

2018 Summer Scholars Program – position descriptions



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1. Oregon Department of Fish and Wildlife (ODFW), Charleston, OR

Shellfish and Estuarine Assessment of Coastal Oregon (SEACOR)

The Oregon Department of Fish and Wildlife (ODFW) Shellfish Program is responsible for conducting shellfish and habitat assessments for each estuary in Oregon, and monitoring shellfisheries for the state. These efforts inform resource management decisions and are also used to track changes in Oregon's estuaries and shellfisheries. The Scholar will work primarily on the Shellfish and Estuarine Assessment of Coastal Oregon (SEACOR). SEACOR will be conducting the 2nd year of a three-year study of shellfish and estuarine habitats in Coos Bay, Oregon's largest outer coast estuary. Shellfish in Coos Bay are an important cultural, economic, and food resource for people in this area. The Scholar will work collaboratively on a team to collect shellfish and estuary habitat data in various regions of Coos Bay. The primary role and responsibility of the Scholar will be collecting and analyzing field and laboratory data (tasks include participating in team meetings, preparing field gear, traversing intertidal flats and collecting environmental and biological data with a partner, extracting and measuring shellfish, and entering and analyzing data). The Scholar may also interact with recreational harvesters by conducting creel surveys and engage the public at any outreach events the team attends.

Minimum qualifications

- basic background in biology and ecology
- comfortable working independently and as part of a team
- willingness to work outdoor in all weather conditions (including walking on unstable substrates)
- attention to detail

Preferred qualifications

- strong communication skills
- experience with statistics, data entry, and/or GIS

Eligibility: Open to US citizens only

2. Oregon Department of Fish and Wildlife (ODFW), Newport, OR

Maximizing the efficiency of benthic landers for demersal fish surveys

Counting demersal fish populations in Oregon remains an important need for ODFW. Remote underwater vehicles (i.e. benthic landers) are being used for this purpose in multiple countries and regional fisheries management councils. A key benefit is their simplicity in deployment and retrieval. This project aims to see if the efficiency of ODFW's stereo video landers can be improved by collecting samples at night. Chartering vessels is inherently costly, and the time investment to either 1) have a boat not work at night or 2) make runs back and forth to port is not cost effective. Thus, conducting 24 hour operations makes chartering vessels more economical. However, if the species and number of individuals detected differ significantly between day and night, the results can have dramatic impacts on the development of an index. Lander drop sites will be identified at nearshore, mid-shelf, and near-shelf break reefs. We will deploy the lander at the half of sample sites during daylight and the other half during the night. Following this, we will review videos in the lab to determine if the species observed and their abundance differ significantly between day and night. We will also review the video using two different methods of video review to assist ODFW in their ongoing effort to maximize the efficiency of video review.

Minimum qualifications

- high level of computer proficiency

Preferred qualifications

- experience with Oregon fish identification

Eligibility: Open to US citizens only

3. Oregon Department of Fisheries and Wildlife (ODFW), Newport, OR

Ecological monitoring of Oregon's Marine Reserves

The Scholar's primary duty will be to contribute to collaborative research projects between Oregon State University and ODFW at Oregon's Cascade Head, Otter Rock, and Redfish Rocks Marine Reserves. Projects include intertidal surveys (monitoring sea stars and mussel beds), community ecology research, and fish recruitment surveys using SMURFs (Standard Monitoring Unit for Recruitment of Fishes) and SCRUBs (Standard Collectors for Recruitment of Urchins above the Benthos). This Scholar will assist in field work, lab processing of specimens, data analysis, and science communication efforts related to fieldwork activities.

Minimum qualifications

- valid driver's license and good driving record

Preferred qualifications

- experience with field survey protocols and species identification
- knowledge of intertidal community ecology, intertidal invertebrates, and juvenile marine fishes
- comfort at sea and using skin diving gear in the open ocean
- experience using MS Excel for data entry and summarization
- good organization skills
- experience using blogs or social media for science communication

Eligibility: Open to US citizens only

4. Oregon Department of Fish and Wildlife (ODFW), Newport, OR

Monitoring the socioeconomic impacts of Marine Reserve implementation

The ODFW Marine Reserves Program conducts human dimensions research to monitor the socioeconomic impacts of marine reserve implementation. The Summer Scholar will work with ODFW Human Dimensions Project staff to gain professional experience and practical skills in interdisciplinary natural resource social science, with a focus on marine reserve management. The Summer Scholar will work in primary data collection conducting interviews of fishers who have volunteered to participate in this study. The purpose is to understand their adaptations to displacement from fishing grounds due to marine conservation (effort shift). The Scholar will have the opportunity to participate in both qualitative data collection and analysis related to this project.

Minimum qualifications

- comfortable with public speaking and performing interviews
- ability to multi-task
- must be self-directed
- willingness to participate in field work at various ocean shore and beach locations, and the associated travel, is required
- excellent writing skills

Preferred qualifications

- familiarity with statistical analysis (SPSS or similar) software
- familiarity with qualitative content analysis and related software (especially Maxqda)

Eligibility: Open to US citizens only

5. Haystack Rock Awareness Program (HRAP), Cannon Beach, OR

Human dimensions research and evaluation during peak tourism season

As a marine-based environmental educational program focused on stewardship and outreach at Haystack Rock in Cannon Beach for the past 33 years, the Haystack Rock Awareness Program (HRAP) has acquired much information on human impact at the Rock (specifically focusing on number of visitors per hour during low tides, visitors impacting wildlife, and unique wildlife events). HRAP hasn't, however, had the capacity to evaluate or study the human dimensions aspect with regard to overall visitor information and values associated with that information. The Scholar will spend the majority of their time working with HRAP staff, volunteers, and partnering agencies to set up and implement a month-long survey to study overall human dimensions at Haystack Rock during peak tourism season. The role of the Scholar, ultimately, is to obtain information about the values and interests of visitors recreating and interacting with staff and volunteers at Haystack Rock. This valuable information will be used as a baseline tool from which the program can evaluate its current educational materials and outreach methodology.

Minimum qualifications

- background and/or interest in marine-based environmental education, with a focus on human impact

Eligibility: Open to US citizens only

6. US Department of Agriculture–Agricultural Research Service (USDA-ARS), Newport, OR

Habitat use of shellfish aquaculture by fish and invertebrates

The USDA-ARS program at Hatfield Marine Science Center (HMSC) is designed to address problems experienced by the shellfish aquaculture industry in US west coast estuaries. The focus of the current ecology portion of this program is directed primarily at comparing fish and invertebrate use of intertidal estuarine habitats where shellfish aquaculture occurs in order to address regulatory issues faced by the industry and managers. We are using underwater video and traps to capture fish and invertebrates in oyster aquaculture, eelgrass, and open mudflat or edge habitats in Willapa Bay, Washington, Tillamook Bay, Oregon, and Humboldt Bay, California. We are also mapping these habitats to quantify this use at the estuarine landscape scale and potentially collaborating with others to collect aerial photographs with UAV's. Finally, we are designing experiments using field mesocosms and tethering prey to test the function of these habitats as a nursery for important species like juvenile Dungeness crab and English sole. The Scholar will assist with field surveys and experiment deployments that occur while they are here (mostly in Willapa Bay this summer). The Scholar will assist in data collection in the field and in processing and analyzing that data when we return to HMSC.

Minimum qualifications

- ability to work under sometimes harsh field conditions (including rain, cold weather, and lots of soft estuarine mud and saltwater)
- ability to work well with others

Preferred qualifications

- prior experience with boating, fish and invertebrate capture, and field experimentation
- data entry and analysis skills

Eligibility: Open to US citizens only

7. South Slough National Estuarine Research Reserve, Charleston, OR

Creating a digital media library for science education and outreach

The Scholar would work with both the education and science programs at South Slough Reserve to create digital communication resources that aid in education and outreach goals. These resources will contribute to a digital media library that will be used to share stories about the reserve's impact in the community, and to strengthen science education efforts. The Scholar's primary role is to build the reserve's capacity to tell stories using digital media that connect with a broad range of stakeholders. Responsibilities will include assisting with the South Slough summer science camps, Interpretive Center activities, and scientific research projects (not only to gather footage, but also to acquire a comprehensive understanding of the program areas). Building firsthand knowledge about the programs, and how they engage various audiences, is essential to the Scholar's ability to capture meaningful and accurate images, videos, and stories that reveal the essential work occurring at South Slough Reserve.

Minimum qualifications

- creative, resourceful and able to work independently
- comfortable working with children as well as adults
- rudimentary understanding or strong interest in marine science, science communication, and basic social media concepts
- experience with Microsoft Office Suite

Preferred qualifications

- familiarity with cameras, video and video-editing software, or experience communicating with digital media

Eligibility: Open to US citizens only

8. National Oceanic and Atmospheric Administration (NOAA) Fisheries, Portland, OR

Developing salmon and steelhead hatcheries education and outreach materials

The Scholar will develop education and outreach materials about issues associated with salmon and steelhead hatcheries. The mentor(s) will connect the student with internal communication experts, who can guide the student with the process of identifying the targeted stakeholder group and the method of broadcasting the outreach materials. The student may choose his/her project(s) from the following list or discuss additional ideas with the mentor: 1) Identify gaps in current outreach products and conduct an audience analysis to identify groups that we would like to better target/reach with our outreach efforts; 2) Create interactive activities for K-12 students in a classroom setting; 3) Simplify “Frankenfish,” a 45-minute activity that teaches about genetic issues, to 2-3 minutes for use at outreach booths; 4) Create hatcheries fact sheet(s) that describes the benefits and issues associated with hatcheries; 5) Assist with the development of outreach video clips (e.g., story board, filming, editing). The Scholar will learn how to develop hatchery-related content for diverse audiences and will gain experience working with the public, governmental agencies, hatchery operators, schools, and nonprofit partners.

Minimum qualifications

- background knowledge on salmonid biology/ecology
- experience communicating scientific information to a lay audience

Eligibility: International students are eligible to apply

9. National Oceanic and Atmospheric Administration (NOAA) Fisheries, Portland, OR

Developing NEPA analytical frameworks for salmon and steelhead hatcheries

The Scholar will develop analytical frameworks for analyzing effects of salmon and steelhead hatchery issues under the National Environmental Policy Act (NEPA), which requires federal agencies to analyze the environmental effects of an action (e.g., environmental effects of permitting hatchery operations). The Scholar will perform literature review for a specific topic to create the framework, with guidance from the mentor and other experts. The Scholar may choose his/her topics related to hatcheries from the following list or discuss additional ideas with the mentor: climate change, economics, socioeconomics, environmental justice, cultural resources (e.g., tribal), water quality, toxicology (e.g., therapeutics). For example, if the Scholar chooses climate change as a topic, the framework would consist of descriptions of how hatchery operations would affect the environment in light of climate change. The Scholar will gain experience working with the public, governmental agencies, PNW tribes, and hatchery operators.

Minimum qualifications

- excellent communication and writing skills

Preferred qualifications

- background knowledge in biology/ecology
- background knowledge in writing policy documents (e.g. pre-law)

Eligibility: International students are eligible to apply

10. Wild Rivers Coast Alliance (WRCA) and Oregon Sea Grant (OSG), Bandon, OR

Market Price Survey for Coast Tour Operators & Fishing Charters

The Scholar will conduct an applied research project examining the mix of products, pricing, and marketing of guided experiences provided along the coast. The project will address charter salmon fishing operations, whale watching, sea kayaking, and possibly additional experiences. This project will build on work completed in 2017 and is part of a planned long-term trend study. The Scholar will utilize an existing protocol to collect data on coastal tour product pricing, and then help create new or modified protocols to collect future data. The Scholar will assist in analyzing data and compiling reports to communicate the findings to tour operators, other scientists, students, and community representatives. There will also be opportunities to conduct interviews with guides and key stakeholders, create short videos, and write educational blog postings. The Scholar will have a secondary role to support an image and video asset acquisition and management project, where professional photographers will be hired to capture images of the local area for tourism marketing and education in collaboration with local destination management organizations (DMOs).

Minimum qualifications

- responsible, attentive to detail, professional and respectful in public settings
- good organizational, multi-tasking, and time-management skills
- proficient in web-based research and Microsoft Excel

Preferred qualifications

- knowledge of coastal wildlife and ecosystems, outdoor recreation, and tourism
- interest and experience with photo and video editing
- interest and experience with social science research

Eligibility: International students are eligible to apply

11. Wild Rivers Coast Alliance (WRCA) and Oregon Sea Grant (OSG), Bandon, OR

GORP Training Program, Adult and Youth Curriculum

The Scholar will work in support of a new training and professional development program for Guides, Outfitter, and Tour Operators. This program is called the Guide, Outfitter Recognition and Professional Development (GORP) program, which is in its first year of implementation on the Oregon Coast. The Scholar will assist with curriculum development, workshop and webinar implementation, and evaluation of the program by surveys and interviews with guides and key audiences, which may include visitors. The GORP program has an adult/professional curriculum and a GORP 4-H youth program that is being conducted along the entire coast also. The Scholar will have a secondary role to support an image and video asset acquisition and management project, where professional photographers will be hired to capture images of the local area for tourism marketing and education in collaboration with local destination management organizations (DMOs).

Minimum qualifications

- responsible, attentive to detail, professional and respectful in public settings
- good organizational, multi-tasking, and time-management skills
- proficient in web-based research and Microsoft Excel

Preferred qualifications

- knowledge of coastal wildlife and ecosystems, outdoor recreation, and tourism
- interest and experience with photo and video editing
- interest and experience with social science research

Eligibility: International students are eligible to apply

12. United States Environmental Protection Agency (EPA), Newport, OR

Quantifying the impact of anthropogenic inputs on Tillamook Estuary's water quality

Low dissolved oxygen is a leading cause of water quality impairments in Oregon estuaries, influencing habitat for salmonids. We are conducting a study in Tillamook Estuary focused on identifying the role of anthropogenic drivers (such as agricultural activities and point and non-point inputs) on water quality. This work uses tools such as stable isotopes and microbial source tracking to identify sources of pollution. We hypothesize that in short residence time estuaries, such as Tillamook, dissolved oxygen levels may be more strongly influenced by input of organic matter and respiratory/degradation demands associated with this organic matter. The Scholar will conduct a project focused on quantifying the role of organic matter input (particulate organic carbon and dissolved organic and inorganic forms) to the estuary, how input of organic matter influences respiration rates, and ultimately dissolved oxygen levels in the estuary and streams. The Scholar will participate in all components of scientific research, including study design, conducting the field and laboratory studies, and analyzing the data. The Scholar will gain experience in field sampling, laboratory analyses, study design, usage of water quality instrumentation, and data analysis.

Minimum qualifications

- ability to perform physically-demanding field work (including walking through mud, working on a boat, and possibly long field days)

Preferred qualifications

- experience in freshwater/stream ecology, marine or estuarine biology, chemistry, or field/lab research
- experience with laboratory methods (e.g., nutrient, chlorophyll a analysis, and stable isotopes)

Eligibility: International students are eligible to apply; student must be currently enrolled at a US college or university

13. United States Environmental Protection Agency (EPA), Newport, OR

Translating scientific research into compelling stories for public audiences

The Scholar will assist in developing communication products to translate EPA Western Ecology Division's estuarine ecology research into compelling "stories" for public audiences. These stories could take the form of fact sheets, looping slide shows, or short videos. The Scholar will work with the mentor and EPA's technical communications expert to craft the stories and products, and with our estuarine ecologists to develop the content. Those stories could include one or more topics, including: the role of nutrient pollution in acidification of coastal waters, tracking the sources of microbial pollution in coastal bays and watersheds, the effects of macroalgal blooms on shellfish fisheries, or developing risk assessment models for coastal biodiversity at biogeographic scales. The Scholar will have opportunities to participate in field work to learn about the research and to gather information for development of their stories.

Minimum qualifications

- good communications or journalism skills, including ability to write compelling, concise, factual narratives and ability to produce visually attractive outputs (fact sheet, slide show, video)

Preferred qualifications

- skill in photography, videography, or other graphic arts
- course work, training, or other experience in biological science or environmental science
- courses or experience in marine/estuarine/wetland science, chemistry, or geosciences

Eligibility: International students are eligible to apply; student must be currently enrolled at a US college or university

14. Oregon Sea Grant (OSG), Corvallis, OR

Increasing College Opportunities for Native American Youth

Native Americans have the lowest level of educational attainment in the country compared with other racial/ethnic groups at all levels, from high school graduation through postsecondary completion. This translates into few Native Americans available to fill jobs with a minimum higher education requirement. The socio-economic situation that many Tribal communities face can be improved if a higher percentage of Native youth considers and succeeds in postsecondary education. This project seeks to develop a culturally-informed and relevant College Readiness Program in collaboration with staff from the Tribal government departments (i.e., Education, Business Development, Natural Resources Management, etc.) of the Confederated Tribes of the Siletz Indian Reservation. The ultimate goal of the program will be to provide youth and families from this community with a series of weekly workshops over a period of 6 to 8 weeks aimed at increasing high school graduation and college enrollment rates. The Scholar's primary duties will include: 1) establishing an engaged network of collaborators to implement the project; 2) contribute substantially to the development of an IRB-approved survey or protocol for interview and/or focus groups designed to identify barriers to high school graduation and college enrollment; and 3) research and identify lessons learned from other similar programs.

Minimum qualifications

- personable, respectful, sensitive to cultural differences, and interested in cultural issues
- interested in social aspects of coastal communities (especially underserved communities)
- experience coordinating meetings or groups

Preferred qualifications

- skills and experience in survey or interview development and implementation
- experience with tribal communities
- experience with issues of diversity, equity, and inclusion
- interested in a career in curriculum development, education, and/or community leadership

Eligibility: International students are eligible to apply