Sea Grant Oregon

OREGON SEA GRANT
2024-2027 Strategic Plan

Waves wash ashore at Arch Cape on the Oregon coast. (photo by Trav Williams)

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Introduction

Oregon Sea Grant was formally designated as one of the first four Sea Grant College Programs in the nation in 1971. We are now part of a national network of 34 university-based programs that connects the resources of the National Oceanic and Atmospheric Administration (NOAA) and universities to local communities with essential ties to coastal and marine **ecosystems**. Oregon Sea Grant is based at Oregon State University (OSU) and our people and programs are located at the university campus in Corvallis and in the coastal zone at the Hatfield Marine Science Center in Newport and in OSU **Extension** offices in Oregon's coastal counties.

Oregon has incredibly diverse and productive coastal and marine ecosystems fueled by the nutrient-rich upwelling of the California Current. The wave-swept rocky shores, kelp forests, sandy beaches, estuaries, nearshore ocean, offshore banks, tidal wetlands, coastal watersheds, coastal upwelling system, and more support an extraordinary mosaic of natural heritage that contributes to ecological **resilience**, coastal economies, biodiversity, fisheries, and human well-being in Oregon and beyond.

The Oregon coast is adjacent to the **Cascadia subduction zone**, which has shaped – and continues to shape – our land and seascapes. It is also the source of some of the acute and chronic **hazards and stressors** that impact **coastal communities** and ecosystems in Oregon. In addition, climate change, ocean acidification and hypoxia (low oxygen), sea level rise, drought, wildfires, and related extreme weather events continue to affect us in ways that are becoming increasingly apparent in Oregon and around the world.

Important coastal and marine issues confronting Oregon include: kelp forest declines, marine renewable energy, marine mammal conservation and entanglements, proposed reintroduction of sea otters, harmful algal blooms, microplastics and marine debris, shifting distribution of marine species, coastal erosion and inundation, tsunami risk assessment and preparedness, emerging and displaced fisheries, blue carbon storage, dam removals, **sustainable** aquaculture, and invasive species. Oregon Sea Grant is uniquely qualified to help communities address these issues and connect with researchers, Extension specialists, and educators in ways that are equitable, inclusive, collaborative, and that contribute to the socio-ecological resilience of the coastal zone.

Approximately every four years, we engage in updating our strategic plan in an iterative and integrated process that is connected to the national Sea Grant strategic plan. We build on our prior strategic plan and address the ongoing and emerging needs and priorities for coastal and marine ecosystems and their associated communities in Oregon. Our strategic plan helps us focus on the most important engaged research, Extension, and education needs of the Oregon coastal zone. We are accountable to the plan in our annual program reports and comprehensive quadrennial site evaluation by the **National Sea Grant College Program**.

We convened a strategic planning team in April 2022 to draft the Oregon Sea Grant 2024-2027 strategic plan. The team consisted of nine representatives from our program and advisory council. Our new Oregon Sea Grant director joined the team in June 2022. We asked our advisory council, our national Sea Grant program officer and additional external reviewers for feedback. We considered how we might develop important new partnerships, work with a diversity of interested parties, and sustain our existing, mutually beneficial partnerships. We are grateful for all the thoughtful input we received and have incorporated it throughout the plan.

We have adopted the four **focus areas** of the National Sea Grant College Program: **Environmental Literacy** and **Workforce Development**; Healthy Coastal Ecosystems; Sustainable Fisheries and Aquaculture; and Resilient Communities and Economies. This is a change from our prior strategic plan, which had four thematic areas. We have integrated the important elements from the thematic areas within the new focus areas. This change reduces the complexity of our required reporting effort and conserves valuable staff time to deliver on our **mission**, **goals**, and **values** instead.

Our strategic plan includes updated statements of our **vision**, mission, and values. Our goals, **objectives (or actions)**, and **desired future state** are articulated under each of the four focus areas. Importantly, in this updated plan we integrated values and commitments that Oregon Sea Grant is making to address **diversity**, **equity**, **inclusion**, **justice**, and **accessibility**. In general, we structured objectives for each goal to be inclusive of research, Extension, and education. We included a section on our functional areas describing how we do all of the work that contributes to our mission. At the end of the plan, we include a glossary. We highlight glossed terms in bold font the first time they appear in the text. We also include a listing of the measures and metrics developed by the National Sea Grant College Program that we have adopted and will report on annually. These will be updated in the near future to include new measures and metrics related to diversity, equity, and inclusion that are being developed by the National Sea Grant College Program.

Our Vision

Oregon Sea Grant envisions a future of thriving coastal communities and ecosystems in Oregon.

Our Mission

Oregon Sea Grant sparks discovery, understanding, and collaboration to foster healthy, inclusive, and resilient coastal communities and ecosystems.

Our Values

The values of Oregon Sea Grant articulated here guide how we work in partnership with people and organizations both internally and outside of our organization.

Community

Oregon Sea Grant embeds diversity, equity, inclusion, justice, and accessibility in our decision-making, treatment of one another, and **engagement** with the communities that we serve. Oregon Sea Grant believes that the people inside and outside our organization, and their perspectives, matter. We respect, celebrate, and afford individual differences and recognize that diversity is part of our strength as a team in addressing challenging issues. We apply what we learn and adapt what we do to provide an empowering, supportive, and caring environment.

Integrity

We commit to being trustworthy and honest by sharing objective information and engaging in co-development of solutions with our partners. Our commitment to scientific integrity and respectful partnerships enables open dialogue. Our reputation as a source of credible, science-based information is central to our leadership in promoting discovery, knowledge sharing, consensus building, and integration of efforts in the coastal arena.

Sustainability

We support innovation that enables individuals and organizations to develop and implement sustainability at multiple scales. We advance responsible environmental stewardship and ways to reduce environmental impacts. We especially value approaches, ways of working, and solutions that are durable, sustainable, and allow for balance in work and personal life commitments.

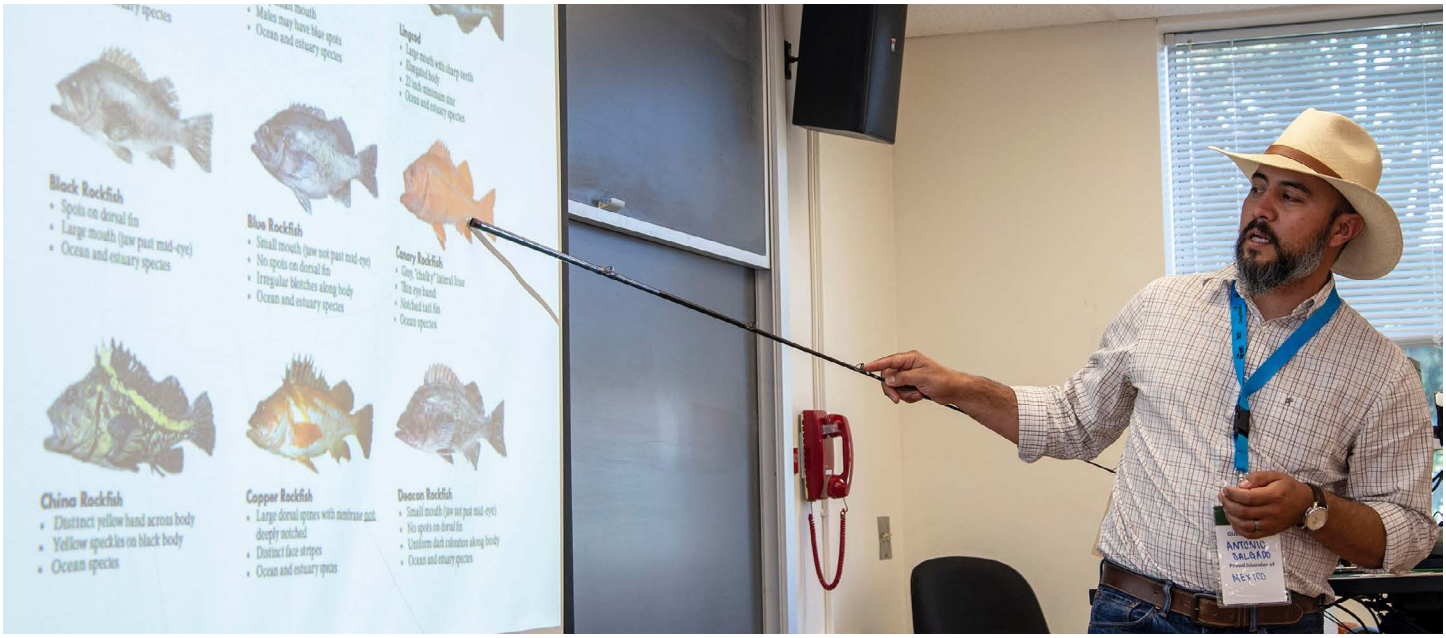
Partnerships

We create more value when we work with others. Oregon Sea Grant promotes a culture of engagement by working with a variety of communities to enhance the quality of life on the coast. We build strong partnerships through carefully listening and learning, incorporating different perspectives, and responding to the needs of **underserved** communities, partners, interested parties, and the public.

Innovation

Oregon Sea Grant encourages innovation. We value dynamic, inventive, and flexible approaches to meet the needs of people in changing natural and social environments, especially the needs of underserved communities. We support scientific excellence and foster creative solutions to improve research, education, communication, and engagement activities.

Clare Reimers (left), a professor at Oregon State University, and Peter Chace, a doctoral student in her lab, inspect a seafloor lander before it is hoisted aboard a research ship. Oregon Sea Grant funded the assembly of the lander as part of a project to study how groundfish bottom trawling might impact areas of Oregon's seafloor that were previously closed to fishing. (photo by Lynn Ketchum)



Antonio Salgado, who works for the Oregon Department of Fish and Wildlife, speaks about recreational fishing in Oregon. Oregon Sea Grant and the Oregon State University Extension Service were partners on the event, along with the nonprofit Living Islands. (photo by Lynn Ketchum)

Diversity, Equity, Inclusion, Justice, and Accessibility

Oregon Sea Grant's vision is of a future with thriving coastal communities and ecosystems in Oregon. Stewarding biodiversity supports human well-being and ecological resilience. Coastal communities and ecosystems cannot thrive where systems of oppression, injustice, and inequity persist. Therefore, we are committed to advancing diversity, equity, inclusion, justice, and accessibility (DEIJA).

Our initial DEIJA **guiding principles** represent reflection, outreach, and effort by Oregon Sea Grant's DEIJA working group from 2020-22. We hired two DEIJA co-leads to carry our aspirations forward, deliver new all-hands trainings, and help us weave our DEIJA guiding principles and ongoing learning into this strategic plan. Our updated guiding principles, expressed as commitments, are shared here. To learn more about Oregon Sea Grant's evolving DEIJA goals and ongoing actions, please visit our Diversity webpage for timely updates.

Oregon Sea Grant is committed to:

• Listening to, learning with, learning from, and believing communities and individuals underserved by (and within) Oregon Sea Grant and others to more authentically include diverse perspectives and incorporate **culturally responsive** and inclusive practices in our work, our partnerships, and within our organization.

• Recognizing the ways in which we, as individuals and as an organization, benefit from privilege and systems of oppression that perpetuate injustice and taking action to address bias and injustice within our organization.

• Advancing greater equity and addressing systems of oppression, including sexism, racism, ageism, ableism, and other oppressive marginalizations through our programs.

• Increasing the diversity of perspectives within our organization at all levels and creating contexts for authentic reflections from these perspectives to inform our work together.

• Ensuring that the activities we support consider these commitments in their team development, community engagement, and design.

• Doing the work, holding ourselves accountable for change, and making progress toward our aspirations for diversity, equity, inclusion, justice, and accessibility.

Environmental Literacy & Workforce Development (ELWD)

A volunteer judge talks with students at an underwater robotics contest at a pool in Lincoln City. Oregon Sea Grant coordinates the annual event in which judges evaluate the kids' presentations, marketing displays, and remote-controlled devices that they built. (photo by Tyler Sloan)

ELWD GOAL 1

Document and enhance understanding of the social, cultural, and historical dimensions of environmental literacy, including **traditional, Indigenous, and local knowledge** and workforce development related to coastal ecosystems, watersheds, and communities.

Objectives:

- Promote stewardship and informed decision-making by developing and implementing collaborative strategies for understanding, assessing, and responding to the knowledge, perceptions, and priorities of coastal residents and visitors.

- Explore how our leadership in environmentally sustainable practices, activities, and workforce development supports resilience; environmental literacy that includes traditional, Indigenous, and local knowledge; and healthy coastal ecosystems.

- Document and understand how traditional, Indigenous, and local knowledge and other ways of knowing make essential contributions to environmental literacy and decision-making.

Desired Future State:

- Educators, researchers, and Extension faculty incorporate social, cultural, and historical dimensions, including traditional, Indigenous, and local knowledge, into the development of environmental literacy and workforce development activities in regional coastal contexts.

- Educators, researchers, and Extension faculty adaptively integrate traditional, Indigenous, and local knowledge, cultures, perceptions, and priorities into activities that promote environmental stewardship, **restoration**, **adaptive management**, environmental literacy, and informed decision-making.

ELWD GOAL 2

Engage with existing and new partners to support the development of a robust and diverse **blue economy** workforce.

Objective:

- Engage with diverse partners and community members to co-develop capacity for and opportunities to enhance the blue economy workforce through inclusive access to science, technology, engineering, environmental, and math education.

Desired Future State:

- Individuals, organizations, and communities create innovative opportunities, businesses, and environments that respect and integrate diverse ways of knowing and learning, including traditional, Indigenous, and local knowledge, for coastal areas.

- Environmental sustainability and resilience principles and practices are integrated into coastal workforce development training.

- Community members are enabled to explore and pursue the variety of occupations that are essential to sustain coastal communities, economies, and ecosystems.

- The existing and future coastal workforce is prepared to adapt and thrive in changing environmental, social, and economic conditions.

ELWD GOAL 3

Engage with existing and new partners to cultivate environmental literacy, including an understanding of traditional, Indigenous, and local knowledge, with a focus on coastal, coastal watershed, and marine ecosystems.

Objectives:

- Build capacity alongside new and existing partners to enhance and assess coastal, coastal watershed, and marine environmental teaching and content in **formal education**.

- Collaborate with partners and interested parties to increase the number and quality of **informal education** and **free-choice learning** environments offering coastal, coastal watershed, and marine content.

Desired Future State:

- Individuals are environmentally literate **lifelong learners** within the contexts of traditional, Indigenous, and local knowledge, including cultures, perceptions, and priorities that are relevant to coastal, coastal watershed, and marine science literacy.

- Educators, students, and lifelong learners have current information and innovative tools specific to coastal, coastal watershed, and marine topics that meet or exceed relevant standards and practices.

- Community members use their knowledge to remove barriers and act for personal, social, and environmental resilience and to adapt to changing economic, environmental, and social conditions in coastal areas.

A fisherman practices CPR on a dummy during a first-aid training in Newport. Oregon Sea Grant helps teach the classes in which fishermen learn to treat injuries and medical emergencies at sea. (photo by Trav Williams)

Healthy Coastal Ecosystems (HCE)

A child looks at sea stars and sea anemones at Meyers Creek Beach near Gold Beach on the Oregon coast. (photo by Susan Dimock)

HCE GOAL 1

Improve understanding of coastal ecosystems (including coastal watersheds) in Oregon, how they function, their biodiversity, and the services they provide to improve stewardship of their health and resilience.

Objectives:

- Co-develop knowledge about the functioning and resilience of coastal ecosystems with community members, interested parties, and partners through inclusive, equitable, and collaborative engagement.

- Improve understanding of diverse community priorities associated with healthy coastal ecosystems.

- Work with interested parties and partners to equitably build capacity and support inclusive decision-making that incorporates evidence-based science, including traditional, Indigenous, and local knowledge, to steward healthy coastal ecosystems.

- Equitably improve public awareness and understanding of coastal ecosystem functioning, biodiversity, and services, including traditional, Indigenous, and local knowledge.

Desired Future State:

- Communities have greater and more equitable awareness and understanding of coastal ecosystem functions and the services they provide.

- Coastal ecosystem science and conservation needs are identified and prioritized through the equitable and inclusive participation of a diversity of partners and interested parties.

- Inclusive and equitable collaborations with a diversity of partners and interested parties support culturally responsive planning, research, and innovative solutions to address coastal resource management needs, especially for **vulnerable** communities.

- Coastal communities, resource managers, and interested parties have equitable access to and use of science, data, tools, and training for effective, culturally responsive planning and decision-making.

- Communities share, access, understand, and use evidence-based science, including traditional, Indigenous, and local knowledge, about projected changes and related impacts within coastal ecosystems.

HCE GOAL 2

Implement effective, culturally responsive strategies that actively engage interested parties to promote the ecological health and resilience of coastal ecosystems.

Objectives:

- Assess and evaluate the effectiveness and trade-offs of existing and new strategies for promoting resilience and health of coastal ecosystems considering the diversity of community, individual, and partner perspectives.

• Iteratively adapt activities to support healthy coastal ecosystems using evidence-based science, including traditional, Indigenous, and local knowledge.

• Inclusively and equitably communicate evidence-based knowledge about how to sustain healthy coastal ecosystems for current and future generations.

A western snowy plover sits on eggs in the sand. The shorebird is federally listed as threatened. (photo by Steve Dimock)

Desired Future State:

• Evidence-based science, including local, Indigenous, and traditional knowledge, and innovative, culturally responsive solutions inform and improve the management and conservation of coastal habitats.

• Coastal biodiversity, habitats, and ecosystem functions and services are restored and sustained.

• Collaborative, equitable, and inclusive planning and decision-making lead to enhanced coastal stewardship and community benefits, especially for the most vulnerable members.

• **Community science** initiatives are used and contribute to improving ecosystem stewardship and how it contributes to sustainable coastal communities and economies.

• Resource managers understand the risks, trade-offs, and impacts of their decisions on coastal communities and to coastal ecosystems.

Water flows into the Pacific Ocean on the north side of Cape Lookout on the Oregon coast. (photo by Tiffany Woods)

Sustainable Fisheries and Aquaculture (SFA)

Fishing boats are docked in Newport, Oregon. (photo by Tracy Crews)

SFA GOAL 1

Improve understanding of wild-caught fisheries, local aquaculture, and the diverse communities whose livelihoods depend on these industries in the context of changing environmental and market conditions and competing resource uses.

Objectives:

- Increase understanding of the ecological status, socioeconomic value and traditional, Indigenous, and local knowledge of Oregon's coastal and marine species of current and future commercial, recreational, and cultural importance.

- Identify challenges and needs that may disproportionately impact communities within or associated with Oregon fishing and aquaculture industries.

- Enhance understanding of the diverse perceptions of interested parties related to fisheries and aquaculture issues, centering the perspectives and needs of underrepresented and underserved groups.

Desired Future State:

- Increased understanding enables the seafood and aquaculture industries to acquire innovative technologies that aid in sustainable management, production, and adaptation to changing conditions.

- Commercial and recreational fishers and aquaculturists are knowledgeable about efficient, sustainable, and responsible tools, techniques, and uses of coastal and marine resources.

- Resource managers and fishing and aquaculture communities have access to and share diverse knowledge and tools to adapt to changing resource management needs, including those driven by climate change, in ways that are inclusive of the perspectives and needs of underrepresented and underserved groups.

Lindsey Badder writes down the weight of a sea urchin at the Hatfield Marine Science Center in Newport as part of an Oregon Sea Grant-funded research project seeking to increase the market value of the edible part of the spiny animal. (photo by Lynn Ketchum)

SFA GOAL 2

Engage with fisheries and aquaculture communities to address emerging issues, improve socioeconomic resilience, enhance human safety, ensure environmental sustainability, and increase public understanding of Oregon seafood.

Objectives:

- Work with a diversity of fisheries and aquaculture community members to understand the natural, social, and economic ramifications of competing ocean and coastal space and use pressures.

- Improve socioeconomic and environmental resilience through culturally responsive workforce development and application of agile solutions.

- Inform decision-makers and the public about Oregon fisheries and the community benefits of local and sustainable seafood production and consumption.

- Design, implement, and evaluate our fisheries and aquaculture programming to advance diversity, equity, justice, and accessibility within the seafood industry and for consumers.

Desired Future State:

- Coastal resource industries employ technologies and reinforce strategies to ensure safe and sustainable seafood and products and safety working at sea.

- Coastal resource industries employ strategies that balance economic, community, cultural, and conservation goals.

- Coastal residents and U.S. seafood consumers understand the benefits of domestically produced, sustainable seafood, both wild and farmed, for individual and environmental health.

- Consumers use their knowledge of the health and sustainability benefits of domestically produced, sustainable seafood to inform their seafood purchasing decisions.

The Chelsea Rose floating seafood market sells fish and crabs at a dock in Newport. (photo by Trav Williams)

Resilient Communities and Economies (RCE)

A sign directs people to seek higher ground on Safe Haven Hill in Newport, Oregon, in the event that an earthquake causes a tsunami. (photo by Tiffany Woods)

RCE GOAL 1

Enhance our understanding of the acute and chronic hazards and stressors of the coastal zone (influenced by proximity to the Cascadia subduction zone, climate change, etc.) to support identification and development of resilience strategies for coastal, coastal watershed, and marine communities and ecosystems in Oregon.

Objectives:

- Understand the causes and impacts of acute and chronic hazards and stressors for coastal, coastal watersheds, and marine ecosystems and their potential for disproportionate impacts and relevance among the diverse communities of the coastal zone.

- Identify, invent, or adapt culturally responsive tools to address local needs focused on resilience to coastal, coastal watershed, and marine hazards and stressors.

Desired Future State:

- Scientific understanding, including traditional, Indigenous, and local knowledge, provides foundational information for decision-making.

- Community leaders improve their understanding of changing conditions, coastal hazards and stressors, and their knowledge of mitigation and adaptive strategies.

- Community members understand coastal ecosystem and watershed functions and the services they provide, understand how community actions will impact water resources, and use available information to make informed decisions.

RCE GOAL 2

Engage with diverse communities, partners, and interested parties to reduce disproportionate impacts of coastal, coastal watershed, and marine hazards and stressors on vulnerable communities and support economic, social, and environmental resilience.

Objectives:

- Inclusively and equitably engage with interested parties to improve understanding, assessment, and communication about the economic, ecological, and sociocultural viability of new or emerging coastal and ocean technologies and industries (e.g., marine renewable energy), with a focus on their benefits and risks.

- Understand and assess emerging and novel blue economy workforce needs through diverse partnerships that support equitable, inclusive, and ecologically sustainable capacity building in coastal communities.

- Work with communities to address the challenges and uncertainties related to developing and implementing resilience and adaptation strategies and address inequitable impacts on vulnerable populations.

• Collaborate with diverse partners and interested parties, especially the most vulnerable, to advance plans and management practices for protecting and managing water resources.

Desired Future State:

• Inclusive collaborations with diverse interested parties and partners support coastal, coastal watershed, and marine mitigation and adaptation efforts built on knowledge from, and that is responsive to, the needs of all, especially the most vulnerable.

• Coastal communities have access to and share knowledge, tools, services, and technologies to adapt and grow resilient economies within the context of social and environmental justice.

• Leaders in coastal economic sectors understand how they can become more resilient through diversification including expanded renewable, regenerative, and clean practices.

• Communities work toward developing diverse, sustainable economies and industries that support existing and emerging water resource needs.

• Communities work within **knowledge networks** to share and access science, data, tools, and services to anticipate changes in water resources, identify and implement strategies to protect and sustain water resources, and make informed decisions.

RCE GOAL 3

Promote implementation and assessment of resilience strategies to address coastal, coastal watershed, and marine hazards and stressors; their interactions; and their impacts on communities, economies, and ecosystems.

Objectives:

• Understand how individuals and communities perceive, learn, and make decisions about current and emerging issues related to coastal, coastal watershed, and marine hazards and stressors.

• Identify, develop, implement, and assess culturally responsive approaches to inclusive and equitable community engagement to prevent, respond to, and recover from coastal, coastal watershed, and marine hazards and stressors.

Desired Future State:

• Community members understand the impacts of changing conditions and coastal hazards and use available information to prepare, respond, and adapt.

• Communities apply knowledge from case studies, training, and tools to improve their ability to plan, prepare, and adapt to environmental variability, acute and chronic hazards and stressors, and climate change.

A stretch of naturally occurring cobblestones separates houses from the sandy beach at Arch Cape on the Oregon coast. In 2022, Oregon Sea Grant began funding a two-year project in which researchers investigated how waves move cobblestones that are either naturally present or have been placed along beaches to prevent erosion. Arch Cape is one of the sites in the study. (photo by Trav Williams)

Functional Areas

Stephanie Ichien (center), the research and scholars coordinator at Oregon Sea Grant, offers help during an information session for undergraduate and graduate students who were interested in applying for fellowships and internships that Oregon Sea Grant funds or administers. (photo by Tiffany Woods)

Our functional areas highlight how we conduct our work, with relationship-building as a central theme throughout. We developed this section through intentional internal conversation and collaboration with the goal of ensuring that every person working for Oregon Sea Grant would see their work represented and understand how they contribute to delivering on our mission, goals, and values. Oregon Sea Grant is successful in discovery, understanding, and collaboration to foster healthy, inclusive, and resilient coastal communities and ecosystems in Oregon. We do this by addressing key issues in our focus areas, working with a diversity of constituents with ties to and interest in coastal ecosystems, including tribes and underserved communities, and supporting a robust and inclusive operational structure.

Engage with our partners and interested parties

Oregon Sea Grant works with and connects to our key constituents. We meet them where they are through community-based engagement activities. We rely on science, including traditional, Indigenous, and local knowledge, to inform decisions. We facilitate challenging discussions.

Foster the next generation through lifelong learning

Oregon Sea Grant supports environmental literacy by providing formal and informal educational experiences for learners of all ages. We also offer research and professional development opportunities that build skills and experiences for the current and future workforce.

Advance community-engaged research and scholarship

Oregon Sea Grant transforms community-identified needs into supported research and scholarship, including community science. These efforts address emerging issues and use novel approaches that, when coupled with appropriate outreach and engagement, return useful results and solutions that address community priorities.

Communicate and engage about science

Oregon Sea Grant uses a diversity of science communication and engagement strategies – such as personal interactions, group discussions, printed materials, and a variety of accessible media formats – to foster dialogue and share information about current understanding of ocean and coastal science and policy.

Support our team

Oregon Sea Grant provides the foundational support to ensure the productivity and connectivity of our program and associated activities. This includes administrative and fiscal support, facilities management, and operations. We also work to create a culture of care that supports the worth of individuals.

Grow as professionals

Oregon Sea Grant is committed to the ongoing professional development of our team. We promote regular reflection, support individual development, and encourage participation in activities that foster lifelong learning. We are committed to building capacity within our organization to advance leadership and teamwork – including learning within the contexts of local and traditional knowledge, cultures, perceptions, and communication skills – to advance our mission in ways that benefit communities, reflect our values, and help us achieve our DEIJA commitments.

A sculpture of salmon is on display in the Taft district of Lincoln City. (photo by Tiffany Woods)

Appendix A: Glossary

Accessibility: The quality of being reachable or easily obtainable.

Adaptive management: A systematic approach for improving resource management by monitoring and learning from management **outcomes**. An adaptive management approach provides a framework for making informed decisions in the face of critical uncertainties and a formal process for reducing uncertainties so that management can improve over time.

Blue economy: A vibrant, sustainable, and equitable ocean and coastal economy that is knowledge-based and optimizes advances in science and technology, not just for extraction of material resources, but for data and information to address societal challenges and inspire solutions.

Cascadia subduction zone: A 600-mile geological fault that runs from northern California up to British Columbia and is about 70-100 miles off the Pacific coast shoreline.

Coastal communities: Marine and coastal communities that represent a variety of interests (e.g., individuals, government, tribes, business, education, industry, research, nongovernmental organizations, etc.) served by the Oregon and national Sea Grant programs. These include coastal- and marine-focused 1) *communities of place*, which are defined by a shared geography, including the natural, human-built, and social environments of a particular place where people live (or once lived), work, play, or visit often and 2) *communities of practice*, which are groups of people with a shared concern or a passion for something they do and who engage in activities and interactions that allow them to learn how to do it better, share knowledge, and create new knowledge.

Community science: Public participation in scientific research initiatives beyond serving as an audience for findings or broader impacts (sometimes referred to as citizen scientist).

Community science encompasses a wide array of approaches that communities and their partners use to answer science- and technology-related questions and construct solutions.

Citizen science is a related phrase that has been used to distinguish amateur data collectors from professional scientists (not to describe citizenship status). It has primarily been used to describe volunteers who assist scientists with their research objectives. It can be considered as one of the approaches used in the broader category of community science.

Community science also includes approaches where community members collaborate to conduct and leverage science and technology to advance community priorities and questions and to benefit from knowledge, advancements, and innovations in science and engineering. In this approach community members are often working in collaboration with scientists or Extension and science engagement practitioners.

Culturally responsive: Being able to understand and consider the different cultural backgrounds, perspectives, and experiences of the people you work with, educate, offer services to, etc. and apply that understanding to improve relevancy and understanding.

Desired future state: A state that is aspirational in nature and extends beyond the time horizon of the current four-year strategic plan. The objectives in the strategic plan are designed to make progress toward achieving a desired future state.

Diversity: The full representation of and collaboration between people with different identities, knowledge sets, experiences, and perspectives.

Ecosystem(s): A dynamic and complex association of plant, animal, and human communities and associated non-living physical components interacting as a functional unit.

Engagement: Intentional, meaningful interactions that provide opportunities for mutual learning, co-creation of innovation, knowledge, and expertise between university educators and researchers (and other professionals with specialized expertise) and community members. These interactions also provide opportunities for people to increase their familiarity with a breadth of perspectives and views.

Environmental literacy: Knowledge and understanding of a wide range of environmental concepts, problems, and issues; cognitive and affective dispositions toward the environment; cognitive skills and abilities; and appropriate behavioral strategies to make sound and effective decisions regarding the environment. It includes informed decision-making both individually and collectively and a willingness to act on those decisions in personal and civic life to improve the well-being of other individuals, societies, and the global environment.

Equity: The allocation and accessibility of resources for fair distribution of services, benefits, and burdens.

Extension: A program of university professionals that connects community members to the resources and expertise of universities to help solve locally identified problems and support lifelong learning. Extension programs integrate teaching, research, and public service to respond to critical, emerging issues with science-based information, including traditional, Indigenous, and local knowledge.

Focus areas: Areas of emphasis that are shaped to address the most urgent ocean and coastal needs for Oregon.

Formal education: Learning provided by educators that is part of a larger curriculum that leads to a credential and is delivered by credentialed experts.

Free-choice learning: Learning that occurs in contexts where the learner has some level of choice and control over the conditions of their learning.

Goals: Aspirational concepts that inspire a level of success in a focus area.

Guiding principles: Ideas and values identified as having a high level of importance for, and influence on, the decisions and actions of individuals and organizations.

Hazards and stressors (coastal, coastal watershed, and marine): Includes but is not limited to tsunamis, nuisance flooding and inundation, sea level rise, erosion, ocean acidification, hypoxia/anoxia, drought, heat waves, wildfires, harmful algal blooms, eutrophication, contaminants, biodiversity loss and extreme weather events.

Acute hazards or stressors are severe, short-term, and dangerous, such as a tsunami or hurricane. A chronic hazard or stressor is present or recurring over a long period of time and tends to get worse over time, such as global warming or sea level rise.

Ecological or environmental stressors are physical, chemical, and biological constraints on the productivity of species, well-being of human communities, and the development of ecosystems. For example, warmer ocean waters reduce the growth and abundance of kelp forests directly and amplify indirect stressors, including sea star wasting disease, leading to cumulative impacts on kelp forests. Harmful algal blooms can result in high domoic acid toxin levels in Dungeness crab and the closure or delayed opening of this regionally iconic and economically important seasonal fishery.

Inclusion: The creation of an open and welcoming environment that recognizes and affirms the value and dignity of all people.

Informal education (or nonformal education): Learning that happens outside the classroom in after-school programs, community-based organizations, workplaces, museums, and libraries. It also uses extracurricular resources, including television and the internet, exhibits, apprenticeships, and personal experiences, to advance science, technology, engineering, mathematics, and artistic understanding and practices.

Justice: The systematic removal of barriers, which results in equitable opportunities and outcomes for every individual in a diverse society.

Knowledge networks: Formal or informal social networks that enable the transfer of traditional and local knowledge.

Lifelong learners: Any person who learns through all or much of their life using both formal and informal learning opportunities to foster the continuous development and improvement of their knowledge and skills with the aim of enhancing competencies from personal, civic, social, or employment-related perspectives.

Mission: Communicates the purpose of the organization.

National Sea Grant College Program: Includes the National Sea Grant Office, 34 Sea Grant programs, and the National Sea Grant Advisory Board.

Objectives (or actions): A tactic or means used to make progress toward a desired future state.

Outcomes: An intended result or consequence.

Resilience: Applies to both social and ecological systems. A general definition of resilience is the ability to prepare and plan for, absorb, recover from, and successfully adapt to adverse events and changing conditions (e.g., severe weather, climate change, economic disruptions, demographic shifts, ecosystem changes). Coastal resilience refers to the ability of a community to recover or "bounce back" after hazardous events such as hurricanes, coastal storms, and flooding – rather than simply reacting to impacts. Ecological resilience refers to the broad ability of ecosystems (or communities or populations) to maintain their fundamental structures,

processes, and functioning following a disturbance such as an extreme weather event, fires, an introduced and invasive species, or ocean acidification.

Restoration: Activity to assist the recovery of something that has been damaged or destroyed.

Sustainable: Able to be maintained.

Traditional, Indigenous, and local knowledge: Ways of knowing that are passed down through generations (often through oral tradition) and/or reflect the observations and experiences of people living in a region and that often emphasize interconnectedness between humans and their environment. The distinctions between these three types reflect the holders of the knowledge by cultural or community or location-based identities.

The White House's Office of Science and Technology Policy defined Indigenous knowledge (sometimes referred to as traditional ecological knowledge) as a body of observations, oral and written knowledge, practices, and beliefs that promote environmental sustainability and the responsible stewardship of natural resources through relationships between humans and environmental systems. It is applied to phenomena across biological, physical, cultural and spiritual systems. Indigenous knowledge has evolved over millennia, continues to evolve, and includes insights based on evidence acquired through direct contact with the environment and long-term experiences, as well as extensive observations, lessons, and skills passed from generation to generation.

Traditional knowledge is a broader category that includes Indigenous knowledge as a type of traditional knowledge held by Indigenous communities. The main distinction is the holder of the knowledge. Local knowledge is place-based knowledge held by people in a specific location.

Underserved: Groups of people who have had (and may continue to have) disparate, systemic, or inequitable access to or barriers from services and resources necessary for opportunities to thrive and achieve, including social, economic, political, and environmental resources. These groups include but are not limited to people identified by race, ethnicity, indigeneity, gender, sexuality, socioeconomic status, immigration status, and veteran status.

Values: Principles that help you to decide what is right and wrong and how to act in various situations.

Vision: A description of a future state that explains the basis for developing a strategic plan.

Vulnerable: Indicating a higher risk for negative impacts as a result of barriers to social, economic, political, and environmental resources.

Workforce development: Connects occupational skills and vocational training services with a regional or local economy's need for workers, with a focus on industry demand and jobs available or anticipated in the community. It serves both workers and industry by supporting economic sustainability for residents, businesses, and industry and providing opportunities for growth and advancement in the workplace.

Appendix B: Oregon Sea Grant Program Performance Measures and Metrics

Primary Focus Area Performance Measures

Environmental Literacy and Workforce Development
Number of Sea Grant products that are used to advance environmental literacy and workforce development

Number of people (youth and adults) engaged in Sea Grant-supported nonformal education programs

Number of Sea Grant-supported graduates who become employed in a job related to their degree within two years of graduation

Healthy 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

Number of acres of coastal habitat protected, enhanced, or restored as a result of Sea Grant activities

Sustainable 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

Resilient Communities and Economies
Number of communities that adopt/implement sustainable economic and environmental development practices and policies as a result of Sea Grant activities

Annual number of communities that adopt/implement hazard resilience practices to prepare for and respond to/minimize coastal hazardous events

Crosscutting Performance Measures

Number of Sea Grant tools, technologies, and information services that are used by our partners/customers to improve ecosystem-based management

Economic and societal impacts and benefits derived from Sea Grant activities (market and non-market; jobs and businesses created or sustained; patents)

Crosscutting 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 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

Number of marinas certified as “clean marina” by Oregon’s Clean Marina Program as a result of Sea Grant activities

Number of individuals certified or recertified in Hazard Analysis Critical Control Point (HACCP) as a result of Sea Grant activities

Number of peer-reviewed publications produced by Sea Grant

Visitor attendance: Number of people who visit museums, aquariums, and other informal education institutions hosting NOAA-supported exhibits or programs

Environmental actions: Number of people participating in environmental actions through NOAA education programs

Sea Grant Oregon

Oregon State University

seagrant.oregonstate.edu

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Hunter Creek flows past Turtle Rock in Gold Beach on the Oregon coast. (photo by Tiffany Woods)