

# Oregon Sea Grant Strategic Plan

2003–2008



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**Oregon State**  
UNIVERSITY

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## Executive Summary

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*The Oregon Sea Grant Strategic Plan for 2003–2008 is a key document for the program.*

Through it we communicate to our many stakeholders a formal description of this program's goals and strategies over time. Such communication reflects our desire to be understood and to be accountable. Publishing a strategic plan, however, is not an end in itself but rather a means. We believe that the most meaningful way we can make our goals and strategies known is to consistently apply them to program management. That is why our strategic plan not only defines our goals and priorities but also describes how we apply them to our decision making.

### Background

We don't produce a strategic plan because it is required, nor is it a marketing device for the program. We plan in order to focus and unify our thinking and to help us lead this program in such a way that in an ever-changing environment, Oregon Sea Grant achieves the greatest possible positive impacts.

Oregon Sea Grant was established in 1967 as one of the first four Sea Grant programs in the nation. It remains one of the four largest and most productive of the 30 programs nationwide. Oregon Sea Grant is committed to carrying out and supporting programs that will make a difference, both in the way people perceive the ocean and its resources and in the way they act to use and conserve those resources. We view Sea Grant's communication, education, research, and extension capabilities not as semi-independent programs, but as tools to be integrated in combinations that can do the most good.

This 2003–2008 document builds on Oregon Sea Grant's 1998–2003 strategic plan. The plan was shaped by advice from our 2000 Program Assessment Team and by the lessons we have learned over the past five years about how best to conduct the business of Sea Grant. It reflects changing fiscal and institutional environments and responds to many new regional and national coastal and marine issues.

### Planning Process

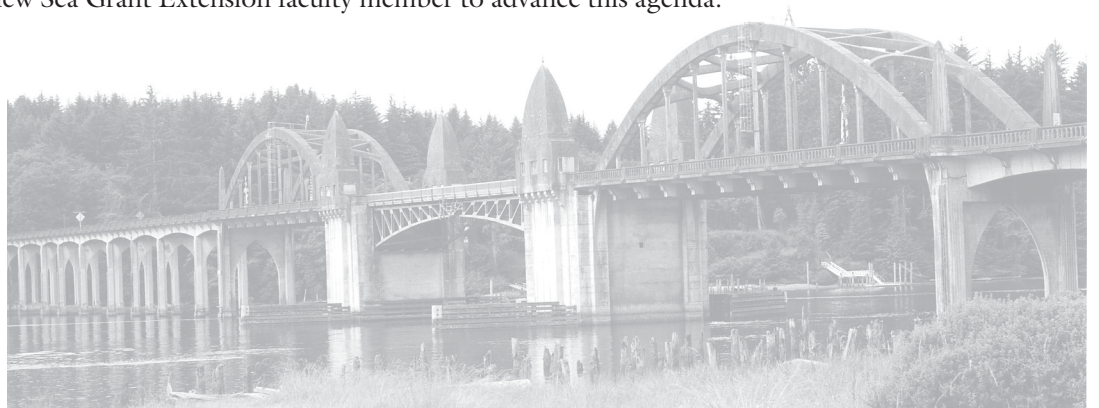
Functional planning guides the program's management, whereas thematic planning identifies priority topics and issues. A key part of our planning process involves our creating opportunities for us to observe and listen carefully to our stakeholders.

For example, in August 2002 we contacted our research stakeholders and invited them to join us to discuss ways in which the processes and policies of our competitive grants program could be

improved. The Sea Grant Management Team and citizen Advisory Council discussed the research meeting's outcomes and agreed that a 50 percent success rate for full proposals submitted to Oregon Sea Grant should be one of our functional objectives. As a result, we made some adjustments to our 2004–2006 RFP. We achieved our objective of a success rate by funding 12 of the 20 full proposals that survived our rigorous competitive process.

As an example of our formal, thematic planning, in October 2000 we held a series of seven workshops over a two-day period. Participants were more than 100 stakeholders from the academic research community; local, state, and federal agencies; nongovernmental organizations; industry and business; Extension; and the public at large. The seven theme areas discussed were coastal natural hazards, coastal development and tourism, aquaculture, seafood processing and safety, estuaries, marine ecosystems and habitat, and fisheries. Each workshop resulted in a written report that captured the key points of discussion and listed research needs and priorities. The reports were reviewed broadly and were discussed at length by our Advisory Council before the current Oregon Sea Grant thematic goals and objectives were defined.

Of course, research is not this program's only thematic activity. For more than 25 years, Oregon Sea Grant has supported K–12 educational outreach programs for students and teachers, primarily at the Hatfield Marine Science Center (HMSC) in Newport. We also manage the Visitor Center of HMSC, which hosts over 150,000 visitors a year. In June 2002 we convened an expert topical advisory team to help us evaluate needs and opportunities in both formal and informal education and to assess our programmatic strengths and weakness in these same areas. The team's report contained very useful recommendations, unquestionably the most far reaching of which was the observation that Oregon Sea Grant had at the HMSC a unique opportunity in the area of informal education, specifically in conducting research to improve the art and science of informal, or “free-choice,” education. Two years and many discussions later, Oregon Sea Grant has refocused its marine education program to include greater emphasis on free-choice learning, including hiring a new Sea Grant Extension faculty member to advance this agenda.



## Functional Goals, Related to Program Management

Our strategic plan focuses on *functional* strategic goals, which guide management, and *thematic* strategic goals, which address topics and issues.

The plan enumerates seven main functional goals, with three to five subgoals each. The main goals are as follows:

1. To direct the attention of talented researchers and educators in Oregon to the most pressing local, regional, and national marine and coastal problems
2. To create multidisciplinary teams and sustained partnerships in order to more effectively address complex coastal and marine issues
3. To advance the state of the art and science of informal education (that is, free-choice learning)
4. To create and sustain meaningful formal and informal educational opportunities for learners at all levels
5. To enhance the capacity of Oregon Sea Grant programs to make a positive difference despite the uncertain economic environment
6. To improve public awareness of Oregon Sea Grant's capabilities, accomplishments, services, and products in order to obtain the maximum societal benefit from the program's activities
7. To promote continuous improvement in Sea Grant's products and service by bringing about personal and professional growth and development in every Oregon Sea Grant staff and faculty member

## Thematic Goals, Related to Issues

The outline of our thematic plan is derived from the FY 2003–2008 Draft National Sea Grant Strategic Plan, which identifies 10 theme areas for Sea Grant: aquaculture, biotechnology, coastal communities and economies, coastal natural hazards, digital ocean, ecosystems and habitats, fisheries, marine and aquatic science literacy, seafood science and technology, and urban coasts.

All 10 themes are not created equal for Oregon Sea Grant, and the themes of aquaculture, digital ocean, and urban coasts are not the highest priorities for Oregon, even though we have projects in each area.

The other seven theme areas are of higher priority for 2003–2008, and three of them are areas of particular strength for Oregon Sea Grant: biotechnology, coastal communities and economies, and marine and aquatic science literacy.

Marine biotechnology is an area of program focus. We recognize that relatively long-term investments are often necessary to realize significant impacts in biotechnology, but we expect funded projects to show sustained progress toward their goals. Sea Grant is particularly interested in the development of innovative tools and approaches for obtaining natural products from marine organisms, for environmental remediation, and for use in aquaculture.

In the theme area of coastal communities and economies, Oregon Sea Grant is fortunate to be able to build upon a highly successful initiative called Adapting to Change, which ran from 1994 to 2000 and combined the expertise of researchers and outreach faculty. Stakeholders now clearly recognize that the social and economic issues faced by coastal communities are amenable to well-conceived and well-executed programs of research and outreach. Thematic Goal III.A reflects our continuing commitment in this area:

To help coastal communities adapt to changing coastal demographics and workforce issues and to changes in natural resource availability and uses. We are particularly interested in addressing the coast's rapidly increasing Hispanic population and in understanding the impacts on coastal communities of increasing numbers of tourists, seasonal residents, and retirees.

Enhancing marine and aquatic science literacy through varied programs of marine education is one of Oregon Sea Grant's highest-priority thematic goals. In fact, each of the marine and coastal issues this program addresses has the potential to be the focus of programs to improve science literacy in various audiences. In that sense, science literacy is a component of all our other high-priority programmatic themes, and it is therefore listed among the crosscutting themes (see below).

Regarding the remaining four high-priority theme areas, in the ecosystems and habitats theme our research goals and objectives will be focused on estuaries and estuarine restoration. In the coastal hazards theme, our research goals are to improve our ability to (1) understand and model coastal waves and their effects and (2) predict and prepare for tsunami inundation and seismically induced coastal subsidence. In fisheries, our programmatic emphasis will be on research and outreach that address the many unknowns and uncertainties in our understanding of the life histories and habitat needs of groundfish and salmonids. And in seafood science and technology, our focus is on developing new and higher-valued products, efficient and clean processes, and technologies to detect and maintain high levels of seafood safety, value, and nutrition—all of which contribute to a sustainable industry and to economically stable communities.



## Crosscutting Themes

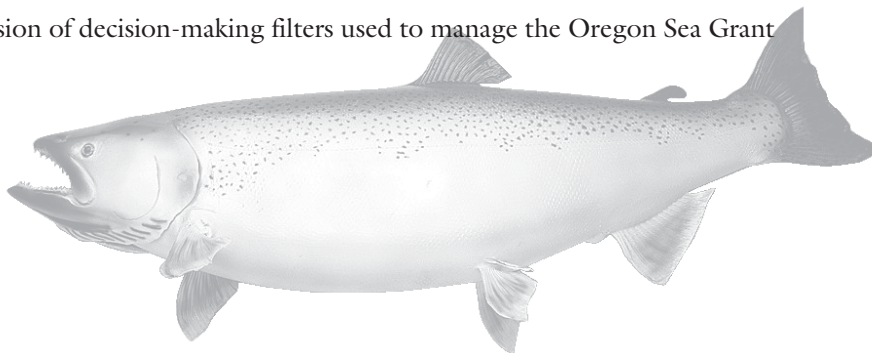
A significant new feature of this plan is its articulation of three “crosscutting theme areas,” which are well established in the program and central to Oregon Sea Grant’s activities. The first of these, environmental literacy, outreach, and education, reflects the cornerstone fact, mentioned above, that the major components of our program, including extension, communications, research, and administration, all have the responsibility of carrying out and encouraging outreach and education. For the immediate future we intend not only to continue carrying out effective public education programs but at the same time to enhance the art and science of informal (free-choice) education.

The second crosscutting theme—sound, state-of-the-art research—underscores the pride we have in the quality of the research that Oregon Sea Grant supports and our commitment to using and improving the tested mechanisms that enable us to have such a sound research program.

Information technology and administrative products and services, the third crosscutting theme, highlights our development and use of computer-based systems, including innovative Web-based systems for handling proposals and peer reviews, which have streamlined our process and allowed us to focus our time and energy on obtaining the most meaningful reviews possible. The technology we have developed is being made available to any Sea Grant program that would like to use it. Thus, we hope that our efforts can contribute to this crosscutting theme area throughout the Sea Grant network.

## Appendices

The document contains three appendices: (1) an organizational chart, (2) a flow chart illustrating the application of strategic planning to decision making and the management of Oregon Sea Grant, and (3) a discussion of decision-making filters used to manage the Oregon Sea Grant program.



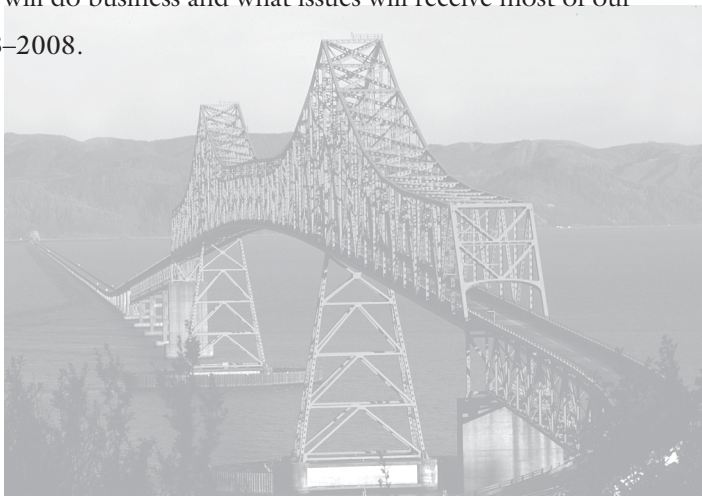


## Introduction

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Periodically, Oregon Sea Grant produces a planning document like this one to broadly share our current goals and strategies. But for us, planning is a process and a way of thinking, not just an event culminating in a document. Our strategic plan is not something we produce because it is required, nor is it a marketing device for the program. We plan in order to focus and unify our thinking and to help us lead this program in such a way that even in an ever-changing environment, it achieves the greatest possible positive impacts. Consequently, although the fundamentals of the program remain relatively constant over time, formal documents such as this one can provide only an instantaneous snapshot of the details of Oregon Sea Grant's plans. We recognize that such documents are necessary to invite comment from stakeholders and to provide a formal record of this program's goals and strategies over time. On the other hand, perhaps the most meaningful way we can make our goals and strategies known is to apply them consciously and consistently to program management. That is why this document not only defines our goals and priorities, but also describes how we apply them to our decision making.

This document builds on Oregon Sea Grant's 1998–2003 strategic plan. Our new plan was shaped by advice from our 2000 program assessment team and by the lessons we have learned over the past five years about how best to conduct the business of Sea Grant. It reflects changing fiscal and institutional environments and responds to many new regional and national coastal and marine issues. The document includes both *functional* and *thematic* strategic plans. Functional planning guides the program's management and performance and allows the program to be both deliberate and responsive. On the other hand, thematic planning identifies priority topics and issues and defines more specifically what Oregon Sea Grant can do to make a difference. In short, this strategic plan describes both how we will do business and what issues will receive most of our attention in the five-year period 2003–2008.



## Background

Oregon Sea Grant was established in 1967 as one of the first four Sea Grant programs in the nation. It remains one of the four largest and most productive of the 30 programs nationwide. The program's staffing, internal organization, and position in the university is shown schematically in Appendix 1. In the early years, we carried out formal planning exercises for all Sea Grant programs to plot their near-term future, largely as part of the biennial omnibus proposal process. Because formal planning was not strategic, too many of our relationships, processes, and activities existed simply because they had always existed. However, in the turbulent political and economic environment of the 1980s and early 1990s, such a short-term approach to planning proved to be unwise and untenable. Consequently, by the mid 1990s the strategic planning expectations and requirements for the Sea Grant network had changed dramatically. Oregon Sea Grant engaged in an intensive planning process in 1996 and 1997 and published and distributed its first five-year strategic plan for the period 1998–2003. That document provided the foundation for the 2003–2008 plan that follows.

Beginning in 2000, the unprecedented fiscal crisis experienced by the state of Oregon and its university system created formidable challenges for Oregon Sea Grant. As the economic situation deteriorated, it became increasingly more important for us to improve internal functions and to nurture partnerships among Oregon Sea Grant's major program elements: research, education, and outreach. It also became evident to us that we needed to find new ways to interact with various units within Oregon State University (OSU), with other institutions of higher education in Oregon, and with state and federal agencies. Likewise, we knew that we needed to be more knowledgeable than ever about coastal and marine issues and particularly about how our research, education, and outreach efforts could make the most difference in addressing those issues.

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### Mission Statement

Oregon Sea Grant develops and supports research, outreach, and education programs that help people understand, rationally use, and conserve marine and coastal resources.

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## Program Values

Oregon Sea Grant is committed to carrying out and supporting programs that will make a difference, both in the way people perceive the ocean and its resources and in the way they act to use and conserve those resources. Toward that end we address issues on the basis of the probability of our stimulating positive change, not on the likelihood of our generating headlines for Sea Grant. Further, we recognize that our mission is to provide objective information in a useful form so that our stakeholders can better understand issues and make informed choices. We are not in the business of making those choices for them.

Oregon Sea Grant's Management Team allocates funds and other resources to best serve our many stakeholders, not to accommodate any preconceived budgetary expectations. Therefore, a critical element of our planning and our activities is to create and use mechanisms for connecting with and simply listening to our stakeholders.

We at Oregon Sea Grant consider ourselves to be stewards, not owners, of the program. We are guided by a strong sense of responsibility for maintaining and nurturing the program's remarkable reputation for quality, productivity, and impartiality. Oregon Sea Grant can be effective only if its people scrupulously avoid conflicts of interest and the appearance of conflicts of interest.

We view Sea Grant's communication, education, research, and extension capabilities not as semi-independent programs, but as tools to be integrated in combinations that can do the most good. In Oregon there is only one Sea Grant, and it is much more than the sum of its parts.

Partnerships can make possible what could not be done by Sea Grant or by our potential partners alone. Therefore, we seek partnerships that will allow us to objectively address issues with a broad range of talents and abilities and on a scale that is appropriate for each issue.

We recognize that Oregon Sea Grant is people and that the program can never be more effective than its people make it. We value and respect the people of Sea Grant. We strive to provide a rewarding work environment and to encourage the personal and professional growth of all of our staff, no matter what their roles or positions.

We value excellence in every aspect of this program. No matter how effective and efficient our policies and programs may be, we believe that all aspects of Oregon Sea Grant can and must be continuously improved.

We recognize that the majority of important coastal and marine issues are not restricted by the borders of a single state. Forming partnerships and addressing problems and opportunities from a regional perspective are fundamental to our management thinking.

We cannot productively pursue all or even most of the opportunities and challenges that fall within Sea Grant's mandate. We make carefully considered choices about how best to use our limited time and resources, and although we are prepared to take risks, we maintain our focus clearly on our goals and objectives.

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### **Vision Statement**

Oregon Sea Grant is much more than a grant or a funding source. It is an integrated program of research, education, extension, and communications that is broadly understood and supported at OSU and throughout Oregon's university system. Oregon Sea Grant makes things happen. It is an innovator recognized for its willingness to support the development and application of new approaches to addressing critical issues. Constructive partnerships and a broad funding base have helped Oregon Sea Grant become a leading national and regional creator of knowledge and trusted provider of information.

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# Oregon Sea Grant's Strategic Goals

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Oregon Sea Grant's programmatic strategic goals include both *functional goals* and *thematic goals*. These two types of goals and their associated strategies are defined and presented below.

## Definitions

Our functional goals and objectives guide the way the business of Sea Grant is conducted in Oregon. They relate primarily to how we set priorities and make decisions and not to what our priorities are or what themes and issues we plan to address. Our current functional goals resulted from the program's ongoing formal and informal strategic planning, a continual cycle of examining and reexamining every aspect of the way we operate.

*Thematic goals* and objectives describe the themes and issues that Oregon Sea Grant expects to address over a specific period of time. They are critical state and regional issues that lie fully within the framework of the National Sea Grant and NOAA strategic plans.

In the document that follows, we make distinctions among goals, subgoals, and objectives. For our purposes, the word *goal* implies a long-term target, an ultimate destination, or a broad and desirable outcome that has no clear end point and certainly cannot be achieved in the five-year time frame of the planning document. For example, creating a more scientifically literate public is a goal. It is not something that can ever really be completed, but measurable steps can be made toward achieving it. A *subgoal* addresses one facet of the larger goal, but it is still not fully achievable within the time frame of the plan. An *objective* is distinguished from a goal and subgoal by its having a narrower scope and, more importantly, by the fact that an objective must have measurable outcomes that can be achieved within the time frame of the plan. In short, by our definitions, goals and subgoals can be only approached, but objectives can be achieved.

## The Planning Process

The Oregon Sea Grant Management Team does not set the program's functional and thematic goals. The team oversees and participates in the strategic planning processes but relies heavily on the observations and insights of our Advisory Council, the Sea Grant Extension and Sea Grant Communications staff, external organizations and agencies, and other stakeholders.

## Functional Planning

Oregon Sea Grant's functional strategic planning is a continual process. Over the years we have held a number of meetings and workshops with stakeholders specifically for the purpose of functional strategic planning. But we believe that planning burnout is a reality and that if an event is advertised literally as a strategic planning meeting, meaningful participation is likely to be limited. For that reason a key part of our planning process involves our creating other opportunities for us to observe and listen carefully to our stakeholders. For example, we meet annually with currently funded Sea Grant researchers to familiarize them with our processes and policies. Although we do not refer to them as strategic planning meetings, the meetings give us the opportunity to talk to an important group of stakeholders about how we might improve our research program.

A notable exception to our opportunistic approach to strategic planning took place in August 2002. At that time we contacted our research stakeholders and invited them to join us to discuss ways in which the processes and policies of our competitive grants program could be improved. We did not use the words "strategic planning meeting," although of course that is what it was. In this case we defined *stakeholders* as anyone who had sought or received funding from Oregon Sea Grant in the previous six years. About 100 people were invited. More than 40 of them were able to attend the meeting, and several more participated by e-mail. Recommendations that resulted from the meeting were distributed broadly to allow those who could not attend the meeting to participate in the conversation.

Those who participated made it abundantly clear that they were most troubled by the declining probability of funding for research proposals submitted to Oregon Sea Grant. They understood that the number of proposals we were able to support was declining because of the increasing costs of research in the face of relatively static programmatic funding. We discussed some possible actions that could be taken, and of the options available to us, the group overwhelmingly preferred having limits placed on the size and duration of individual research grants. The Management Team and Advisory Council discussed the meeting's outcomes and agreed that a 50 percent success rate for full proposals submitted to Oregon Sea Grant should be one of our functional objectives. As a result, our 2004–2006 RFP informed potential respondents that their chances of being funded would be significantly reduced if they requested more than \$85,000 per year or if they sought more than two years' funding. In the end we achieved our goal of at least a 50 percent success rate by funding 12 of the 20 full proposals that we received for the 2004–2006 biennium.



## Thematic Planning

Experience has shown us that one can inadvertently predetermine the outcome of formal thematic planning meetings simply through the process of developing the meeting announcements and invitation lists. For that reason, formal strategic planning meetings are not our only source of information about current issues and needs. We use every conference and workshop that we attend as an opportunity to learn more about issues and to validate our current priorities and plans. In addition, we do occasionally hold meetings specifically for thematic planning. Two of these meetings, a series of seven workshops and a topical advisory team visit, are described below.

In October 2000 Oregon Sea Grant held a series of seven thematic planning workshops over a two-day period. Each workshop had its own invitation list, but participants were encouraged to attend any of the workshops that interested them. About 250 stakeholders were invited to the workshops, and over 100 actually attended. Attendees were from the academic research community; local, state, and federal agencies; nongovernmental organizations; industry and business; Extension; and the public at large. The seven theme areas included coastal natural hazards, coastal development and tourism, aquaculture, seafood processing and safety, estuaries, marine ecosystems and habitat, and fisheries. Each workshop resulted in a written report that captured the key points of discussion and listed research needs and priorities. The reports were reviewed broadly and were discussed at length by our Advisory Council before Oregon Sea Grant thematic goals and objectives were defined.

Of course, research is not this program's only thematic activity. For more than 25 years, Oregon Sea Grant has supported K–12 educational outreach programs for students and teachers, primarily at the Hatfield Marine Science Center (HMSC) in Newport. We also manage the Visitor Center of HMSC, which hosts over 150,000 visitors a year. The opening of the Oregon Coast Aquarium less than one mile from HMSC and the pending retirement of the Extension specialist who led the K–12 work led us to reexamine our programming in that theme area. Toward that end, with the help of the National Sea Grant Office (NSGO), on June 10, 2002 we convened a topical advisory team at HMSC. Jerry Schubel, president and CEO of the Aquarium of the Pacific in Long Beach, California, and a member of the Sea Grant National Review Panel, chaired the team. The other team members were Beth Day and Emory Anderson, from the NSGO; John Falk, from the Institute for Learning Innovation in Annapolis, Maryland; Christine Ebert, from the University of South Carolina; and Lynn Whitley, from the University of Southern California.

We asked the team to help us evaluate needs and opportunities in both formal and informal education and to assess our programmatic strengths and weaknesses in these same areas. Specifically, we asked the team to present their findings as a series of observations and relevant recommendations. The team toured the facilities and met with a variety of faculty, staff, and stakeholders, as well as with the Management Team of Oregon Sea Grant. They reported their findings to us in an open meeting and later submitted a written report.

The report contained a number of interesting observations and very useful recommendations. Unquestionably the most far reaching of them was the observation that Oregon Sea Grant had at the HMSC a unique opportunity in the area of informal education. Their recommendation was that we not only continue to carry out work in public education but conduct research to improve the art and science of using displays, exhibitry, and other means to carry out informal or “free-choice” education. The recommendations led to further discussions with stakeholders over a period of nearly two years. As a result, Oregon Sea Grant has refocused its marine education program to include greater emphasis on informal learning.

## How We Use This Strategic Plan

We use our strategic goals and objectives on a daily basis to guide our decision making. We use them by first converting the goal statements into very simple descriptors of desirable features or actions, such as “involves partnerships” or “builds new capacity.” In effect, these descriptors become the criteria that help us make choices. At Oregon Sea Grant those criteria are grouped into what we call *program decision filters*. For example, functional strategic planning led us to conclude that we should approach issues on a regional basis whenever possible. Therefore, regionality is included among the criteria that make up the filter we use in the process of selecting final proposals. Thus, our filters form the links between our strategic planning and our decision making. Appendix 2 shows how the filters link our strategic planning to critical programmatic decision making. We use nine separate filters. All of them have been thoroughly reexamined and all but one or two of them have been modified since they were first presented in our 1998–2003 strategic plan.

# Oregon Sea Grant's Functional Goals and Subgoals

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## Functional Goal 1

*To direct the attention of talented researchers and educators in Oregon to the most pressing local, regional, and national marine and coastal problems.*

### Subgoal 1.1

To know the talents and relevant areas of interest of researchers and educators in Oregon's institutions of higher education.

### Subgoal 1.2

To be aware of the most critical coastal and marine issues, to anticipate the emergence of new issues, and to determine how Sea Grant's actions can make the most difference toward addressing those issues.

### Subgoal 1.3

To use Sea Grant's resources to productively link the most capable researchers and educators to the most critical issues.

## Functional Goal 2

*To create multidisciplinary teams and sustained partnerships in order to more effectively address complex coastal and marine issues.*

### Subgoal 2.1

To establish sound working relationships with governmental and nongovernmental entities, to understand their goals, priorities and capabilities, and to create effective and lasting partnerships with them.

### Subgoal 2.2

To facilitate the development of teams, particularly interdisciplinary and multi-institutional teams, in order to bring the best available talent to bear on critical issues.

### Subgoal 2.3

To create self-sustaining partnerships between researchers and outreach professionals.

### Functional Goal 3

*To advance the state of the art and science of informal education (that is, free-choice learning).*

#### Subgoal 3.1

To elevate Oregon institutions to national and international leadership in research, development, and evaluation of effective informal public education.

#### Subgoal 3.2

To promote through Oregon State University the development of formal course offerings, degree programs, and professional development opportunities in the art and science of free-choice learning.

### Functional Goal 4

*To create and sustain meaningful formal and informal educational opportunities for learners at all levels.*

#### Subgoal 4.1

To create new learning opportunities for graduate and undergraduate students in a variety of disciplines by establishing and sustaining innovative fellowships and scholarships.

#### Subgoal 4.2

To maximize the number of graduate and undergraduate students supported on Oregon Sea Grant research grants and involved in activities of Oregon Sea Grant extension and communications.

#### Subgoal 4.3

To create informal educational opportunities for youth, professionals, adults, and families.

#### Subgoal 4.4

To increase the development and distribution of educational opportunities and materials to professional educators and the public through innovative bookstore programs.

## Functional Goal 5

*To enhance the capacity of Oregon Sea Grant programs to make a positive difference despite the uncertain economic environment.*

### Subgoal 5.1

To improve Oregon Sea Grant's flexibility and productivity by diversifying the program's sources of funds and in-kind support.

### Subgoal 5.2

To attract cofunding and participation from other entities for new and ongoing research and education programs.

### Subgoal 5.3

To encourage and assist Oregon Sea Grant outreach and education personnel to obtain external funds from agencies and foundations for activities that are compatible with this program's mission and goals.

### Subgoal 5.4

To invest Oregon Sea Grant funds to support only work that will not otherwise take place.

## Functional Goal 6

*To improve public awareness of Oregon Sea Grant's capabilities, accomplishments, services, and products in order to obtain the maximum societal benefit from the program's activities.*

### Subgoal 6.1

To ensure that Oregon Sea Grant products and programs are clearly identified as such to audiences and users.

### Subgoal 6.2

To actively market Oregon Sea Grant products and programs.

### Subgoal 6.3

To establish institutional partnerships that result in wider distribution of Oregon Sea Grant products.

#### Subgoal 6.4

To motivate Sea Grant principal investigators to integrate effective and appropriate outreach into their research projects.

### **Functional Goal 7**

*To promote continuous improvement in Sea Grant's products and services by bringing about personal and professional growth and development in every Oregon Sea Grant staff and faculty member.*

#### Subgoal 7.1

To create opportunities for every Oregon Sea Grant staff member to participate in at least one appropriate professional training experience or attend at least one workshop or conference each year.

#### Subgoal 7.2

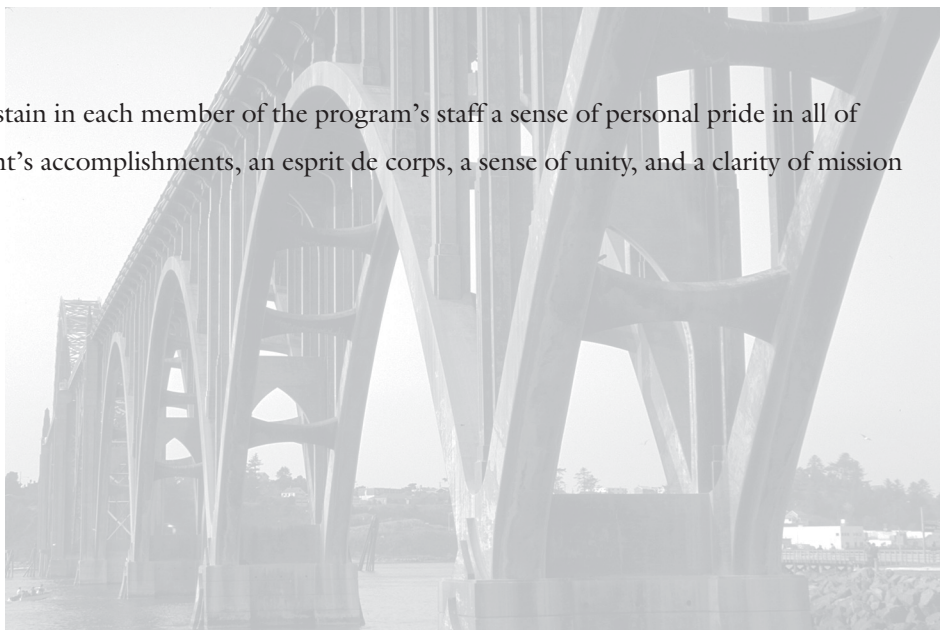
To provide every Oregon Sea Grant staff member with at least one meaningful leadership opportunity each year.

#### Subgoal 7.3

To create mechanisms for providing tangible rewards to Oregon Sea Grant staff members who display innovation, exceptional professionalism, and high productivity in the work place. Rewards will include, but will not be limited to, special awards, public recognition, merit increases in salary, and promotions.

#### Subgoal 7.4

To create and sustain in each member of the program's staff a sense of personal pride in all of Oregon Sea Grant's accomplishments, an esprit de corps, a sense of unity, and a clarity of mission and vision.



## Oregon Sea Grant's Thematic Goals

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The basic thematic outline below is derived from the FY 2003–2008 Draft National Sea Grant Strategic Plan (dated September 26, 2003). It consists fundamentally of the 10 theme areas that at the time of this writing had been recognized and described by the NSGO and the Sea Grant Association theme teams. Although all 10 theme areas are included here, Oregon Sea Grant cannot address all of them, certainly not all at the same time. Highlighted below are those themes and issues that were determined by our processes to be most appropriate for our program to address.

Our thematic issues filter (Appendix 3) helped guide our decisions regarding which of the many important themes we should address in the 2003–2008 time frame. With help from stakeholders and advisors, we applied this filter to the many themes and specific issues that our planning processes identified. Application of this filter or any of the other filters is not intended to replace the use of sound judgment. As the reader will note, meaningful use of the thematic filter requires thorough knowledge of the issues and the ongoing research, outreach, and education activities in coastal and marine resources. It also requires knowledge of the talents and interests of researchers and others who might be available to carry out new activities.

### The Priority Theme Areas Established by the National Sea Grant Network (9-26-03):

Theme Area I. Aquaculture

Theme Area II. Biotechnology

Theme Area III. Coastal Communities and Economies

Theme Area IV. Coastal Natural Hazards

Theme Area V. Digital Ocean

Theme Area VI. Ecosystems and Habitats

Theme Area VII. Fisheries

Theme Area VIII. Marine and Aquatic Science Literacy

Theme Area IX. Seafood Science and Technology

Theme Area X. Urban Coasts

## Oregon Sea Grant's Thematic Priorities

### Theme Area I. Aquaculture

The state of Oregon has not created a friendly political or business environment for most forms of commercial aquaculture in its coastal zone. For that reason, and until public attitudes and state policies change, sustainable aquaculture is unlikely to flourish in Oregon. Consequently, aquaculture is not among the highest priorities for Oregon Sea Grant. On the other hand, we acknowledge the national importance of aquaculture. We also recognize Oregon State University's exceptional research strength and record of achievement in aquaculture, and we plan to build on that strength in specific areas of the aquaculture theme.

Goal I.A. To enhance our understanding of pathogens and diseases of fish and shellfish and to develop effective environmentally benign approaches to disease prevention and control.

This is an area of demonstrated strength and productivity at OSU. The results of work carried out by Oregon researchers in the area of fish and shellfish health are being used by the private aquaculture industry and by public and private fish hatcheries around the world. Oregon Sea Grant is not actively building in this area, but we will be alert to unforeseen problems, opportunities, and needs. We will respond as the circumstances require, particularly when the problem affects or could affect both cultured and wild stocks.

Goal I.B. To contribute substantively to the environmentally sound and sustainable use of marine ornamentals as a hobby, as a global industry, and as an educational tool.

Our stakeholders in the theme area of marine ornamentals include hobbyists, retailers, wholesalers, manufacturers, shippers, and the managers of large public aquaria. Our subgoals and objectives here include refining the essential elements of husbandry. They also include development of new tools and approaches to training highly skilled specialists capable of designing and maintaining large aquaria. And finally, we are particularly interested in developing and refining the art and science behind the use of aquaria in public education and in classroom settings.

Goal I.C. To enhance the viability and sustainability of the Pacific Northwest oyster industry.

The Pacific Northwest has become the nation's largest producer of oysters. OSU's Hatfield Marine Science Center is home to a major shellfish brood-stock program funded by the U.S. Department of Agriculture. Sea Grant particularly seeks opportunities to contribute to



advancing shellfish culture by supporting regional research and outreach that adds value to the ongoing work.

## **Theme Area II. Biotechnology**

Marine biotechnology is an area of program focus and strength for Oregon Sea Grant. We recognize that relatively long-term investments are often necessary to realize significant impacts in biotechnology. However, we expect funded projects to have specific objectives and to show sustained progress toward their goals. We also require researchers to specifically describe how they intend to connect their work to potential users, and we judge the quality of the projects' outcomes in part on the basis of how effectively the researchers interact with industry and other stakeholders.

Goal II.A. To use marine biotechnology to develop tools and approaches for extracting, testing, and applying useful natural products from marine organisms.

Goal II.B. To develop novel tools for application to environmental remediation and monitoring.

Goal II.C. To apply biotechnology to the development of innovative tools and techniques for use in aquaculture.

## **Theme Area III. Coastal Communities and Economies**

The area of coastal communities and economies has received particular attention from Oregon Sea Grant since the mid 1990s, when Oregon Sea Grant identified and recruited talented and interested researchers to collaborate with Sea Grant Extension faculty. As a result, a subprogram, called Adapting to Change, was begun in 1994 and completed in 2000. The effort was so successful that it left as a lasting legacy the recognition among stakeholders that the social and economic issues faced by coastal communities are important and amenable to well-conceived and well-executed programs of research and outreach.

Goal III.A. To help coastal communities adapt to changing coastal demographics and workforce issues and to changes in natural resource availability and uses. We are particularly interested in addressing the coast's rapidly increasing Hispanic population and in understanding

the impacts on coastal communities of increasing numbers of tourists, seasonal residents, and retirees.

Goal III.B. To address the ecological and environmental dimensions of sustainable coastal development, particularly coastal management policy, multiple uses of resources, wastewater management, and drinking-water availability.

Goal III.C. To support research and outreach that improves the business aspects of the rapidly evolving Pacific Northwest fishing industry.

#### **Theme Area IV. Coastal Natural Hazards**

Oregon Sea Grant research and outreach has for many years addressed issues relating to coastal natural hazards. Particular attention has been given to regional issues such as earthquakes, subsidence, chronic and acute erosion, and tsunami inundation. That work has led to better understanding of the past and potential future impacts of chronic and catastrophic natural processes and to a greater public awareness of the issues. However, coastal development continues to exacerbate the problems created by coastal hazards, and the need for additional work remains.

Recently OSU completed a major NSF-funded expansion of its research systems at the Hinsdale Wave Laboratory, making it the largest facility of its kind in the world. Concurrently, a number of new researchers with expertise in coastal engineering have been added to the faculty.

The university's significantly enhanced research capability in this theme area, together with the continuing need, led Oregon Sea Grant's stakeholders to advise us to include coastal natural hazards among the program's highest priorities for 2003–2008.

Goal IV.A. To support research that leads to improvements in our ability to understand and model coastal waves and their effects.

Goal IV.B. To facilitate research that enhances our ability to predict and prepare for tsunami inundation and seismically induced coastal subsidence.

Goal IV.C. To expand the use of existing and new coastal hazard information in regional as well as local coastal and community plans and to safeguard human life and coastal and port facilities.

## Theme Area V. The Digital Ocean

This theme area has elements in several of the other areas, but we particularly want to highlight our interest in digital imagery and education.

Goal V.A. To develop effective tools and approaches to using digital imagery to assist decision makers and to enhance public education.

## Theme Area VI. Ecosystems and Habitats

Since 1998 our interest in coastal ecosystems largely has revolved around essential fish habitat, ecosystem restoration, and aquatic nuisance species. Although considerable progress has been made, those issues continue to be important, and they remain among our highest priorities. We plan to maintain outreach efforts in the areas of watershed restoration and aquatic nuisance species. On the other hand, our research goals and objectives in this theme area will be somewhat more focused, with a special emphasis on estuaries and estuarine restoration. We recognize that several million dollars are invested annually by various agencies on research relating to Pacific Northwest watersheds and that a similar though smaller investment is made in studies of estuaries. For that reason, we will place our emphasis on forming partnerships and on supporting research on key topics that would otherwise be missed.

Goal VI. A. To enhance public understanding of issues surrounding aquatic nuisance species and particularly of the role that citizens can play in preventing the introduction of such species.

Goal VI. B. To educate decision makers and the public about the importance of coastal watersheds and about effective approaches to their restoration.

## Theme Area VII. Fisheries

The work we seek to support in this theme area will integrate research and outreach and will make use of partnerships with industry, agencies, and others to address major problems. Our programmatic emphasis will be on research and outreach that addresses the many unknowns and uncertainties in our understanding of the life histories and habitat needs of groundfish and salmonids. Our priorities also include research on innovative approaches to fishery management and on outreach that improves communications among fishery stakeholders and that assists the fishing community.

Goal VII.A. To improve the models on which management is based.

Goal VII.B. To improve communications and decrease fragmentation within the fishing community, particularly between gear types, and to support the fishing community through this period of economic and social upheaval.

Goal VII.C. To improve communications and understanding among coastal communities, the recreational and commercial fishing industries, and academic and agency scientists.

Goal VII.D. To identify innovative and effective approaches to fishery management and assist industry leaders and managers in understanding the benefits and limitations of such approaches.

### **Theme Area VIII. Marine and Aquatic Science Literacy**

Enhancing marine and aquatic science literacy through varied programs of marine education is one of Oregon Sea Grant's highest priority thematic goals. In fact, each of the marine and coastal issues that this program addresses has the potential to be the focus of programs to improve science literacy in various audiences. In that sense, science literacy is a component of all of our other high-priority programmatic themes, and it is therefore listed below among the crosscutting themes. In addition, Oregon Sea Grant plans to conduct and support activities that specifically target this important theme area and that contribute specifically to the art and science of marine education.

The Visitor Center of the OSU Hatfield Marine Science Center includes exhibits, aquaria, and other displays that are seen by about 150,000 visitors annually. The youth marine education program annually serves nearly 12,000 K–12 students from all over the Northwest, including Montana and northern California. Oregon Sea Grant is responsible for operating and managing the center, which allows us to use the center as a kind of teaching and research laboratory in which to carry out studies that will improve the art and science of lifelong learning.

Goal VIII.A. To create a more scientifically and environmentally informed citizenry.

Goal VIII.B. To develop and test strategies and tools for effective informal science education.

Goal VIII.C. To improve the science education competencies of professionals in lifelong learning.

Goal VIII.D. To enhance the training of teachers in marine sciences and to develop educational materials for teachers and students.

Goal VIII.E. To engage diverse populations of people traditionally underrepresented and underserved in marine and aquatic sciences education and careers.

Goal VIII.F. To foster the development of networks and collaborations with formal and informal science educational institutions and groups toward increasing access to marine and aquatic sciences for people throughout the state and region.

Goal VIII.G. To improve the rearing, husbandry, and health care of ornamental fish and invertebrates in the aquarium or pond environment.

### **Theme Area IX. Seafood Science and Technology**

Oregon's coastal communities support a seafood industry that faces increasing challenges. But issues of competitive global markets, stricter safety regulations, rising process costs, and a leveling off of landings bring opportunities as well. Developing new and higher-valued products, efficient and clean processes, technologies to detect and maintain high levels of seafood safety, value, and nutrition—all contribute to a sustainable industry and to economically stable communities.

OSU has one of the premier seafood research facilities and research faculties in the U.S. Their remarkable achievements and capability to address the great number of important problems and opportunities that exist in this theme area have made seafood a major element of Oregon Sea Grant's research and outreach for many years. New regulations, food safety and nutrition issues, escalating process costs, opportunities to market new products—all signal continuing needs in which Oregon Sea Grant can make important contributions toward progress. Therefore, those areas constitute the core of thematic priorities in seafood.

Goal IX.A. To develop new and higher-valued seafood products.

Goal IX.B. To promote seafood process efficiency through waste reduction, byproduct utilization, and reduced consumption of energy and fresh water.

Goal IX.C. To ensure seafood safety through new process technology, new methods of rapid detection, and effective outreach.

Goal IX.D. To improve seafood product quality and safety and enhance new product development and processing technology.

Goal IX.E. To develop and promote waste-management approaches that reduce the amount and types of solid waste and minimize the use of fresh water in seafood processing.

### **Theme Area X. Urban Coasts**

Portland is a major port city, but it is about 100 miles up the Columbia River and inland from the sea. Most of Oregon's coast is quite rural, and in fact, no Oregon coastal community has a population exceeding 30,000. Oregon Sea Grant has a number of research and outreach goals that are directly applicable to urban environments (for example, coastal hazards, education, and estuarine restoration), but the area of urban coasts is not included among our highest priorities as a stand-alone theme area.



## Crosscutting Theme Areas

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### 1. Environmental Literacy, Outreach, and Education

In Oregon Sea Grant we do not consider it especially useful to rigidly differentiate among education, outreach, extension, or communications. What is important is that those activities all involve providing people with information or access to information that they care about and can use. The major components of our program, including extension, communications, research, and administration, all have the responsibility of carrying out and encouraging outreach and education. This fact, and the fact that our program components share the same goals and have the same functional and thematic priorities, significantly enhances the efficiency and effectiveness of our activities in outreach and education.

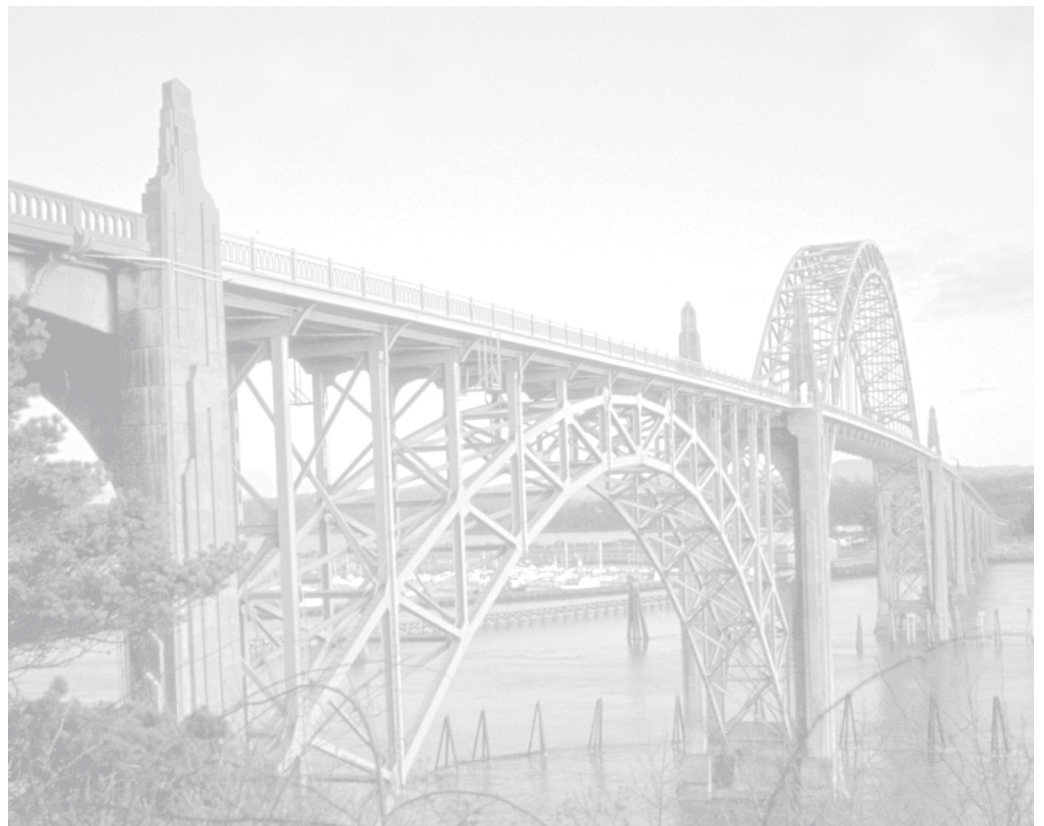
Our programmatic goals in education are given in Functional Goal 3 and Thematic Goal VIII, and they are not repeated here. In general we want to emphasize that we intend not only to carry out effective public education programs, but at the same time to enhance the art and science of informal (free-choice) education. While we are fortunate to already have a cadre of highly capable educators, communicators, and extension professionals, an important prerequisite to our meeting our overall goal will be to build the capacity of this university to carry out research and teaching in free-choice learning.

### 2. Sound, State-of-the-Art Research

We take great pride in the quality of the research Oregon Sea Grant supports. To ensure that the research we support continues to be sound and state-of-the-art, we have developed and refined a rigorous peer-review process. We have also used the best out-of-state experts available to serve on our proposal review panels. One of our most important functional goals is to continue to use and improve the mechanisms that enable us to have a sound research program that is on the leading edge of science and technology.

### **3. Information Technology and Administrative Products and Services**

Our development and use of computer-based systems, including innovative Web-based systems for handling proposals and peer reviews, have streamlined our process and allowed us to focus our time and energy on obtaining the most meaningful reviews possible. The technology we have developed is being made available to any Sea Grant program that would like to use it. Thus, we hope that our efforts can contribute to this crosscutting theme area throughout the Sea Grant network.





## **Appendices**

### **Appendix I**

Oregon Sea Grant Organizational Chart

### **Appendix II**

The Application of Strategic Planning to Decision Making and the Management of Oregon Sea Grant

### **Appendix III**

Decision-Making Filters Used to Manage the Oregon Sea Grant Program

## Appendix 1

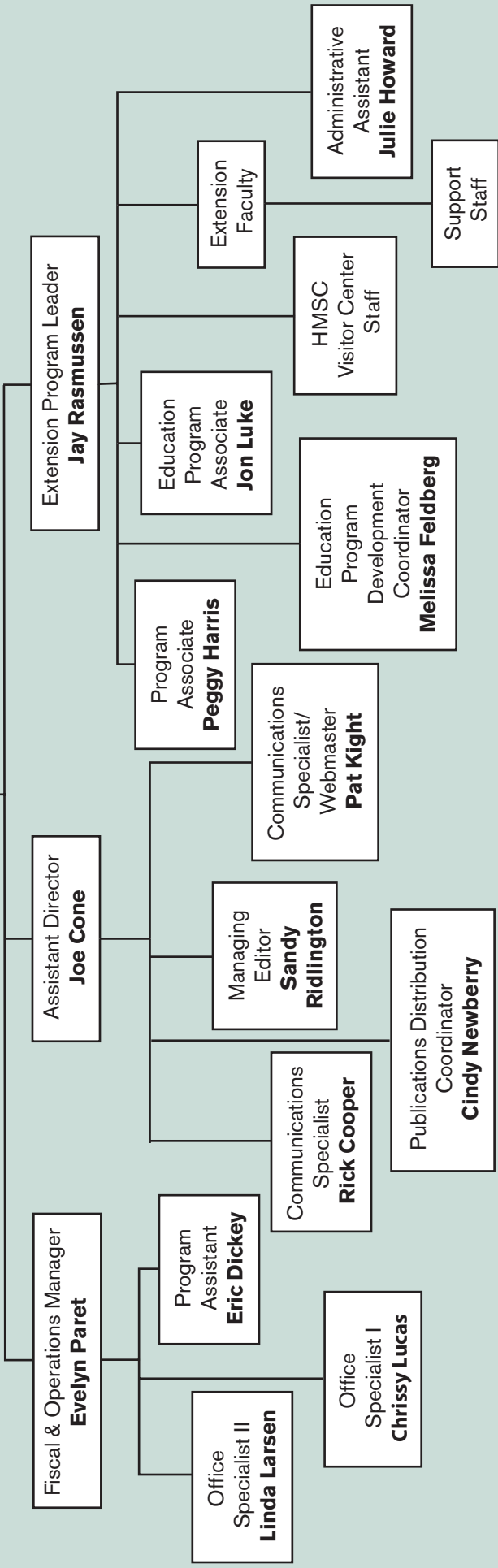
### Oregon Sea Grant Organizational Chart

This figure shows the structure of Oregon Sea Grant and, in particular, the close relationships among Oregon Sea Grant’s four major program elements—research, extension, communications, and education. Note also that the program’s director reports to Oregon State University’s vice president for research, who in turn reports directly to the OSU president.

OSU President  
**Ed Ray**

Vice President for Research  
**John Cassidy**

Sea Grant Director **Bob Malouf**  
Associate Director **Jay Rasmussen**



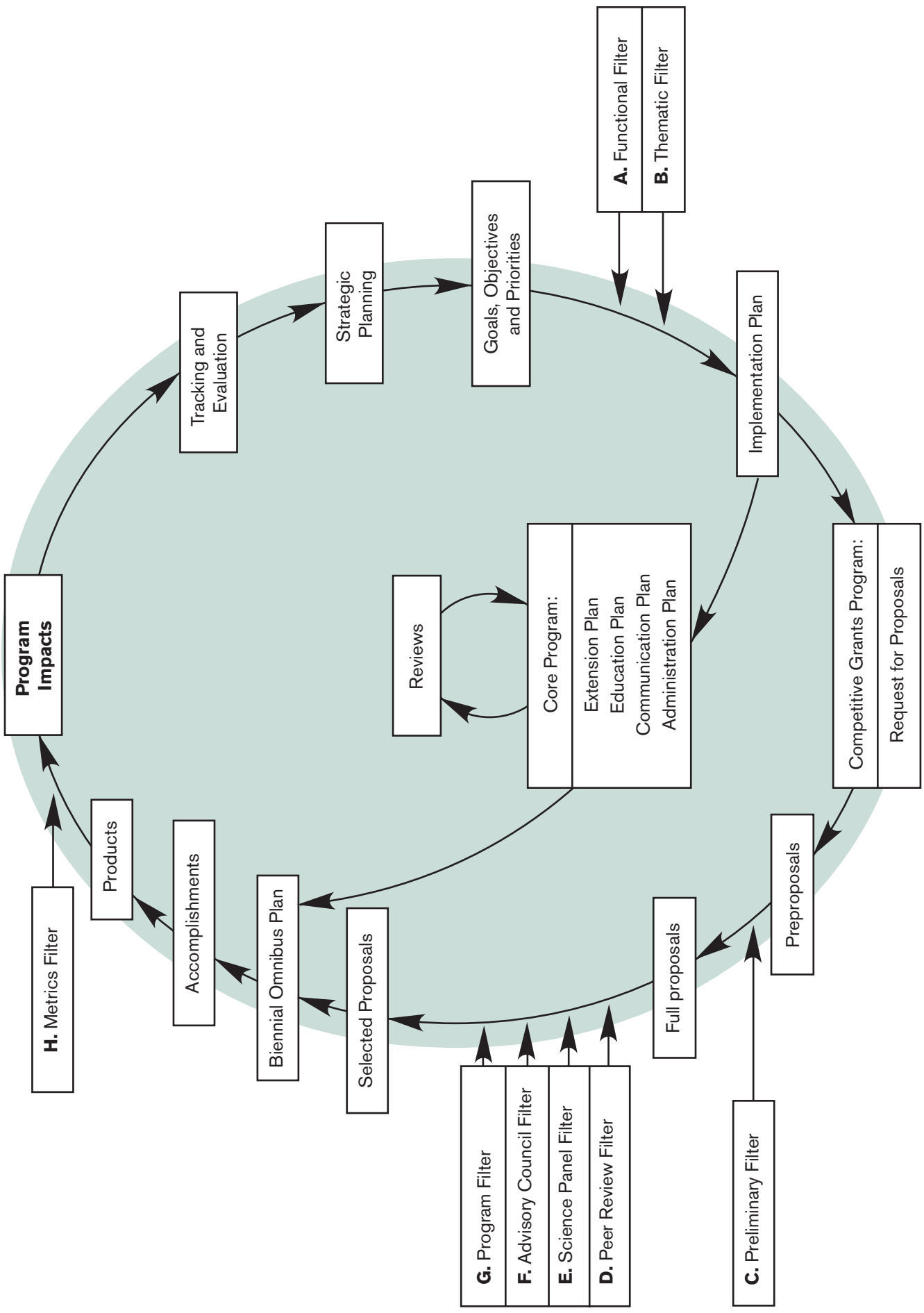
## Appendix 2

### The Application of Strategic Planning to Decision Making and the Management of Oregon Sea Grant

Following is a schematic outline of Oregon Sea Grant’s cyclic processes of functional planning (how we operate) and thematic planning (what we do), followed by implementation, by evaluation, and again by planning. The lower portion of the figure specifically shows the competitive processes that we use to solicit, review, and select what are primarily research proposals for inclusion in our biennial omnibus plan.

The most important feature of this figure is that it shows how and where we actually apply strategic planning to decision making (see points where filters intersect the figure). Our strategic planning is much more than an exercise. Planning guides our most important programmatic decisions, and this figure shows how.

In the figure there are eight boxes labeled *filters*. These decision filters consist of criteria, or lists of questions, that are derived from and revised through our strategic-planning process. The answers to the questions allow us to filter the most desirable options from many alternative choices.





## Appendix 3

### Decision-Making Filters Used to Manage the Oregon Sea Grant Program

Oregon Sea Grant filters are lists of decision criteria. Each of the filters presented in this appendix, except I, which lists criteria used to make decisions about Program Development funding, is shown schematically in Appendix 2 in its appropriate position. The filters themselves are developed and periodically reexamined for consistency with our functional strategic plans. In effect, the filters link our strategic-planning activities to the decision-making processes we use to create our biennial omnibus and implementation plans.

# Oregon Sea Grant Filters

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Filter	Application
<b>A. Functional Filter</b>	Used by the Management Team and the Oregon Sea Grant Advisory Council to screen functional goals and objectives for special focus
<b>B. Thematic Filter</b>	Used by the Management Team and Advisory Council to screen issues for possible Oregon Sea Grant action
<b>C. Preproposal Screening Filter</b>	Used by the Management Team and the Advisory Council to screen preliminary proposals for possible development into full proposals
<b>D. Peer Review Filter</b>	Used by external peer reviewers for their written reviews of full proposals
<b>E. Science Panel Filter</b>	Used by the panel of external peer scientists who meet to interpret written peer reviews and evaluate full proposals
<b>F. Advisory Council Filter</b>	Used by the Advisory Council to further screen those full proposals that the peer reviewers and the science panel (D and E above) have given high merit ratings
<b>G. Program Filter</b>	Used by the Management Team to determine which of the highly ranked full proposals should receive funding
<b>H. Metrics Filter</b>	Used by the Management Team to define and evaluate the program's outcomes and impacts
<b>I. Program Development Filter</b>	Used by the Management Team to screen requests for Program Development funding

**A. Functional Filter.** Used by the Management Team and the Oregon Sea Grant Advisory Council to screen functional goals and objectives for special focus.

Oregon Sea Grant has seven major functional goals and many more functional objectives, all of which are derived directly from our program values and mission. All seven of the goals are integral to our day-to-day decisions and activities, and they are all equally important. On the other hand, we obviously cannot give all of the functional objectives within those goals the same relative emphasis at all times. So the question arises, How do we decide where to put our greatest effort? Addressing the seven questions that follow still requires a considerable amount of experience and judgment, but the filter does help us examine the options and guides our decision making about some of the competing demands on time and resources.

All of the questions below that make up this filter are potentially important. Although it is not possible to foresee every situation under which the filter might be applied, under most circumstances the first three questions below, designated Tier I, have proven to be most important. The remaining four questions, Tier II, are always considered, but they are less critical than the first three. The questions are listed in no particular order within the two tiers.

#### **Tier I**

1. What, if anything, do we have to stop doing in order to do this? Can we shift our efforts and take action to pursue a new opportunity without abandoning or seriously risking our pursuit of other critical goals and objectives?
2. Could our action in pursuit of an opportunity jeopardize Sea Grant's reputation for impartiality? By taking this action will we appear to be taking sides on an issue?
3. Would our taking this action be harmful to our working relationships with other organizations? For example, are we going to be competing with our partners?

#### **Tier II**

1. Does Oregon Sea Grant have the resources, or can we obtain the resources needed, to take the contemplated action in pursuit of a functional objective? Do we have the time, money, and expertise that would be needed?
2. Is the opportunity to pursue an objective time sensitive? In other words, can we wait, or must we act immediately if we intend to act at all?
3. Would the contemplated action address a functional objective toward which we have already made significant progress? Conversely, would the action be toward an objective that has to date received little or no attention?
4. By this single course of action, can we address more than one functional objective at once?



**B. Thematic Filter.** Used by the Management Team and Advisory Council to screen issues for possible Oregon Sea Grant action.

The thematic filter, like many of the others, includes two classes, or tiers, of criteria. In this case, placement of a criterion in either Tier 1 or Tier 2 is related to how accurately we think we can answer the criterion's questions *and* how important we think the questions are. For example, we will know whether a theme or issue is an appropriate activity for a university with more confidence than we will know whether the talent is present in this state to address the issue. So appropriateness for a university is addressed in the questions of Tier 1, whereas the presence of the necessary interest and talent is addressed in Tier 2, even though in the end both are important criteria. The criteria (questions) within a tier are presented in no particular order.

### **Tier 1**

1. Is it an issue that falls within Sea Grant's mission, and would work on it be an appropriate university activity?
2. Is it an issue that is important regionally and nationally? Does it matter to this program's stakeholders?
3. Is the issue consistent with the strategic plans of NOAA, the National Sea Grant College Program, Oregon State University, and Oregon Sea Grant?

### **Tier 2**

1. Is there a reasonable probability that meaningful progress can be made toward addressing the issue within the typical funding limitations of an Oregon Sea Grant project?
2. Is there a reasonable probability that meaningful progress can be made toward addressing the issue within the time frame of most Sea Grant projects (two to three years)?
3. Relative to the scale of the issue, how much is already being invested by other entities? Would Sea Grant support make a useful contribution toward addressing the issue? Will the issue be unaddressed without Sea Grant involvement?
4. Are the talent, expertise, and interest available in Oregon or in the region to address the issue? Might Sea Grant support for work on this issue directly or indirectly enhance the talent base in marine and coastal issues in the state or the region?

**C. Preproposal Screening Filter.** Used by the Management Team and the Advisory Council to screen preliminary proposals for possible development into full proposals.

In the case of the preproposal screening filter, the two tiers of criteria or questions do not necessarily differ in their importance to us in the decision-making process. However, because this filter is

applied to preproposals that are quite brief, Tier 2 questions tend to be difficult for evaluators to answer with any degree of certainty. Tier 1 criteria, on the other hand, can generally be answered quite readily on the basis of a short description of the proposal project. Therefore, Tier 2 represents a secondary level of usefulness at this stage of the process. Within a tier, the criteria are listed in no particular order.

### **Tier 1**

1. Does the preproposal address an issue that falls within Sea Grant’s mandate and mission, and is it an appropriate university activity?
2. Is the issue potentially significant to Oregon, the Pacific Northwest, or the nation? Is it an issue that is considered important by Sea Grant’s audience or clientele?
3. Are the principal investigators eligible to receive Sea Grant funding?
4. Would addressing the issue be consistent with the strategic plans of NOAA, the National Sea Grant College Program, Oregon State University, and Oregon Sea Grant?
5. Does the proposed work duplicate research that is ongoing or has been completed?

### **Tier 2**

1. Is there a reasonable probability that meaningful progress can be made toward addressing the issue within the time frame of most Sea Grant projects (two to three years)?
2. Is there a reasonable probability that meaningful progress can be made toward addressing the issue within the funding limitations of Sea Grant?
3. Will Sea Grant support toward addressing this issue substantially contribute to the overall effort? Will the issue probably remain unaddressed unless Sea Grant becomes involved? Relative to the scale of the issue, how much time and money are being invested by other organizations?
4. Will Sea Grant support for the proposed work directly or indirectly enhance the talent base available to address marine and coastal issues in the state or region?

**D. Peer Review Filter.** Used by external peer reviewers for their written reviews of full proposals.

These criteria are derived from the 2003 National Sea Grant procedures guidance document. They are standard criteria for use in written peer reviews throughout the Sea Grant network.

### **Tier 1**

1. Rationale: The degree to which the proposed activity addresses an important issue, problem, or opportunity in the development, use, or management of marine or coastal resources

2. Scientific or professional merit: The degree to which the activity will advance the state of the science or discipline through the use and extension of state-of-the-art methods
3. Innovativeness: The degree to which new approaches to solving problems or exploiting opportunities in resource management or development, or in public outreach on such issues will be employed; alternatively, the degree to which the activity will focus on new types of important or potentially important resources and issues
4. Qualifications and past record of investigators: The degree to which investigators are qualified by education, training, or experience to execute the proposed activity; their record of achievement with previous funding
5. User relationships: The degree to which users or potential users of the results of the proposed activity have been brought into the planning of the activity, will be brought into the execution of the activity, or will be kept apprised of progress and results

**E. Science Panel Filter.** Used by the panel of external peer scientists who meet to interpret written peer reviews and evaluate full proposals.

A panel of scientists is convened to read the proposals and written reviews and to assist us in assigning to each proposal a rating that reflects its merits. In the case of the science panel filter, the Tier 1 criteria, which are essentially the same as those used with the written peer reviews (Filter D), are more important than the Tier 2 criteria. Tier 2 criteria are listed here because they sometimes affect the panel's final ratings. Within the tiers, the criteria are listed in no particular order.

### **Tier I**

Panel member's evaluation of the merits of the proposal based on his/her application of the same review criteria that were used by peer reviewers and on his/her reading of the written reviews.

1. The proposal's scientific or professional merit
2. Rationale: The degree to which the proposed activity addresses an important issue, problem, or opportunity
3. User relationships: The degree of involvement of potential users of the results of the work in planning and executing it and the degree to which users will be kept informed of each proposal's progress and results
4. Innovativeness: The degree to which new approaches will be employed or to which the activity will focus on new issues
5. Qualifications and past record of investigators: Education, training, or experience that suggests that the investigators are capable of carrying out the activity they are proposing; and their past performance on funded projects

## Tier 2

1. Other members of the review panel: In arriving at a rating, the primary and secondary reviewers to whom the proposal was assigned are expected to consider the expressed views of the proposal's merits made by members of the review panel who have not been asked to evaluate the proposal.
2. The proposal's relative merits: In addition to evaluating the merits of each proposal independently, the panel may adjust the score of a proposal to more equitably reflect its merits relative to all others being considered. For that reason, near the end of the process the panel examines the complete list of ratings given to all of the proposals and looks for any evidence of systematic and consistent differences in the rating scale applied to the proposals by the various panelists. If the panel feels that there is a bias, they will occasionally reconsider one or more of their ratings.

**F. Advisory Council Filter.** Used by the Advisory Council to further screen those full proposals that the peer reviewers and the science panel (D and E above) have given high merit ratings.

The Advisory Council is just that, advisory. It does not make decisions about proposals. However, its members are experienced in working with Sea Grant and are very knowledgeable about coastal and marine issues. Their advice has a significant bearing on final decisions, in part because at this point in the process the Advisory Council considers only those proposals that have already been determined by peer reviewers and the Science Panel to be scientifically and technically sound. The criteria are listed below in no particular order.

## Tier 1

1. Is the project likely to make a meaningful contribution toward addressing a high priority issue? Will the results be useful? If the project were completed as proposed would anyone care?
2. If the project appears to be a relatively high risk for failure, do the potential benefits justify our taking that risk?
3. Is it a "capstone" project that completes a series of projects? Does it in any way add to the value and usefulness of previously completed projects?
4. Does the proposed project have strong outreach elements and user involvement?
5. Does the proposed project provide a good opportunity for meaningful Sea Grant involvement in a new and important issue area?
6. Does the project involve researchers from a federal agency, particularly NOAA, or is the project otherwise well linked to an agency?
7. Does the project include cofunding from outside sources?

**G. Program Filter.** Used by the Management Team to determine which of the highly ranked full proposals should receive funding.

In the case of this filter, the Tier 1 criteria are critical requirements. If a proposal does not measure up to the three criteria in Tier 1, it will not be funded. On the other hand, Tier 2 criteria, although important to Oregon Sea Grant, are preferences rather than absolute requirements. The criteria within a tier are listed in no particular order.

#### **Tier 1**

1. Considering the costs relative to the expected outcomes of this proposal, would funding it be an effective use of Sea Grant research funds?
2. Can we be assured that the investigator will be a full participant in the Oregon Sea Grant program? For example will he/she submit required reports and keep us informed as requested, and if it is appropriate will he/she be willing to confer with users or with Extension faculty about the project?
3. Does the proposed work duplicate any past, ongoing, or pending work supported by Sea Grant or any other entity?

#### **Tier 2**

1. Is the proposed project regional in its perspective? Does it, for example, involve researchers from other Sea Grant programs?
2. Is the researcher a member of a group that is underrepresented in the marine sciences?
3. Is the researcher from an institution of higher education in Oregon that rarely seeks or receives Sea Grant funding?
4. Would funding this proposal allow a researcher who received his/her Ph.D. within the past five years to become involved in Sea Grant?
5. Would funding this project encourage a highly productive, established researcher to become involved for the first time in work that is relevant to Sea Grant's priorities?

**H. Metrics Filter.** Used by the Management Team to define and evaluate the program's outcomes and impacts.

#### **Introduction**

Oregon Sea Grant uses the following criteria as a filter to help us identify and measure the value accruing from the many products and results that flow from the program's activities. The metrics filter is based primarily on a National Sea Grant College Program document dated March 2003

and titled *Indicators of Performance for Program Evaluation*. The purpose of the filter is to help us recognize beneficial outcomes and in many cases to measure the absolute or relative benefits and impacts of those outcomes. Many of the criteria relate primarily and more readily to research. However, we apply them and find them useful for all Sea Grant-supported activities, which include formal and informal education, communications, and extension as well as research.

### Definitions

**Metrics:** This term is used here to mean measurements and standards of measure. Metrics can be either numerical or nonnumerical.

**Output:** The outputs of a program or project are essentially its products, activities, and tools. They may include such things as peer-reviewed publications, other publications, Web sites, videos, conferences, and workshops. Outputs can usually be quantified, and they are often used as surrogate measures of outcomes. For example, the relative number of “hits” on a Web site on refrigeration is not an outcome (see below), but it might indicate the site’s popularity and perhaps its usefulness and application.

**Outcomes:** The result, expected or unexpected, of an output is an outcome. For example, the outcome from a Web site demonstrating newly developed refrigeration methods (that is, output) might be the adoption of this improvement by 120 fishing vessels.

**Impacts:** These are higher-order metrics that often involve a longer time period than outcomes. Impacts can result from the cumulative effects of more than one outcome, and they frequently include, in the broadest sense, some type of behavioral change on the part of a target audience. For example, the impact of the adoption of the new refrigeration methods might be a vastly improved market situation for the fishing fleet and economic stability for a community.

### The Scope and Breadth of Outcomes and Impacts

An additional metric that we apply to both outcomes and impacts is their geographical or societal scope or breadth. For example, all else being equal, a product that is seen or a benefit that is realized over the broadest possible geographical scope, that is, internationally, is clearly of greater significance than one that is felt only locally, regionally, or even nationally. Again, all else being equal, it is also true that a benefit realized by all sectors of society is probably of greater significance and is certainly different from one that relates to only one group.



In reality, “all else” is rarely equal. It is likely that an output or impact that strongly benefits a relatively narrow societal sector (for example, one that saves the lives of fishers) could legitimately be considered more significant than one from which many more people receive only marginal benefit (for instance, one through which the general knowledge of a large number of people is broadened). Therefore, although scope and breadth are important considerations, we do not apply them out of context. Scope and breadth are not shown separately for each of the listings below, because they are measures of relative significance we apply to all outcomes and impacts.

### **Categories of Metrics**

Metrics that might prove useful for defining and evaluating the outcomes and impacts of Sea Grant programs could be categorized in any number of different ways. We have chosen to adapt the five general categories contained in the National Sea Grant College Program’s March 2003 document on indicators of performance. They are indicators and measures of the following:

1. Production of new technical capacities or scientific knowledge and understanding
2. Development of applications and approaches required for sustainable management of coastal resources
3. Economic enhancement and product development
4. Enhanced public awareness to improve decision making on coastal issues
5. Capacity building in coastal science and education

Below each of the five categories are examples of metrics that we use to evaluate outcomes and impacts, both of which are important indicators of program productivity and value. This is not intended to be an exhaustive list of metrics. Our intent is to use important examples in order to illustrate the nature of what we feel are appropriate and useful metrics. Please note that where obtaining a quantitative metric either would require an inordinate investment of resources or would be literally impossible, a surrogate metric is used. For example, the number of published peer-reviewed papers is really a surrogate measure, not a direct measure, of scientific productivity and peer acceptance. Implied in all cases below is the requirement that each metric can be convincingly credited, either completely or substantially, to Sea Grant products and activities.

#### **1. Production of new technical capacities or scientific knowledge and understanding**

- A. The number of scientific and technical papers resulting from the work that are reviewed by peers and accepted for publication
- B. Documented acceptance and use by peers of new methods, approaches, information, and tools resulting from the work
- C. Invitations to researchers by peers nationally and internationally to present seminars or to meet to discuss their Sea Grant-supported work
- D. Growth and expansion of productive long-term research programs that are directly traceable to successes of earlier Sea Grant-supported work

## **2. Development of new approaches for management of coastal resources**

- A. Application or adoption by individuals, groups, and institutions of methods and tools, either developed with Sea Grant support or distributed by Sea Grant outreach, that result in reduced environmental impacts or contribute to environmental rehabilitation
- B. Direct testimony from resource managers or other environmental stewards regarding positive impacts of Sea Grant work on the environment through improvements in citizen attitudes, knowledge, and behavior
- C. Application by business and industry of more environmentally benign methods or equipment as a result of Sea Grant research or outreach

## **3. Economic enhancement and product development**

- A. Patents, obtained or pending
- B. New products or new businesses developed on a foundation of Sea Grant-supported work
- C. Documented improvement of product quality or safety
- D. Documented increases in revenues and profits in existing business or industry resulting from the application of Sea Grant-supported work
- E. Expression of interest on the part of target audiences in pursuing further development of Sea Grant outcomes
- F. First-hand testimony by users of Sea Grant products regarding the specific ways their business has benefited from them

## **4. Enhanced public awareness to improve decision making on coastal issues**

- A. Documented positive behavioral change on the part of citizens, including visitors and coastal residents, that can be directly associated with Sea Grant activities and products
- B. Public interest in Sea Grant programs as indicated by public participation, media interest, and the number of inquiries from citizens, educators, and others
- C. Documented changes in the target group's behavior, attitudes, knowledge, and beliefs as evidenced by surveys and direct observations
- D. Incorporation of Sea Grant findings, products, and outcomes into public policy and resource management

## **5. Capacity building in coastal science and education**

- A. High-profile placement of students, particularly graduate students, who were involved in the Sea Grant-supported work
- B. Placement in positions of responsibility of students who have held statewide, regional, or national fellowships supported by Sea Grant



- C. Complete or partial replication elsewhere of educational and outreach methods and curricula developed, refined, or demonstrated by Sea Grant
- D. Continued long-term institutional support for successful coastal science and education programs that were initially developed and carried out with Sea Grant support

**I. Program Development Filter.** Used by the Management Team to screen requests for Program Development funding.\*

1. Does the proposed work meet the technical and scientific standards for Sea Grant support? Is it good science?
2. Does the proposed work have strong relevance to Sea Grant’s mission, mandate, and strategic goals?
3. Does the project have user interest, support, or involvement?
4. Would the project be carried out whether Sea Grant supported it or not?
5. Are there preliminary data that must be obtained before a defensible full proposal can be written and submitted to Sea Grant or some other funding source? Would the proposed Program Development project be a “proof of concept”?
6. Is the request for support for a symposium or conference relating to Sea Grant thematic priorities, or is support requested for presentation or publication of the results of work supported by Sea Grant in the past?
7. Is the request from a new researcher, particularly one who joined the university too late to submit to our most recent call for proposals?
8. Is it a request for a new project or funds to supplement an existing grant to allow broadening the work to pursue a promising but unforeseen opportunity?
9. Is it a request for special support that would permit the orderly completion and termination of a Sea Grant project or program, particularly support to allow a student to complete his/her degree program?

\*At any time during a biennial proposal cycle, Oregon Sea Grant will support Program Development projects and activities that meet at least one of the requirements contained in this filter. At the beginning of each grant year, approximately 5 percent of our total federal budget (about \$100,000) is allocated to Program Development. Most Program Development projects are relatively small (\$5,000–\$10,000). Proposals that exceed \$10,000 are subject to peer review and to approval by the National Sea Grant Office.





