



HIGHLIGHTS OVER THE YEARS

Oregon Sea Grant supports research, outreach and education addressing coastal and marine issues. Based at Oregon State University, we are one of 34 programs nationwide.

MARINE EDUCATION

In the early 1970s, Oregon Sea Grant (OSG) led the creation of [the Seataqua program](#), which grew to include talks, nature walks, workshops and films. In 1978, we created [Whale Watching Spoken Here](#), now run by Oregon State Parks. In 1997, we began managing the [Visitor Center](#) at the Hatfield Marine Science Center. It's one of the local facilities where, under the tutelage of our aquarists, [community college](#) students [gain experience](#) in caring for animals. It's also where, in the early 2000s, we began studying how people learned from exhibits as part of our focus on [free-choice learning](#). That focus included helping to fund [a professorship](#) in the subject and develop a graduate program that has produced research projects nationally and internationally.

Since the 1970s, OSG has also been helping teachers bring marine science into their classrooms – ranging from our 1980s [guide to marine education](#) in Oregon to our 2020 [workshops on marine debris](#). For the past decade, we've been sponsoring an annual [underwater robotics contest](#) that prepares students for technical careers. When the coronavirus hit, our [career days](#) were converted into [webinars](#). [Since 2014](#), we've been running the annual [State of the Coast](#) conference.

PREPARATION FOR NATURAL DISASTERS

For decades, OSG has been [helping people prepare](#) for earthquakes, [tsunamis](#), erosion and [sea level rise](#). In 1980, we helped produce a document to [inform property owners](#) about coastal hazards. In 1991, we co-sponsored a conference of over 160 people, which led to our helping produce [a 1994 report](#) that offered nearly 80 recommendations for addressing coastal hazards. We also helped create [an iconic sign](#) that warns people when they're in a tsunami zone. Other outreach has included [hands-on exhibits](#), [classroom activities](#),

[brochures](#), [videos](#) and [clue-directed walks](#), which lead people to higher ground. Additionally, we've supported research to understand [perceptions of earthquakes and tsunami issues](#) and estimate [economic losses](#) and [mortality rates](#).

WAVE ENERGY

In the early 2000s, OSG funded [a study](#) to assess how much electricity could be generated by waves off the Oregon coast. We helped organize public forums in [2009](#) and [2012](#) to discuss the prospect of wave energy development, and we [funded research](#) to [evaluate the process](#) that led to the selection of a testing site. OSG also supported [sociological research](#) and helped [identify potential conflicts](#) over the use of ocean space and [ways to avoid them](#). Our videos, fact sheets and exhibits have informed people about [wave energy](#), different [technologies](#) to convert it into electricity, and their possible effects on the [environment](#) and [sea life](#). We also created materials to teach students about OSU's [wave energy research](#) and how to build a model-sized [wave energy device](#).



About 150,000 people a year come to our Visitor Center to touch sea anemones in our indoor tidepool and watch a giant Pacific octopus.



Amanda Gladics (far left), one of our fisheries specialists, leads a Shop at the Dock tour in Garibaldi in 2019.

SUPPORT FOR FISHERIES

With Pacific salmon on the decline, scientists in the 1970s and 1980s studied their [reproduction](#), [distribution](#), [predators](#) and [viral](#) and [parasitic](#) diseases. In the late 1990s, we began funding nearly a decade of [research in the Salmon River Estuary](#) that pioneered concepts for evaluating how salmon respond to restored wetlands. In [2004](#) and [2005](#), we published reports on how tide gates affect salmon and other fish, and in 2006 we co-sponsored a [symposium](#) on the topic. After restrictions were imposed on salmon fishing off Oregon and California in 2006 to protect Klamath River chinook, OSG teamed up with Oregon fishermen to [collect genetic samples](#) from salmon in the ocean to determine their river of origin.

But our focus hasn't just been on finfish. Research in the 1970s determined the [best spray rate](#) to cool harvested Pacific pink shrimp, and another study analyzed the [economic costs and benefits](#) of using machinery to process them. More recently, researchers looked at how ocean acidification affects young pink shrimp and [oyster larvae](#), and they aimed to understand how the West Coast shellfish industry [viewed this change](#) in ocean chemistry.

In 2002, the [Scientists and Fishermen Exchange program](#) was launched to help these two groups collaborate on research. By 2010, more than a dozen vessels were participating in projects, which included [attaching oxygen and temperature sensors](#) to crab pots. After fishermen off Oregon pulled up pots of dead crabs in 2002 and 2006, OSG began funding [research](#) to better understand [low oxygen in the ocean](#) and its effect on [fish](#) and [crabs](#). Starting in 2006, we became involved in efforts to help crabbers [retrieve lost pots](#), which can endanger wildlife. Today we're supporting efforts to [prevent whales from getting entangled](#) in fishing gear.

Early on, safety at sea became a priority. In the 1970s, we helped the fleet obtain hundreds of neoprene survival suits, and we taught fishermen [how to put them on](#). Today we're [teaching them first aid](#).

On the seafood marketing side, OSG has produced videos and [led tours](#) that show consumers how to buy seafood from [fishermen](#), [markets](#) and [tribal vendors](#). We were also involved in the development of a [barcode scanning system](#) called [Fish Trax](#) that tells shoppers where fish came from, who caught it and when. Additionally, we've helped small seafood processors bring products to market by [offering technical advice](#) and helping them use [innovative packaging](#). During the COVID-19 pandemic, a [digital media campaign](#) encouraged people to [#EatOregonSeafood](#).

MARINE DEBRIS

After debris washed up on Oregon's shore from the 2011 Japanese tsunami, OSG educated the public about non-native sea life hitchhiking on it across the ocean through a [video](#), [exhibit](#) and [field guide](#), and we funded research on [algae](#), [fish](#) and [other organisms](#) on the debris. We also collaborated on a project to [track the movement](#) of debris; co-founded [a team](#) to [enlist volunteers](#) to clean up beaches; and implemented various actions in Oregon's [marine debris plan](#). Other efforts have included informing people about the risks of [lost fishing nets](#), and funding a [study](#) on Steller sea lions entangled in plastic strapping and other items. We've compiled [lesson plans](#) on marine debris, and in 2017 we helped plan and facilitate a [workshop to prioritize research](#) to address the problem. We also helped fund an [exhibit](#) and a middle school [curriculum](#) on microplastics as well as [research](#) that [found these tiny synthetics](#) in [oysters](#) and razor clams.

INTERNSHIPS AND FELLOWSHIPS

OSG helps shape the next generation of natural resource managers, scientists and environmental stewards by administering paid [internships and fellowships](#). In the last few years, we've made it our mission to increase the diversity of applicants. Since 1980, we've helped place over 60 early-career professionals from Oregon universities in federal offices in the Washington, D.C., area through [Knauss fellowships](#). In 2017, we began partnering with Oregon's Department of Environmental Quality on an [internship program](#) that has placed more than three dozen interns with about 30 Oregon businesses to help the companies reduce waste and energy use.



Naomi Scott, a participant in our 2019 summer scholars internship program, looks for bay ghost shrimp in Willapa Bay.