



Briefing Book



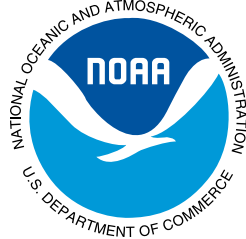
Washington Sea Grant College Program

National Site Visit • March 2 - 3, 2011

Briefing Book

Washington Sea Grant College Program
University of Washington

National Site Visit • March 2 - 3, 2011



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I. Program Management and Organization

Introduction

Washington Sea Grant (WSG) was established at the University of Washington (UW) in 1968 and in 1971 became one of the first four programs designated nationally as a Sea Grant College. Since its inception, WSG has served Washington, the Pacific Northwest and the nation by funding marine research and working with communities, managers, businesses and the public to strengthen understanding and sustainable use of ocean and coastal resources.

WSG operates within an extremely diverse and productive ocean and coastal region. Washington state's ocean economy is the fourth largest in the nation. More than 70 percent of the state's population lives within coastal counties, with over half (3.5 million) in the Puget Sound region alone. Larger communities with diversified urban economies rim the densely populated Puget Sound basin, and there is growing concern about the decline of its unique ecosystem. By contrast, the outer ocean coast is a region of low population densities, tribal lands, small ports, federal parks and forests and natural resource-based economies. Given these differences, separate state governance approaches have developed for Puget Sound and the Washington coast. WSG participates in federal, state and local programs pertaining to both.

Within the state, WSG is involved in implementing the Puget Sound Partnership's Action Agenda to restore and protect Puget Sound. WSG is also a member of the State Ocean Caucus, established to implement an action plan for improving protection and management of Washington's ocean and coastal resources. On a wider, regional scale, WSG is actively collaborating with NOAA's Western Region, the five other Pacific Sea Grant programs and the executive committee of the West Coast Governors' Agreement on Ocean Health.

Leadership

The role of WSG management is to provide leadership, set goals, promote interdisciplinary and inter-institutional partnerships, develop support, allocate resources and maintain quality control and accountability. A high-quality, broad-based program combining research, education, advisory services and communications requires a strong and flexible management system in order to deliver services effectively to constituents. These constituents—including the marine research community, marine industry, natural resource managers and the public—expect WSG staff to be familiar with ongoing and emerging marine resource and management issues and to work toward solutions to scientific and resource problems. The ability of staff and management to develop and use outside resources in combination with those of WSG enhances the organization's impact on marine issues.

Washington Sea Grant Management Team

A six-member WSG management team works together to maximize research, education and outreach capabilities and makes a constant effort to maintain integration across all parts of the program. Team members bring a wide range of expertise to WSG, and all but one are full time WSG employees (5.5 FTEs). Management team responsibilities and backgrounds are summarized below:

Director Penelope D. Dalton is responsible for overall WSG leadership and management, including strategic planning, project solicitation, review and coordination of research and education activities and direct oversight of extension and communications efforts. She became the WSG director in November 2005 and is an affiliate associate professor in the UW School of Marine and Environmental Affairs. Previously, Penny was vice president of the Consortium for Oceanographic Research and Education, where she was involved in efforts to strengthen ocean science and policy, including implementation of the recommendations of the U.S. Ocean Commission. She served from 1999 through 2001 as NOAA's assistant administrator for fisheries and head of the National Marine Fisheries Service. Penny also was a staff member on the U.S. Senate Committee on Commerce, Science, and Transportation for 13 years and directed the Democratic staff of the subcommittees on Oceans and Fisheries and Science, Technology, and Space. She was involved in enactment and reauthorization of numerous science and ocean laws, including the Sustainable Fisheries Act, the Global Change Research Act, the Marine Mammal Protection Act and the Oceans Act of 2000. She has a master's degree in marine-environmental-estuarine sciences from the University of Maryland.

Associate Director Raechel Waters assists the director in planning and implementing program priorities, directs the proposal process for competitive projects, manages research and education activities and provides the program with scientific leadership. Raechel is a research assistant professor in the UW School of Oceanography and teaches courses in oceanography and ocean sciences education. Before joining WSG in 2007, Raechel held postdoctoral appointments at the University of Lille, France, and the University of Washington, working on microscale plankton ecology. Prior to that, she spent 11 years in Australia, where she worked at the Australian Antarctic Division as a plankton biologist and at Flinders University as a university lecturer and program manager. She received her doctorate in biological oceanography from Flinders University, Adelaide.



Marine Advisory Services (MAS) Program Leader Pete Granger manages and leads the MAS program, supervising MAS staff, maintaining and developing relationships with stakeholders and partner institutions and conducting outreach and technology transfer in his own areas of specialization. Pete has extensive background in the commercial seafood industry, having fished commercially in Puget Sound and Alaska and processed and marketed seafood products for several companies. He was a sales manager for the Seafood Producers Cooperative from 1989 to 1993 and has directed three different fisheries and fish-farming trade associations. Pete holds a bachelor's degree in oceanography and a master's degree in international business from the UW.

Administrator Karen Mooseker provides leadership and management of all business and operational activities, including grant administration, human resources oversight and fiscal compliance and control. She prepares budgets, reporting data, spending plans and expenditures and verifies and documents cost sharing. Karen joined WSG in November 2010 after more than nine years with the UW, primarily in research administration. Her background includes nearly 10 years managing field and business operations for both private and non-profit organizations. Karen holds a bachelor's degree in English from the UW.

Senior Program Coordinator Michelle Wainstein participates in program planning and administration, carrying out special projects, preparing program documents (proposals, reports, etc.) and coordinating WSG's role in collaborative inter- and intra-organizational projects. Previously, she served as the Washington coordinator for the West Coast marine research and information needs report, a collaboration of all four West Coast Sea Grant programs. Michelle also has been a marine field specialist at WSG, working on seabird bycatch mitigation. Before joining WSG in 2004, she studied marine mammal and seabird ecology and conservation, focusing much of her effort in South America. She holds a doctorate in ecology and evolutionary biology from the University of California at Santa Cruz.

Communications Manager Dan Williams plans, manages, oversees and leads public information, media (print, broadcast and Internet) and communications activities, supervises the communications staff and maintains an active contact network for WSG. Dan joined WSG in 2006 after more than 20 years of writing, editing and media relations experience with King County Metro and Seattle City Light. He served as spokesperson for Metro Transit and was media relations manager for City Light, where he also was responsible for producing the utility's annual report. Dan has a bachelor's degree in English from Grinnell College.

Table 1: FTEs Devoted to WSG Activities (includes staff, fellows, students, interns, Pls and Co-Pls)

Functional Area	# of individuals	# of FTEs supported by SG	# of FTEs supported by match/leverage
Mgt./Admin.	11	0.94	5.04
Comm.	15	2.61	1.70
Extension	18	6.11	7.75
Education	34	4.90	1.80
Research	51	13.92	2.76

In addition to program administration, the management team has worked to address two essential organizational issues: program integration and staff effectiveness. As part of the strategic planning process, the WSG staff and Advisory Committee developed recommendations for improvements in both areas. Based on these recommendations, WSG implemented four actions:

1. Implement an integrated annual planning, reporting and evaluation process for all WSG staff. Starting in 2009, WSG staff members submitted individual and, where relevant, team work plans, detailing objectives, activities and outcomes in each work area. The plans are used to evaluate progress and form the basis for developing the program's core proposals and reporting program performance.
2. Improve internal communication and provide a reporting framework. Monthly individual activity reports are compiled by WSG Communications and distributed to all staff. Related activities include weekly management team meetings and quarterly staff meetings.
3. Require that all investigators receiving research project funding include outreach plans as part of their proposals. While still in the preliminary stages, the result of this new requirement has been to encourage research application and build better working relationships among WSG researchers and outreach programs.
4. Improve access to tools and technologies. Most staff members use a Mac platform and share calendars, enhancing team planning and collaboration. The new eSeaGrant research administration system and Intranet have been implemented, and a central FilemakerPro database will be made available to staff in 2011. WSG remains committed to identifying other cost-effective technologies to increase the cohesiveness of a dedicated staff whose activities take them on the road and disperse them in offices throughout the state for much of their time.

Washington Sea Grant Organization Chart

January 2011

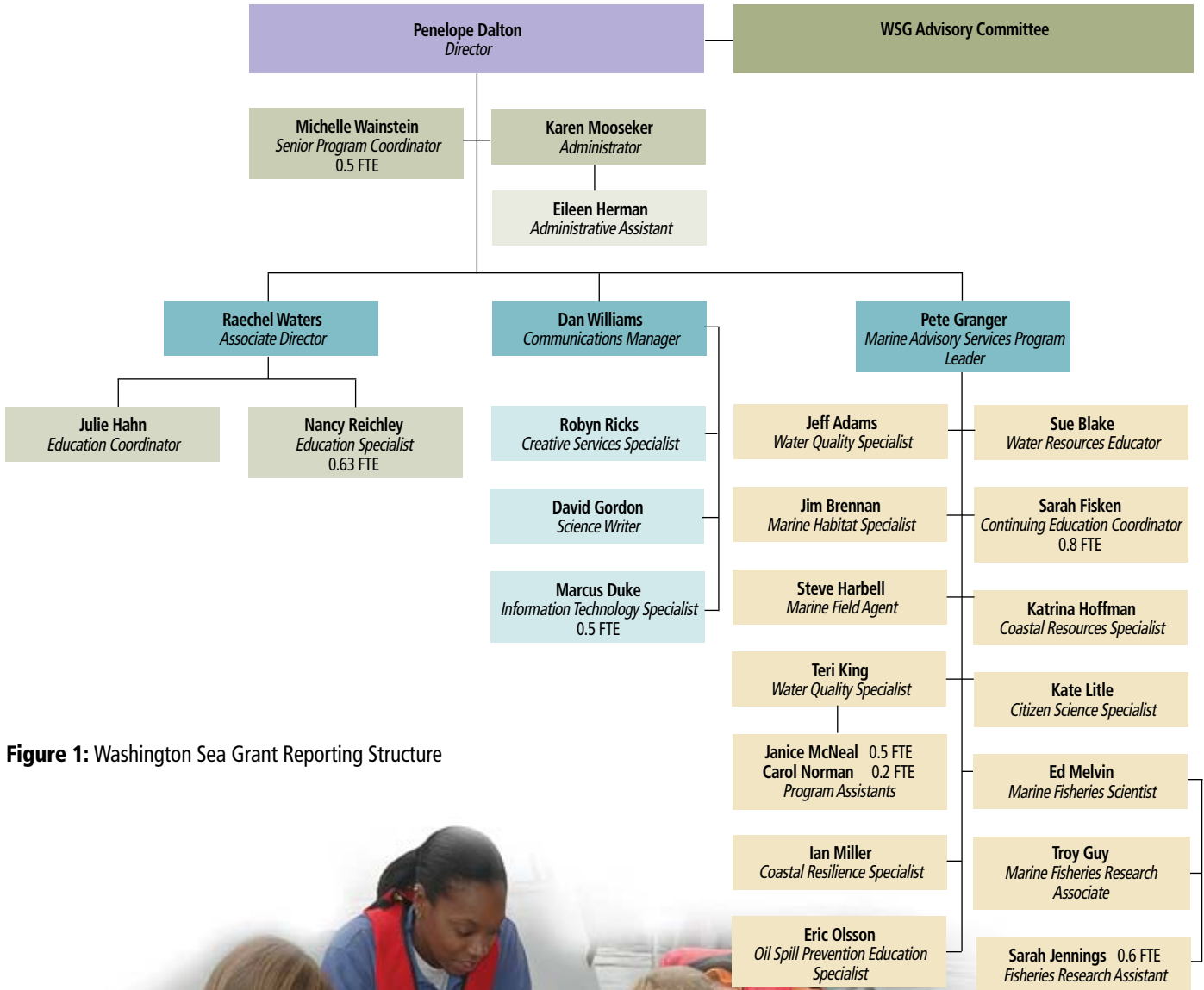


Figure 1: Washington Sea Grant Reporting Structure



WSG Advisory Committee

In the past, WSG relied on a wide-ranging and fairly informal group of external advisors to facilitate broad interactions and to secure expert advice on such matters as program direction, educational activities and project selection. In August 2006, the WSG Advisory Committee was reestablished as a more formal standing committee that represents key stakeholder groups, provides continuity and has the expertise to provide general program oversight, direction and advice. The initial core membership of eight individuals represented key stakeholder, federal, state and academic partners. Since then, four members have completed their terms, and the size of the committee has grown to thirteen current members. Among the newer appointments are representatives of tribal and coastal county governments, a maritime publishing group, commercial fishing and the conservation and education communities. The dean of the UW College of the Environment (CoEnv) and the WSG director serve as ex-officio members.

The WSG Advisory Committee meets two to three times a year and has provided extraordinarily thoughtful guidance on the strategic planning process and development of WSG's omnibus grant. In addition to attending committee meetings, members also have demonstrated a willingness to provide advice on a routine and continuing basis for the program areas in which they have particular expertise. Members have participated in special sessions such as the National Sea Grant Advisory Board meeting, served on selection panels for student fellowships and participated in projects like the West Coast marine research and information needs report.

Advisory Committee Members

Dale Beasley

Member

Pacific County Marine
Resource Committee
Columbia River Crab
Fishermen's Association

Bradley Smith

Dean

Huxley College of
Environmental Studies
Western Washington
University

Mike Doherty

Commissioner

Clallam County Board of
Commissioners

Terry Stevens

Director

Padilla Bay National
Estuarine Research Reserve

Robert F. Goodwin

Coastal Resources Specialist

(Retired)

Washington Sea Grant

Dan Swecker

Senator

Washington State Senate

Ed Johnstone

Fisheries Policy Spokesperson

Quinault Indian Nation

Margaret Tudor

Executive Director

Pacific Education Institute

Jim Kropf

Director

Natural Resources Program
Washington State
University Extension

Usha Varanasi

Science and Research Director

NOAA Northwest Fisheries
Science Center

Peter Philips

President

Philips Publishing Group

Jacques White

Executive Director

Long Live the Kings

Rolland Schmitten

Commissioner

Washington Fish and
Wildlife Commission

Ex-Officio

Penny Dalton

Director

Washington Sea Grant

Lisa Graumlich

Dean

College of the Environment
University of Washington



University Setting

The UW is home to the Sea Grant program in Washington. By state law, the university is the designated marine research and graduate education institution in the state. The WSG director is responsible and serves as principal investigator for the entire program and reports to the dean of the CoEnv. Other state education institutions with compatible research and education missions also participate in the program and are involved on a project-by-project basis.

In 2010, WSG moved, along with other units of the former College of Ocean and Fishery Sciences (COFS), into the newly formed CoEnv. The vision for the new college is to position the UW as a leader in environmental research and education and to better address complex regional, national and international environmental challenges. While the transfer offered WSG some exciting new opportunities, it also posed potential challenges for WSG in carrying out its responsibilities as part of the National Sea Grant College Program. To assist the transition, the National Sea Grant Office established a Topical Advisory Team (TAT) to provide an independent evaluation and recommendations to guide WSG and the new college successfully through the transition period.

After meetings and interviews at the UW Nov. 30-Dec. 2, 2009, the TAT recommended that:

- WSG's reporting structure and membership on the college executive committee (that existed in COFS) be continued and codified when WSG joins CoEnv;
- UW continue to support an independent WSG in its critical research program and very successful non-advocacy outreach to a wide spectrum of local, state and national interests, and build on WSG as a foundation in developing the CoEnv outreach element;
- UW consider establishing the position of assistant dean for public engagement, who will report to the dean of CoEnv, to lead its collective outreach efforts, and consideration be given to having the director of WSG also serve as the assistant dean;
- UW recognize the academic expertise and field experience required of an outreach professional by affording WSG clinical faculty positions that allow for a faculty career ladder for its employees; and
- UW stabilize the funding for WSG, either through a modification of the overhead rate (currently 56 percent for on-campus programs) or a guarantee of funding from the university.

On March 25, 2010, COFS Dean Arthur Nowell responded to the TAT recommendations on behalf of the UW leadership, citing the following actions to be taken in response to the report:

- **WSG reporting structure.** The WSG director will report directly to the CoEnv dean, and responsibility will not be delegated. The director of WSG will be a full voting member of the College Executive Committee and regarded as the equivalent of an academic unit director for all discussions and deliberations within the college.
- **WSG role in CoEnv.** The UW leadership recognizes that the new college must engage effectively and in a highly professional manner with external agencies, nongovernmental organizations, businesses and communities. The skills developed at WSG are a strong base on which to extend the reach of the college.
- **Assistant dean for outreach.** While that specific decision will be left to the new dean, we recognize that this strategy is sound and builds upon established strength and experience.
- **Clinical and practitioner faculty.** This strategy is an important path to explore if the new college is to reach beyond traditional academic boundaries. A career track will be required that is analogous to extension faculty at land grant institutions. This task is one that we hope the new college will undertake immediately.
- **State and institutional support and matching funds.** Confirming UW's commitment from the president and provost, UW has reorganized its matching in the following manner. For all parts of the proposal, except on-campus research, a 26 percent off-campus indirect cost rate will be applied, permitting about \$150,000 to be counted as cost sharing by using this reduced rate as waived indirect costs. The university will continue to provide \$243,000 in general operating funds. The balance of funds amounts to about \$310,000 and will be provided centrally by the provost.

College of the Environment Organization Chart

January 2011

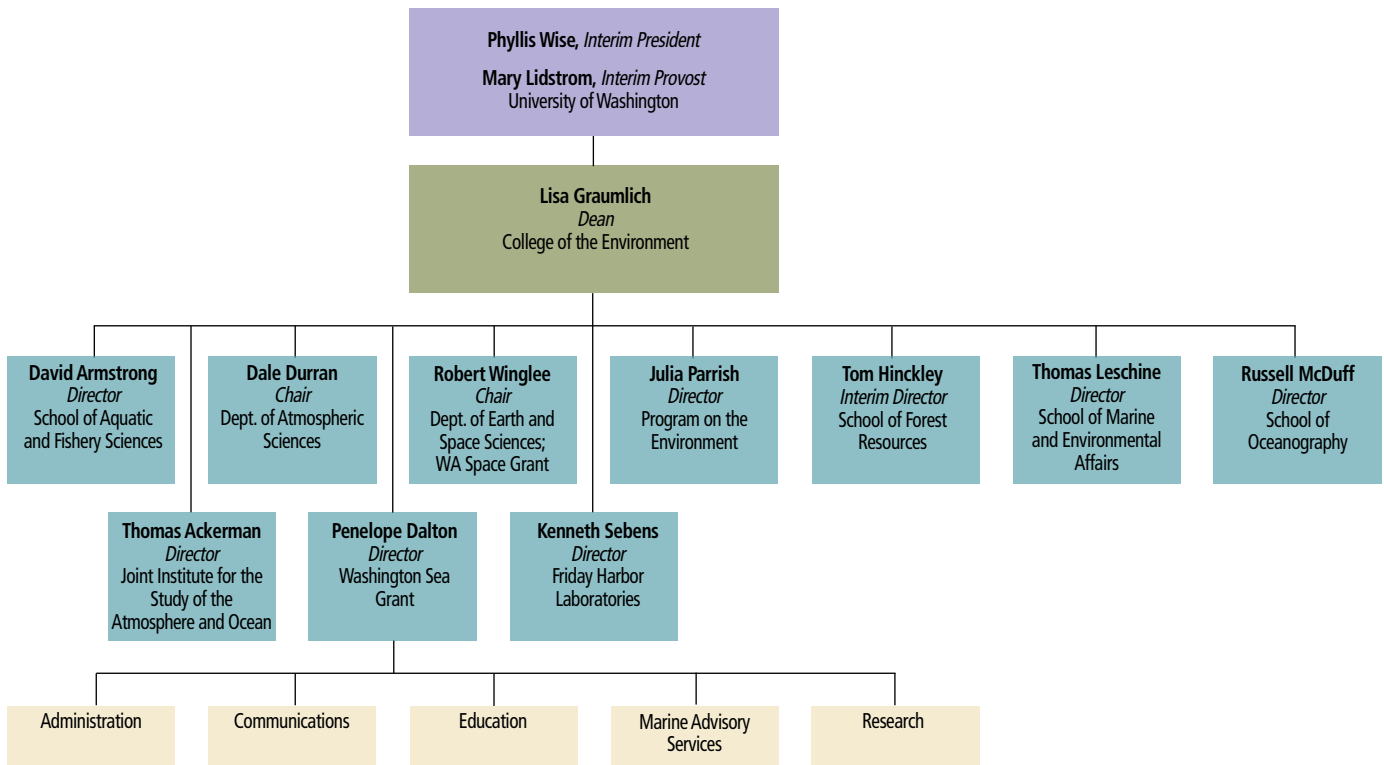


Figure 2: UW College of the Environment Reporting Structure

Recruiting Talent

Requests for Proposals — Setting Priorities

WSG has set priorities for research and other program activities through its strategic planning process. The process involved WSG's entire staff, the advisory committee, the UW and other academic institutions, as well as maritime businesses, resource managers and other constituents. The result, WSG's 2010-2014 Strategic Plan, is a document that establishes WSG's direction over a five-year period and articulates guidelines for program planning, implementation and evaluation. As a roadmap for future activities, the strategic plan promises to greatly assist WSG in fulfilling its mission to improve the translation of research and scientific information into knowledge for use in the marine environment.

The program's core units—research, extension, education and communications—will work in an integrated way to follow and achieve the goals of the strategic plan, which focuses on four critical program areas most relevant to Washington state:

- Living Marine Ecosystems
- Ocean and Coastal Environmental Health
- Changing Oceans and Coastal Communities
- Ocean Literacy and Workforce Capacity

WSG's strategic plan aligns with the priorities of NOAA and the National Sea Grant College Program. All of the national themes and priority areas apply to Washington state, and all have been incorporated, to some extent, into the current WSG strategic plan (Table 2). In implementing its strategic plan, WSG combines competitively selected research projects with complementary extension, education and communications activities carried out by WSG staff. WSG's current activities under its four critical program areas are interdisciplinary and often support strategic plan goals and strategies in more than one area.

Requests for Proposals — Review Process

WSG selects, funds, oversees and manages marine-related projects carried out by academic and research institutions throughout Washington. While smaller program-development projects are funded on a continuing basis, most research projects are funded through a rigorous, competitive proposal selection process that WSG now conducts on a biennial basis. This peer review process relies on independent experts, primarily from outside Washington, to assess scientific merit and a WSG staff and advisory committee evaluation of the contribution to regional and local needs. In addition to the biennial state proposal process, this year WSG is joining with other West Coast programs in a request for regional social science research proposals.

Table 2: WSG 2010-2014 Program Matrix, showing the connections among WSG’s critical program areas (across the top) and the National Sea Grant program’s focus areas and crosscutting themes (down the left side).

National Strategic Plan Focus Areas and Cross-Cutting Goals	WSG Critical Program Areas			
	Living Marine Ecosystems	Ocean and Coastal Environmental Health	Changing Oceans and Coastal Communities	Ocean Literacy and Workforce Capacity
Healthy Coastal Ecosystems	■	■	■	■
Sustainable Coastal Development	■	■	■	■
Safe and Sustainable Seafood Supply	■	■	■	■
Hazard Resilience in Coastal Communities			■	
Sound Scientific Information	■	■	■	■
An Informed Public	■	■	■	■
Integrated Decisionmaking	■	■	■	

Although it has evolved over time and will be modified for the regional request, the same basic three-step project application and decision process guides WSG in selecting research projects:

1. WSG distributes a statewide call for preliminary proposals and screens submitted applications to ensure that all eligibility criteria are met. A preliminary proposal panel reviews and evaluates eligible preliminary proposals, based on project evaluation criteria. Each proposal is considered on its own merits without regard for university or institutional affiliation. Full proposals are encouraged for those projects that rate highly in all evaluation criteria, considering the funding level that is likely to be available while the project is under way.
2. WSG distributes each full proposal to three to five external merit reviewers for a written evaluation, to which investigators have the opportunity to respond. WSG then convenes a scientific review panel of six to eight experts in the range of disciplines proposed in the submitted projects. Members of the panel receive copies of the proposals, all merit reviews and investigator responses. The panel discusses each proposal individually and develops recommendations for funding. A summary of each proposal recommended for funding is provided to the WSG Advisory Committee and staff, who evaluate the project’s contribution to the WSG program and make recommendations regarding priorities for funding. The director and associate director review all information available and make the final selection of projects for inclusion in the WSG omnibus proposal.

3. The director submits a letter of intent to the National Sea Grant Office, describing the proposed projects and rationale for selection. Once the letter is approved, final proposals are incorporated into the WSG omnibus proposal and submitted to the National Sea Grant Office for funding. The National Sea Grant Office reviews the omnibus proposal and its elements to ensure that all requirements have been met. Contingent on the availability of funds, projects are implemented on Feb. 1 of the next funding cycle.

Table 3: Proposal Submissions — Pre-Proposals, Full Proposals, Institutions

Funding Year	2006 (3-Year)	2009 (2-Year)
Pre-proposals	75	79
Institutions	24	42
Full Proposals	45	39
Proposals Funded	16	12
Institutions	7	8
New/Continuing Projects	12/4	10/2
New/Continuing Investigators	8/8	5/7

Another important aspect of the competitive process is application of transparent and consistent project evaluation criteria to ensure selection of proposals that combine scientific excellence with societal relevance. WSG applies five criteria—weighted differently at each stage—in evaluating proposed projects at both the preliminary and full proposal stages:

1. **Project Contribution** — Importance, relevance and applicability of proposed project to WSG goals; application to problems or opportunities with societal (resource management, business, public) relevance; and contribution to capacity building (undergraduate, graduate, postdoctoral support) and partnerships at all levels.
2. **Technical and Scientific Merit** — The degree to which the activity will advance scientific understanding and whether the approach is technically sound, innovative and provides: clearly stated goals and measurable objectives; project technical feasibility and use of appropriate methods; appropriate mechanisms to evaluate the success of the project; and the likelihood of meeting milestones and achieving anticipated results in the time proposed.
3. **Engagement Plan** — Description of how specifically targeted groups will learn about and benefit from research outcomes through outreach, communications and education activities. Degree to which Sea Grant and other outreach staff and potential users of the results are included in project planning and implementation.
4. **Qualifications of Applicants** — Whether the applicant possesses the necessary education, experience, training, facilities and administrative resources to accomplish the project, with consideration to career stage and past performance.
5. **Project Costs** — Budget evaluation to determine if costs are realistic and commensurate with the project needs and timeframe, reasonable given the availability of program funds, and effectively leverage other resources to achieve project objectives.

Program Development

Important issues and unique opportunities cannot always be anticipated. To help WSG effectively carry out its mission, the program maintains a development fund that enables quick responses to special needs or opportunities as they arise. Projects supported by program development funds may fall into several categories including (but not limited to) complementary activity to existing high-priority projects, new and promising research, student support and partnership building. Project proposals require review by three experts, either from staff or outside the organization. The WSG director, assistant director and administrator also review the proposals, and the director has final authority on project selection.

Success in National Competitions

WSG has a record of success in involving, encouraging and supporting students to secure competitive fellowships. In the 30-year history of the Knauss Fellowship, for example, WSG has produced 70 fellows—more than any other program in the Sea Grant network. Three fellows from Washington state will be placed in executive offices in the nation’s capital in 2011. WSG instituted the Hershman Marine Policy Fellowship program in 2008. Modeled after the Knauss Fellowship, it places one to three eligible graduate students or recent graduates with agencies in the state capital of Olympia, working on ocean and coastal issues. In addition to traditional fellowship programs, WSG has initiated a three-month science-writing fellowship that provides graduate and undergraduate students with a small stipend and direct experience in developing a variety of communication products. Finally, WSG’s proximity to two NOAA Fisheries Science Centers and the UW’s well-regarded fishery science school have helped to ensure that WSG is among the top-ranked programs with respect to doctoral fellowships in fisheries.

Table 4: Number of Students Awarded Competitive Fellowships through WSG

	2007-08	2008-09	2009-10
Knauss Fellows	4	2	4
Hershman Marine Policy Fellows		2	2
Sea Grant/NOAA Fisheries Fellows	6	5	4
Science Writing Fellows	2	3	3

WSG also has established a tradition of success in national competitions and national strategic initiatives through a combination of wide-ranging staff and regional academic expertise and well-developed research and extension proposals. Since 2005, WSG has received funding for seven research projects through national competitions in the areas of aquatic invasive species, oyster disease, Gulf oysters and aquaculture. The program enjoyed a similar positive outcome with respect to the Fisheries Extension Enhancement initiative. The initial project to reduce seabird bycatch in Alaska fisheries has now been extended to the West Coast and to longline fisheries around the globe, and the Sea Grant investment has leveraged support from two federal agencies and a foundation. Two extension proposals submitted this year to the National Sea Grant Office were selected for funding. One, created jointly by the Oregon, California, Southern California and Washington Sea Grant programs, will investigate school classrooms as a potential source of new aquatic species invasions over the next two years. The second project will provide WSG with resources to work with NOAA Fisheries, regional aquaculture operators and other local stakeholders to assess consumer perspectives and strengthen regional technical support.

Regional Projects

Sea Grant was founded on the principle that national marine issues can often be most effectively addressed at regional, state and local levels. This consideration of scale in addressing issues requires similar flexibility in developing solutions and effective approaches, either on an individual or community basis or through regional agreements. Innovative solutions—and WSG’s demonstrated ability to find them—attract scientists, experts and citizens eager to become involved in tackling problems pertaining to Washington’s marine and coastal environments. Technical expertise and willingness to adapt new approaches are key to recruiting talented researchers and engaging knowledgeable stakeholders for regional and multi-program projects:

- In 2008, the Washington State Legislature selected WSG to manage a six-year research project to examine the possible environmental impacts of geoduck clam aquaculture. WSG is collaborating with state and regional managers and has recruited investigators who are pursuing much needed data to better manage this fast-growing industry and ensure sustainable harvests without harming the aquatic environment. wsg.washington.edu/research/geoduck/index.html
- WSG partnered with the Washington Department of Ecology and the Padilla Bay National Estuarine Research Reserve to reinvigorate the Shoreline and Coastal Planners Group, which provides a forum for discussion of policy concerns, new technologies, emerging issues and changing regulations. Planners at the city, county and state levels interact with each other while receiving science, policy and planning-oriented instruction from experienced professionals in their fields. wsg.washington.edu/wacoast/about.html

- The Puget Sound Partnership contracted with WSG and Washington State University Extension to develop recommendations for advancing citizen science to meet Puget Sound Action Agenda priorities. These recommendations, contained in a report submitted to the Partnership, will be used to recruit scientists and volunteers and ensure the effectiveness of citizen science programs. wsg.washington.edu/citizenscience/citsci_toolbox.html

More examples of WSG’s engagement with stakeholder groups, the Pacific and West Coast Sea Grant programs, the National Sea Grant network and NOAA are provided later in the briefing book.



Funding

The stagnation of the WSG budget has become a major barrier to implementing an ambitious strategic plan and maintaining the program's relevance and effectiveness at national, state and university levels. The federal allocation has remained static for the last three omnibus grants; staffing, research and operational costs have not. In the 2003 omnibus submission, WSG was able to fund 17 research projects. In the 2006 submission, that number dropped to 14, but WSG was able to leverage other funding sources and add two more for a total of 16. In the 2009 omnibus submission, the number of funded projects dropped to 12. At the same time, the number of requests for funding continues to grow and the quality of the proposals is outstanding. In 2009, 31 of 39 full proposals submitted were judged by peer reviewers to be excellent or very good. Traditionally, WSG research has benefited from a strong pool of nationally renowned scientists who routinely submit innovative projects, yet many long-term WSG investigators are not funded in the current omnibus. WSG's diminished ability to support the state marine research enterprise undermines the respect and support the program has enjoyed in the academic community for four decades.

The budget situation is similar for the outreach components of the program. While WSG has made good progress in the past year in addressing the state match issues that have been a problem in the past, the current state budget difficulties threaten to undo much of that progress. Cuts in the UW's 2009 state budget translated into a loss of more than \$50,000 annually in WSG funds, and additional state budget cuts are anticipated in spring 2011. Exacerbating the problem is the increasingly large proportion of time WSG staff and managers must devote to paperwork and required reporting exercises.

Despite the financial constraints and discouraging funding outlook, need for WSG programs has never been more apparent, the quality and commitment of the WSG staff have never been higher, and stakeholder interest in WSG capabilities has never been stronger. In interviews during the strategic planning process, constituents and partners were asked to suggest WSG priorities for program investment and suggest activities that could be discontinued. While interviewees had enthusiastic ideas for ways to expand our program, there were no recommendations for activities to eliminate. Recognizing that neither budget shortfalls nor constituent needs are likely to disappear in the near term, staff and management are actively working to seek out new and non-traditional sources of support.

In recent years, WSG has increased efforts to diversify its funding sources and this growing diversity is reflected in the complexity of Figure 4. In this chart, all federal funding sources are shown in aqua, and non-federal sources are indicated by purple or green. The cost share for the WSG research program is particularly diverse because each project identifies its own matching funds and may use a mix of sources that includes university summer salary, indirect cost returns, in-kind state agency contributions, tuition waivers, volunteer time and related foundation grants. Because of this diversity, the research cost share is shown as a single category in the chart. Matching funds for WSG administration and outreach activities are derived from state and university sources. Leveraged funds are derived from federal, state, university and foundation sources.

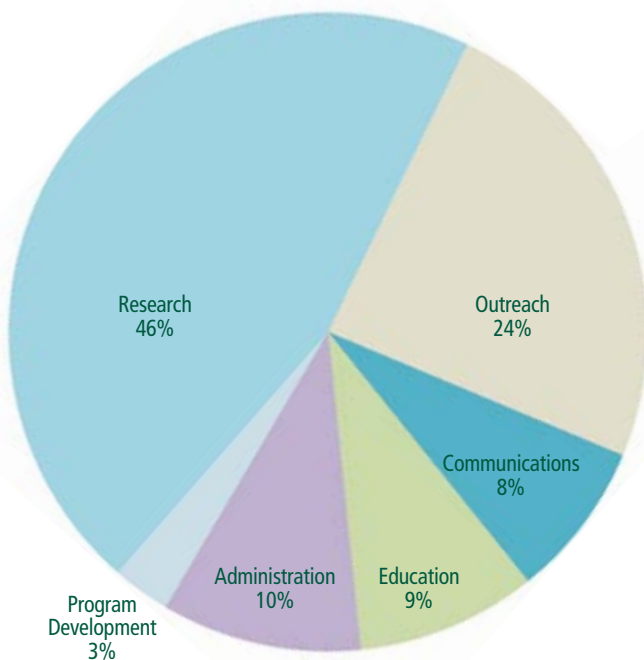


Figure 3: Washington Sea Grant 2010 Budget by Functional Area
Total—\$5,590,900

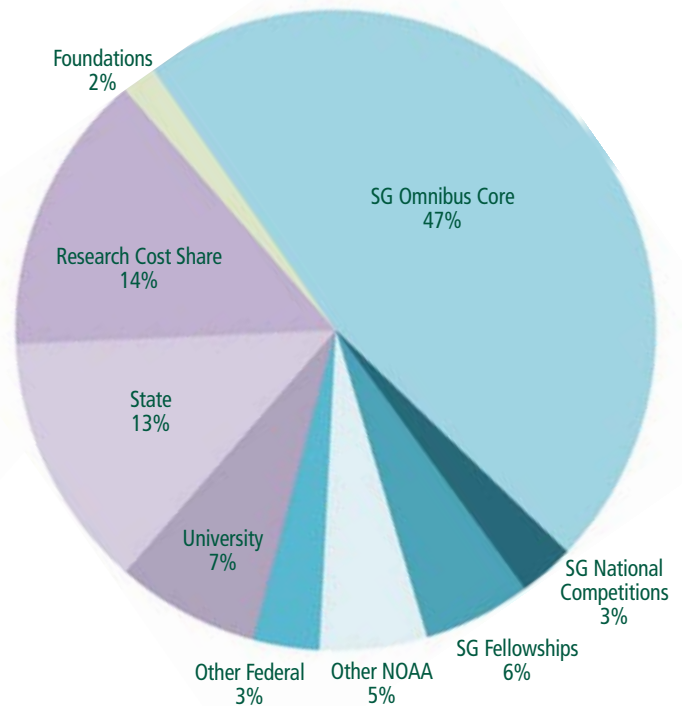


Figure 4: Washington Sea Grant 2010 Budget by Funding Source
Total—\$5,590,900

Stakeholder Engagement

WSG seeks to forge tools, foster insights and build capacity for sustainable management and use of Washington's marine resources—a mission that requires constant interaction with a host of stakeholders and the public. Though much of the state's populace resides in shoreline counties, many citizens lack fundamental understanding of the marine environment. In the Puget Sound region, for example, opinion polls show that 95 percent of the public highly values the Sound, but only about 25 percent understands its deteriorating condition.

WSG programs like Sound Science bring Sea Grant-funded scientists to communities to talk about projects related to local resources and economies. As a result, stakeholders of all ages receive information from academic experts on topics that are identified as priorities, building understanding of marine ecosystem issues and recognition of university contributions to science-based management. A public that better understands the marine environment is more likely to participate effectively in decisions regarding its use and management.

Other examples of WSG stakeholder engagement include:

- WSG's 18th Shellfish Growers Conference this spring will bring together representatives from the **shellfish industry, government and academia**, highlighting the latest issues in shellfish research, culture and management. This year's conference will focus on Japanese eelgrass, harmful algal blooms and shellfish culture.
- Bivalves for Clean Water recruited and trained volunteers to identify and eliminate sources of pollution around South Puget Sound and South Hood Canal, enhancing shellfish populations on private and recreational beaches. **Tribal, state agency and shellfish industry partners** joined with WSG and dozens of **community volunteers** in workshops, field trips and enhancement activities to provide additional public shellfish resources and increase shellfish filtration of the Sound.
- A WSG-authored marine riparian guidance document is being used by **local jurisdictions** as they update their Shoreline Master Programs and other planning tools for shorelines. The document provides recommendations for improved protection and management standards for marine shorelines in Puget Sound. It also helps establish a standard of practice that improves shoreline land-use practices, reduces degradation and loss of nearshore ecosystems and creates greater consistency among local shoreline management programs.

- Conflicts between **ocean-going tugs** and **commercial crabbers** in Washington, Oregon and California were a major problem in the late 1970s. Crab pots fouled tugs as they moved between coastal ports, and the loss of their gear was a severe economic loss for crab-boat owners. Sea Grant programs on the West Coast helped broker an agreement that provided navigable towboat and barge lanes through the crabbing grounds between Cape Flattery and San Francisco. WSG now facilitates annual negotiations between crabbers and towboat operators that save these industries more than a million dollars each year.

WSG staff members work closely with groups and individuals involved in a broad range of activities pertaining to marine resources. WSG never acts in a regulatory capacity or as a policy advocate. Rather, it builds credibility among stakeholders by serving as an unbiased broker of scientific information. The program emphasizes interdisciplinary approaches and activities that complement or leverage efforts of other ocean and coastal organizations. Many WSG staff members participate or hold leadership positions in stakeholder and partner organizations.



Leadership by Staff on Boards and Committees

Jeff Adams, *Water Quality Specialist*

Washington Aquatic Nuisance Species Committee
Regional Panel on Aquatic Nuisance Species
West Sound Citizen Science Committee

Sue Blake, *Water Resource Educator*

Whatcom Marine Resources Committee
Whatcom Watershed Information Network
Steering Committee
Lake Whatcom Education Team

Jim Brennan, *Marine Habitat Specialist*

Salmon Restoration Funding Board Technical Review Panel
Past President, Pacific Estuarine Research Society

Penny Dalton, *Director*

Sea Grant Association Board
Sea Grant representative on NOAA's Western Region
UW CoEnv Executive Committee
National Indian Center for Marine Environment Research
and Education Advisory Board
APLU Board on Oceans and Atmosphere
U.S. National Committee for Census of Marine Life
Washington State Ocean Caucus

Sarah Fiskén, *Continuing Education Coordinator*

Washington Trollers Association Marketing Committee
Port of Seattle Fish Terminal Advisory Committee

Pete Granger, *Marine Advisory Services Program Leader*

Puget Sound State Caucus
Pacific Aquaculture Caucus Board of Directors
Pacific Shellfish Institute Board of Directors

Steve Harbell, *Marine Field Agent*

Western Regional Aquaculture Center Board of Directors
Pacific County Economic Development Council Chair,
WSU Extension Pacific and Grays Harbor Counties

Katrina Hoffman, *Coastal Resources Specialist*

Co-Chair, Working Waterfronts and Sustainable Coastal
Economies Action Coordination Team, WCGA

Teri King, *Water Quality Specialist*

Puget Sound Partnership Ecosystem Coordination Board
Treasurer, Pacific Rim Shellfish Sanitation Association
Chair, National Shellfisheries Association,
Pacific Coast Section
Co-Conference Chair, Aquaculture 2010
Conference Chair, Pacific Coast Shellfish Growers
Association Meeting
Hood Canal Coordinating Council Board

Kate Litle, *Citizen Science Specialist*

Puget Sound Partnership Coordinated Ecosystem
Monitoring Program Launch Committee

Ed Melvin, *Marine Fisheries Scientist*

World Wildlife Fund Smart Gear Competition Review Panel

Eric Olsson, *Oil Spill Prevention Education Specialist*

Pacific Oil Spill Prevention Education Team
Northwest Marine Trade Association Education Committee
Chair, Education and Training Committee, Pacific Coast
Congress of Harbormasters and Port Managers

Nancy Reichley, *Education Specialist*

Ocean Literacy Action Coordination Team, WCGA

Raechel Waters, *Associate Director*

Puget Sound Partnership ECO Net Regional Committee
Northwest Straits Commission Science Team
2011 Salish Sea Conference Steering Committee

Dan Williams, *Communications Manager*

2010 Sea Grant Communicators Network Chair
Sea Grant Safe and Sustainable Seafood Supply Focus Team

Above: WSG Water Quality Specialist Jeff Adams spoke with host Garrison Keillor about geoduck clams and other Pacific Northwest marine creatures during a broadcast of National Public Radio's A Prairie Home Companion.

Partnerships

Partnerships are a cornerstone of the Sea Grant model. The WSG affiliation with the UW provides ocean and coastal constituencies with access to important marine research, while helping the UW identify and address pressing local environmental problems. Through its partnerships within the UW and with the region's other leading research universities, other NOAA programs, tribes, nongovernmental organizations and public agencies at the local, state and federal levels, WSG accomplishes far more than it could independently. Such partnerships offer more than the sharing of limited financial resources and have proven to be highly effective in solving problems and creating opportunities. They also provide access to audiences, resources and opportunities that WSG might not otherwise reach. By working cooperatively with government agencies, participating in community projects and interacting with industry groups, WSG staff becomes aware of changing issues and understands better how to respond to stakeholder needs. Over the past five years, WSG staff has worked with 22 cities, 15 port districts, 15 coastal counties, almost all of Washington's tribes, 45 federal and 13 state agencies and scores of school districts, businesses and nonprofit organizations.

WSG's four core units—research, extension, education and communications—work together to fulfill the program's commitment to its stakeholders. The program maintains strong connections to the UW and other state academic institutions that are home to many of the nation's top marine scientists. WSG also engages in a continual dialog with its constituencies regarding their interests and concerns. The juxtaposition of academic expertise and public need offers WSG unique opportunities for delivering relevant and interesting ocean and coastal research to the communities it serves.

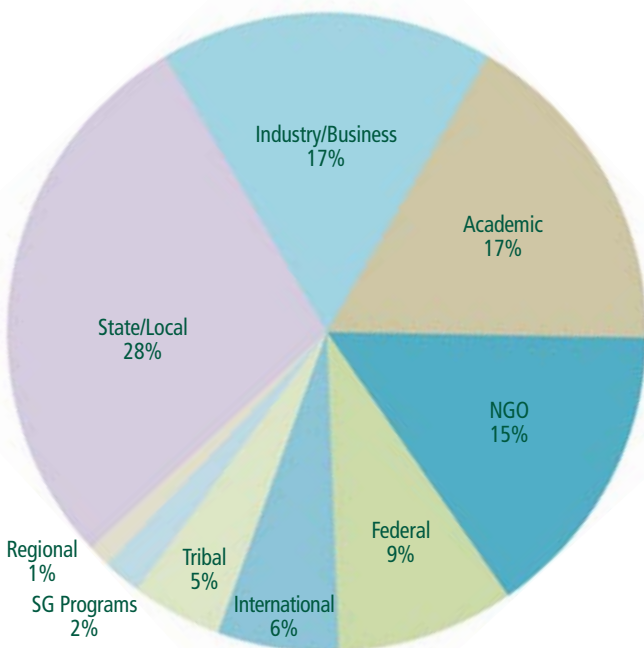


Figure 5: Partnership Distribution

Examples of Important WSG Partners

Academic

Centers for Ocean Science Education Excellence: COSEE-Ocean Learning Communities (Washington), COSEE California
 Climate Impacts Group
 Joint Institute for the Study of the Atmosphere and Ocean
 Northwest Indian College
 Northwest National Marine Renewable Energy Center
 Oregon State University: Hatfield Marine Science Center, OSU Seafood Lab
 Pacific Lutheran University
 University of Maryland
 University of Washington
 Washington Community Colleges: Everett, Grays Harbor, Highline, Peninsula, Skagit Valley, South Seattle
 Washington Public High Schools
 Washington State University and WSU Cooperative Extension
 Western Washington University: Shannon Point Marine Labs, Huxley College

International

American Bird Conservancy
 BirdLife International
 Census of Marine Life
 Hokkaido National Fisheries Research Institute, Japan
 International Pacific Halibut Commission
 Japan National Research Institute of Far Seas Fisheries, Fisheries Research Agency
 South Africa Marine and Coastal Management

Regional

National Association of Networked Ocean Observing Systems (NANOOS)
 Pacific Coast Congress of Harbormasters and Port Managers
 West Coast Governors' Agreement on Ocean Health

Federal

Environmental Protection Agency
 NOAA Climate Services: ClimateWatch Magazine
 NOAA National Estuarine Research Reserve, Padilla Bay
 NOAA Fisheries: Alaska Fisheries Science Center, Northwest Fisheries Science Center, Northwest Regional Office
 NOAA National Ocean Service: Coastal Services Center, Office of Response and Restoration
 NOAA Pacific Marine Environmental Laboratory
 NOAA Western Region

U.S. Department of Agriculture and Western
Regional Aquaculture Center
U.S. Department of Energy Pacific Northwest
National Laboratory
U.S. Fish and Wildlife Service
U.S. Geological Survey

Tribal

Columbia River Intertribal Fish Commission
Lummi Nation
Makah Nation
Northwest Indian Fisheries Commission
Quilleute Tribe
Quinault Indian Nation
Skokomish Tribe
Squaxin Island Tribe
Suquamish Tribe
Tulalip Tribes
Upper Skagit Tribe

Nongovernmental Organizations

Bainbridge Island Land Trust
Clean Marina Partnership
Consortium for Ocean Leadership
Elwha Research Consortium
IslandWood
Long Live the Kings
Pacific Education Institute
Pacific Shellfish Institute
Port Townsend Marine Science Center
Puget Soundkeeper Alliance
Seattle Aquarium

Sea Grant Programs

Alaska, California, Hawaii, Louisiana, Maryland, MIT,
Oregon, Southern California, Virginia

Local and State

Alaska Department of Fish and Game
Alaska Seafood Marketing Institute
City of Seattle
Coastal Marine Resource Committees
Hood Canal Coordinating Council
Northwest Straits Commission and County Marine
Resources Committees
Puget Sound Nearshore Ecosystem Restoration Partnership
Puget Sound Partnership
Puget Sound State Caucus
Shellfish Aquaculture Regulatory Committee
State Ocean Caucus
Washington Departments of Commerce, Ecology,
Fish and Wildlife, Natural Resources
Washington Port Districts
Washington State Parks and Recreation Commission

Business and Industry

AECOM
Alaska Longline Fishermen's Association
At-Sea Processors Association
Bornstein Seafoods
Chelsea Farms
Coast Seafoods Company
Columbia River Crab Fishermen's Association
Englund Marine
Northwest Marine Trade Association
Ocean Beauty Seafoods LLC
Pacific Choice Seafoods
Pacific Coast Shellfish Growers Association
Pacific Seafood Processors Association
PCC Natural Markets, Seattle
Philips Publishing
Taylor Shellfish
United Food and Commercial Workers, Local 81
Washington Fish Growers Association
Washington Trollers Association
West Coast Longline and Trawl Fisheries
Whole Foods, Seattle



II. Collaboration with the Sea Grant Network and NOAA

WSG actively pursues regional and federal partnerships and is a frequent collaborator with other Sea Grant programs and NOAA.

2011

- Partner with Coastal Services Center on WSG coastal resiliency program to support a coastal hazards specialist, a Hershman state policy fellow and workshops focused on strengthening resilience of Olympic Peninsula communities.
- NOAA Fisheries co-lead in recently funded Aquaculture Extension project to improve extension and technology transfer around aquaculture issues in Washington and the Pacific Northwest.
- Six-year partner with NOAA offices in Seattle to produce NOAA Science Camp, a week-long summer camp that introduces middle-school age campers to fisheries, oceanography, meteorology, marine mammalogy, nautical charting, diving, environmental assessment, watersheds and habitat restoration.
- Coordinator of request for regional Sea Grant social science research proposals for California, Oregon and Washington. The RFP complements the National Sea Grant Office social science initiative.
- Participant in regional Aquatic Invasive Species project that includes all four West Coast programs and focuses on assessing and addressing the invasive introduction pathway posed by schools using and releasing biological specimens.
- Partner in West Coast Sea Grant Fellowship to encourage implementation of *California Current Large Marine Ecosystem Regional Marine Research and Information Report* in collaboration with the WCGA Executive Committee and placement of one fellow with NOAA Fisheries in Seattle.
- Organizer of NOAA West-Sea Grant workshop on assessing and planning for climate change effects on West Coast fisheries. Funding provided by WSG, NSGO, NOAA Fisheries, Oregon SG, Moore Foundation.
- Collaboration with MIT SG to develop and implement eSeaGrant, a new online proposal management and project reporting system.

2010

- Partner with NOAA members of the WCGA Executive Committee and other NOAA and Sea Grant staff involved in implementation of WCGA Action Plan.
- Coordinator and producer of all materials for experts workshop on Environmental Effects of Tidal Energy Development, sponsored by NOAA Fisheries and U.S. Department of Energy. Collaboration with the Northwest National Marine Renewable Energy Center (University of Washington and Oregon State University), Pacific Northwest National Laboratory, NOAA Fisheries, WCGA Action Plan.
- Co-sponsor with California and Oregon Sea Grant and others of Ocean Acidification Effects on Shellfish Workshop held in Costa Mesa, Calif.
- Co-convenor with California, Southern California and Maryland Sea Grant of a special session at the International Ocean Sciences Meeting, Portland, Ore., on research for policy and decision-making.
- Host for Coastal Services Center Project Design and Evaluation Training for Sea Grant staff and partners.
- Contributor of articles to NOAA *Climate Watch* magazine and Web site, content to NSGO for national focus area banners, brochure for NOAA Ocean Service Office of Response and Restoration and national impact stories to NSGO for the National Sea Grant Advisory Board's Report to Congress.

2009

- Partner with Sea Grant programs in Oregon and California on workshops, data collection and compilation of the *California Current Large Marine Ecosystem Regional Marine Research and Information Report* in conjunction with development of the WCGA Action Plan.
- Training coordinator for Pacific whiting bycatch monitors at processing plants, working with NOAA managers and scientists and seafood processors to develop training manual and conduct training sessions. Twenty-two trainees passed final exams and were deployed to West Coast processing plants in time for the start of the fishery.
- Producer of 2008 and 2009 annual reports and design of Web sites for the Joint Institute for the Study of the Atmosphere and Ocean, a NOAA cooperative institute. Production of *The HAB Report*, a newsletter about harmful algal blooms, for NOAA Fisheries.

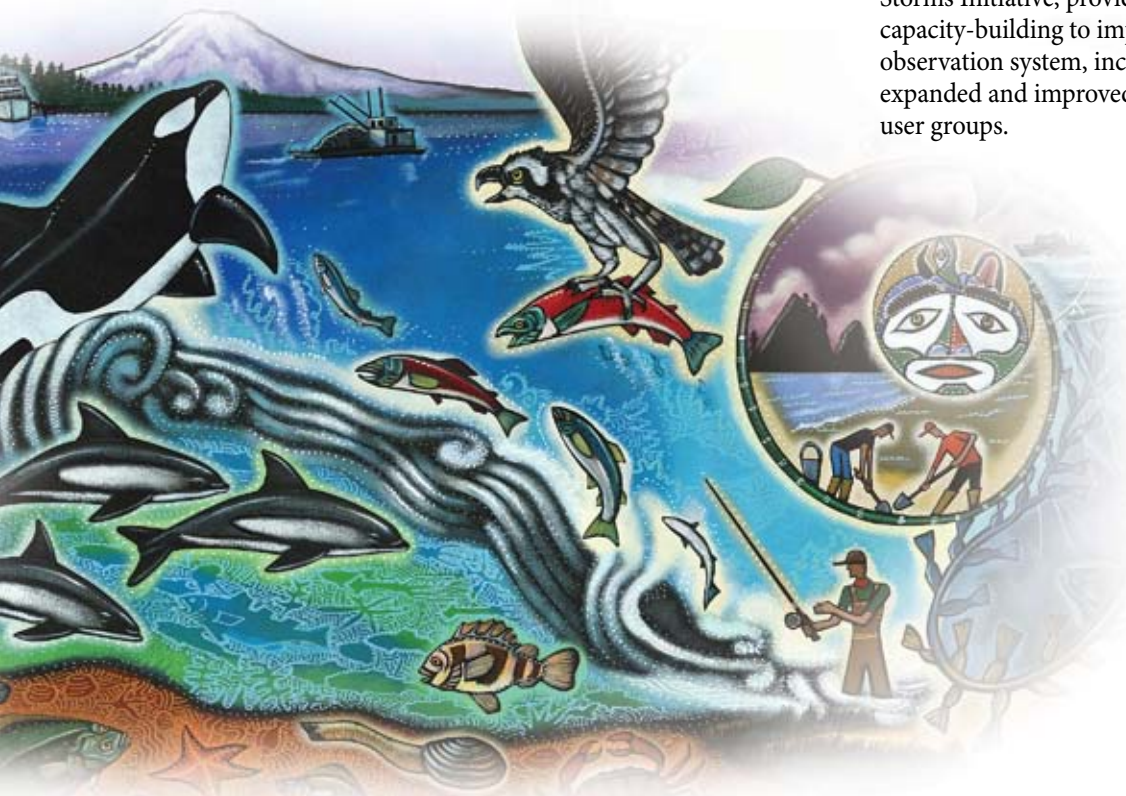
2008

- Organizer and host of the Conference for the Assembly of SG Extension Program Leaders and Communicators Network in Seattle, WA.
- Organizer and host of Pacific Region Sea Grant meeting that brought the six Pacific programs together in Seattle for the first time in several years to identify areas of cooperation and collaboration.
- Workshop convener for NOAA Fisheries' West Coast Center for Oceans and Human Health to engage stakeholders in the process of identifying the Center's priorities for research and development of tools and technologies.
- Partner with NOAA members of the WCGA Executive Committee in coordination of the first meeting of the Action Coordination Teams (2008).

2007

- Collaborator with Padilla Bay National Estuarine Research Reserve (NERR), part of a NOAA administered network, to implement Coastal Training Program courses to strengthen coastal planners' capacity to understand and consider Washington's complex ecological and regulatory environment in their work.

- Partner with Alaska and Oregon Sea Grant to provide business and financial training to help regional fishermen start and enhance direct marketing and catch sales, and to publish the 92-page *Fishermen's Direct Marketing Manual*.
- With Alaska Sea Grant, NOAA Fisheries and other state and university partners, convener of Northwest Workshop on Bivalve Aquaculture and the Environment in response to growing controversy over intertidal aquaculture of the native geoduck clam.
- Collaborator with Alaska Sea Grant, fishing industry, NOAA Fisheries and the U.S. Fish and Wildlife Service to reduce seabird bycatch in Alaska's longline fisheries when unintended takes of short-tailed albatrosses threatened to interrupt or close \$300-million fishery.
- Funder of Pacific Northwest Consortium Oceans and Human Health Traineeship program, a partnership among the UW Pacific Northwest Center for Human Health and Ocean Studies, NOAA/NSF-sponsored Ecology and Oceanography of Harmful Algal Blooms, NOAA's West Coast Center for Oceans and Human Health and WSG.
- Partner with NOAA Fisheries to conduct a literature review of research on consumer perceptions of aquaculture products and to develop a survey to elicit information from consumers on their purchase and consumption of farmed seafood.
- Research collaborator with NOAA and the shipping industry to develop ballast water treatment technologies to prevent the introduction of harmful non-native organisms.
- Partner with Oregon Sea Grant in NOAA-funded Coastal Storms Initiative, providing outreach, coordination and capacity-building to improve the coastal forecast and observation system, including buoy deployments and expanded and improved weather forecasting for marine user groups.



III. Program Changes Resulting from Previous Review

2004 Program Assessment Team Recommendations

WSG should develop and effectively utilize an advisory structure where advisory committees have a clearly defined role and responsibilities, represent a broad constituency, and have the experience needed to advise the program on future direction, strategic thinking and related program issues. In addition, members should be told their meeting frequency and their terms of appointment.

The UW President and his administration should actively work with the legislature to increase direct funding for WSG.

WSG and the UW should consider utilizing their strongly supportive WSG stakeholders to develop and lead a legislative initiative to secure recurring state funding for WSG.

A cost/benefit analysis should be undertaken to provide credible data on the impact of WSG on the economy of the state of Washington.

WSG should join with external partners to more actively seek both private and corporate support for collaborative activities.

Washington Sea Grant Response

WSG established a standing advisory committee in 2006. Members represent academic, federal and state agency, tribal, local government, legislative, coastal management, fisheries, maritime, environmental, education and communications perspectives. The committee meets 2-3 times a year and is involved in strategic planning, priority setting and project selection. Members serve four-year terms that are renewable.

Washington state's fiscal crisis has precluded increased direct funding from the Legislature. However, in response to the 2009 TAT, UW leadership has taken steps to ensure WSG's ability to meet federal cost share requirements.

In 2009, UW submitted a request to the Washington State Legislature for a \$1 million annual budget increase to support WSG role in joint program with WSU Extension to engage the public in Puget Sound recovery. WSG worked with WSU and stakeholders to secure its approval, but was not successful.

While no steps have been taken to date, WSG is very interested in such an analysis and will explore options for its conduct.

WSG has been successful in obtaining private and corporate support from the David and Lucile Packard and Gordon and Betty Moore foundations; Bainbridge Island Land Trust; and the Boeing Company, through the Foundation for Puget Sound.





University of Washington
3716 Brooklyn Ave. N.E.
Seattle, WA 98105-6716

206.543.6600
fax: 206.685.0380

seagrant@u.washington.edu

wsg.washington.edu

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