Knowledge for Use in the Marine Environment

Washington Sea Gran

Washington's ocean and coastal environment is a fundamental part of our state's history, industry, and culture.

Today, the state's maritime industry generates \$30 billion annually. Understanding, protecting, and sustaining marine resources are vital to the Washington way of life, and that's what Washington Sea Grant (WSG)

> is all about. WSG funds marine research, shares its expertise with coastal businesses and communities, and engages the public in practices that contribute to the sustainable use of ocean and coastal resources.



WSG is part of a national network of 33 Sea Grant programs. Primary funding comes from the National Oceanic and Atmospheric Administration (NOAA) and the University of Washington. WSG coordinates with many local, state, tribal, and regional organizations, including the Puget Sound Partnership, the Washington state agencies managing our ocean resources, NOAA's Western

Region, and the five other Pacific Sea Grant programs.



Commercial fishing is one of the most dangerous occupations in

the United States. WSG offers classes in cold-water safety and first aid at sea for commercial fishermen. Such training improves emergency preparedness and the ability to effectively use new safety equipment. In 2012, three Makah Tribe fishermen survived a nighttime crash by following the procedures they'd learned in a WSG class just one month earlier.

Three WSG-

supported research cruises to the continental shelf near the Washington coast resulted in two stunning discoveries: reefs made of glass sponges – organisms long thought to be extinct – and sites of methane gas bubbling from the seafloor. Identification of these regions of high biological productivity is critical to the successful management of marine resources.



entanglement in fishing gear poses a serious risk to seabirds. Over the past two decades,

bycatch mitigation techniques developed by WSG have significantly reduced the deaths of endangered albatrosses and other seabird species. Today, WSG-designed bird-scaring lines are reducing endangered albatross bycatch by 82 percent.

Washington Sea Grant provides marine resource users with tools and knowhow.

TA7SG's staff experts work with governments, tribes, businesses, the public, and other stakeholders to address issues of local concern. In Mason County and along Hood Canal, for example, WSG's State of the Oyster Study engages residents in testing the edible shellfish on their property for the presence of harmful bacteria or toxins. In Kitsap County, WSG educates the public about the spread of harmful invasive species. WSG also leads workshops on preventing pollution by commercial fishermen and recreational boaters. An award-winning communications staff develops print and electronic publications that support WSG outreach programs.



Marine water quality is a serious issue in Puget Sound. WSG conducts workshops that teach residents about septic system maintenance, stormwater containment, eco-friendly household practices, and more. WSG also trains volunteers to participate in scientific monitoring and restoration projects and conducts beach walks that

teach respect for marine life and the value of clean water.

Washington Sea Grant seeks out research that addresses real needs.

A rigorous review ensures that only the highestquality projects receive funding. In the most recent process, WSG ultimately selected 16 projects for funding out of 79 preliminary proposals submitted. Current projects are helping to develop new technologies and techniques to assess and restore endangered and threatened salmon and herring populations, manage regional aquaculture and fisheries, plan for coastal community resilience to hazards, and probe the effects of ocean acidification on shellfish and other marine life. The geoduck clam has been farmed commercially since the early '90s, but little scientific information exists on the ecological impacts of this practice. In 2013, WSG issued the final report of a six-year, peer-reviewed research program commissioned by the Washington state legislature. Report findings increased understanding of how industry operations might affect Puget Sound.



of salmon research, WSG projects have: documented salmon returns to parts of the Cedar River that had been closed to migrating fish for a century; identified climate change and other factors affecting ocean survival of steelhead trout; developed sensitive molecular tools to assess effects of pharmaceuticals in sewage effluent on salmon reproductive health; and developed new genetic tools to conserve, manage, and restore endangered Chinook salmon stocks.

At the forefront

Washington Sea Grant expands students' horizons.

Fellows and interns gain first-hand experience in marine science, policy, and resource management. Some study population dynamics of fish and whales at sea. Others work with legislators and federal agency staff on issues that directly affect ocean resources and the environment. WSG also offers training in marine topics for classroom teachers and provides opportunities for students in kindergarten through high school to learn about the ocean and develop interest in marine sciences.





Science Camp, seventh and eighth graders learn about marine sciences in an environment that stimulates interest in personal and professional growth. WSG also sponsors Orca Bowl, an academic competition designed to challenge and reward high school students' knowledge of the world's oceans.



endangered orca population experienced an unexplained 20 percent drop. A WSG-funded study used a detection dog aboard a boat to locate fresh orca scat on the surface of the water. Hormone levels of samples collected through this noninvasive approach were analyzed to test three potential threats to Puget Sound orcas: food shortages, disturbance by vessel traffic and exposure to environmental pollutants. Seeking guidance on sustainable coastal development, aquaculture, sustainable fisheries, or many other topics pertaining to Washington's waters?

Tith offices at the University of Washington and in eight coastal communities, Washington Sea Grant is well-positioned to serve.

Directory

Washington Sea Grant

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

206.543.6600 206.685.0380 fax seagrant@uw.edu wsg.washington.edu

Administration

Penelope D. Dalton Director 206.685.9215 pdalton@uw.edu

Brian Kirk Associate Director 206.685.9261 kirkbd@uw.edu

Gwyn Hinton Administrator 206.543.9966 ghinton@uw.edu

Kate Litle Senior Program Analyst/ Citizen Science Specialist 206.616.0151 kalitle@uw.edu

Laurie Ginn Fiscal Specialist 206.543.6600 *laurig3@uw.edu*

Eileen Herman Administrative Assistant 206.685.9117 emherman@uw.edu

Chelsea Kahn Program Analyst 206.543.6600 chelkahn@uw.edu

Education

Nancy Reichley Education Specialist 206.685.8302 *reichn@uw.edu*

Maile Sullivan Education Specialist 206.543.2822 mailesul@uw.edu

Communications

MaryAnn Wagner Assistant Director for Communications 206.616.6353 maryannb@uw.edu

Marcus Duke Web Editor/IT Support 206.685.0171 mduke@uw.edu

Robyn Ricks Creative Services Specialist 206.685.2607 robyn@uw.edu

Eric Scigliano Science Writer 206.616.9568 escig@uw.edu



Advisory Services

Jeff Adams Marine Water Quality Specialist 360.337.7170 *jaws@uw.edu*

Aaron Barnett Boating Program Specialist 206.616.8929 *aaronb5@uw.edu*

Sue Blake Water Resource Educator 360.676.6736 sgblake@wsu.edu

Meg Chadsey Ocean Acidification Specialist 206.616.158 mchadsey@uw.edu

Kevin Decker Marine Outreach Specialist 206.543.6600 kadecker@uw.edu

Nicole Faghin Coastal Management Specialist 206.685.8286 faghin@uw.edu

Bridget Ferriss Marine Research Scientist 206.543.6600 *ferriss@uw.edu*

Sarah Fisken Continuing Education Coordinator 206.543.1225 sfisken@uw.edu

Pete Granger Seafood Industry Specialist 360.676.6736 *pgranger@uw.edu*

Steve C. Harbell Marine Field Agent 360.249.2007 sharbell@uw.edu Teri King Marine Water Quality Specialist 360.432.3054 guatemal@uw.edu

Port Hadlock

Brementon

Shelton

Port Angeles

Bellingham

Mount

Vernon

Seattle

Ed Melvin Marine Fisheries Senior Scientist 206.543.9968 emelvin@uw.edu

Ian Miller Coastal Hazards Specialist 360.417.6460 *immiller@uw.edu*

Jamie Mooney Coastal Resources Specialist 206.616.3368 mooneyja@uw.edu

Melissa Poe Social Science Specialist 206.685.8209 mpoe@uw.edu

Jonathan Reum Marine Research Scientist 206.616.5718 reumj@uw.edu

Jennifer Runyan Aquaculture Specialist 360.432.3054 *jrunyan@uw.edu*

Bridget Trosin Coastal Policy Specialist 206.616.6129 bemmett@uw.edu



