REVIEW OF THE

Oregon Sea Grant College Program

BRIEFING BOOK OCTOBER 5-6, 2010

Coastal Science Serving Oregon

Sea Grant Oregon

NOAA

Photo: Al Pazar

Contents

I. Program Management and Organization

Oregon Sea Grant Leadership Team

Oregon Sea Grant (OSG) is a truly integrated program of research, education, extension, and communications that works to address critical coastal issues and helps people understand, rationally use, and conserve marine and coastal resources. The past two years have been a time of change for OSG leadership, organizational structure, and operations. During this period, OSG appointed a new director (1/20/09) and a new extension leader (10/4/10), redefined and strengthened the role and purpose of the Leadership Team, and merged (administratively and physically) all administrative and budgetary functions to allow a more-efficient operational approach in support of the integrated programs.

The Leadership Team actively engages on a frequent (nearly daily discussions on items as they arise) and regular (scheduled meetings every two weeks) basis to address and implement program priorities and goals, make decisions, set strategic policy and procedures, and enhance opportunities. The focus of these meetings is largely on how to integrate across Sea Grant capabilities. The leadership routinely seeks direct input from faculty and the Advisory Council through all-hands meetings, "monthly" conference calls, and direct contacts and e-mails. The responsibilities of the Leadership Team members are:

Program Director Dr. Stephen Brandt is responsible for overall program leadership and direction, management, and administration of Oregon Sea Grant (OSG); integration at the university, state, regional, and national levels; and overseeing all staff. The director reports to the university's vice president for research. The director's position is considered full time; Dr. Brandt is also a tenured full professor in the OSU Department of Fisheries and Wildlife.

Extension Program Leader Dr. David Hansen is primarily responsible for managing OSG Extension and is directly involved in all major programmatic decisions. Dr. Hansen begins on 4 October, 2010 and replaces longstanding Extension lead Jay Rasmussen, who recently retired.

Assistant Director Joseph Cone manages the Communications office of OSG, which develops communications plans, publications, videos, CDs, and descriptive materials for Sea Grant administration, faculty, and researchers.

Education Director Nancee Hunter oversees all OSG education programs, including the K–12 education programs, and day-to-day management of the HMSC Visitor Center.

Administrative Officer Peggy Harris oversees administrative operations for all of OSG. She supervises and leads the support staff in carrying out the operational services for OSG faculty and programs.

Fiscal Officer Evelyn Paret oversees all budgetary and fiscal aspects of the program. She is responsible for applying NOAA and National Sea Grant fiscal policies, budget analysis, and all program expenditures for NOAA and OSU as well as outside sources of funds.

Strategic Partnerships and Innovation Leader is a new and open position that seeks out opportunities for partnerships and innovative programs across OSU, OUS, and state, federal, and private entities, and also manages the Sea Grant competitive research process and the Sea Grant Student Scholars Program.

Advisory Council Function and Membership

The Oregon Sea Grant Citizen Advisory Council provides the single most important *formal* source of strategic advice and guidance for the Oregon Sea Grant Program and provides continued external review of the program. The Advisory Council consists of 13 coastal leaders and knowledgeable individuals recommended by the OSG director and leadership team and appointed by the OSU vice president for research. The members live across the state and have extensive and widespread experience in local and county government; private businesses; state, federal, and tribal agencies; port authority; and regional councils. Four new members were added in 2010.

The main purpose of the Council is to keep its fingers on the pulse of stakeholder needs across the state of Oregon. The Council was instrumental in the searches for a new director and extension leader, conducts evaluations of research priorities, provides specific guidance and evaluation of the societal relevance of research pre-proposals and full proposals, and provided direct input on the strategic plan. The Council met three times in 2009.

Current members:

- **Dr. Brian Allee** (new member), Portland, OR. Natural Resource Specialist, Salmon Recovery Division, NOAA Fisheries; Former Director of Alaska Sea Grant.
- **Dr. Xanthippe Augerot,** Corvallis, OR. Consultant, Pangaea Environmental LLC.

- **Kirk Beiningen,** Milwaukie, OR. Retired, Oregon Department of Fish and Wildlife.
- **Anne Berblinger,** Portland, OR. Retired, US Department of Commerce Economic Development Administration; small farm owner.
- **Ralph Brown,** Brookings, OR. Marine Resources Consulting. Past Curry County Commissioner; past commercial fisherman; past member, Pacific Fisheries Management Council.
- **Ellie Dumdi,** Junction City, OR. Past member, Lane County Board of Commissioners.
- **CM (Mike) Helfrich** (new member) Coos Bay, OR. Retired, VP and District Manager, US Bank; current member of Port of Coos Bay's Charleston Advisory Committee; current member of Southwestern Oregon Community College Budget Committee.
- **John (JR) Herbst** (new member), Coos Bay, OR. Environmental Specialist, Confederated Tribes of the Coos, Lower Umpqua, and Siuslaw Indians; and President of Coos Watershed Association.
- **Peter Huhtala** (new member) Astoria, OR. Executive Director of Columbia River Business Alliance; current County Commissioner.
- **Nancy Leonard,** Waldport, OR. Waldport City Manager; member, Oregon Land Conservation and Development Commission; past member, Oregon Water Resources Commission.
- **Allan Rumbaugh,** Tigard, OR. Retired, General Manager, Oregon International Port of Coos Bay.
- **William Schreiber,** Bay City, OR. Owner, FV Captain Ryan; current member of ODFW Developmental Fisheries Board, Port Authority.
- **Merritt Tuttle,** Oceanside, OR. Retired, National Marine Fisheries Service.

Strategic Planning Processes/ Team Approach

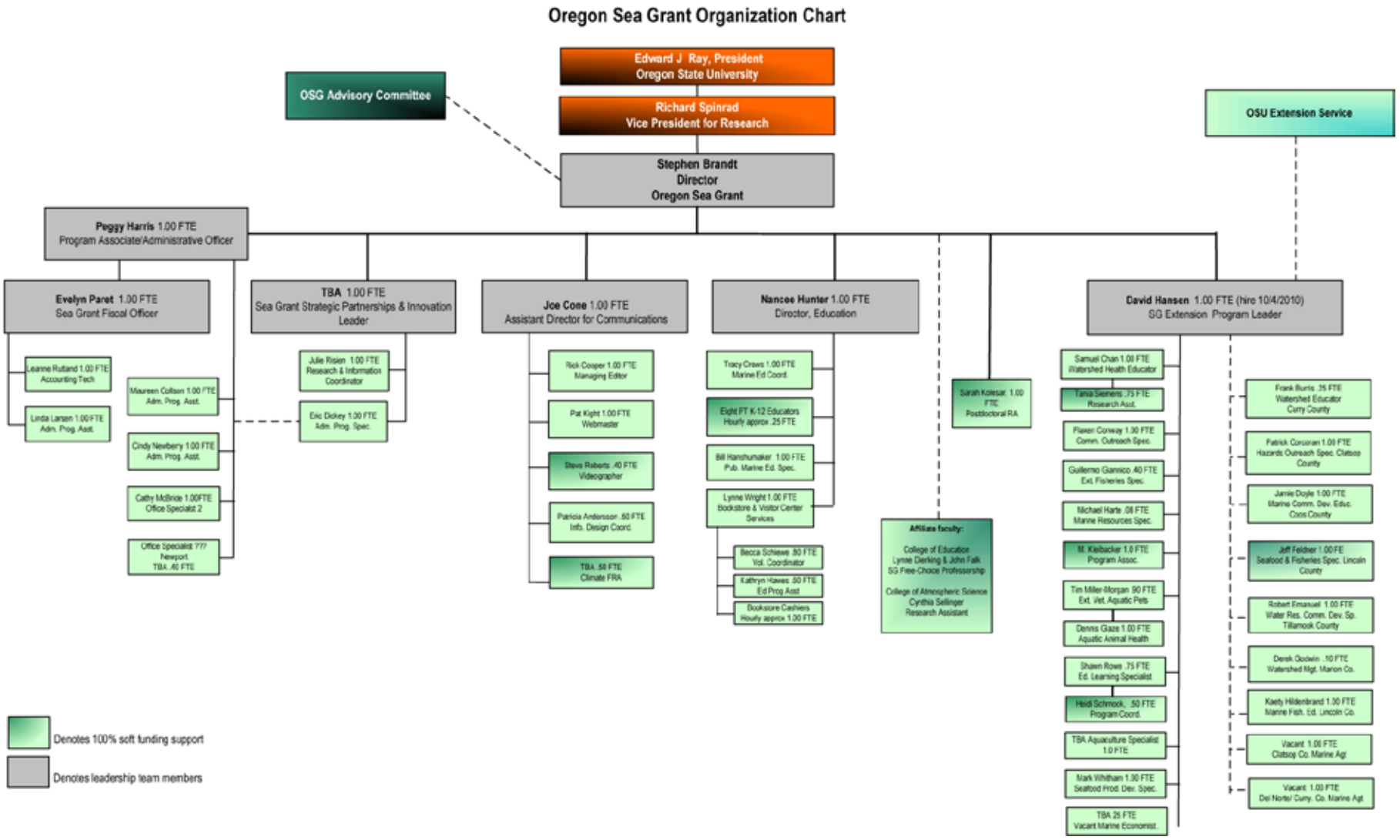
Engagement of the Sea Grant faculty, staff, Advisory Council, and leadership is an ongoing process to foster continued planning and improvement of our integration. For example, Sea Grant face-to-face "all-hands" meetings are an important way to enhance program communication and integration. Over the past year, OSG held two all-hands meetings (each meeting was two days) that included all staff as well as the Advisory Council. In addition to exchange of information, one meeting focused on setting strategic priorities for the development of the OSG Strategic Plan. The second meeting focused on brainstorming ways for better integration. It included presentations of all new research projects by the principal investigators, and a discussion of how to better integrate education and extension into individual projects on an ongoing basis at the outset of the new project. The director has also initiated "monthly" all-hands conference calls for open discussions on ongoing activities.

The development of the Oregon Sea Grant Strategic Plan for 2010–2013 illustrates our programmed team approach. This plan was shaped by advice from our 2005 Program Assessment Team and lessons we have learned over the past four years about how best to conduct the business of Sea Grant. In addition, we sought new ideas from our faculty and staff, assessed evolving needs in the region, and considered recent advances in science. The plan is shaped significantly by the *West Coast Regional Research and Information Needs* report (2009), by Oregon State needs, and by the NOAA National Sea Grant Strategic Plan.

This OSG Strategic Plan was developed with an all-inclusive approach, beginning with the designation of a steering committee charged to design and facilitate a process that built on the regional effort; stimulated creativity and innovation; and exemplified integration of our extension, communications, education, and research program elements. The committee's initial concepts were refined through a two-day "all hands" meeting of staff and the OSG Citizen Advisory Council. The meeting provided a venue for reflecting on past successes and challenges, advancing concepts for new initiatives to address critical and emerging concerns in Oregon and throughout the region, and identifying and exploiting opportunities to increase our positive impact.

The process continued with an OSG leadership retreat that focused on distilling the results of our "all hands" meeting into three strategic goals and two cross-cutting goals. The Program leadership also identified six key issue areas through which we approach our goals. For the next step, we assembled integrated staff work groups—each with a variety of technical and programmatic expertise—to develop specific objectives and methods that would achieve the beneficial outcomes in each of the key issue areas. The resulting implementation objectives, methods, anticipated outcomes, and measures of success form the basis of the *Oregon Sea Grant 2010–2013 Implementation Plan.* The *Strategic Plan* was reviewed in draft form by colleagues from Sea Grant, the State of Oregon, and academic institutions before finalizing and adoption. The Plan is used directly to guide management decisions.

Figure 1. Oregon Sea Grant Organizational Chart (FY 2010)



Institutional Setting within the University

Oregon Sea Grant is headquartered at Oregon State University in Corvallis at the Kerr University Administration Building. Oregon State University is a land-, sea-, sun-, and space-grant university and is the only Oregon university to hold the Carnegie Foundation's prestigious designation reserved for universities with "very high research activity." In 2009, over 37 percent of OSU research expenditures were directly tied to marine-related issues or programs, with 17 marine-oriented entities and nearly $100M of research annually. This provides an excellent academic setting for Oregon Sea Grant.

Dr. Brandt reports directly to the OSU vice president for research, Dr. Richard Spinrad. Dr. Spinrad (former AA for NOAA Research) took that position on 1 July 2010. This reporting structure provides Sea Grant a direct and effective reporting and communication line to the top OSU administrator. Dr. Spinrad's familiarity with NOAA, NOAA Research, Sea Grant, and even Dr. Brandt should be good for Oregon Sea Grant. The senior associate vice president for research (and recent acting vice president), Dr. Rich Holdren, has a 10+ year relationship with OSG as well. Proximity also facilitates communication, and the Sea Grant offices are ideally located in the Kerr Administration Building right next door to the vice president for research and on the same floor with Sponsored Programs. The Research Office provides the OSG program over $1M of direct base support every year.

OSG leadership also has direct integration with statewide extension, run by the OSU vice provost and director of University Outreach and Engagement and the OSU Extension Service, Dr. Scott Reed. The OSG Extension program leader serves on the Outreach and Extension Cabinet for the university, serves in many leadership roles relative to county Extension efforts, and programmatically interacts with department heads and other university leaders. The OSG director serves on the OSU Outreach and Extension Council and is considered a Dean of Extension. This Council makes strategic decisions on Extension. OSU Extension provides an annual block grant of nearly $700k to OSG.

OSG Extension faculty members have academic appointments across eight colleges and a large number of departments across OSU. OSU Extension faculty often have shared appointments and supervision within academic departments and/or local county Extension offices. These shared responsibilities provide further institutional frameworks with counties and with the university that strengthen the program setting. In addition, OSG maintains close relationships with several research facilities on the Oregon coast, including the OSU Seafood Laboratory in Astoria, the OSU Hatfield Marine Science Center in Newport, and the Oregon Institute of Marine Biology in Charleston. Both the director and Extension leader share a second office at the Hatfield Marine Sciences Center, and the OSG director serves on the Administrative Advisory Committee of the Hatfield Marine Sciences Center.

Recruiting Talent—Oregon Sea Grant's Research Program

Oregon Sea Grant's highly competitive grants program is a preeminent marine-research enterprise funding research in academic institutions throughout Oregon. This research addresses issues of high importance and societal relevance, and places priority on prediction. The program stresses scientific excellence and meaningful collaboration with industry, agencies, communities, and other stakeholders. A widespread RFP was distributed and asked for submissions that fell within the OSG Strategic Plan, the National Sea Grant Strategic Plan, and the West Coast Governors' priorities identified in the Regional Research and Information Plan (see below).

Robust pre- and full-proposal process changes were implemented into this round of OSG RFPs to enhance rigor and objectivity in the external review process—a suggested improvement from the last national review of the program. The process ranked proposals on the basis of their (1) scientific excellence and (2) societal relevance, and included evaluations by Extension, Education, Communications, and the OSG Advisory Council throughout. Implemented into the pre-proposal review process were additional steps, including (1) an external (out of state) review of scientific quality, (2) an Extension and Advisory Council review regarding projects' societal relevance, and (3) comments from communications and education experts on how the pre-proposal might integrate better with these program elements. At the full proposal stage, a key Extension point-of-contact was assigned to each proposal for advice, as all full proposals were expected to include an outreach component to ensure societal relevance. Our competitive proposal process used an upgraded and improved version of our Web-based, password-protected proposal submission, review, and tracking system called Webnibus.

Throughout this process, we received comments on the system's ease of use from PIs and reviewers as well as Science Panel and Advisory Council members. We received 63 preliminary proposals, encouraged 30, and received 31 full proposals. We contacted 279 potential reviewers and obtained 118 (out-of-state) peer reviews on the 31 full proposals. Each proposal had at least 3 external reviews. A 7-person Science Panel (out of state) met on campus for

two full days to discuss the full proposals and help evaluate both the written peer reviews and the PIs' responses to those reviews. The latter is a unique feature that helps correct any reviewer misunderstandings. The Panel produced a *jointly written* evaluation for each of the proposals. The Sea Grant Advisory Council met a week later to provide user and programmatic advice on societal relevance for each of the highly ranked proposals. Finally, the Leadership Team met to make final proposal decisions for those proposals ranked highly on *both* scientific excellence and societal relevance. In the end of the review process, 10 projects were selected for funding—a 32 percent success rate. The 10 new projects joined 2 continuing and 6 core projects. Funded projects are posted on the OSG Web site and in a hard-copy *Program Guide*.

During the 2010–12 competitive research proposal cycle, OSG Extension agents and specialists and educational leaders served as points of contact for principal investigators of submitted proposals. This partnership led to substantial improvement in the outreach and education elements of full proposals as compared to pre-proposals. Each funded research proposal was subsequently assigned an Extension liaison or team to advise investigators on education, outreach, and public engagement aspects of their research projects and to keep up-to-date on research results that could be provided to stakeholders. This relationship was established during a joint meeting that included all OSG and funded researchers. Its effectiveness is being evaluated through a PD grant.

Recruiting Talent—Program Development

Each year, the Sea Grant director retains a program development pool, from which small grants (up to $10,000) may be directed to take advantage of new opportunities that are time-dependent, creative, high-risk, or "proof-of-concept" research that advances our mission. These seed monies have the potential to catalyze major new research efforts. OSG is exploring opportunities to use these funds to lead the development of new emerging program areas through workshops and targeted competitive proposals.

Recruiting Talent—Students

OSG takes particular pride in engaging and supporting students—shaping tomorrow's leaders. In 2008–09 OSG provided $345,838 in support of 36 students across five OSU colleges. OSG's fellowship program provided $265,700 for 10 graduates and undergraduates; in addition, OSG provided learning experiences for three PROMISE students and several other internship opportunities at the HMSC Visitor Center. Four Oregon students were chosen for the prestigious National Sea Grant Knauss Fellowships. In 2010 a new Oregon Sea Grant Summer Scholars

Projects and Institutions Involved in Pre-Proposal and Full Proposal Process

	2004	2006	2008	2010
Pre-Proposals				
Number of Pre-Proposals	50	50	48	63
Number of Institutions (for lead PI only)	7	9	3	8
Full Proposals				
Number of Full Proposals	20	25	24	31
Number of Participating Institutions (for PI and Co-PI)	8	11	13	14

New and Continuing Projects and Recruitment of PIs

	2005	2006	2007	2008	2009	2010
New Projects Funded	3	12	0	10	0	10
Continuing Projects	10	2	14	2	12	2
Number of PIs and Co-PIs Funded	13	23	23	28	28	25
Number of New PIs and Co-PIs Funded	1	5	0	3	0	8
Number of Institutions Funded	4	3	3	5	5	2

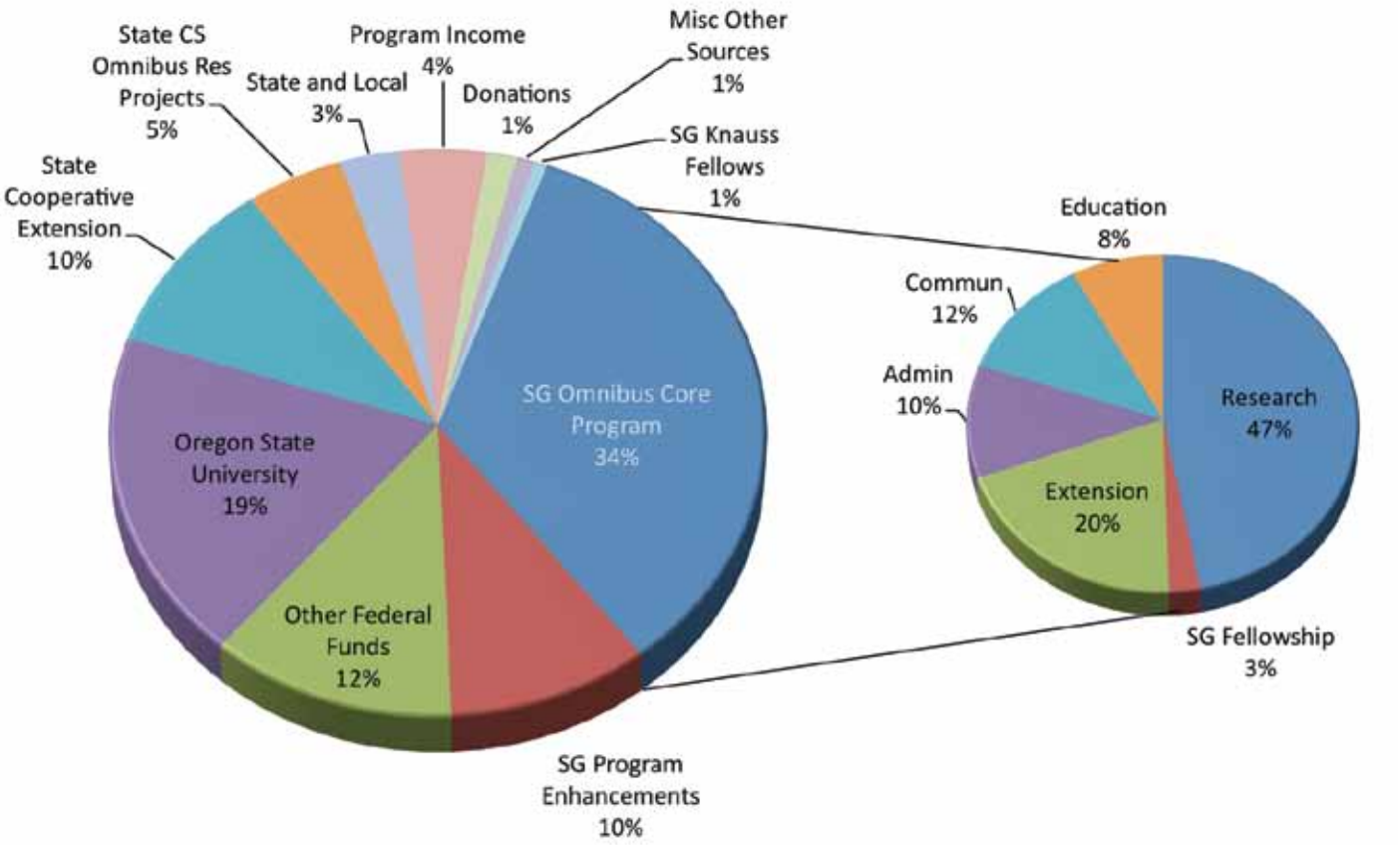
program was initiated to provide students opportunities to work directly with state agencies, federal agencies, and policy makers. We also created an overarching Sea Grant Scholars Program for all 107 students support by Sea Grant in 2010 that will (1) create a community of OSG Scholars including students, principal investigators, and OSG Extension, Education, and Communications faculty; (2) improve student identification with OSG and its mission; and (3) foster professional development (such as job searches and scientific presentations) relating to coastal and ocean sciences at Oregon universities. It is not only students who benefit from our fellowship support; OSG state fellows have coordinated the activities of a bipartisan caucus of coastal legislators during the 2009 Oregon legislative session (recognized as a "tremendous asset") and served the Oregon Water Resource Resources Department to lead "citizen science" for groundwater quantity protection in the state.

The Legislative and Natural Resources Fellowships, for example, place students for nine months to a year under the mentorship of a key leader to provide technical expertise on marine and coastal issues to legislators, help the student develop knowledge of the legislative and state processes as they relate to coastal and ocean issues, and encourage the students to work with various levels of government and with private and state resources organizations. Recent fellows have been placed in the Governor's Office and in the State Senate.

II. Financial Setting and Leveraged Funding

Overall Budget and Leveraged Funds

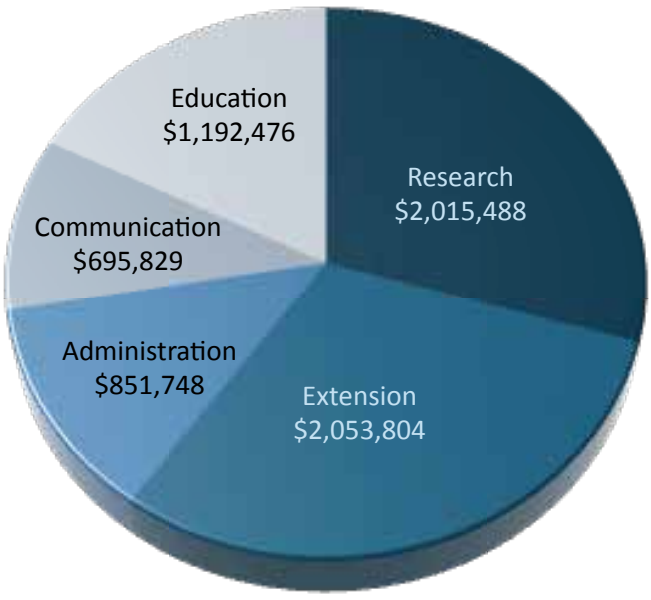
Although core federal or state funds are either remaining constant or shrinking, OSG is growing and expanding programs through grant writing and partnering (see table and pie charts). The solid state support from the Research Office and from the Extension Service is a key to making OSG a success. Our overall leveraging is nearly double the federal dollars in direct income and is much, much larger if one considers the funding to others that is possible only with OSG participation and partnerships. Direct leveraged



Total Sources of Income to Oregon Sea Grant for FY2010 and Projected Expenditures of the Federal Core Funding by Program Area.

funds have grown over $1M in the past 5 years (averaging 50 percent higher than the previous 5 years and up 66 percent in 2010) although base federal funding has grown only $125k. OSG funding sources are diverse and range from direct state OSU allocation ($1.7M) to fees, sales, donations ($~400k) to a diversity of state agencies, non-profits, local and private sources, and other academic institutions to National Sea Grant, NOAA, and other federal sources such as NSF and the Departments of Energy and Interior. These budget numbers reflect only direct funding of OSG and not the monies that go to project partner institutions, which are invariably much higher.

OSG has leveraged its comparatively modest size into significant results and has *brought innovation and new programs* to OSU such as our early support of wave energy research; new models of informal learning ("free-choice learning" through an OSG professorship)—now a focus of the OSU Science and Math Education Department; and the scholarship of engaged institutions (through the Outreach and Engagement Council). The work has also leveraged much additional funding. For example, the integrated efforts of OSG are highlighted by our early sponsorship of wave energy research and outreach, which continues to benefit OSU and the state. Pioneering support for the research at OSU began in 2003 with OSG seed funding (of what was considered a "risky" bet), which galvanized additional support and many partners. With the US Department of Energy and other partners, a total of $13.5 million has been raised for a new Northwest National Marine Renewable Energy Center, based at Oregon's Hatfield Marine Science Center (HMSC) and partnered with the University of Washington. Only a small part of those funds now go to OSG. OSG's faculty are now very active in working in communities and with wave-energy interests to identify and address potential environmental and multi-use concerns, and OSG Communications' award-winning *Wave Power* video has been used extensively to inform decision makers, funders, the media, and the public.



Distribution of Projected Expenditures by Program Area for FY2010

Success in National Competitions

OSG has been very successful in national competitions across NOAA, the National Sea Grant Program, and other federal agencies including NSF, EPA, and the Departments of Energy and Interior (see Leveraged Funding table). Many of our projects are multi-institutional, with OSG either leading the project or providing a critical component to the work. We have been continually successful in the Knauss Fellowships, Sea Grant Fisheries Extension Enhancement, and NOAA Sea Grant National Initiatives including the Regional Research and Information Program. Recent successes include National Science Foundation funding for Centers for Ocean Science and Educations Excellence (COSEE), NSF rapid response to the Gulf oil spill, National Sea Grant strategic initiatives in invasive species and aquaculture extension, and funding from the National Climate Office and the USDI Renewable Energy Industrial Economics Program.

OSG also has been instrumental in leading the West Coast Sea Grant programs in regional initiatives. OSG led the effort for the development of the West Coast Regional Research and Information Program ($500,000) and the recent Sea Grant funding ($300,000) to support four fellows to work on the West Coast Governors' Agreement. Regional research planning was an important undertaking during this period, with the OSG-led effort—conducted in partnership with the Washington, California, and University of Southern California Sea Grant programs—to assess the region's marine research and information needs. Endorsed by the governors of all three states, the planning was a response to national recommendations calling for regional approaches. Dozens of stakeholder meetings, with a total of over 1,000 participants, culminated in the *West Coast Regional Marine Research and Information Needs* report. The report is intended to help organizations set priorities based on the most critical needs of stakeholders; thus it is a valuable source of research and information for this strategic plan. We also worked collaboratively with the West Coast Governors' Agreement on Ocean Health, which used our report to help identify themes for their action coordinating teams (ACT). OSG also led the successful regional Invasive Species funding (about $600,000).

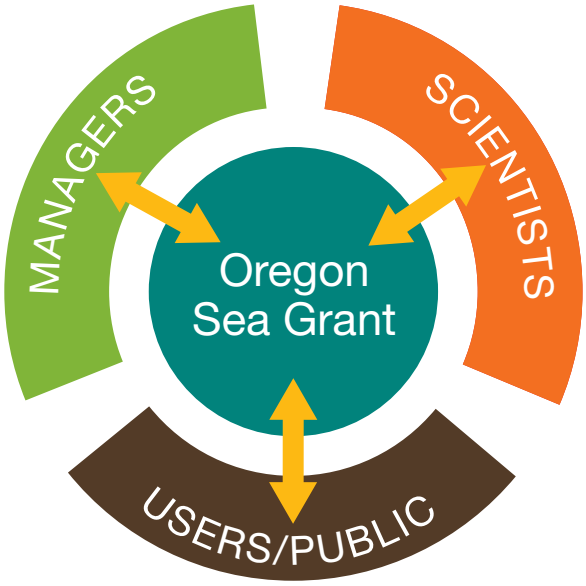
Leveraged funding—money managed by or within direct influence of Oregon Sea Grant *(dollars rounded to nearest thousand)*

	2005	2006	2007	2008	2009	2010	Totals
Federal Sources							
NOAA Cooperative Institute for Marine Research					36		36
NOAA Education Program Office					100		100
NOAA Climate Program Office				149	150	161	460
NOAA Coastal Oceans Program (NGOMEX)						75	75
NOAA Coastal Services Center	110						110
NOAA Subcontract via University of New Hampshire				132	68		200
NOAA Subcontract via University of Michigan					172		172
NSF via UC Berkley (COSIEN)			25	41		83	149
NSF via Univ. of Oregon (COSSEE)				81	81	86	248
NSF North Gulf of Mexico Rapid Response						47	47
USDI Bureau of Land Management					20	41	61
USDI Fish and Wildlife Service	49						49
USDI Forest Service						13	13
USDI Renewable Energy Industrial Economics						277	277
U.S. Depart of Energy					6	27	33
Environmental Protection Agency	98	11					109
NOAA Sea Grant							
Omnibus Program Plan Core	2,273	2,193	2,223	2,317	2,317	2,317	13,640
Regional Sea Grant Projects		500		300		502	1,302
National Strategic Initiatives	193		37	164		126	520
Fisheries Extension	118	118	112	118	73	37	576
John A. Knauss Marine Policy Fellowship	80		83	166	87	44	460
NMFS/Sea Grant Industry Fellowship	30	30	22				82
National Sea Grant Law Center					5		5
State Sources							
Oregon Department of Water Resources					18		18
Oregon Department of Environmental Quality		7			17		24
Oregon Economic & Development Commission					43		43
Oregon Department of Forestry					6		6
Oregon Department of Fish and Wildlife						85	85
Oregon Depart. of Land and Conservation Dev.	20						20
Oregon Coast Community College	13		8	12	15	16	64
Oregon Watershed Enhancement Board	38	191		82	142	48	501
Governors Nearshore Research Taskforce						14	14
Local Governments							
City of Newport, Oregon					2		2
Lincoln County Community Econ Devel Fund					5	3	8

Linncoln County			5		10		15
Siltz Tribal Charital Contribution Fund						2	2
Lincon County/Oregon Department of Education						37	37
Non Profit Organizations							
Oregon Community Foundation		6					6
OSU Foundation Or Forestry Resources Institute	20						20
Oregon Crab Commission					5		5
Oregon Salmon Commission			0.2				0
Oregon Commodities Coimmission					10		10
Ontario Federation of Anglers and Hunters						19	19
Oregon Enviornmental Council						17	17
Other Sources							
Pacific Surimi	15						15
Marine Stewardship Council			2				2
National Marine Sanctuary Foundation		29	35	2	26		92
Economic Development Association					105		105
Oregon Wave Energy Trust				20	140	10	170
University of Connecticut					8		8
British Columbia Ministry of the Environment						16	16
Ontario Provence of Canada					37		37
Jujian Academy of Forestry, China	6						6
Cost Share on Omnibus Research Projects	428	355	370	409	328	338	2,228
University Sources							
OSU Extension Service	602	704	726	706	724	689	4,151
OSU General Fund Support (Research Office)	1,023	1,023	1,047	1,043	1,135	1,100	6,371
OSU Office of Budgets and Planning	88	143	214	187	178	176	986
HMSC Visitor Center Donations	95	85	80	83	104	93	540
Friends of Hatfield Marine Science Center		0.5			14	10	25
Program Generated Sources							
K-12 Education Program Fees	61	63	64	75	68	84	415
HMSC Visitor Center Bookstore Sales	176	176	171	185	172	176	1,056
Sea Grant Communications Program Income	10	17	24	22	30	23	126
Workshop Income	1	3	14	5	15	18	56
Total NOAA Sea Grant Omnibus Core Funds	2,274	2,193	2,223	2,317	2,317	2,317	13,641
Total Leveraged Funds	3,273	3,462	3,039	3,982	4,155	4,493	22,404
Total Program Funds	**5,547**	**5,655**	**5,262**	**6,299**	**6,472**	**6,810**	**36,045**

III. Stakeholder Engagement

Overview



Everything Oregon Sea Grant does is driven by an ethic of public service, and the program uses various and unique approaches to engage our constituents as a trusted broker of scientific information. We take particular pride in engaging. It is the responsibility of all OSG staff to engage with stakeholders that span coastal communities; scientists; coastal users and businesses, universities; local, state, federal, and tribal agencies; and the general public. OSG provides professional, technical, and public education and learning opportunities, as well as extension services through the Sea Grant Extension program—one of five program areas associated closely with Oregon State University Cooperative Extension. In addition, OSG supports undergraduate and graduate students as "Sea Grant Scholars" to study important marine and coastal problems. Sea Grant also manages the Visitor Center of the Hatfield Marine Science Center as a public science learning facility and free-choice learning laboratory. This Visitor Center draws more than 150,000 visitors annually. An Advisory Council of marine industry and coastal community leaders provides continued external review of and advice to the program. Nearly all Oregon Sea Grant staff work collaboratively to engage, listen to, inform, and assist a wide range of stakeholders, such as K–12 teachers and students, community and industry groups, conservationists, state resource managers, and the public. The OSG director also conducts an annual coastal trip to visit all agents and a number of stakeholders during a 9- to 12-day trip along the 370 miles of the Oregon coast. Some simple statistics from our last annual report show the extent of these activities. OSG had nearly 12,000 hours of volunteer work; reached more than 22,000 K–12 students; organized 95 meetings/workshops and gave more than 320 presentations to reach 162,000 attendees; developed over 60 curricula; created or retained 270 jobs; and had 1,400 stakeholders and over 40 communities modify or adopt new practices. Page views on our Web site doubled to nearly 1.8M last year.

We invest in the development of science and provide service to stakeholders on coastal issues through research, engagement, and communication. Our Sea Grant Extension programs (for example, watershed health education) often focus on issues that help span key areas of cooperative extension in the university through forestry, agriculture, 4-H and health, and family and community health. The university provost recently approved an Oregon State University "Extension Transformation Plan," key elements of which are investments in issues-oriented and predictive-scenarios work and an emphasis on extension in the broader impacts of research proposals. This plan more closely matches the nature of Oregon Sea Grant Extension.

OSG engagement and outreach programs are often characterized by colleagues in Cooperative Extension at Oregon State University as "nimble," "increasingly collaborative regionally," and "issues driven." Our programs are reflected in designed education and communication activities that effect behavior change through informed stakeholder decisions. Our engagement programs are focused on outcomes-based objectives implemented with a variety of education processes and mechanisms, often in a collaborative partnership employing needs assessment, free-choice and formal learning techniques, and evaluation over a continuum of time.

- Needs assessments are used to formulate and modify programs in the strategic planning and implementation plans, Omnibus proposals, annual plans of work for individuals, and problems or opportunistic issues and needs that arise.
- Our engagement process helps investigators incorporate outreach and education elements into their research proposals.
- Evaluation and the development of evaluation training leading to behavioral or economic change or scholarly outcomes and pursuits are essential elements of engagement in Oregon Sea Grant engagement programs.
- Communication and information technology are essential tools for enhancing the effectiveness, reach, and accessibility of OSG's engagement process, where the

community-based, personal-touch, "care and feeding" associated with extension is emphasized and maintained.

Examples of mechanisms to engage stakeholders include extension, education, leadership, community Involvement, and formal partnerships.

Extension

Extension faculty are located in county Extension offices in Astoria, Tillamook, Newport, Coos Bay, Gold Beach, and Salem; on the main university campus at Corvallis; and at the Hatfield Marine Science Center in Newport. OSG Extension is primarily staffed by OSU Extension agents and specialists; they are university faculty who hold academic rank and are housed in OSU offices throughout the state. Nearly all agents have formal academic homes at OSU and are distributed across eight colleges. About half the agents are directly supervised by the Sea Grant Extension leader (see organization chart), whereas the other agents are directly supervised by an academic department chair or by the county lead. Reviews of agents are done by a team approach. Field-based agents (see the organizational chart) have both statewide responsibilities relative to their area of expertise and specific coastal geographic areas. This system allows field staff to develop specialized knowledge, which is shared with a broad array of audiences and encourages teamwork within the Sea Grant program. The education, outreach, and engagement activities of field-based agents and specialists vary according to the needs of the state and specific regions, and currently focus on alternative ocean energy development, reducing user-group conflict, spatial planning, coastal hazards resilience, climate change adaptation, seafood marketing and safety, fisheries management, working waterfronts, watersheds, community decision making, free-choice learning, aquatic animal health, marine resource economics, community development, aquatic invasive species, and a variety of other issues as they emerge. The primary role of Extension is to be a trusted broker that provides the interface among scientists, managers, and the public, including stakeholders. Extension faculty are highly engaged and formal participants at the local, county, state and regional level (see below for examples). They emphasize educational programming, stakeholder engagement (two way), and group consensus-building to address the challenges facing the coastlines of Oregon, the Pacific Northwest, and the nation. Extension operates to

- bring stakeholder parties together face-to-face, to foster trust and mutual understanding
- translate the information, to ensure that it makes sense to everyone involved
- facilitate collaboration, to foster transparent dialogue and effective working relationships
- provide input into Sea Grant priorities and research so that stakeholder needs for science are better met
- mediate, to ensure that everyone's interests are fairly represented

Education

OSG has considerable education capacity that includes several full-time staff dedicated to education, manages a public educational facility, and conducts pioneering research in free-choice learning. The Visitor Center is run with the aid of over 100 volunteers and serves as a social laboratory for free-choice learning. Oregon Sea Grant Education has established numerous diverse and strong partnerships with great capabilities for educating students and the public in marine sciences. These collaborations have proven to be a highly effective way to leverage resources, improve our problem-solving capabilities, and create new and exciting opportunities for stakeholders.

On aquatic literacy, for example, the Lincoln County School District, Oregon Sea Grant, and the Oregon Coast Aquarium forged a partnership to support local students in becoming the most "ocean literate" students in the country. Since, we have broadened our mission and added more partners to the initiative, including the Oregon Department of State Lands/South Slough National Estuarine Research Reserve, Washington Sea Grant, University of Oregon's Institute of Marine Biology, The Northwest Aquatic and Marine Educators Association, Oregon Health and Science University's Center for Coastal Margin Observation and Prediction (CMOP), Oregon Hatchery Research Center, Oregon Department of Fish and Wildlife, the Bureau of Land Management Yaquina Head Outstanding Natural Area, Oregon State Parks, Northwest Association of Networked Ocean Observation Systems (NANOOS), and several others. Collectively, we are a growing network of education organizations throughout the Pacific Northwest, informally referred to as the Ocean Conservation and Education Alliance Northwest (OCEAN). In April 2010, OCEAN was awarded a Coastal America Partnership Award—the highest level of national recognition for collaborative efforts that combine resources to accomplish coastal restoration, preservation, protection, and education projects.

Leadership—Oregon State University

Oregon State University has tremendous capabilities in coastal and marine science and engineering research, education, and engagement. Eight of the 11 academic colleges and multiple centers, institutes, and programs are engaged in a diverse array of marine programs. In 2009 over 37 percent of OSU's research expenditures were directly tied to marine-related issues or programs. Recent reports, including Gagosian et al. (2007, *Report of the Oregon State University President's Commission on Ocean, Coastal and Earth Systems Futures*) have highlighted this capacity but have also stressed that for OSU to reach its full potential for preeminence, interdisciplinary approaches, and leadership in marine sciences and engineering, the institution must find ways to enhance collaboration, cooperation, and coordination among the units. In 2009 OSU's provost asked the Sea Grant director to create such a plan, which resulted in the creation of a University-wide Marine Council comprised of pertinent deans, department chairs, and directors. Dr. Brandt was appointed chair of the Marine Council and now leads the coordination of all of OSU's marine activities, spanning research, education, outreach, advancement, and legislative initiatives. He also heads up the University's Action Coordination Teams on the Gulf oil spill and on the West Coast Governors' Agreement. These activities will ensure that Sea Grant is well positioned and involved in all major university marine activities for research, outreach, and education.

Leadership—State of Oregon

The Sea Grant director is chair of the ***Oregon Scientific and Technical Advisory Committee (STAC)***. STAC was created by the Oregon State Legislature to provide the best available, independent scientific and technical advice to Oregon's Ocean Policy Advisory Council (OPAC). OPAC directly advises the state's Governor's Office and the state Legislature on marine issues, particularly marine reserves. Currently STAC is reviewing the monitoring programs for proposed sites for marine reserves in the state.

In 2009 the State Legislature created the ***Oregon Task Force on Nearshore Research***. This task force was comprised of members of state and federal agencies as well as stakeholder leaders in local government, commercial fishing, small business, nearshore recreation, sportsfishing, conservation, and OCZM. The Sea Grant director was elected chair of the task force. The purpose of the task force is to recommend a long-term funding and coordination strategy for implementing the nearshore priorities of the state and to help Oregon address the significant challenges it confronts in managing its diverse marine resources. The package of recommendations to the Governor and Legislature provides mechanisms for the State of Oregon to have the best scientific information for decisions and to support and coordinate planning, data management, science advice, funding, and public input. This process has allowed the director to meet directly (eight one- to two-day meetings since December 2009) with agency and statewide community/stakeholder leaders to discuss their major needs for science.

Dr. Sam Chan chairs the ***Oregon Invasive Species Council (OISC)***. The purpose of OISC is to conduct a coordinated and comprehensive effort to keep invasive species out of Oregon and to eliminate, reduce, or mitigate the impacts of invasive species already established in Oregon.

Community Involvement

Sea Grant faculty are involved in a number of formal organizations at the community and local levels in all coastal areas of the state. Examples include: Coastal Processes and Hazards Working Group, Tsunami Advisory Committee, Marine Reserves Recommendation Committee, Coos Bay Chamber of Commerce Tourism Subcommittee, Tillamook Futures Council COSEE Pacific Partnerships External Advisory Committee, West Coast Governors' Agreement on Ocean Health Marine Action Coordination Team, Pacific States Marine Fisheries Commission, Board of Directors Seafood Consumer Center, Board of Directors Oregon Coast Aquarium, Lincoln County FINE Committee, Marion County Chamber of Commerce Ag Team, Oregon State President of Epsilon Sigma Phi, Professional Development Tours, Committee Chair National Association of County Agricultural Agents conference, Host/Chair Extension Diversity Team, Soil and Water Conservation District Technical Advisor, Advisory Committee Western Regional Aquaculture Committee, committee member Oregon Plan for Salmon Outreach Team, committee member Oregon Master Naturalist Steering Committee, committee member Benton County Water Project Education and Outreach Team, World Aquatic Veterinary Medical Association Education Chair, and co-chair of the West Coast Governors' Agreement on Ocean Health Ocean Literacy Action Coordination Team.

Partnerships

OSG has long valued and invested in partnerships and collaborative efforts. Our ability to achieve our goals is dependent upon our ability to maintain and enhance partnerships within the academic community; with local, state,

regional, federal, and tribal partners; with other Sea Grant programs; and with the broader stakeholder community. Examples of our partners can be seen in our list of involvement (above), our funding, and in a list of partners that have directly contributed to our recent programs. We have nearly 400 named partners (see table for partial list).

Primary partnerships include Oregon universities and faculty, informal and formal educators, marine scientists, undergraduate and graduate students, postdoctoral investigators, state and federal government agencies, local school districts, marine-related businesses, other Sea Grant and NOAA institutions, marine resource organizations, professional associations, and interested members of the public.

OSG is a principal partner in the National Science Foundation Center for Ocean Science Education Excellence (COSEE) Pacific Partnerships program, which works to develop education programming and research opportunities for community college students, faculty, informal-science educators, and marine-education volunteers in Oregon, Washington, California, and Hawaii. In addition, we partner with the Oregon Coast Aquarium on nearly a dozen ocean literacy programs.

Examples of Partners who Supported Oregon Sea Grant Projects, 2005–2010

International/Regional	California Extension Service	Fisheries and Oceans, Canada
	Ontario Ministry of Natural Resources	National Association of Networked Ocean Observing Systems (NANOOS)
	Washington Extension Service	Pacific Fishery Management Council
	West Coast Governors' Agreement	Ontario Ministry of Natural Resources
	NOAA-West	
Federal/Tribal	Grand Ronde Tribe	NOAA CIOOSS, CIMRS, NWS
	Karuk Tribe	NOAA Coastal Services Center
	EPA	NOAA National Estuarine Research and Reserve, South Slough
	Marine Mammal Commission	NOAA Science Advisory Board
	NOAA PMEL	Ocean Policy Advisory Council
	NOAA National Marine Fisheries Service	Siletz Tribe
	NOAA Climate Office	U.S. Bureau of Land Management
	NOAA Education Office	Yurok Tribe
	U.S. Army Corps of Engineers	Warm Spring Tribe
	U.S. Coast Guard	Animal and Plant Health Inspection Service (APHIS)
	USFWS, USGS, USFS	
State of Oregon	Governor's Natural Resource Office	Oregon Water Resources Dept.
	Oregon Commodities Commissions	Oregon Water Enhancement Board
	Oregon Dept. of Fish and Wildlife	Oregon Wave Energy Trust
	Oregon Extension Service	Oregon Departments of Agriculture, Energy, Environmental Quality, Forestry, Geology and Mineral Industries, Land Conservation and Development, and State Lands
	Oregon Invasive Species Council	
	Oregon State Legislature Coastal Caucus	

(continued next page)

Sea Grant Programs	Alaska Sea Grant	Minnesota Sea Grant
	California Sea Grant	Missouri Sea Grant
	Florida Sea Grant	New York Sea Grant
	Hawaii Sea Grant	North Carolina Sea Grant
	Illinois/Indiana Sea Grant	Rhode Island Sea Grant
	Maine Sea Grant	University of Southern California Sea Grant
	Maryland Sea Grant	Washington Sea Grant
	Michigan Sea Grant	
Local: Municipal and County	Cities of Astoria, Bay City, Brookings, Eugene, Newport, Portland, Salem, Seaside, Tillamook, and Warrenton	
	Oregon Coast Watershed Associations	
	Oregon Coastal Caucus	
	Oregon Coastal Zone Management Assn.	
	Soil and Water Conservation Districts	
	Ports of Bandon, Coos Bay, Depoe Bay, Gold Beach, Newport, and Toledo	
	Fishermen Involved with Natural Energy (FINE)	
	Many Counties and Watershed Councils	
Academic Institutions and Programs	Lincoln County School District	
	Oregon Coast, Clatsop, and Clackamas Community Colleges	
	Eastern and Western Oregon Universities	
	Lewis and Clark College	
	Oregon Institute of Marine Biology, University of Oregon	
	Portland State University	
	Oregon Health Sciences University	
	Oregon State University	
	University of California, Berkeley, Davis, and Santa Cruz	
	Universities of Maryland, Michigan, Arkansas, Alaska, Arizona, Idaho, Florida, Washington, Utah, Massachusetts, New Hampshire, Wisconsin, and Delaware	
Industry/Business/NGOs	KAST Radio	Ecotrust
	KMUN Radio	Englund Marine Supplies
	Oregon Coast Aquarium	Local Ocean Seafood
	Oregon Public Broadcasting	Ocean Power Technologies
	Sea Dwelling Creatures	Oregon Dungeness Crab Commission
	Seafood Consumer Center	Shorebank Investments
	Clatsop and Lincoln County Associations of Realtors	Whiskey Creek Shellfish

IV. Network Activities across Sea Grant and NOAA

OSG works extensively with NOAA partners, other Sea Grant Programs, and the National Sea Grant Network. Many examples have already been provided. OSG NOAA partners include the NW Fisheries Science Center, PMEL, the NOAA cooperative institute CIMRS, Coastal Services Center, National Weather Service, National Estuarine Research and Reserve, NOAA Climate Office, OCZM, and the NOAA fisheries facilities at Newport. OSG also expects a number of new opportunities (already being pursued) with the arrival of the NOAA Marine Operations and Pacific Fleet to Newport, Oregon in June 2011. Some other examples:

- The four West Coast Sea Grant programs have a strong working relationship and formal collaborations relative to the Regional Research and Information Plan, West Coast Governors' Agreement, and new Regional Invasive Species program. Also, the OSG director, along with the other West Coast Sea Grant directors, works closely with the Western Regional NOAA Team and participated in the development of the regional NOAA West Strategic Planning Meeting in San Francisco and the successful Climate Workshop funding for NOAA West.
- The Sea Grant director has direct funding from NOAA CSCOR for hypoxia research in a collaborative program with NOAA scientists. He is also still involved with the NOAA Oceans and Human Health Initiative and attended the all-PI meeting last fall.
- Joe Cone works closely and collaboratively with the Maine, North Carolina, Maryland, and Minnesota Sea Grant programs and the NOAA Climate Program (SARP) to improve decision making under the uncertainty related to climate change and to assist coastal communities in preparing for climate change.
- Pat Corcoran is on the Governing Board of the Northwest Association of Networked Ocean Observing Systems (NANOOS).
- Dr. Guillermo Giannico serves on the South Slough National Estuarine Research Reserve Restoration Advisory Committee.

OSG faculty also serve in a number of positions in the National Sea Grant network, such as

Pat Corcoran—National SG Climate Change Network Team

Rob Emanuel—National SG Assembly; Sea Grant Sustainable Coastal Community Development Network

Joseph Cone—Member (and Communicators' liaison) of the HRCC Focus Team, and member (and Communicators' liaison) of the National Climate Steering Committee

Nancee Hunter—Executive Committee on Sea Grant Education Network

Evelyn Paret—Chair of Sea Grant Fiscal Officers Network; Member of Sea Grant Association Network Advisory Committee; Program Mission Committee

Stephen Brandt— Current Candidate for Secretary of the Sea Grant Association

V. Program Changes Resulting from Previous Review and Internal Initiatives

Recommendations from PAT 2005	Program Response
An Assistant Extension Program Leader be hired or assigned to handle many of the day-to-day management activities of the Extension Program Leader so the Extension Program Leader can focus more time on program development.	The education director assumed supervision of approximately one-third of positions previously overseen by the Extension program leader (EPL) and now reports to the Sea Grant director. In addition, senior members of OSG Extension functioned as assistant program leaders during tenure of the former EPL (2005–June 2010), who also served as OSG's associate director. The substantive associate director responsibilities have been removed from the new EPL position [beginning Oct. 2010].
The Advisory Council be diversified to include an ex-officio Oregon State University member, a chair be elected, and the Advisory Council provide a brief report directly to the Vice President for Research once per year on the issues important to Oregon Sea Grant.	As the 2005 PAT report noted, our citizen Advisory Council (AC) is highly effective. We have expanded and diversified its citizen membership but have respected its own wishes to have no elected chair and primarily informal relations with OSU VP for research (accomplished through VPs inviting their membership, his participation in AC meetings, and in AC membership on VP-led search committee for new OSG director). Increased integration with the OSU RO and marine counterparts has been achieved through leadership and establishment of OSU Marine Council with OSG director as chair.
Encourages the Oregon Sea Grant Director to continue to be alert to efforts to seek private support for Oregon Sea Grant Programs.	Please see separate table showing Leveraged and Outside Funding, 2005–2010.
Oregon Sea Grant should consider using a preliminary proposal screening processes that includes scientific peer review.	An initial scientific peer review has been added at the pre-proposal stage as part of a thorough review and enhancement of our proposal review process, which our program monitor declared the best process in the SG network (2009).
Program management should firmly resist the trend to allow the amount of research supported by the program to diminish.	We have continued to commit at least 50% of our federal award to research. In addition, leveraged and outside funding received by Sea Grant grew substantially from 2006–2010, a 246% increase from 2005.
In order for the research supported by Oregon Sea Grant to produce truly significant results, extra care should be taken to ensure that supported research is published in some of the leading high-impact, peer-reviewed journals.	First, we have taken additional steps to ensure that all peer-reviewed articles, including past years, are submitted to us and to the National Sea Grant Library. Also, we have begun to evaluate publications relative to their placement in high-impact, peer-reviewed journals. Publications in the top 10 journals increased from 9% in 2001–2004 to over 26% during 2005–2008.

Changes from Internal Initiatives	
Proposal Process Changes	Pre-proposal review process now includes additional steps: • an external review of scientific quality; • a Sea Grant faculty review to examine project societal relevance and recommend project elements to improve relevance, and transition of results to the public; and • comments by communications and education experts on how the pre-proposal might better integrate meaningful outreach elements to enhance the impact of projects. New full proposal stage includes: • a key outreach or education point-of-contact devoted to each project. • assistance in developing meaningful outreach components.
Improved Interdisciplinary Science	Integration of social and economic sciences into Sea Grant, state, and regional efforts, and Sea Grant leadership and responsibility for integrating marine sciences across OSU.