides strategic direction, and cultivates opportunities for program growth, new partnerships, and initiatives in emerging issue areas, frequently engaging the rest of the team to share their expertise and provide input to decisions. Five members of the management team have direct staff supervisory responsibilities. They work closely with their respective supervisees, one another, and the program's fiscal officer as needed to manage and support the team, provide staff development opportunities, and fulfill associated planning and fiscal responsibilities.

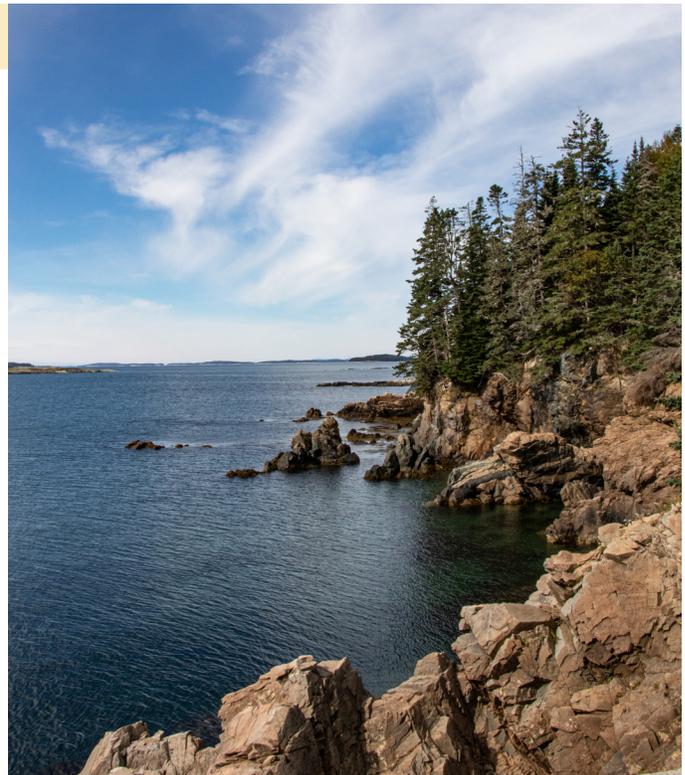
Northeast Regional Collaboration. Maine Sea Grant is one of seven Northeast Sea Grant programs that together form the Northeast Sea Grant Consortium, which extends from Maine to New York. This partnership fosters collaborative efforts around issues and problems that are best addressed at a regional scale, funding research projects and extension activities that address issues of regional importance. In recent years, the Consortium has invited regional research proposals related to addressing coastal community concerns around ocean renewable energy development, ocean acidification, and coastal resilience. Semi-annual Northeast Regional Sea Grant meetings provide a venue for funded research and extension projects to share their results and further develop multi-state collaborative initiatives. In addition, the Northeast Region Sea Grant Programs continue to collaborate on initiatives and opportunities provided through the National Sea Grant Office, such as the American Lobster Initiative, which includes both research and extension programming.

Strategic Focus Areas

A national framework of focus areas describes the National Sea Grant Network's overarching priorities based on national and regional needs and initiatives. The focus areas provide a structure to organize relevant accomplishments, impacts, and outcomes with identified priorities. Each university-based Sea Grant program contributes to the national focus areas and goals. Program strategies are aligned with the national network, but engagement in specific issues and areas of work is determined after consultation with local and regional constituents and advisors. This iterative and flexible planning process, as outlined above, allows for local level input to identify and develop methods to address emerging issues while ensuring alignment with the national strategic plan. National strategic focus areas are *Sustainable Fisheries and Aquaculture*; *Healthy Coastal Ecosystems*; *Resilient Communities and Economies*; and *Environmental Literacy and Workforce Development*. Maine Sea Grant uses these same major Focus Areas with simplified names. Each is described below.



Coastal Ecosystems



Maine's extensive coastline varies from sand dune systems and barrier beaches in the south, to rocky peninsulas and islands in the central portion of the state, to the steep cliffs and rugged shores Downeast. Large bays, salt marshes, mud flats, beaches, rocky intertidal zones, rivers, and streams support commercial fisheries and tourism, all of which depend on clean water, fresh and salt, plentiful marine resources, and diverse wildlife (Lichter et al. 2006). Our coastal ecosystems are relatively intact, a situation that presents challenges, e.g., preserv-

ing ecosystem function, connectivity, health, and beauty, as well as for innovative management and restoration (e.g., McClenachan et al. 2015). We use NOAA Fisheries Ecosystems Program's definition of ecosystems, which recognizes humans as an integral part of ecosystems, as well as the connectivity between earth's terrestrial, marine, freshwater, and atmospheric systems.

Healthy ecosystems are the foundation for the future of the people in the region. Maine Sea Grant relies on many partnerships, cross-sector collaborations, and

sources of information to stay abreast of issues and challenges that affect coastal ecosystems and connected inland areas, with changing ocean and coastal conditions centered as a priority issue in all of our ecosystems work. We strive to ensure that all phases of our research and programming take potential benefits to and impacts on vulnerable species and all people into account, and we collaborate with our constituents and partners to develop resilience strategies that match their particular needs and capacities (e.g., Chief et al. 2014).

Our coastal ecosystems work is designed to inform and improve state and local ecosystem management efforts through research, monitoring, facilitation, and science

communication. Our research investments in this focus area are as varied as the ecosystems in the state, with emphasis on applied research that has the potential to address complex challenges. Water quality, ecosystem change, species-specific research, habitat monitoring and restoration, and efforts to identify and protect ecosystem services are major priorities for our work in this focus area.

Maine Sea Grant's primary partners and constituents in this focus area include local, state, national, and tribal researchers, resource managers, and conservation organizations, citizens of all ages, formal and nonformal educators and students, municipal officials, and private businesses.

Strategic Goal, Actions, and Desired Outcomes

GOAL: Coastal ecosystems are healthy, connected, and functional. People understand the links between ecosystem function and resilient communities and support ecosystem stewardship activities.

ACTION 1: Support research and extension services to ensure coastal ecosystem connectivity and function.

Desired Outcome: Improved coastal ecosystem health, connectivity, and function.

ACTION 2: Develop and support activities that protect and improve the quality and availability of water resources that supply coastal ecosystems.

Desired Outcome: Improved water quality for coastal communities and ecosystems.

ACTION 3: Conduct and support community-informed applied research and extension services to protect and improve habitat for marine, coastal, and diadromous species.

Desired Outcome: Improved or protected habitat for marine, coastal, and diadromous species.

ACTION 4: Identify and protect ecosystem services to strengthen coastal community resilience to changes in ocean and coastal ecosystems.

Desired Outcome: Ecosystem services strengthen resilience of coastal ecosystems and communities.

ACTION 5: Develop and expand relationships with tribal communities and other populations to identify shared goals and engage multiple sources of knowledge in efforts to protect and improve ecosystem health.

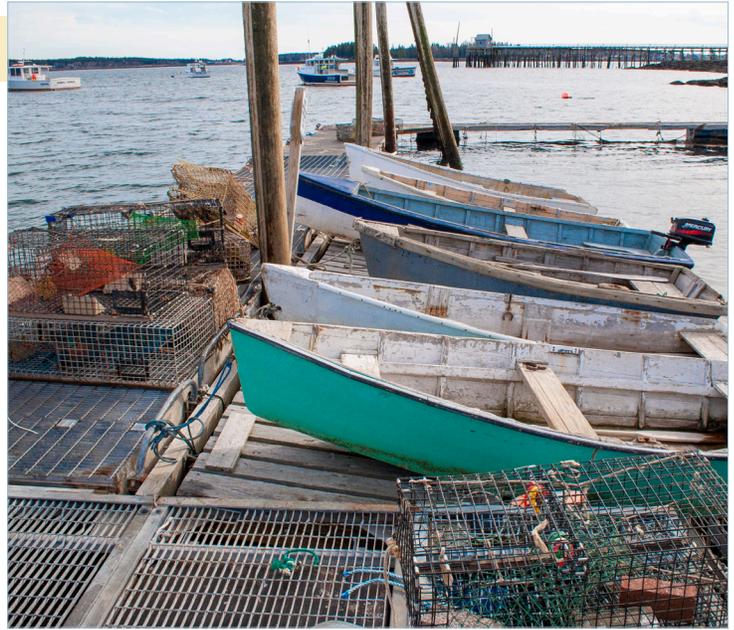
Desired Outcome: Expanded and strengthened efforts to protect and improve coastal ecosystem health.



Communities and Economies

Since Maine's first communities and ways of life were established by indigenous people, coastal communities have relied on the seasonal bounty of our diverse ecosystems for their survival as well as cultural and spiritual heritage, recreation, and economic prosperity. Maine's shoreline stretches for 3,500 miles, including islands, yet only about 12% supports public shoreline access (Duff 2016). The vast majority is held in private ownership, including much of the infrastructure that supports marine and coastal industries, making working waterfronts and other infrastructure vulnerable to conversion to residential and other private uses. The entire coast, including connected inland watersheds, is subject to increasingly frequent extreme weather events, sea-level rise, and other impacts of changing ocean conditions (Sweet et al. 2019). With changing demographics and highly valued coastal properties, year-round residents in Maine's coastal communities often struggle to find housing, afford their rent or mortgage and property taxes, and pay their bills in the face of increasing costs (Gleason et al. 2021; Mitch 2022). Growth and change in coastal industries and other economic drivers have also changed workforce needs and job opportunities (Council on Foreign Relations 2018; Cha et al. 2022; Haines et al. 2020).

Demographic changes have accelerated over the past three decades, often resulting in conflict around shared uses of coastal assets, increased demands on the coastal environment, and impacts on populations with more limited resources and options. Community-engaged planning and management approaches are essential to provide flexible frameworks for mutually agreed-upon



shared uses of public assets. Efforts to support multi-disciplinary collaborations, build capacity for facilitation and community engagement, and increase interested participants' access to multiple forms of information, educational resources, and decision-making processes are essential to build trust and avoid or manage conflicts as new challenges or opportunities emerge.

Maine Sea Grant's primary partners and constituents in this focus area are connected with every aspect of life in our coastal communities. They include year-round and seasonal residents and visitors who represent a wide variety of backgrounds and perspectives, and the businesses, industries, and nonprofit and cultural organizations and agencies that drive and support their economies and social and cultural activities.

Strategic Goal, Actions, and Desired Outcomes

GOAL: Coastal communities are prepared to address current and emerging environmental, economic, and social/cultural challenges and opportunities using relevant scientific, local, and traditional knowledge and assets.

ACTION 1: Support efforts to understand and center community needs and assets as the foundation for activities that build resilience to change.

Desired Outcome: Communities strategically build resilience, leveraging local assets and external support.

ACTION 2: Support research and extension services that facilitate efforts to identify, prioritize, and address challenges and opportunities related to changing environmental, economic, and social/cultural conditions.

Desired Outcome: Communities respond to transformational change in environmental, economic, and social/cultural conditions in ways that meet the needs of their members.

ACTION 3: Create and support opportunities for all community members to have a voice in decisions that impact their social, economic, and environmental well-being, ensuring that community members have shared access to these opportunities.

Desired Outcome: All community members are represented and empowered in local decision-making.

ACTION 4: Facilitate collaboration across sectors to engage multiple sources of knowledge and experience, enable mutually beneficial action, and support shared use of coastal assets and infrastructure.

Desired Outcome: Cross-sector collaborations yield increased capacity to share multiple sources of knowledge and access to coastal assets and infrastructure.

ACTION 5: Assist coastal communities in activities that value and celebrate cultural heritage, including fisheries, working waterfronts, and other unique assets related to the sea.

Desired Outcome: Community events and celebrations value and celebrate cultural heritage.

Fisheries and Aquaculture

Fisheries, aquaculture, and their associated processing, retail, technology, and tourism businesses support diverse economic and cultural activities that help to define the region's identity, support the livelihoods of people, and draw millions of visitors each year. The pressures of climate change affect current and future conditions for fisheries and aquaculture, from warming waters, acidification, and introduction of new species, to the impacts of sea level rise and extreme storms on coastal infrastructure (Cha et al. 2022; Maine Climate Council 2020; Fernandez et al. 2020). For these reasons, an important focus of the fisheries and aquaculture work undertaken by Maine Sea Grant is related to sustainable diversification along the working waterfront. This includes adding to what we catch or grow, broadening income opportunities for those in the seafood industry, preserving and expanding the scope of working waterfront activity, and developing new opportunities for people from diverse backgrounds to acquire the knowledge, skills, and expertise to enter the seafood industry or associated fields.

Maine Sea Grant's research, extension, and community engagement work in this area is focused on developing and supporting sustainable and adaptive management; engaging harvesters, sea farmers, and community partners in science, monitoring, and management; and supporting efforts to help communities and industry realize direct benefits from their engagement. We work with our partners to enhance these opportunities for all of our constituents, including vulnerable and historically marginalized communities. We support efforts to create new or value-added products and facilitate collaboration across the seafood and non-food commercial sectors, and associated parts of the marine workforce and supply chains. Our work in aquaculture includes development of new culture techniques and target species, applied research, technical support, and efforts to facilitate communication among conservation groups, resource managers, consumers, adjacent landowners, and other community groups.

Because of the far-reaching influence of fisheries and aquaculture in Maine's economy and culture (Maine DECD 2019; Springuel 2019), much of our work in this focus area also addresses seafood-related education, professional training, and science communication needs. We



support opportunities for fishermen and aquaculture professionals at all stages of their careers, ranging from educational programming and workforce development for secondary and post-secondary students, to targeted workshops and technical assistance for marine business owners and those looking to enter the workforce. To ensure a resilient and sustainable future for Maine's fishing and aquaculture activities, we support opportunities for both residents and visitors to learn about seafood, its dependence on coastal ecosystems, and the broader marine economy: how it is produced, processed and distributed, as well as the management and science that guide the seafood industry and influence related cultural, recreational, and tourism activities and career opportunities. Programming in other focus areas also addresses ecosystem health, economic and community resilience, climate impacts, and education and workforce issues related to seafood.

Maine Sea Grant's primary partners and constituents in this focus area include professionals working in all aspects of fisheries, aquaculture and associated supply chains, and marine resource management agencies, researchers, community organizations, industry associations, educational institutions, and seafood consumers.

Strategic Goal, Actions, and Desired Outcomes

GOAL: Fisheries and aquaculture, their associated value chains, and the communities that depend on them are economically viable, resilient to change, and ecologically sustainable.

ACTION 1: Support applied research and extension services that enable responsive coastal and marine fisheries/aquaculture governance, including monitoring and management, and engagement of constituents in all levels of management and planning processes.

Desired Outcome: Constituents representing a wide variety of backgrounds and perspectives contribute to coastal and marine governance by engaging in efforts to create responsive management, monitoring, and planning processes.

ACTION 2: Create and support opportunities for participation in fisheries and aquaculture research, industry, and management by interested or affected parties.

Desired Outcome: Community members have opportunities to participate in or access fisheries and aquaculture research, industry, and management.

ACTION 3: Develop and support opportunities for harvesters and aquaculture producers to enter, strengthen, or diversify seafood-related businesses and supply chains and collaborate to support environmentally and economically sustainable practices and increase resilience to change.

Desired Outcome: Expanded and/or diversified fisheries and aquaculture businesses, products, collaborations, and sources of income that are sustainable and resilient.

ACTION 4: Support applied research and extension services to diversify commercial seafood species, products, and consumer markets through innovations in aquaculture and wild-fishery harvesting methods, post-harvest processing, and collaborative marketing and distribution initiatives.

Desired Outcome: Diversified and improved seafood value chains.

ACTION 5: Increase access to and exchange of scientific, traditional, and cultural information about fisheries, aquaculture, and the changing environments on which coastal and marine species depend.

Desired Outcome: Sources of scientific, traditional, and cultural information about fisheries, aquaculture and the changing environments on which they depend are readily accessible and used in research, education, community engagement, and science communication.

Environmental Literacy and Workforce Development

Identifying workable and sustainable solutions that address the complex challenges facing coastal ecosystems, communities and economies, now and into the future, necessitates a level of environmental literacy, innovation, and relevant, high-quality workforce training to overcome those challenges. For example, mitigating the urgent impacts of changing ocean and coastal conditions requires an ability to understand nuanced technical information from a wide variety of sources (McKenzie 2021; Fernandez et al. 2020). To be effective, we must create new or enhanced career pathways and training opportunities that are available and serve all stages and sectors of the existing and future workforce (Maine Climate Council, 2020; Cha et al., 2022). For example, supporting current and future workforce needs in Maine's seafood community is a high-priority action to ensure growth and greater resiliency of the sector (SEAMaine 2023). Preparing the current and next generation workforce requires: industry-relevant skills that are transferable across sectors, life skills that help workers succeed in their careers and, ultimately, strategies to increase personal and community resilience to ongoing changes.

Maine Sea Grant's work in this focus area is integrated with the issues, content, and approaches used in our other three focus areas, and covers a continually evolving range of topics. We begin with listening and learning from our constituents about their needs and assets, and work with them to co-develop programming and products. Maine Sea Grant's communications team works with our staff, partners, and constituents to produce science communication and educational materials that support our literacy and workforce programming.

Sea Grant staff provide opportunities for nonformal education, professional training, participatory research, and community science in collaboration with formal and nonformal education institutions, researchers, and public and private partner organizations. We serve as the point of contact for graduate students interested in marine-related fellowships through NOAA, and we support research and community engagement opportunities for graduate and undergraduate students working on marine and coastal topics. Maine Sea Grant also awards undergraduate student scholarships in marine science and supports students and professionals in coastal and marine fields through internships and other professional



opportunities. We provide PK-12 students and educators with hands-on learning experiences anchored in relevant science, research, and industries.

Our nonformal education activities range from public presentations, workshops, and exhibits at regional and local events to public lectures and interpretive tours. Nonformal learning opportunities include public displays at landmarks and museums and interactive 'trails' that offer information and experiences for residents and visitors. Formal science education opportunities engage PK-12 students, educators, undergraduate and graduate students in evidence-based learning, research, and monitoring. Professional training programs for adults include formal courses on a variety of topics and coordination for peer-to-peer learning communities. Our community science programs engage residents of all ages in collecting environmental data used by researchers and resource managers.

Our primary constituents in this focus area are coastal and marine professionals, PK-12 students and educators, undergraduate and graduate students in coastal and marine fields, and lifelong learners, and we partner with other organizations and educational institutions that serve each audience. While many of the other three focus area goals include topics related to environmental literacy and workforce development, we outline below the goal and objectives that strictly target environmental literacy and workforce development.

Strategic Goal, Actions, and Desired Outcomes

GOAL: An environmentally literate public and workforce that is skilled and ready to use and apply scientific, traditional, and cultural knowledge to identify questions, draw evidence-based conclusions, and address issues that affect the ecological health, economic vitality, and resilience of coastal communities and ecosystems.

ACTION 1: Support inquiry-based learning opportunities that are aligned with Science, Technology, Engineering, Arts, and Mathematics (STEAM) principles and learning standards, and with relevant sources of traditional and cultural knowledge.

Desired Outcome: Increased environmental literacy in topics related to Sea Grant focus areas.

ACTION 2: Support community science programs that engage participants of all ages and backgrounds in environmental monitoring and educational activities that increase environmental literacy and generate data that advance critical research and management efforts.

Desired Outcome: Community science data is used to inform decisions and actions in support of research, planning, and environmental management.

ACTION 3: Support research and evaluation efforts to assess science communication needs and opportunities, increase scientific and environmental literacy, and increase informed public engagement in research and management issues related to Sea Grant focus areas.

Desired Outcome: Science communication efforts are adaptive and respond to research findings and the needs of audiences served.

ACTION 4: Seek and support collaboration and engagement with partners in education and outreach programming that enhance understanding of multiple sources of knowledge and broaden participation in learning.

Desired Outcome: Varied sources of information and collaborations improve capacity to broaden participation in education and outreach programming.

ACTION 5: Increase availability and exchange of scientific, traditional, and cultural information about coastal ecosystems and issues related to Sea Grant focus areas.

Desired Outcome: Increased access to information related to Sea Grant focus area topics and improved understanding of the needs and experiences of coastal communities and others interested in or affected by Sea Grant activities.

ACTION 6: Support efforts to recruit, train, and retain a workforce that is resilient to changing conditions, responsive to evolving career paths, and serves the needs of coastal communities and ecosystems.

Desired Outcome: Sea Grant programs and participation reflect the full range of needs and people in areas we serve.

ACTION 7: Support formal and nonformal learning, mentorship, training, and professional opportunities for all ages, related to Sea Grant focus areas.

Desired Outcome: Learning and mentorship opportunities are aligned with workforce needs, resulting in expanded career pathways related to Sea Grant focus areas.

ACTION 8: Support efforts to understand and serve the workforce development needs and opportunities of Maine communities.

Desired Outcome: Maine communities have increased awareness of and access to careers and opportunities in sectors related to Sea Grant focus areas.

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National and State Performance Measures and Metrics for 2024–2027

National Performance Measures

Focus Area	Performance Measure
Coastal Ecosystems	Number of acres of coastal habitat protected, enhanced, or restored as a result of Sea Grant activities.
Coastal Ecosystems	Number of resource managers who use ecosystem-based approaches in the management of land, water, and living resources as a result of Sea Grant activities.
Communities and Economies	Number of communities that adopt/implement sustainable economic and environmental development practices and policies as a result of Sea Grant activities.
Communities and Economies	Annual number of communities that adopt/implement hazard resilience practices to prepare for and respond to/minimize coastal hazardous events.
Fisheries and Aquaculture	Number of fishers, seafood processors, aquaculture industry personnel, or seafood consumers who modify their practices using knowledge gained in fisheries sustainability and seafood safety as a result of Sea Grant activities.
Environmental Literacy and Workforce Development	Number of people (youth and adults) engaged in Sea Grant-supported nonformal education programs.
Environmental Literacy and Workforce Development	Number of Sea Grant supported graduates who become employed in a job related to their degree within two years of graduation.
Environmental Literacy and Workforce Development	Number of Sea Grant products that are used to advance environmental literacy and workforce development.
Cross-cuts all Focus Areas	Number of Sea Grant tools, technologies and information services that are used by our partners/customers to improve ecosystem-based management.
Cross-cuts all Focus Areas	Economic and societal impacts and benefits derived from Sea Grant activities (market and non-market; jobs and businesses created or sustained; patents). <i>Note: this is a 5-part measure, with the subcategories listed below collected and compiled separately.</i>
Cross-cuts all Focus Areas	Direct Economic Benefits (including market and non-market benefits)
Cross-cuts all Focus Areas	Jobs Created
Cross-cuts all Focus Areas	Jobs Sustained/Expanded
Cross-cuts all Focus Areas	Businesses Created
Cross-cuts all Focus Areas	Businesses Sustained/Expanded

State Performance Measures

Focus Area	Performance Measure
Cross-cuts all Focus Areas	Number of Sea Grant-trained citizens who collected and submitted environmental data that were used to improve resource management and advance environmental research.
Cross-cuts all Focus Areas	Number of legislation, policy, or management changes informed by Sea Grant activities.

National Performance Metrics

Sea Grant Staffing: Number of individuals and full-time equivalents (FTEs) devoted to Sea Grant

Core Funding Proposals: number and origination of core funding pre- and full-proposals

Number of volunteer hours

Number of postsecondary students and degrees financially supported by Sea Grant in higher education programs (undergraduate, graduate)

Number of P-12 students who participated in Sea Grant-supported formal education programs

Number of P-12 students reached through Sea Grant-trained educators

Number of educators who participated in Sea Grant-supported professional development programs

Number of peer-reviewed publications produced by Sea Grant or as a result of Sea Grant-supported research

Number of Sea Grant-sponsored/organized events

Number of attendees at Sea Grant-sponsored/organized events

Number of public or professional presentations

Number of attendees at public or professional presentations

Visitor Attendance: Number of people that visit museums, aquariums, and other informal education institutions hosting NOAA-supported exhibits or programs (NEW; Pilot)

Environmental Actions: Number of people participating in environmental actions through NOAA education programs (NEW; Pilot)



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Maine Sea Grant's work across Maine, from the Piscataqua River to Passamaquoddy Bay, is carried out on the lands and waters of the Penobscot, Passamaquoddy, Maliseet, and Mi'kmaq. We thank them for their stewardship and continued strength and resilience in protecting it. We support efforts for healing and protecting the land and water we share.

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