

# Director's Message

## John Calhoun, *Director*



ONRC has two main functions: research and educational outreach. This issue of *ONRC Update* reports on excellent examples of each.

Serving the needs of resource dependent communities of coastal Washington state can take many forms. Within the framework of research and education services, we have developed a balance between long term capacity development and short term problem solving needs. There is no shortage of community needs in our region. Communities such as Clallam Bay, Forks, La Push, and similar ones on the south coast of Washington are struggling to provide basic educational services. Reduction in income from traditional sources, such as timber harvest and fishing, makes this task especially challenging. ONRC has adopted a two-pronged approach to address these related issues.

First, our research program seeks to assist

land managers to maintain, indeed increase, the level of economic activity by discovering and communicating superior methods by which one might integrate ecological values into commercial management of forest and fishery resources. Our premise is there are superior methods of achieving ecological goals, methods that provide for increased economic viability, than those typically employed by land managers. Research tests this hypothesis and models superior processes when discovered.

Second, ONRC provides direct professional enhancement opportunities to teachers and school administrators from underfunded, resource-dependent school districts. A report in this issue describes an excellent program for school administrators that is complementary to the programs we have been offering to teachers. ONRC staff have been successful in obtaining

funds to support teachers and administrators in continuing education programs. Cash strapped school districts are unable to invest in these critical programs without financial assistance. ONRC is proud of the role we have played in bringing enhanced learning experiences to regional schools. Obtaining the grants, developing the curriculum, and engaging outstanding UW faculty to deliver critical educational services to regional teachers and administrators is making a noticeable difference in the quality of education available to kids in our communities.

Making the most of our natural resource base through research and filling the gap in teacher support through continuing education opportunities is an effective combination. The result is increased community capacity to survive and prosper.

# School Administrators Enhance Skills in Math Education at ONRC

*Ellen Matheny, Director of Education and Outreach*

Teachers from small, rural school districts along coastal Washington came together at ONRC during the last five summers to deepen their mathematics and science content knowledge. The teachers developed strategies to explore mathematics and science in problem-based units with topics relevant to the lives of the students. Each summer, they designed curricula to systematically investigate a natural resource issue using mathematical concepts new to their students.

The results were impressive. In schools with participating teachers, new courses sprang up and student interest in mathematics significantly increased. After working together intensively for one to two weeks in the summer, the teachers formed collegial friendships with others in their discipline. This proved particularly important in overcoming the isolation teachers of mathematics often experience coming from small, geographically-isolated schools and districts.

Regrettably, participating teachers more often than we liked reported back to us that their administrators did not understand the new methods. They found it difficult to impart to administrators what they were trying to accomplish in using new and more effective ways to engage all students in

## PROGRAM SPONSOR

Funds for this project were provided by a grant from the federal No Child Left Behind Act of 2001, Title II, Part A, Subpart 3 Washington State Higher Education Improving Teacher Quality Program, administered by the Washington State Higher Education Coordinating Board. The funding supports grades 6-12 administrators overseeing mathematics instruction. We invited middle and high school principals, curriculum directors, and superintendents to attend from the following high-need rural school districts, as required by the Sponsor. The districts in bold print attended the initial retreat.

Aberdeen	<b>Oakville</b>	Queets-Clearwater
Boistfort	<b>Ocosta</b>	Quilcene
Brewster	<b>Okanogan</b>	<b>Quillayute Valley</b>
Bridgeport	Omak	Raymond
<b>Cape Flattery</b>	<b>Onalaska</b>	South Bend
Centralia	<b>Oroville</b>	<b>Taholah</b>
<b>Hoquiam</b>	<b>Pe Ell</b>	Tonasket
Nespelem	Pioneer	<b>Winlock</b>

learning the mathematics skills outlined in Washington State's Essential Academic Learning Requirements.

At the end of 2007, the College of Forest Resources received another round of funding (\$203,738) from the Higher Education Coordinating Board (see funding details in the box) to reach out to these regional administrators. The new training is composed of a series of retreats and local meetings, collaboratively presented by the faculty from the College of Education Department of Mathematics Education, Department of Mathematics, and College of

Forest Resources at the University of Washington. The goal of our work is to help administrators better understand mathematics education from the perspective of the learner. They will experience first-hand methods of mathematics instruction that work most effectively for increasing and retaining dexterity with mathematics content knowledge. Within that backdrop, they will discuss and experience ways to enhance their capabilities as administrators to support and enrich mathematics instruction in their schools using methodology that has proven effective in increasing student performance on

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# ONRC Funds Research Projects for Fiscal Year 2008

John Calhoun, *Director*

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ONRC has long enjoyed a funding partnership with USDA Forest Service, Pacific Northwest Research Station. This year \$209,000 was made available to ONRC to fund research in support of ONRC strategic research priorities.

The selection process that is employed by ONRC has evolved as our Strategic Plan has been updated and as we adopt suggestions from external program reviewers. Negotiations with several potential principle investigators focused on areas of critical interest to ONRC and resulted in viable project proposals that totaled well over \$300,000. A subcommittee of ONRC Policy Advisory Board members made the final selection. This process resulted in

funding a balanced set of projects that focus on critical short term management needs and more basic development of knowledge required for success-



ful long term management objectives. ONRC is pleased to support a diversity of outstanding principle investigators in this round of funding.

These projects, once completed, will add significantly to the growing body of research supported by ONRC. Investigating how managers can achieve

sustainable land management practices that balance ecological values with economic goals is at the core of ONRC's research program. These four new projects will make a significant

contribution toward that goal.

The funded projects are listed on the next page.

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standardized tests.

The first retreat was held at ONRC on April 25-27, 2008. Twenty-five principals, superintendents, and curriculum directors came together for the weekend and experienced several of the teacher-designed projects, discovering for themselves why this methodology can make a difference for their students. Early in the fall of 2008, they will observe two of the lessons being taught in local classrooms and then meet regionally in small groups to discuss obser-

vations about students' mathematical thinking and engagement. Lastly, they will again gather as a group and use these observations, to further refine their understandings and to develop strategies for effectively supporting their teachers. The final retreat is being held in two locations – Forks and Chelan – so administrators in the same region can work together and form a supportive network for future collaborations. This program provides a unique opportunity to work within administrators' local context to improve the teaching and learning of

mathematics.

We have seen mathematics understanding and tests scores improve when teachers were supported in their commitment to promote more effective learning. Additionally, we are confident that students, teachers, and administrators will all benefit from an opportunity for administrators to deepen their own understanding of the teacher-designed projects, the teaching strategies, and the resulting impact of this work on both the teachers and their students.

## Funded Projects for Fiscal Year 2008

*Promoting Tree Regeneration in Stem Exclusion Forests of the Olympic Peninsula: Applications to Density Management.*

**Principle Investigator: Professor David Ford**                      **\$82,272**

*Establishing Permanent Sample Plots in Stands Originating From the '21 Blow in the Olympic State Forest.*

**Principle Investigator: Professor Jerry Franklin**                      **\$41,455**

*Calibrating the Windthrow Triangle for Riparian Management in Western Washington: A Review of the December 3, 2007 Storm and Suggestions for Future Management.*

**Principle Investigator: John Calhoun**                                      **\$73,602**

*Silviculture Practices to Achieve Biodiversity (Biodiversity Pathways) Literature Review and Synthesis: Editing and Publication.*

**Principle Investigator: Bruce Lippke**                                      **\$11,651**



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