**Oregon Department of Fish and Wildlife (ODFW), Astoria, OR**

**Habitat Use of the Lower Columbia River Estuary by Dungeness Crab**

Recent conflict between recreational and commercial crabbers in the Lower Columbia River estuary has focused on the need to document the abundance and distribution of Dungeness crab during the late summer and fall seasons. The “Habitat Use of the Lower Columbia River Estuary by Dungeness Crab” project scholar will conduct field surveys and mark-recapture work with shellfish biologists from ODFW and the National Oceanic and Atmospheric Administration- National Marine Fisheries Service (NOAA-NMFS) to document habitat use of the Lower Columbia River estuary by juvenile and adult Dungeness crab. The study will use a standard trapping regime to capture and measure Dungeness crab, coupled with collection of data from a Conductivity, Temperature, and Depth (CTD) sensor in the areas where the conflict has been identified. It will include a component to investigate how environmental factors, such as salinity changes, play a role in the abundance of legal sized crab available to the recreational crabbers compared to the onset of the commercial fishery. The scholar will also participate in the ongoing NOAA Dungeness crab acoustic tagging project currently underway in the Lower Columbia River. The scholar will be the lead assistant to the mentor in developing the study, collecting necessary data in the field, summarizing the data, and assimilating data into reports. The scholar will be responsible for tagging animals, recovering tags, setting traps in standard grids along the estuary, taking biological and chemical data, contacting harvesters for tag recoveries, and providing pertinent resource information in the field and in public meeting settings.

The scholar should be skilled or experienced in small power boat use (<22 feet), outdoor field work in various at-sea conditions, contacting the public/resource users, conducting monitoring surveys, data collection, use of MS Excel, MS Access, and other statistical software.

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

**Marine Reserves Ecological Monitoring**

The ODFW Marine Reserves Program is tasked with the ecological monitoring of Oregon’s five unique marine reserve sites. Primary responsibilities for the scholar in the “Marine Reserves Ecological Monitoring” project will be at-sea field work, data collection, assisting with research design, and development of education and outreach products. The scholar would also have the opportunity to assist in data analysis and contribute to agency research reports. They will work directly with our research team in order to gain professional experiences and practical skills in the field of marine reserve science, and will have the opportunity to participate in activities ranging from at-sea field work to designing monitoring surveys. The scholar will gain experience with data entry and scoring underwater video for various biological species groups (i.e. fish, invertebrate, and macroalgal communities). The scholar will also have the opportunity to assist in creating education and outreach materials for Oregon’s marine reserves by cataloging video and still images, creating short videos about ecological monitoring, and increasing the marine reserves online presence by creating content for blogs and social media sites.

This scholar must be able and willing to participate in field work at sea (with associated travel) and have a working knowledge of MS Excel. Familiarity with ArcGIS and experience or basic knowledge of MS Access and statistical analysis is preferred. They should be responsible, detail oriented, and able to work as part of a team.

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

**Marine Reserves Human Dimensions Project**

The ODFW Marine Reserves Program conducts human dimensions social research to monitor the socioeconomic impacts of marine reserve implementation. The “Marine Reserves Human Dimensions” project 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 monitoring aspects of the human dimensions of marine reserve management. They will gain professional exposure to marine social science research design, data collection and analysis. The scholar will have the opportunity to participate in a broad range of projects including social research focused on community resilience, study of fishing effort at various spatial locations, and visitor observations and interviews to understand individual attitudes and behaviors related to marine reserves. Primary responsibilities would include social science data collection, data entry, and database management. The scholar would also have the opportunity to assist research report writing and may be listed as co-author on agency reports.

The ideal scholar must be comfortable with public speaking or interviews, capable of critical and abstract reasoning, and enjoy outdoor experiences. The scholar should be responsible, detail oriented, professional in appearance, discrete, and respectful. They will need to be able to multi-task and 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 and a working knowledge of MS Excel is highly desirable. Familiarity with statistical analysis (SPSS or similar) is preferred.

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

**Pacific Herring Spawning Biomass Estimation**

Estimates of the spawning stock biomass of Pacific herring are assessed annually for Yaquina Bay and are traditionally used to set commercial Pacific herring fishing quotas. In the past two years, ODFW has also been conducting acoustic surveys to assess the validity of the egg density biomass estimates and attempting to streamline and improve the egg counting protocol. The “Estimating Pacific Herring Spawning Biomass” project scholar would be a part of the team that determines the spawning biomass estimate of Pacific herring in Yaquina Bay, and would be the primary team member to determine the spawning biomass estimate and the harvest quota. The scholar will assist with egg counts from samples collected in the winter of 2014 and 2015 to provide egg density estimates and help with analyzing and mapping these data. Opportunities to interact with the commercial Pacific herring fleet will also be available, to share results of the project and discuss management implications.

The scholar will need to have attention to detail, the ability to think critically and be able to work relatively independently. Experience working in a laboratory setting and/or with microscopes is preferred. Familiarity with spreadsheet processing and exposure to GIS software are also preferred, but are not required, as the scholar could be trained in these methods.

**Oregon Sea Grant (OSG), Corvallis, OR**

**Engaged Research Evaluation**

Oregon Sea Grant serves the state, region and nation through integrated research, education and public engagement on coastal and marine issues. Sea Grant’s strength rests in having that research address real-world needs and be translated into useful and usable information for a wide variety of audiences, otherwise known as “engaged research”. The scholar involved in the “Engaged Research Evaluation” project would assess the effectiveness of OSG’s “engaged research” efforts and provide recommendations for how OSG staff and current and prospective OSG researchers can enhance this key part of OSG’s portfolio. Specifically, the scholar would engage with successful researchers, other Sea Grant programs, and OSG personnel to participate in ride-along opportunities with researchers and extension personnel in Corvallis and along the Oregon coast, assess current examples of “engaged research”, such as workshops, exhibits, and other engagement opportunities, and evaluate successful efforts and barriers to success.

This task requires a scholar who is adept at speaking with a variety of audiences, from researchers to stakeholders to Sea Grant program directors, is willing to visit a variety of locations along the Oregon coast for hands-on exposure to “engaged research”, has some familiarity with developing interview formats, and is able to analyze information from a variety of sources, develop a cogent assessment, and provide recommendations. The scholar should be comfortable developing and implementing a plan of work and working relatively independently. A valid driver’s license is required.

**South Slough National Estuarine Research Reserve (SSNERR), Coos Bay, OR**

**Estuarine Restoration and Monitoring**

The South Slough National Estuarine Research Reserve strives to improve the understanding and stewardship of Pacific Northwest estuaries and coastal watersheds by supporting and coordinating research, education, and stewardship programs which contribute to improved estuarine management. The “Estuarine Restoration and Monitoring” project scholar will work with staff and interns on two biological monitoring projects. The first project stems from the native oyster restoration work currently being done by the South Slough Reserve and focuses on understanding recruitment patterns of native oysters throughout the Coos estuary. The second project relates to understanding temporal and spatial patterns of fish assemblages in South Slough, which will involve monthly sampling at tidal marsh sites to measure the species diversity and richness of fish assemblages. The scholar will become an important part of the field team, be directly involved in all aspects of field sampling, and train and work with community volunteers. They will be guided by the agency mentor through the process of analyzing data, writing a summary report, and preparing a scientific poster.

The scholar must be comfortable working outside in muddy or wet conditions, and at odd hours. They should have a positive attitude, a strong work ethic, and be detail-oriented. The scholar must also have computer skills, feel comfortable working with Microsoft Excel and Word, and have some experience with statistical analyses.

**United States Department of Agriculture-Agricultural Research Service (USDA-ARS), Newport, OR**

**Invertebrate Use of Estuarine Habitats**

The USDA-ARS Shellfish Aquaculture program conducts a variety of research on invertebrate ecology in estuarine environments. The “Invertebrate Use of Estuarine Habitats” project scholar will participate in many of the team’s research projects throughout the program, but the student will focus on one of two projects, based on skills and interest. The first project relates to previously collected data on juvenile Dungeness crab use of intertidal habitats by underwater video, as well as comparing crab numbers in existing habitats with those in shell bags placed on the tideflat. The scholar would help develop and test a more active collection method using pit traps and potentially mark/recapture techniques to elucidate movement patterns across the intertidal landscape. The second project relates to long term data on recruitment of thalassinid burrowing shrimp to coastal estuaries where the larger shrimp cause shellfish mortality and are currently controlled via pesticide use. The scholar would compare the abundance of larger shrimp resulting from the 2011-2013 recruitment events in oyster beds to outside areas, by counting burrows and potentially collecting shrimp themselves, then utilizing a technique developed by a graduate student using the pigment lipofuscin to determine the age of the shrimp. For both projects, the scholar should expect to participate in field collection activities, data entry and analyses, and potentially published manuscript(s) depending on results.

The scholar must enjoy working outdoors in sometimes trying field conditions, and be organized, inquisitive, a self-starter, and have good writing skills.

**United States Environmental Protection Agency (EPA), Newport, OR**

**Climate Vulnerability Assessment**

The EPA and United States Geological Survey (USGS) are developing a conceptual framework to predict the vulnerability of near-coastal species to climate change, including temperature increases, sea level rise, and ocean acidification. The approach is to use data mining for a suite of natural history traits of each species to assign vulnerability rankings and then synthesize the information in an online decision tool, the Coastal Biogeographic Risk Analysis Tool (CBRAT; <http://www.cbrat.org/>). The scholar in the “Climate Vulnerability Assessment” project would assist in populating and quality-assuring the data in CBRAT by searching for information on specific species in high priority taxa, interpreting and summarizing key attributes, reviewing for consistency and accuracy, and participating in weekly group discussions on the structure of the CBRAT website and the underlying rules and assumptions used to calculate climate vulnerability. This program does not have a field component, but it is possible that the scholar could participate in some field work associated with other EPA programs at Newport.

The scholar should have an interest in benthic invertebrates or demersal fishes, attention to detail, and the ability to ask questions. They must be able to interpret and summarize diverse types of information found in the literature on the target species, then “translate” the information into the format used in CBRAT. Experience in programming or database use is not required, but could be useful. Familiarity with Excel and Word are important.

**United States Environmental Protection Agency (EPA), Newport, OR**

**Nutrient Uptake as an Ecosystem Service**

The EPA is conducting research to quantify goods and services produced by estuarine habitats that are relevant to the well-being of coastal residents. The “Nutrient Uptake as an Ecosystem Service” project will give the scholar the opportunity to contribute to research focused on measuring nutrient removal by tidal wetlands and to participate in other ecosystem services research, such as shellfish production. The wetland nutrient study currently focuses on quantifying the transport and transformation of dissolved nitrogen as it travels in ground and surface water from adjacent uplands, through salt marsh landforms, and out to the adjacent estuary. The student will participate in collecting several types of information for this project, including surface and ground water salinity and nutrient concentrations, ground water and surface elevation changes, and soil column characteristics. They will also be involved with planning and conducting experiments and subsequent analysis of the data.

The scholar should have the ability to work in the field under difficult circumstances (inclement weather, walking on muddy or uneven intertidal terrain, carrying heaving gear, etc.). Analytical, writing, and computer skills (such as familiarity with Word, Excel and PowerPoint) would be quite helpful.

**United States Environmental Protection Agency (EPA), Newport, OR**

**Water Quality Evaluation**

The EPA is conducting research focused on ensuring the sustainability of water resources in the face of climate change and other human stressors. The scholar in the “Water Quality Evaluation” project will work with other scientists to identify the factors which result in the expression of nutrient impairments. They will assist with field studies, which will include measurements of these biotic endpoints, sampling to identify nutrient sources contributing to nutrient impairments using stable isotopes, and laboratory and field experiments to identify load-response relationships between nutrients and biotic end points. The scholar would participate in all components of scientific research, including designing experiments, implementing the field and laboratory studies, and analyzing the data, as well as taking ownership of their own experiment. The results of these studies may be used to develop nutrient criteria to protect Oregon estuaries from anthropogenic nutrient inputs or to predict how water quality in estuaries may change in the future. The scholar would gain experience in field sampling, laboratory analysis, experimental design, usage of water quality instrumentation, and data analysis.

Skills that are desirable (but not required) from the scholar include experience in freshwater/steam ecology, marine or estuarine biology, chemistry, macrophytes, and field research. Aspects of field work may be physically demanding, including walking through mud, working on a boat, and possibly long field days. Experience with laboratory methods (e.g., nutrient, chlorophyll a analysis, and stable isotopes) is desirable.

**Wild Rivers Coast Alliance (WRCA), Bandon, OR**

**Regional Tourism Development**

Travel Oregon’s Rural Tourism Studio program is creating a multi-year regional tourism development plan for the South Coast of Oregon, assisting rural communities with the development of their tourism industry. WRCA is working with Travel Oregon to stimulate the local economy, protect and enhance local natural and cultural resources, and foster community pride. The scholar in the “Regional Tourism Development” project will assist in supporting the regional steering committee, action teams, and participants, and coordinating with Travel Oregon for continued regional tourism development. The scholar will be researching south coast assets through online work and interactions with regional constituents, and will be expected to research, write, and collate information to be inputted into the Travel Oregon web-based system. The scholar will also be responsible for producing written work that highlights the assets being researched. Overall, the scholar will provide connectivity and coordination for regional tourism action team work plan and activities happening on the South Coast.

The scholar must be responsible, attentive to details, professional in public, discrete, and respectful, with good multi-tasking and time-management skills. The scholar should also have a research background and proficiency in web based research.