

Olympic Natural Resources Center

The Olympic Natural Resources Center (ONRC) was created by the Washington State legislature in 1989 as part of the University of Washington (UW). ONRC was created to (1) demonstrate through research and education innovative methods that successfully integrate environmental and economic interests into pragmatic management of forest and ocean resources, (2) conduct research and provide education on marine and forest resources management practices to produce terrestrial, aquatic, and marine commodities while ensuring ecological sustainability, (3) foster research and education demonstrating that management methods based on sound economic principles are enhanced when combined with ecological principles, and (4) create a neutral forum where diverse interests can be addressed and issues resolved. In addition to operating funds from the State of Washington and Congressional appropriation through USDA Forest Service Pacific Northwest Research Station, other state funds and private grants support the Center's research programs. A broadly representative advisory board appointed by the Governor advises the Deans of the UW Colleges of Forest Resources and Ocean and Fishery Sciences on policies for the Center. The Center is located near Forks, WA, on the Olympic Peninsula.

Guiding Principles

ONRC sponsors research meeting the highest standards of scientific quality, based on established scientific methods and evaluated through rigorous peer review. It actively pursues a research agenda that is in keeping with priorities identified by its Policy Advisory Board and is consistent with legislative intent. ONRC supports education programs relevant to resource managers and policy makers as they seek pragmatic solutions to important issues. Education and research sponsored by ONRC contribute to the resolution of natural resource conflicts in a neutral forum structured to address the needs of resource professionals, students, local communities, scientists, federal, state, local and tribal governments and their natural resource professional staff, and the general public. ONRC accomplishes its mission through outreach and partnerships, striving to incorporate inclusiveness and diversity into its operations. ONRC seeks to provide information in areas under addressed by other programs and in communities that are under served.

Education Program

The education program at ONRC focuses on disseminating information through peer-reviewed publication, seminars and conferences, and production of special reports and proceedings. Technology transfer to resource professionals is accomplished through direct instruction and training using ONRC's physical facilities, including computer labs, Geographic Information System (GIS) lab, and fully wired classrooms. ONRC also serves as a portal to the larger UW community, bringing a broad spectrum of university resources to coastal



Aerial view of ONRC

communities. Intensive one-week K-12 teacher institutes developed and delivered at ONRC allow teachers to enroll at the UW and attend institutes that enhance their ability to develop curriculum. ONRC also hosts regional K-12 students for natural resource-based enrichment programs such as "conservation days" and nature mapping exercises.

Research at ONRC

ONRC research encompasses a wide range of individual and collaborative projects. Currently, ONRC research is carried out in six priority areas: active management of riparian forest, soil and site productivity, stand and landscape management for biodiversity, managing threatened and endangered species habitat, shellfish enhancement, and understanding estuaries. Abstracts for all research projects can be found on the web site. Research highlights include:

◆ Salmon Habitat and Restoration

ONRC is pioneering the development and publication of scientific bases for validation monitoring of salmon conservation and restoration practices in the Pacific Northwest. A Validation Monitoring Panel, convened by ONRC in 2001, has provided the basis for development and implementation of salmon conservation monitoring plans. Its report noted that validation monitoring is not yet a part of salmon conservation efforts in the Pacific Northwest but is essential if conservation is to succeed. A project on how freshwater macroinvertebrates (such as aquatic insects) take up nutrients released by spawning salmon is investigating potential increases in freshwater macroinvertebrate production. Macroinvertebrates play important roles in transferring nutrients from adult to juvenile salmon. Salmon, as they spawn, and as their bodies decompose after dying, release nutrients from the marine environment into freshwater systems. Using a technique called stable isotope analysis that can distinguish marine vs. terrestrial food sources, this work will determine which insects groups are important in taking up marine nutrients released by spawning salmon.

◆ Riparian Zone Management

A project is examining how riparian red alder influences nutrient dynamics, energy flow, food webs, and salmon production in small, forested watersheds. Alder-dominated riparian forests are often a result of clearcut logging. The research is (1) testing the hypothesis that streams bordered by red alder are more productive than streams bordered by conifers and (2) evaluating appropriate restoration practices for streamsides following timber harvests. Another project is looking at the effects of watershed land use on streams and rivers. A large-scale replicated manipulation of the riparian zone along the South Fork Pysht River, in conjunction with rivers in close proximity draining watersheds of different land use intensity, provides a unique opportunity to evaluate a potential management strategy for salmon restoration.

◆ Marbled Murrelet Habitat

Public agencies and other land managers developing long term strategies for marbled murrelet conservation need to understand how to arrange murrelet habitat within forested landscapes to minimize nest predation and to better detect the elusive birds. A research project is examining the risk of predation to murrelets in managed landscapes and is improving detection of the birds through use of radar.

◆ Marine Program

Marine research currently focuses on: (1) the control of *Spartina* in Willapa Bay and (2) harmful algal blooms in the Olympic region. A biological option to control the invasive weed *Spartina* that is impacting shellfish beds in Willapa Bay is being tested and evaluated. Another project is testing the hypothesis that the Landscape Management System (LMS) can develop pragmatic, long-range, multi-criteria strategies for *Spartina* eradication. ONRC's research project on harmful algal blooms is an outgrowth of work to develop a coalition of stakeholders, researchers, professionals, and agencies with a common interest in blooms of toxin-producing algae.

◆ Olympic Peninsula Clearinghouse

ONRC serves as a nationally recognized "clearinghouse" for biological and geospatial information on the Olympic Peninsula. Metadata (data about data, or descriptions of datasets) on a series of biologically and geospatially referenced databases from a diverse group of government and nongovernment natural resources agencies and organizations on the Peninsula are prepared and compiled. The USGS's Biological Resources Division has a parallel clearinghouse focused on biological information. ONRC is integrating these two methods of reporting and information delivery into one approach to providing natural resources information for the Olympic region.

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