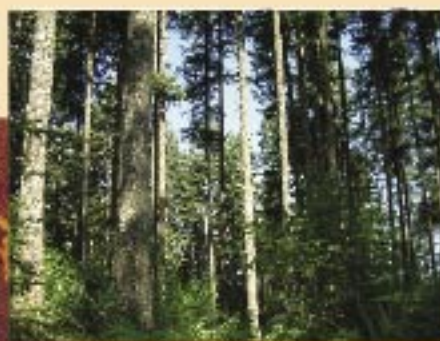


Forestry

Achieving, Sustaining, Innovating

2003 Annual Update for the College of Forestry and the
Oregon Forest Research Laboratory





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A Note from the Dean



Recognizing the economic challenges that continue to face Oregon's institutions and public, we have decided to revise our reporting procedures for the sake of efficiency and cost savings. Instead of comprehensive annual reports, we are reverting to an in-depth biennial report that coincides with the legislative sessions. This will be coupled with a midterm update that highlights timely activities and accomplishments. I believe this update will provide a sense of the progress in our continuing quest to provide world-class expertise and knowledge regarding the management, protection, and economic value of Oregon's natural resources. It will also highlight some of the efforts of our students, faculty, and staff in helping to make the FRL and the College of Forestry one of the top academic, research, and outreach programs in the world.

In the past year, Oregon's economic recovery has been slow. Additionally, drought, fire, and disease took a toll on Oregon's valuable natural resources. The loss of these natural resources deprives Oregonians of potential sources of jobs and income. The scientists and faculty of the FRL and College of Forestry are fully engaged in helping to find solutions for these issues. Our core mission remains conducting necessary research, providing findings to the public, assisting governmental leaders with policy development, and training the students who will manage these resources in the future. We engage in these tasks in partnership with national and local agencies, other educators, politicians, industry, landowners, and conservation groups.

The importance of these partnerships and activities is reinforced when placed in the context of Oregon's geographic and economic overview. Forested lands cover nearly 45% of the state. These lands have different uses as determined by federal, state, tribal, county, and private owners, but they are all subject to risks and management considerations. The industries associated with these forests account for 9% of the state's total industrial output and provide 155,000 direct jobs. This sector can be a stable and sustainable portion of Oregon's economy and is particularly important in many of the rural counties and towns. We have asked ourselves how to remain a leader in promoting and protecting these natural resources so their values and uses remain an important part of Oregon's economy and lifestyle.

Working with interested partners and using some gift funds for initial investments, we have started some new projects that can offer future value to Oregon. These initiatives will get more press as they develop, but the efforts include

- ▲ Studying the impact of modern forest practices on water quality, riparian ecosystems, and fish habitat. The initial work is being done in Douglas County, but the methods and findings will be usable on every watershed in the state.
- ▲ New research and course work in forest fuels, fire, and risk reduction. The knowledge gained will hopefully minimize catastrophic fires, protect property and lives, and improve post-fire restoration.
- ▲ Developing ways to improve plantation forestry, thus enhancing the productivity and value of lands devoted to sustainable management practices.
- ▲ Research and education focused on wood durability in construction and wood products innovation. This will assist builders and businesses develop new and improved uses for wood products.
- ▲ Research and training to increase the options, marketing, and management for forest-based tourism.

These programs highlight the interest that the people of the FRL and College of Forestry have in improving the protection, management, and uses of Oregon's forests and natural resources. Within this report you also will see the range and depth of other research programs that we are engaged in. These programs earn \$11–12 million in external grants—money that goes directly into the local economy. I invite your comments or questions that arise from reviewing this report. Thank you for your interest and continued support.



Features

Bond It Like Byssi



Have you ever wondered how mussels hold so tightly to wharves and rocks? Struggling to harvest mussels one day, Kaiching Li (Wood Science and Engineering) asked that question. “I was amazed at how the mussels stuck together so strongly,” Li says. “No glue could work in water so well.”

His curiosity is leading to new, environmentally friendly wood adhesives made from renewable natural resources. Such glues are much in demand. Urea-formaldehyde (UF) and phenol-formaldehyde (PF) resins have been used in making wood composites since the late 1950s. Formaldehyde is associated with several human health problems, however, and the resins are petroleum based.

Researching mussel chemistry, Li learned that a high concentration of a certain amino acid in the threads (byssi) attaching mussels to their substrate is the secret to their tenacity. By combining soy protein with a compound containing the same functional group as is in the mussel protein, he created a strong, water-resistant wood adhesive.

Li further found that condensed tannins, which are abundant in tree bark, and wood decayed by brown rot fungus contain the same functional group as the amino acid in mussel protein. So he has invented ways to convert them to effective, environmentally friendly wood adhesives. Harvesting decaying wood from natural sources can be expensive and time-consuming, making commercial production of adhesive impractical. Li’s team now is trying to find ways to produce rotted wood on a large scale.



The formaldehyde-free wood adhesives are good for replacing the PF resins for exterior wood composites, but they produce dark glue lines undesirable for interior finishes. To replace the UF resins for interior wood composites, Li has developed another formaldehyde-free wood adhesive that uses soy flour and a unique cross-linking agent. The glue lines are light, and the glue is water-resistant and safe. Two companies recently funded Li’s research for commercialization of this new adhesive.

The Play's the Thing— and So's the Art!

Yes, Viviane Simon-Brown (Forestry Extension and Forest Resources) and her colleagues have added a play to their repertoire of innovative, art-oriented approaches to engaging the public in forestry-related issues. "Saving Eden Creek" will receive its first reading at the 2004 national meeting of the Association of Natural Resource Extension Professionals.

Written by John Sulzmann, a freelance writer, and Janean Creighton (Washington State University), the play is intended for adult and high school audiences and will be available through Extension. "At the University and in Extension, we tend to talk about facts," says Simon-Brown; "But the public is concerned about values. We need to listen to what they have to say to us about those concerns." So Simon-Brown and her colleagues are developing a discussion guide, and audience members will be encouraged to discuss their reactions to the characters and themes in the play. They're also casting about for support for a professional production.

Their creative approach to interaction with the public isn't limited to the boards. More than 150,000 people in 12 communities have seen the three award-winning touring art exhibits—*Seeing the Forest 1999, 2000, and 2002-3*—that she and her colleagues (Joe Holmberg, Scott Reed, Brad Withrow-Robinson, and Trisha Wymore, Forestry Extension; Molly Engle, Health and Human Sciences; and Shorna Broussard, formerly Forest Resources, now at Purdue University) organized. Fifty-three Northwest artists contributed 115 art works, chosen for their ability to convey forestry-related concepts and values. The media ranged from paintings to paper. To stimulate involvement and dialog, viewers were invited to complete a short survey about whether the display had stimulated them to think about the complexity of forestry-related issues. More than three-quarters responded in the affirmative. The exhibits have received national and regional recognition, including the National Flagship Award of the Natural Resources & Environmental Management Program and the Innovative Program Award from the Association of Natural Resource Extension Professionals.





Building Trust through Communication

Forest management involves many “wicked problems”—problems that are inter-related, cannot be solved in isolation from one another, and hinge on differing social values that often clash in the political arena. Bruce Shindler (Forest Resources) spends much of his time characterizing the nature of wicked problems and helping forest managers create strategies to cope with their implications.

“The challenge in any forest management issue,” says Shindler, “is reaching agreement and making durable decisions. The more we understand about the people involved, the better chance we have of finding a solution everyone will support.” Thus, Shindler’s work often includes research on what the public thinks about forest conditions, management practices, and the agencies responsible for maintaining these resources. His current emphasis is on forest health and wildland fire management. Shindler says, “Citizens are more likely to accept a policy when the rationale is clear, they trust who is giving them information, and they have a chance to genuinely engage managers and consider the potential outcomes of practices.”

Communication and public outreach are essential in every resource professional’s job. They are the focus of Natural Resource Communications, an innovative course developed

by Shindler in which students learn how to work both in a team and with the various publics they will encounter as professionals. Their major project is design and production of a video message on a natural resource problem. Utilizing facilities in our Forestry Media Center, students learn planning, project management, camera operation, video editing, and narration. “This was the most valuable experience of my entire college career!” wrote one student.

Shindler’s professional associates share such enthusiasm. In 2003, the International Association of Communicators in Education awarded Shindler and the Forestry Media Center staff its Gold Award in Instructional Design. After reviewing all the awards in the competition, the Association then gave the group its “Best of the Best” Award—the Outstanding Professional Skill Award for Distance Education.





Managing Forests for Fish and Wildlife Habitat

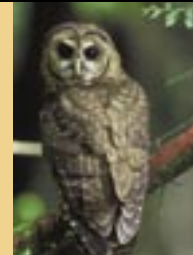


Over the past decade, Oregon's timber harvest has shifted from older forests on federal lands to younger, more intensively managed forests on private and state lands. Land managers therefore have sought to understand better the contributions of these younger forests to fish and wildlife habitat and to biodiversity. FRL scientists have been conducting studies to improve the scientific foundation that underpins forest practices regulations on these lands.

For nearly 10 years, the Forest Research Laboratory Fish and Wildlife Habitat in Managed Forests Research Program has supported research on how forest structures in actively managed forests provide habitat for fish, amphibians, birds, and mammals. Many of the projects emphasize effects of forest structures in managed stands on habitat. Others consider sociological and economic ramifications of management. All enhance the scientific basis for forest management policies and regulations that will support diversity of fish and wildlife. More than 30 peer-reviewed articles and 60 other publications have appeared already; others are in the pipeline. Immediate benefits for forest managers have included workshops, annotated bibliographies, and manuals for managing fish and wildlife habitat.

Funded from the Oregon Forest Products Harvest Tax, the program currently distributes about \$350,000 each year to projects. Since its beginning in 1994, the program has supported 32 projects, either fully or in collaboration with other sponsors. The projects are chosen with the help of a technical advisory committee, the members of which are drawn from industry, other private owners, and state and government agencies. More detailed descriptions of the studies and their findings are provided by *The Forest Research Laboratory Fish and Wildlife Habitat in Managed Forests Program: Summary of Research Findings, 1994–2002*. This overview, compiled by Margo Stoddard (Forest Science) and program manager Steve Tesch (Forest Engineering), is available at <http://www.cof.orst.edu/coops/fishandwildlife/index.htm>.





OSAF: a Voice for Professional Foresters

The professional forester is rarely heard from in the news media today, at least in Oregon. Often, you get a quote from spokespersons for advocacy groups on both ends of the spectrum,” says Paul Adams (Forest Engineering, Forestry Extension). “The views tend to be polarized and are not necessarily professional or science-based.”



The Oregon Society of American Foresters (OSAF) gives forestry professionals a way to express their views. Over the past eight years or so, OSAF has released 10 position statements on complex, often controversial issues. Adams has been chair of the Policy and Legislation Committee of OSAF since 1999. Committee members represent state and federal agencies, private timber companies, academics, independent consultants, and landowners. “The diversity of interests on the committee makes for some interesting and lively discussions,” says Adams. “It can be a challenge to come to an agreement.” But when they do agree, it’s a pretty strong statement. So far, the general OSAF membership has overwhelmingly approved all of the positions.

Collectively debating the issues is a primary value of OSAF membership, says Adams. “It unifies us. We can learn from each other and exchange experiences and perspectives,” he says. “Those of us from academia are especially interested in providing a strong science base for OSAF’s views.”

The position statements themselves are a great public education tool. All the statements are available on the SAF web site (www.forestry.org). OSAF has also made strong efforts to get them into the hands of policy and decision-makers.

“We want to give legislators solid scientific and technical information to help them make better decisions,” Adams says. “While we may have pretty strong views about a particular piece of legislation, we’re more interested in ensuring that decisions are based on science-based, objective information, with the perspective of the professional forester included.”

Departments: Notable Updates and Accomplishments

Forest Engineering

(www.cof.orst.edu/cof/fe/programs.htm)

- The undergraduate forest engineering degree received ABET EAC accreditation from the Accreditation Board for Engineering and Technology. It is now the only 4-year FE program in the country with both forestry and engineering accreditation.
- USDA CSREES and OSU Graduate Council reviews of FE research and graduate education programs were completed in spring 2003 with a strong endorsement of program quality, but a challenge to consider broadening our portfolio to remain relevant a decade from now.

Steve Tesch
Department Head

Forest Resources

(www.cof.orst.edu/cof/fr)

- Development of a new program in Wildland Fire Science, designed to include coursework, research, and outreach activities, began.
- Funding and the charter for the Forest Ecosystem Health Program, endowed by Robert and Anna Mealey and the Boise Corporation, were solidified.

Jack Walstad
Department Head

Forest Science

(www.cof.orst.edu/cof/fs)

- The Long Term Ecological Research (LTER) program, led by Professor Mark Harmon, received another 5-year renewal from the NSF totaling nearly \$5 million.

- The Pacific Northwest Tree Improvement Research Cooperative (PNW-TIRC) celebrated 20 years of research that has significantly enhanced the effectiveness of tree breeding efforts in the region.
- Extension Specialist and Edmund Hayes Professor of Silviculture Alternatives, Doug Maguire, is working with small woodland owners in the state to establish a system of permanent plots to monitor stand growth and development under uneven-age silviculture treatments. The project involves volunteer assistance, field training, and education of landowners, in addition to providing a valuable base of research information for the future.

Tom Adams
Department Head

Wood Science and Engineering (woodscience.oregonstate.edu)

- Two projects developed by WSE faculty are in the early stages of commercialization. Industrial partners are evaluating new nondestructive evaluation technology for determining wood pole strength and a new formaldehyde-free adhesive system for additional investments.
- WSE faculty recently began two research initiatives designed to expand our program into new high priority areas. One project, in collaboration with the College of Business, is evaluating business innovation and new forest products development with an eye toward helping Oregon business be more competitive. The second project focuses on durability of wood buildings, combining departmental strengths in wood protection and timber engineering to work on the durability of the largest single investment that most citizens will ever make—their home.

Tom McLain
Department Head

Faculty and Staff Awards and Honors

Rayetta Beall, Office Manager, Forest Engineering, Dean's Award for Outstanding Achievement, support staff

Deborah Bird, Deans' Office, Dean's Award for Advising and Mentoring

Badege Bishaw, Research Associate, Forest Science, OSU International Service Award

Mike Bondi, Professor, Forest Science, Dean's Award for Excellence in Extension and Outreach

George Brown, Professor and Dean Emeritus, Forest Engineering, Council on Forest Engineering International Forest Engineering Achievement Award

Carol Carlson, College Forests, Dean's Award for Service

COF Projects and Maintenance Crew (**Rand Sether**, **David LaFever**, and **Jerry Sills**), Dean's Team award

Steve Fitzgerald, Associate Professor, Forest Resources, Oregon Society of Foresters Research Award

Mark Harmon, Professor and Richardson Chair, Forest Science, Dean's Award for Excellence in Research

Glenn Howe, Outstanding Faculty award, given by students in Forest Science

Brian Kramer, Senior Instructor, Forest Engineering, Julie Kliewer Mentoring award and the Aufderheide Outstanding Teaching award

Steve Radosevich, Professor, Forest Science, OSU 2003 Ethics Integrity Award

Robin Rose, Associate Professor, Forest Science, OSU International Service Award

Bruce Shindler and Forestry Media Center Staff (**Jeff Hino**, **Mark Reed**, **Judy Sitton**, and **Dave Zahler**), Gold Award and Outstanding Professional Skill Award for Distance Education and Instructional design, International Association of Communicators in Education

Jay Sexton, "Big Fish" service award for outstanding contribution to FS department

Steve Tesch, Department Head and Professor, Forest Engineering, Dean's Award for Outstanding Achievement and Service

Markus Weiler, Faculty Research Associate, Forest Engineering, Dean's Award in recognition of exemplary work

Brad Withrow-Robinson, Assistant Professor, Forest Science and Yamhill County Extension agent; **Scott Reed**, Associate Dean and Professor, and **Viviane Simon-Brown**, Associate Professor and Coordinator, The Sustainable Living Project at OSU, National Flagship Award of the Natural Resources & Environmental Management Program, Innovative Program Award of the Association of Natural Resource Extension Professionals, and Dean's Award for Outstanding Achievement in Extended and Continuing Education

David Zahler, Instructor, Forest Resources and Forestry Media Center, and **Ed Jensen**, Professor, Forest Resources, Bronze Award, International Association of Communicators in Education

Teaching

Undergraduate Education

Student Demographics (Fall 2002)

| | | | | | | | | |
|------------|-------------|-----------------|-----------------|--------|--------|-------|--------|-------------|
| MAJOR: | FE 48 | FE/CE 23 | FM 82 | WST 24 | FRR 71 | NR 90 | ORLT 1 | Nondegree 8 |
| SEX: | M 251 | F 96 | | | | | | |
| STATUS: | Freshman 47 | Transfer 24 | Returning 276 | | | | | |
| RESIDENCE: | Oregon 304 | Out of State 40 | International 3 | | | | | |

Degrees Awarded (2002–2003)

Forest Engineering

| | |
|---------------------------|-----------------|
| Paul Wesley Betts | Summa Cum Laude |
| Patrick Lee Carter | |
| Sean Christopher Comstock | Cum Laude |
| Andy Royce Conklin | |
| Niel Duane Danko | |
| Tyler Allen Douglas | |
| Alexander Joseph Dunn | |
| Matthew Scott Fiorito | |
| Michael Riley Fogarty | |
| Andrew Wesley Hackethorn | |
| Ben W. Han | |
| Joshua Owen Heacock | Cum Laude |
| Wesley Jeremiah Jones | |
| Jason Robert Kelly | |
| Ed B. Lewis | |
| Zachary T. Piepmeyer | Magna Cum Laude |
| Jill Amber Smouse | Magna Cum Laude |
| Brian Paul Tenbusch | |
| Thomas Eugene Whittington | |

Forest Management

| | |
|-----------------------------|-----------------|
| Graham Thomas Adams | |
| Juan Antonio Aguilar, Jr. | |
| Seth Aaron Barnes | |
| Jeffrey Michael De Ross | Summa Cum Laude |
| Rei Hayashi | |
| Ryan Arthur Johnson | |
| Eric Jason Just | |
| Brian Keith Murray | |
| Christopher Leigh Sexton | Cum Laude |
| Nicholas E. Swagger | |
| Raymond Calica Tsumpti, Jr. | |
| Vernon Hubert Wolf | Summa Cum Laude |

Forest Recreation Resources

| |
|------------------------|
| Eric Bennett Alverdes |
| Dameon Phillip Barrows |
| Bryan Louis Bridwell |
| Dennis Merle Byrd |

| | |
|-----------------------|-----------|
| Brett Alan Carpenter | |
| Hallie Lucille Edgmon | Cum Laude |
| Lonny Jay Flora | |
| David Roy Fuller | |
| Andrew Thomas Hill | |
| Jered Andrew Mangini | |
| Heather Anne Murphy | |
| Robert William Nelson | |
| Kathryn Diane Pryor | |
| Trent William Wilkie | |
| Evan Lenville Wright | |

International Degree

| | |
|-------------------|--|
| C Dasch Houdeshel | |
|-------------------|--|

Natural Resources

| | |
|------------------------|-----------------|
| Christopher D Adelson | |
| Laura Marie Anzalone | Magna Cum Laude |
| Adam Lee Atchley | |
| Rebecca Diane Banks | |
| Mike John Boock | |
| Clarissa Heidi Buchner | Cum Laude |
| Esther Joy Corliss | |
| Michael Richard DeLoy | Summa Cum Laude |
| Amy Irene Eckert | |
| Sally Ann Ernest | |
| Megan Elizabeth Field | Cum Laude |
| Ryan Patrick Gordon | Summa Cum Laude |
| Carri Linn Heisler | |

| | |
|------------------------------|-----------------|
| Brian Edward Hoefling | |
| C Dasch Houdeshel | |
| Martha Marie Hovis | |
| Karen Jean Howell | |
| Cynthia Lou Kaiser | |
| Mindy Heather Laird-Garcia | |
| Mary Shasta Leatherwood | |
| David Allen Moore | |
| Travis John Olsen | |
| Stephany RunningHawk Peebler | Cum Laude |
| Laura Lee Quilliams | Magna Cum Laude |
| Joshua Phillip Reed | |
| Leah Jamais Rosin | Cum Laude |
| Lauren Alyssa Sommers | Summa Cum Laude |
| Mark Root Squire | |
| Geoffrey Arthur Stewart | |
| Michael Preston Thompson | Cum Laude |
| Jennifer Ann Wade | |
| Stacie Ann Watne | Cum Laude |
| Wayne S. Watne | Cum Laude |
| Paul Thomas Weil | Cum Laude |
| Angela Marie Willits | |

Wood Science & Technology

| |
|--------------------------|
| Grant William Carroll |
| Blake Dawson Holton |
| John Redmond Murphy, Jr. |

Graduate Education

Student Demographics (Fall 2002)

| | | | | |
|-------------|-----------|-----------------|------------------|---------|
| DEPARTMENT: | FE 21 | FR 33 | FS 54 | WS&E 25 |
| SEX: | M 84 | F 49 | | |
| STATUS: | New 33 | Returning 100 | | |
| RESIDENCE: | Oregon 35 | Out of State 60 | International 38 | |

Degrees Awarded (2002-2003)

Forest Engineering

Master of Science

Jeremy Stuart Appt
Erin H Gilbert

Eric Andrew Schroff
Wade Alan Semeliss
Eric Lee Toman

Thomas S Sensenig
Fatih Temel
Yuriko Yano

Master of Forestry

Jennie Linn Cornell
Kami Sue Ellingson
Brett Alan Morrisette
Derek Keith Solmie

Doctor of Philosophy

Mark Lewis Hanus
Solange Nadeau
Duncan Steil Wilson

Wood Science & Engineering

Master of Science (Forest Products)

Amy Therese Grotta
Donald Benjamin Swartley

Doctor of Philosophy

Abdullah Emin Akay
Woodam Chung

Forest Science

Master of Science

Justin Keith Anderson
Dawn Louise Anzinger
Anthony William D Amato
Steven John Fonte
Katherine Marie Jacobs
Michael Aaron Kangas
Chris D Sheridan
Troy Gregory Smith
Kristen Lee Whitbeck

Master of Science (Wood Science)

Eric Scott Baker
Eric Ryan Dancer
Claudia Maria Theresia Eiden
Dana Jon Lebeda
Svetlana E Peshkova
Eric Tabata Sakimoto
Randy Jay Scott

Forest Resources

Master of Science

Robin Lei Biesecker
Margaret McAndrews Cowden
Christopher John Farley
Sean Michael Garber
Jeffery David Hamann
Sarah Rebecca Hirte
Cory A. Langhoff
Rhonda Lee Mazza
Elaine Susan O Toole

Doctor of Philosophy

Marcela F Brugnach
Susie M Dunham
Charles Kirk Lefevre

Doctor of Philosophy (Forest Products)

Ernesto Rodolfo Wagner

Doctor of Philosophy (Wood Science)

Sung-Mo Kang
Jae-Woo Kim
Michele Lynn Pruyn

Research

The Oregon Forest Research Laboratory

Research at the College of Forestry is conducted through its research arm, the Oregon Forest Research Laboratory (FRL). The research mission of the College of Forestry is to conduct well-coordinated, problem-solving research that provides knowledge for the integrated management of forest resources for multiple values and products that meet society's needs, with special attention to social and economic benefits. Research is conducted by the college's four departments in five general areas: forest regeneration; forest ecology, culture, and productivity; protecting forests and watersheds; evaluating forest uses and practices; and wood processing and products performance. Important research issues being addressed by forestry and forest products scientists include ensuring the sustainability of forest resources, understanding the complex structure and function of forest systems, and ensuring that forest operations and wood products manufacturing are environmentally and socially acceptable and economically feasible.

Oregon law provides that the State Board of Higher Education shall "institute and carry on research and experimentation to develop the maximum yield from the forestlands of Oregon, to obtain the fullest utilization of the forest resource, and to study air and water pollution as it relates to the forest products industries. The purpose of the research is "to aid in the economic development of the State of Oregon" (ORS 526.215, 1961). This research is to be carried out under the auspices of a Forest Research Laboratory at Oregon State University, and the Board of Higher Education is directed to "cooperate with individuals, corporations, associations and public agencies wherever and whenever advisable to further the purposes of ORS 526.215, and may enter into any necessary agreements therefore" (ORS 526.225).

Today all research by College of Forestry faculty is under the umbrella of the Oregon Forest Research Laboratory. College research brings in about \$10.7 million in grant and contract funding each year and engenders many cooperative and interdisciplinary research projects.

The FRL Advisory Committee

Bill Arsenault
Small Woodland Owner

Dave Bowden (Chair)
Senior Vice President, Longview Fibre Company

Deborah M. Brosnan
President, Sustainable Ecosystems Institute

Marvin Brown
State Forester, Oregon State Department of Forestry

J. Martin Goebel
Sustainable Northwest

Linda Goodman
Regional Forester, USDA Forest Service, Region 6

Jim James
Director, Environmental Affairs, Sustainable Forestry, Weyerhaeuser Company

Elaine Marquis-Brong
State Director, USDI Bureau of Land Management

Russ McKinley
Manager, Western Oregon Timberlands, Boise Cascade Corporation

Joel Nelson
Senior Resource Manager, Oregon Region, Plum Creek Timber

Jennifer Phillipi
Rough and Ready Lumber

Tom Quigley
Director, USDA Forest Service Pacific Northwest Research Station

Dallas Stovall
President & CEO, Bright Wood

Ron Stuntzner
Stuntzner Engineering & Forestry, LLC

Sara Vickerman
Director, West Coast Office, Defenders of Wildlife

Grants and Contracts

Forest Engineering

Garland, John J. Using Loggers and Logging Equipment to Fight Wildland Fires. USDA Forest Service. Amount: \$8,000. Period: 6/01/03–6/30/05.

McDonnell, Jeffrey J. Development of a Monitoring Network and Web-Based Database for Effective Watershed Management in the Oak Creek Basin. USDI U.S. Geological Survey. Amount: \$20,209. Period: 3/01/02–2/28/03.

McDonnell, Jeffrey J. Long-Term Ecological Research at the H.J. Andrews Experimental Forest (LTER5). National Science Foundation. Amount: \$11,320. Period: 11/01/02–10/31/03. Amendment to an existing grant.

McDonnell, Jeffrey J. Modeling Meso Scale Flows in the Maybeso Catchment, SE Alaska. USDA Forest Service. Amount: \$86,000. Period: 9/01/02–8/31/07.

Schoenholtz, Stephen H. Effects of Riparian Structure on Stream Temperature in the Coast Range. Oregon Department of Forestry. Amount: \$18,000. Period: 6/16/03–6/30/04.

Schoenholtz, Stephen H. Effects of Soil Factors on Douglas-Fir Responses to Woody Debris Removal and Competing Vegetation Control. USDA Forest Service. Amount: \$79,844. Period: 8/28/02–12/31/05.

Schoenholtz, Stephen H. ODF Stream Temperature. Oregon Department of Forestry. Amount: \$30,000. Period: 9/23/02–6/30/03.

Sessions, John D. Biscuit Fire Cost of Management Delay Assessment. Douglas County. Amount: \$25,000. Period: 2/01/03–4/30/03.

Sessions, John D. Harvest Scheduling and Economic Analysis Modeling for the Elliot Revision Process: Phase IV. Oregon Department of Forestry. Amount: \$40,000. Period: 1/01/03–12/31/03.

Sessions, John D. Jackson County Small Diameter Tree Utilization Project—Phase II. Jackson County Board of Commissioners. Amount: \$149,000. Period: 10/01/02–9/30/03.

Skaugset, Arne E., III. Watersheds Research Cooperative. Member Cooperators. Amount: \$166,000. Period: 7/01/02–6/30/03.

Wing, Michael G. A GIS-Based Spatial Sampling Framework for Klamath Network Parks. USDI U.S. Geological Survey. Amount: \$11,014. Period: 9/18/02–10/31/02

Forest Resources

Adams, Darius M. Employment of the Western Oregon Timber Supply System (WORTSS) Model for Estimating Harvesting Levels on Private Lands. USDA Forest Service. Amount: \$24,819. Period: 3/07/03–12/30/03.

Adams, Darius M. Extensions of the Western and Eastern Oregon Timber Supply Studies. Oregon Department of Forestry. Amount: \$1,693. Period: 5/19/03–6/30/03. Amendment to an existing agreement.

Adams, Darius M. and Greg Latta. Timber Harvest and Forest Resource Projection Modules for PNW

- Regional Wood Industry and Forest Resources Study. USDA Forest Service. Amount: \$112,000. Period: 10/29/02–8/31/04.
- Bliss, John C., Jessica Leahy, and Rebecca L. Johnson. Assessing Factors That Shape, Sustain, and Alter Public Judgments of Acceptability of Natural Resource Management Policies and Practices. USDA Forest Service. Amount: \$50,000. Period: 8/16/02–3/31/04.
- Hann, David W. Identification and Evaluation of Northern Spotted Owl Habitat in Managed Forests of Southwestern Oregon and the Development of Silvicultural Systems for Managing Such Habitat. USDI U.S. Geological Survey. Amount: \$41,601. Period: 9/16/02–9/30/03.
- Johnson, K. Norman. Coast Range Spatial Databases and Economic Analysis. USDA Forest Service. Amount: \$204,100. Period: 8/27/02–9/13/05. Amendment to an existing agreement.
- Johnson, K. Norman and Sean N. Gordon. Evaluation of Needs and Requirements for Decision Support Systems for Forest Biodiversity. National Council for Science and the Environment. Amount: \$59,998. Period: 7/01/02–12/30/03.
- Montgomery, Claire A. Compatability of Timber and Conservation: Tracing the Trade-Off Frontier. USDA Forest Service. Amount: \$9,273. Period: 7/09/02–12/31/04. Amendment to an existing agreement.
- Ripple, William J. Predicting Abundance and Demographic Performance of Northern Spotted Owls from Vegetative Characteristics. USDA Forest Service. Amount: \$54,500. Period: 6/12/03–5/10/04. Amendment to an existing agreement.
- Schrader, Barbara A. Establishment of a Long-Term Riparian Research Site at Wind River Experimental Forest (Wind River Canopy Crane Research Facility), Cascade Mountains, Washington. Earthwatch Institute. Amount: \$10,600. Period: 5/01/03–12/31/03.
- Schrader, Barbara A. Integrated Research in a Threatened Ecosystem: The Willamette Valley Oak Woodlands. Earthwatch Institute. Amount: \$8,650. Period: 5/01/02–9/29/02.
- Schrader, Barbara A. The Role of Disturbance and Coarse Woody Debris Decay Class on Conk Fruiting in *Bridgeoporous noblissimus*. USDI Bureau of Land Management. Amount: \$5,000. Period: 4/02/01–6/30/03.
- Sessions, John D. and Peter S. Bettinger. Interior Northwest Landscape Analysis System Mid-Scale Simulation Model. USDA Forest Service. Amount: \$26,860. Period: 5/16/03–3/31/04. Amendment to an existing agreement.
- Shindler, Bruce A. Public Communication Strategies for Wildland Fuel Management. USDI U.S. Geological Survey. Amount: \$60,000. Period: 1/23/03–9/30/2003.
- Tappeiner, John C., II. Distribution of Large Trees in Western Oregon Old-Growth Forests: A Project for Bureau of Land Management–Phase II. USDI U.S. Geological Survey. Amount: \$30,000. Period: 9/18/02–9/30/03.
- Tynon, Joanne F. Contemporary Issues at the Interface of Urban Development and Nature-Based Recreation and Tourism. USDA Forest Service. Amount: \$19,330. Period: 6/17/02–6/30/04.

Walstad, John D. SAFED Simulation of Landscape Fuel Treatment Programs. USDA Forest Service. Amount: \$102,109. Period: 8/20/02–9/30/06.

Forest Science

Bond, Barbara J. REU Supplement: Using Isotope Ratios of Respired CO₂ in Small Watersheds as Indicators of Ecosystem Function: A Pilot Study. National Science Foundation. Amount: \$5,975. Period: 5/29/03–6/30/04. Amendment to an existing grant.

Bond, Barbara J. Long-Term Ecological Research at the H.J. Andrews Experimental Forest (LTER5). National Science Foundation. Amount: \$34,139. Period: 11/01/02–10/31/03. Amendment to an existing grant.

Bond, Barbara J. Vegetation Water Use in Different Aged Douglas-Fir/Western Hemlock Stands. University of California/Davis. Amount: \$95,262. Period: 11/14/02–6/30/03. Prime Funder: Department of Energy. Amendment to an existing grant.

Brunner, Amy M., Steven H. Strauss and Richard Meilan. Development and Validation of Sterility Systems for Trees. Department of Energy. Amount: \$146,777. Period: 1/28/03–12/31/03. Amendment to an existing agreement.

Brunner, Amy M. and Richard Meilan. Phase Change and Seasonal Floral Initiation in Populus. USDA Cooperative State Research, Education and Extension Service. Amount: \$115,300. Period: 8/01/02–7/31/04.

Cazares-Gonzalez, Efren. Ecology of Select-Listed Fungal Species in the Northwest Forest Plan. USDA

Forest Service. Amount: \$26,420. Period: 9/25/02–8/31/03. Amendment to an existing agreement.

Cazares-Gonzalez, Efren. Indicators of Ecosystem Decline for Subalpine Forest Systems at Crater Lake National Park. USDI U.S. Geological Survey. Amount: \$14,561. Period: 7/30/02–9/30/02. Amendment to an existing agreement.

Cazares-Gonzales, Efren. Indicators of Ecosystem Decline for Subalpine Forest Systems at Crater Lake National Park: Effects of Fire and Anthropogenic Disturbance on Vegetation and Mycorrhizal Fungal. USDI U.S. Geological Survey. Amount: \$52,321. Period: 9/18/02–9/30/03.

Cohen, Warren B., Robert E. Kennedy and David P. Turner. Combining Field Measurements and Satellite Imagery with a Probabilistic Model to Quantify Uncertainty in Modeled Estimates of Net Primary Productivity. National Aeronautics and Space Administration. Amount: \$24,000. Period: 8/12/02–8/31/03. Amendment to an existing grant.

Filip, Gregory M. Swiss Needle Cast Cooperative. Member Cooperators. Amount: \$203,200. Period: 7/01/02–6/30/03.

Ganio, Lisa M. Development and Modeling of Multi-Scaled, Spatially Explicit Landscape Information. USDA Forest Service. Amount: \$220,044. Period: 8/27/02–6/30/05. Amendment to an existing agreement.

Ganio, Lisa M. and Matthew J. Gregory. Spatial Analysis of Variability in Forest Composition and Structure Among Ownership and Land Allocations in the Oregon Coastal Province. USDA Forest Service. Amount:

- \$10,000. Period: 6/05/03–8/20/05. Amendment to an existing agreement.
- Garman, Steven L. Analysis and Validation of Habitat Suitability Models. USDA Forest Service. Amount: \$97,000. Period: 6/19/03–9/14/04. Amendment to an existing agreement.
- Garman, Steven L. Characterization of Forest Canopy Structure and Wildlife Habitat in Western Oregon from Regional Inventory Data. USDA Forest Service. Amount: \$27,096. Period: 2/13/03–9/01/03. Amendment to an existing agreement.
- Garman, Steven L. and Klaus J. Puettmann. Development of Old-Growth and Riparian Forests in the Cascade and Coast Ranges. USDA Forest Service. Amount: \$80,000. Period: 6/23/03–8/26/04. Amendment to an existing agreement.
- Haggerty, Roy D. Interactions Between Streams and Groundwater Along the River Continuum: Scaling up to a Stream Network. National Science Foundation. Amount: \$4,631. Period: 8/02/02–4/30/04. Amendment to an existing grant.
- Haggerty, Roy D. Interactions Between Streams and Groundwater Along the River Continuum: Scaling up to a Stream Network. National Science Foundation. Amount: \$29,206. Period: 11/14/02–4/30/05. Amendment to an existing grant.
- Halpern, Charles B. Long-Term Ecological Research at the H.J. Andrews Experimental Forest (LTER5). National Science Foundation. Amount: \$23,287. Period: 11/1/02–10/31/03.
- Harmon, Mark E. Determining the Decomposition Rate of Beetle-Killed Spruce in South Central Alaska. USDA Forest Service. Amount: \$30,000. Period: 6/25/02–5/31/04.
- Harmon, Mark E. Long-Term Ecological Research at the H.J. Andrews Experimental Forest (LTER4): Enhance On-Line Access to Hydrology and Environmental Data from the Andrews Experimental Station. National Science Foundation. Amount: \$8,000. Period: 7/31/02–11/30/02. Amendment to an existing grant.
- Harmon, Mark E. Long-Term Ecological Research at the H.J. Andrews Experimental Forest (LTER4): Continued Development of Hydrology and Climatology Web Harvester Systems for the US-LTER Network. National Science Foundation. Amount: \$25,000. Period: 8/23/02–11/30/02. Amendment to existing grant.
- Harmon, Mark E. Long-Term Ecological Research at the H.J. Andrews Experimental Forest (LTER5). National Science Foundation. Amount: \$397,412. Period: 11/01/02–10/31/03.
- Harmon, Mark E. Long-Term Ecological Research at the H.J. Andrews Experimental Forest (LTER5). National Science Foundation. Amount: \$65,000. Period: 4/30/03–10/31/03. Amendment to an existing grant.
- Harmon, Mark E. Long-Term Ecological Research at the H.J. Andrews Experimental Forest (LTER5). National Science Foundation. Amount: \$20,000. Period: 6/04/03–10/31/03. Amendment to an existing grant.
- Harmon, Mark E. Quantifying Carbon Sequestration in Oregon and Washington Forests and Determination of the Accuracy of Existing Carbon Models for the Northwest. USDA Forest Service. Amount: \$16,345. Period: 12/05/02–12/31/03. Amendment to an existing agreement.

- Harmon, Mark E. Research Support for H.J. Andrews Experimental Forest. USDA Forest Service. Amount: \$141,508. Period: 8/28/02–9/30/06. Amendment to an existing agreement.
- Harmon, Mark E., Hua Chen, and Steven S. Perakis. U.S.-Taiwan Cooperative Research: Decomposition of ¹⁵N-Labeled Fine Roots and Fate of N They Release in Western Oregon, USA and Taiwanese LTER Sites. National Science Foundation. Amount: \$51,455. Period: 3/15/03–2/28/06.
- Hayes, John P. Influence of Landscape Characteristics on Abundance and Habitat Use of Bats. USDI U.S. Geological Survey. Amount: \$22,000. Period: 8/22/02–9/30/03. Amendment to an existing agreement.
- Hayes, John P. Influence of Landscape Characteristics on Abundance and Habitat Use of Bats–II. USDI U.S. Geological Survey. Amount: \$31,250. Period: 7/01/02–12/30/03.
- Hayes, John P., David E. Hibbs, Judith L. Li, and W. Daniel Edge. The Cooperative Forest Ecosystem Research. USDI U.S. Geological Survey. Amount: \$273,907. Period: 8/22/02–9/30/02. Amendment to an existing agreement.
- Hayes, John P., David E. Hibbs, Judith L. Li, and W. Daniel Edge. The Cooperative Forest Ecosystem Research. USDI U.S. Geological Survey. Amount: \$366,927. Period: 9/18/02–12/31/03.
- Hayes, John P., David E. Hibbs, and W. Daniel Edge. The Cooperative Forest Ecosystem Research. USDI U.S. Geological Survey. Amount: \$30,167. Period: 5/14/03–12/31/03. Amendment to an existing agreement.
- Hibbs, David E. Testing and Demonstrating Vegetation Management Strategies to Obtain Stable, Low-Growing Plant Communities on Bonneville Power Administration Rights-of-Way. Western Environmental Consultants, Inc. Amount: \$43,997. Period: 7/09/02–6/10/03. Amendment to an existing contract.
- Hibbs, David E. and Andrew A. Bluhm. Hardwood Silviculture Cooperative. Member Cooperators. Amount: \$55,500. Period: 7/1/02–6/30/03.
- Hibbs, David E., Edward B. Arnett, Robert L. Beschta, Robert J. Pabst, and Daniel Sarr. Riparian Biodiversity and Forest Management in the Pacific Northwest: A Technical Review and Synthesis. National Council for Air and Stream Improvement, Inc. Amount: \$15,000. Period: 7/01/02–3/31/03.
- Howe, Glenn T. Pacific Northwest Tree Improvement Research Cooperative. Member Cooperators. Amount: \$112,000. Period: 7/1/02–6/30/03.
- Jayawickrama, Keith. Northwest Tree Improvement Cooperative. Member Cooperators. Amount: \$314,807. Period: 7/1/02–6/30/03.
- Johnson, Sherri L. Long-Term Ecological Research at the H.J. Andrews Experimental Forest (LTER5). National Science Foundation. Amount: \$23,867. Period: 11/01/02–10/31/03.
- Krankina, Olga N. Changes in Terrestrial Carbon Storage in Russia as a Result of Recent Disturbances and Land-Use Change. The Woods Hole Research Center. Amount: \$43,000. Period: 10/10/02–8/31/03. Prime Funder: National Aeronautics and Space Administration. Amendment to an existing grant.

- Krankina, Olga N. and Mark E. Harmon. Driving Forces of Change in Regional Carbon Stocks: Comparison of the Western Oregon, and St. Petersburg Region, Russia. National Aeronautics and Space Administration. Amount: \$54,697. Period: 8/13/02–8/14/04. Amendment to existing grant.
- Krankina, Olga N. and Mark E. Harmon. Driving Forces of Change in Regional Carbon Stocks: Comparison of the Western Oregon, and St. Petersburg Region, Russia. National Aeronautics and Space Administration. Amount: \$109,395. Period: 12/10/02–8/14/04. Amendment to existing grant.
- Krankina, Olga N. and Mark E. Harmon. Driving Forces of Change in Regional Carbon Stocks: Comparison of the Western Oregon, and St. Petersburg Region, Russia. National Aeronautics and Space Administration. Amount: \$59,977. Period: 3/10/03–8/14/04. Amendment to existing grant.
- Law, Beverly E. AmeriFlux Measurement Network: Science Team Coordination. Department of Energy. Amount: \$220,819. Period: 9/15/02–9/14/03. Amendment to an existing grant.
- Law, Beverly E. Carbon and Water Vapor Exchange in Successional Stages of Pacific Northwest Forest Ecosystems: Integration of Eddy Flux, Plant and Soil Measurements. Department of Energy. Amount: \$156,616. Period: 9/15/02–9/14/03. Amendment to an existing grant.
- Law, Beverly E. Using Remote Sensing and In Situ Network Observations to Evaluate and Improve the Performance of the Biome-BGC Terrestrial Carbon Cycle Model. National Aeronautics and Space Administration. Amount: \$78,978. Period: 7/22/02–7/31/04. Amendment to an existing grant.
- Law, Beverly E. Workshop on the Standardization of Flux Diagnostics and Analysis Guidelines. Department of Energy. Amount: \$30,000. Period: 9/01/02–8/31/03.
- Law, Beverly E.. Regional Carbon Dioxide Fluxes Over Heterogeneous Terrain. National Aeronautics and Space Administration. Amount: \$52,414. Period: 9/30/02–8/14/04. Amendment to an existing grant.
- Law, Beverly E. Regional Carbon Dioxide Fluxes Over Heterogeneous Terrain. National Aeronautics and Space Administration. Amount: \$83,223. Period: 12/09/02–8/14/04. Amendment to an existing grant.
- Law, Beverly E. Regional Carbon Dioxide Fluxes Over Heterogeneous Terrain. National Aeronautics and Space Administration. Amount: \$44,910. Period: 4/14/03–8/14/04. Amendment to an existing grant.
- Luoma, Daniel L. Use of Spatial and Temporal Partitioning of Genetic Variation in *Cantharellus formosus* to Model Aspects of Gene Flow in Fungal Populations in Northwest Forests. USDA Forest Service. Amount: \$25,150. Period: 9/20/02–12/31/04. Amendment to an existing agreement.
- Luoma, Daniel L. Use of Spatial and Temporal Partitioning of Genetic Variation in *Cantharellus formosus* to Model Aspects of Gene Flow in Fungal Populations in Northwest Forests. USDA Forest Service. Amount: \$15,000. Period: 4/09/03–12/31/04. Amendment to an existing agreement.
- Luoma, Daniel L. Use of Spatial and Temporal Partitioning of Genetic Variation in *Cantharellus formosus* to Model Aspects of Gene Flow in Fungal Populations

- in Northwest Forests. USDA Forest Service. Amount: \$69,850. Period: 6/10/03–12/31/04. Amendment to an existing agreement.
- Luoma, Daniel L. and Joyce Eberhart. The Effects of Fungal Spore Inoculum on the Survival, Growth, and Ectomycorrhiza Diversity of Out-Planted Douglas-Fir Seedlings. USDA Forest Service. Amount: \$169,600. Period: 2/25/03–9/30/07.
- Maguire, Christine A. and Douglas A. Maguire. Response of Understory Vegetation, Small Mammals, and Tree Seedlings to Alternative Silvicultural Treatments at Blacks Mountain Experimental Forest. USDA Forest Service. Amount: \$20,815. Period: 8/05/02–12/31/03.
- Maguire, Christine A. and Douglas A. Maguire. Response of Understory Vegetation, Small Mammals, and Tree Seedlings to Alternative Silvicultural Treatments at Blacks Mountain Experimental Forest. USDA Forest Service. Amount: \$62,443. Period: 11/07/02–9/30/04. Amendment to an existing agreement.
- Maguire, Christine A. and Douglas A. Maguire. Response of Understory Vegetation, Small Mammals, and Tree Seedlings to Alternative Silvicultural Treatments at Blacks Mountain Experimental Forest. USDA Forest Service. Amount: \$7,000. Period: 3/11/03–9/30/04. Amendment to an existing agreement.
- Maguire, Douglas A. DEMO Synthesis: Interactive Responses of Ecosystem Components to Varying Levels and Patterns of Green-Tree Retention. USDA Forest Service. Amount: \$20,000. Period: 3/07/03–8/16/04. Amendment to an existing agreement.
- Maguire, Douglas A. Litter Invertebrate Responses to Green Tree Retention Treatments for the Demonstration of Ecosystem Management Options (DEMO) Project. Amount: \$132,460. Period: 6/17/03–12/31/05.
- Maguire, Douglas A. Silvicultural and Wood Utilization Strategies for Achieving Ecosystem Management Objectives in the Blue Mountains of Oregon. Amount: \$115,003. Period: 9/20/02–10/15/06.
- Meilan, Richard, Amy M. Brunner, and Steven H. Strauss. Cytotoxin Attenuation to Maintain Biomass Productivity in Non-Flowering Transgenic Trees. The Consortium for Plant Biotechnology Research, Inc. Amount: \$52,000. Period: 7/01/02–6/30/04.
- Meilan, Richard. Recruitment Trip to Thailand for the Tree Genetics Center Co-Directors for Industry/University Cooperator Research Center: Tree Genetic Engineering Research Cooperative. National Science Foundation. Amount: \$3,430. Period: 7/02/02–8/31/03. Amendment to an existing grant.
- Newton, Michael and Elizabeth C. Cole. Stand Density Regulation and Understory Regeneration. USDI U.S. Geological Survey. Amount: \$52,100. Period: 8/22/02–9/30/02. Amendment to an existing agreement.
- O'Connell, Kari E. Long-Term Ecological Research at the H.J. Andrews Experimental Forest (LTER5). National Science Foundation. Amount: \$59,889. Period: 11/01/02–10/31/03.
- O'Connell, Kari E. Long-Term Ecological Research at the H.J. Andrews Experimental Forest (LTER5). National Science Foundation. Amount: \$35,000. Period: 4/30/03–10/31/03. Amendment to an existing grant.

- O'Connell, Kari E. Long-Term Studies of Forest Dynamics in the Pacific Northwest. USDA Forest Service. Amount: \$93,000. Period: 7/01/02–6/30/04. Amendment to an existing agreement.
- Puettmann, Klaus J. Integrative Young Stand Management Strategies for Productivity and Structural Diversity. Oregon Department of Forestry. Amount: \$67,312. Period: 7/11/02–6/30/05.
- Puettmann, Klaus J. Vegetation Measurements and Analysis of the Density Management Study. USDI Bureau of Land Management. Amount: \$164,988. Period: 5/30/03–5/27/08.
- Puettmann, Klaus J. Young Stand Thinning and Diversity Study. USDA Forest Service. Amount: \$37,530. Period: 6/20/03–8/09/04. Amendment to an existing agreement.
- Radosevich, Steven R. and Hamid Rahimian Mashhadi. Biology of *Potentilla recta*. Montana State University, Center for Invasive Plant Management. Amount: \$5,000. Period: 5/01/02–11/01/03. Prime Funder: USDI Bureau of Land Management.
- Radosevich, Steven R. Invasive Plant Research Program for Blue Mountains Demonstration Area. USDA Forest Service. Amount: \$115,300. Period: 1/21/03–9/30/04. Amendment to an existing agreement.
- Radosevich, Steven R., Richard A. Fletcher, Joe R. Kerkvliet, Leon H. Liegel, and Edward B. Arnett. Survey the Lessons Learned About Managing Forests for Biodiversity and Sustainability Based on Practical Experience. National Council for Science and the Environment. Amount: \$249,779. Period: 7/01/02–12/30/03.
- Rose, Robin and Lee S. Rosner. Vegetation Management Research Cooperative. Member Cooperators. Amount: \$145,000. Period: 7/01/02–6/30/03.
- Rose, Robin and Diane L. Haase. Nursery Technology Cooperative. Member Cooperators. Amount: \$115,000. Period: 7/01/02–6/30/03.
- Ross, Darrell W. Developing Methods for Measuring Population Levels and Assessing the Impact of Gorse Spider Mite on Gorse. USDA Forest Service. Amount: \$34,999. Period: 12/02/02–12/31/04. Amendment to an existing agreement.
- Ross, Darrell W. Landscape Level Assessment of Douglas-Fir Beetle Outbreaks and Development of Monitoring System for Predicting Local Population Trends. USDA Forest Service. Amount: \$45,229. Period: 2/10/03–12/31/04. Amendment to an existing agreement.
- Ross, Darrell W. Landscape Level Assessment of Douglas-Fir Beetle Outbreaks and Development of Monitoring System for Predicting Local Population Trends. USDA Forest Service. Amount: \$46,416. Period: 6/18/03–12/31/04. Amendment to an existing agreement.
- Sollins, Phillip. Detrital Controls on SOM Dynamics in an Old-Growth Douglas-Fir Soil. USDA Cooperative State Research, Education, and Extension Service. Amount: \$104,899. Period: 8/01/02–7/31/05.
- Sollins, Phillip and Beverly E. Law. Development and Validation of Dynamic Global Vegetation Models. USDA Forest Service. Amount: \$32,414. Period: 2/13/03–8/31/03. Amendment to an existing agreement.

Strauss, Steven H., Richard Meilan, and Amy M. Brunner. Activation Tagging of Genes Controlling Tree Development. The Consortium for Plant Biotechnology Research, Inc. Amount: \$37,500. Period: 7/01/02–6/30/04.

Strauss, Steven H., Richard Meilan, and Amy M. Brunner. Genome-Enabled Discovery of Carbon Sequestration Genes in Poplar. UT-Battelle, LLC. Amount: \$50,000. Period: 5/21/03–4/30/04. Prime Funder: Department of Energy.

Strauss, Steven H., Amy M. Brunner, and Richard Meilan. Industry/University Cooperative Research Center: Tree Genetic Engineering Research Cooperative. National Science Foundation. Amount: \$63,000. Period: 4/14/03–8/31/04. Amendment to an existing grant.

Strauss, Steven H. and Richard Meilan. Development of Fruitless Tree Varieties via Biotechnology. J. Frank Schmidt Family Charitable Foundation. Amount: \$8,000. Period: 10/01/02–9/30/03.

Strauss, Steven H. and Richard Meilan. Tree Genetic Engineering Research Cooperative. Member Cooperators. Amount: \$125,000. Period: 7/1/02–6/30/03.

Swanson, Frederick J. Long-Term Ecological Research at the H.J. Andrews Experimental Forest (LTER5). National Science Foundation. Amount: \$12,600. Period: 11/01/02–10/31/03.

Turner, David P. Linking In-Situ Measurements, Remote Sensing and Models to Validate MODIS Products Related to the Terrestrial Carbon Cycle (Big Foot II). National Aeronautics and Space Administration. Amount: \$53,615. Period: 9/30/02–7/31/04. Amendment to an existing grant.

Turner, David P. Linking In-Situ Measurements, Remote Sensing and Models to Validate MODIS Products Related to the Terrestrial Carbon Cycle (Big Foot II). National Aeronautics and Space Administration. Amount: \$107,230. Period: 12/20/02–7/31/04. Amendment to an existing grant.

Turner, David P. Linking In-Situ Measurements, Remote Sensing and Models to Validate MODIS Products Related to the Terrestrial Carbon Cycle (Big Foot II). National Aeronautics and Space Administration. Amount: \$54,348. Period: 4/01/03–7/31/04. Amendment to an existing grant.

Turner, David P. Linking In-Situ Measurements, Remote Sensing and Models to Validate MODIS Products Related to the Terrestrial Carbon Cycle (Big Foot II). USDA Forest Service. Amount: \$130,710. Period: 9/20/02–12/31/04. Amendment to an existing agreement.

Wood Science and Engineering

Gartner, Barbara L. Generalizing the GRINCH/Wood Quality Relationships in Douglas-Fir. USDA Forest Service. Amount: \$58,621. Period: 8/16/02–7/31/05.

Gartner, Barbara L. Generalizing the GRINCH/Wood Quality Relationships in Douglas-Fir. USDA Forest Service. Amount: \$29,189. Period: 8/16/02–7/31/05. Amendment to an existing agreement.

Gupta, Rakesh. Dynamic Performance of Wood Shear Walls Under Actual Earthquake Records. USDA Cooperative State Research, Education, and Extension Service. Amount: \$95,106. Period: 11/15/02–11/14/04.

- Leichti, Robert J. Structural Wood Uses of Retired Douglas-Fir Power Transmission Poles. USDA Forest Service. Amount: \$11,645. Period: 10/29/02–6/01/03
- Milota, Michael R. New Drying Technology Demonstration for Lumber Produced from Small Diameter Logs. USDA Forest Service. Amount: \$26,643. Period: 8/15/02–12/31/03
- Milota, Michael R. Sorting Lumber into Dryability Classes Based on Chemical Attributes. USDA Cooperative State Research, Education, and Extension Service. Amount: \$108,000. Period: 11/15/02–11/14/04.
- Milota, Michael R. and Kaichang Li. VOC and HAP Recovery Using Ionic Liquids. Department of Energy. Amount: \$43,291. Period: 4/01/03–3/31/05.
- Morrell, Jeffrey J. Pole/Post Preservative Treatments for Small Scale Operations: A Demonstration Project. USDA Forest Service. Amount: \$14,890. Period: 8/01/02–12/31/03
- Morrell, Jeffrey J. Utility Pole Research Cooperative. Member Cooperators. Amount: \$127,500. Period: 7/01/02–6/30/03.
- Morrell, Jeffrey J. and Thomas E. McLain. Oregon Wood Magic Show IV. Oregon Forest Resources Institute. Amount: \$36,038. Period: 7/01/02–6/30/03.
- Morrell, Jeffrey J. and John Simonsen. Pentachlorophenol Migration from Treated Wood Over Aquatic Ecosystems. Pentachlorophenol Task Force. Amount: \$12,000. Period: 7/01/02–10/31/02.
- Morrell, Jeffrey J. and John Simonsen. Pentachlorophenol Migration from Treated Wood Over Aquatic Ecosystems. Pentachlorophenol Task Force. Amount: \$4,000. Period: 10/01/02–10/31/02. Amendment to an existing agreement.
- Morrell, Jeffrey J. and John Simonsen. Pentachlorophenol Migration from Treated Woods Exposed Over Aquatic Environments–Phase II. Pentachlorophenol Task Force. Amount: \$52,560. Period: 11/01/02–6/30/03.
- Rosowsky, David V. Forecasting Change in Hurricane Risk Over Time. Cornell University. Amount: \$34,881. Period: 5/12/03–7/31/04. Prime Funder: National Science Foundation. Amendment to existing grant.
- Wilson, James B. Stages of Processing Analysis. Consortium for Research on Renewable Industrial Materials (CORRIM). Amount: \$9,500. Period: 10/23/02–9/30/03. Amendment to an existing agreement. Prime Funder: Department of Energy.
- ## Forestry–Extended Education
- Bondi, Michael C. The Oregon Garden’s Rediscovery Forest: Building on Our Progress. Oregon Forest Resources Institute. Amount: \$19,593. Period: 7/01/02–6/30/05.
- Bondi, Michael C. Public Forestry Education in the Portland Metro Area: Activities for the East Side. Oregon Forest Resources Institute. Amount: \$13,545. Period: 7/01/02–6/30/03.
- Cloughesy, Michael J. Innovations in Species Conservation Symposium. USDA Forest Service. Amount: \$20,001. Period: 7/30/02–3/30/03.
- Cloughesy, Michael J. Innovations in Species Conservation Symposium. USDA Forest Service. Amount:

\$20,000. Period: 3/30/03–4/30/04. Amendment to existing agreement.

Cloughesy, Michael J. Innovations in Species Conservation: Integrative Approach to Address Rarity and Risk Symposium. USDI U.S. Geological Survey. Amount: \$20,000. Period: 9/20/02–7/20/03.

Cloughesy, Michael J. Innovations in Species Conservation: Integrative Approach to Address Rarity and Risk Symposium. USDI U.S. Geological Survey. Amount: \$5,000. Period: 3/24/03–4/04/04. Amendment to existing agreement.

Fitzgerald, Stephen A. Alternative Silviculture Methods Monitoring Project. USDA Forest Service. Amount: \$34,542. Period: 9/16/02–12/31/03.

Hansen, Eric N., Scott A. Leavengood, and John W. Punches. Improving Markets for Large Logs. Northwest Oregon Economic Alliance. Amount: \$34,212. Period: 9/06/02–12/31/04.

Oester, Paul T. Visiting Forestry Technology Transfer Specialist. Canadian Ecology Centre. Amount: \$3,181. Period: 7/29/02–10/16/02.

Reed, A. Scott. Landowner Education Program. Oregon Forest Resources Institute. Amount: \$88,310. Period: 7/1/02–6/30/03.

sources Institute. Amount: \$7,245. Period: 7/01/02–6/30/03.

Hobbs, Stephen D. Forestry Computing Network/Quantitative Sciences Group. USDI U.S. Geological Survey. Amount: \$78,725. Period: 10/01/02–9/30/03.

Hobbs, Stephen D. Technical and Professional Training for the Development of Survey and Other Than Survey Personnel in the Fields of Forest and Rangeland Ecology, Wildlife Biology and System Ecology. USDI U.S. Geological Survey. Amount: \$70,137. Period: 9/17/02–9/30/03.

Hobbs, Stephen D. Technical and Professional Training for the Development of Survey and Other Than Survey Personnel in the Fields of Forest and Rangeland Ecology, Wildlife Biology and System Ecology. USDI U.S. Geological Survey. Amount: \$32,689. Period: 2/19/03–3/31/04. Amendment to an existing agreement.

Johnson, Rebecca L. Technical and Professional Training for the Development of Survey and Other Than Survey Personnel in the Fields of Forest and Rangeland Ecology, Wildlife Biology and System Ecology. USDI U.S. Geological Survey. Amount: \$18,855. Period: 9/25/02–9/30/02. Amendment to an existing agreement.

Wells, Gail E. Forestland Protection in Oregon. Amount: \$45,359. Period: 5/13/03–12/31/03.

Forestry–Research Support

Hino, Jeffry C., David A. Zahler, and Edward C. Jensen. FLOW Web Site Maintenance. Oregon Forest Re-

Cooperatives



HSC—Hardwood Silviculture Cooperative (Dave Hibbs)
(www.cof.orst.edu/coops/hsc/)



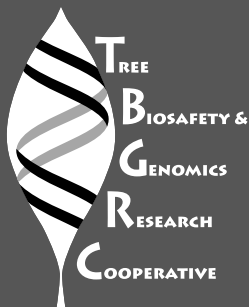
NTC—Nursery Technology Cooperative (Robin Rose, Diane Haase)
(www.cof.orst.edu/coops/ntc/ntc.htm)



NWTIC—Northwest Tree Improvement Cooperative (Keith Jayawickrama)



PNWTIRC—Pacific Northwest Tree Improvement Research Cooperative (Glenn Howe)
(www.fsl.orst.edu/pnwtirc/)



SNCC—Swiss Needle Cast Cooperative (Tom Adams)
(www.cof.orst.edu/coops/sncc)

TGERC—Tree Genetic Engineering Research Cooperative (Steve Strauss)
(www.fsl.orst.edu/tgerc/index.htm)

UPRC—Utility Pole Research Cooperative (Jeff Morrell)
(www.cof.orst.edu/coops/utilpole/)



VMRC—Vegetation Management Research Cooperative (Robin Rose)
(www.cof.orst.edu/coops/vmrc/)

WRC—Watersheds Research Cooperative (Arne Skaugset)

Other Cooperative Research Programs

- CFWUR—Center for Wood Utilization Research (Tom McLain, Steve Tesch)
- CFER—Cooperative Forest Ecosystem Research (John Hayes)
(www.fsl.orst.edu/cfer/)
- CLAMS—Coastal Landscape Analysis and Modeling Study (Norm Johnson, Tom Spies)
(www.fsl.orst.edu/clams/)
- ERSAL—Environmental Remote Sensing Applications Laboratory (Bill Ripple)
(www.cof.orst.edu/cof/fr/research/ersal.php)
- FPRL—Forest Photogrammetry Research Laboratory (Jim Kiser)
(www.cof.orst.edu/cof/fr/research/fprl.php)
- FRESC—Forest and Rangeland Ecosystem Science Center (Carol Schuler)
(fresc.fsl.orst.edu)
- INLAS—Interior Northwest Landscape Analysis System (John Sessions)
(www.fs.fed.us/pnw/lagrande/inlas/index.htm)
- LARSE—Laboratory for Applications of Remote Sensing in Ecology (Warren Cohen)
(sequoia.fsl.orst.edu:80/larse)
- LTEP—Long-term Ecosystem Productivity Program (Bernard Bormann)
(www.fsl.orst.edu/ltep/)
- LTER—Long-Term Ecological Research (Mark Harmon)
(www.fsl.orst.edu/lter/)
- SFP—Sustainable Forestry Partnership (Rick Fletcher)
(www.cof.orst.edu/org/sfp/)
- The Aspen Project (Bill Ripple)
(www.cof.orst.edu/cof/fr/research/aspen/)

Extended Education, Outreach, and Support

- College Forests (Dave Lysne, Director)
- Forestry Outreach Education Office (Jim Reeb, Director)
- Forestry Extension Program (Scott Reed, Program Leader)
- Oregon Forestry Education Program (Susan Sahnnow, Program Coordinator)
- Forestry Media Center (Jeff Hino, Director)
- Forestry Communications Group (Roger Admiral, Director)
- Forest Computing Group (Kathy Howell, Director)
- Forestry Business Office (Scott Ferris, Business Manager)
- Forestry Maintenance and Project Support (Rand Sether, Director)
- Philanthropy and the OSU Foundation (Lisa French, College of Forestry Development Director, OSU Foundation)

Return on Investment

Contributing to Oregon's Economy

Ongoing research provided beneficial environmental, social, and economic knowledge across the state. About 250 FRL research projects this year will benefit Oregon's \$12.8 billion forest and forest product-related industries. For every appropriated dollar invested, FRL scientists earned \$4 in external funding. This equates to an additional \$10-11 million directed to Oregon citizens and businesses.

Providing Public Service As part of a Land Grant University, the College of Forestry (CoF) is committed to providing Oregonians with timely and pertinent extended education and training, technical assistance, and policy advice. Examples of this commitment include the following:

- ▲ Dean Salwasser and several members of the College faculty have provided expert witness and advice to President Bush, the U.S. Congress and Senate, and a number of federal and local governmental agencies in developing forest policy as related to fire prevention, post-fire restoration, salmon and wildlife habitat, and sustainable management.
- ▲ Extension foresters provided over 200,000 direct educa-

tional contacts with landowners, conservationists, industry employees, and other interested citizens.

- ▲ Over 40 workshops, both on and off campus, on forest practices, stewardship and management techniques, and productivity improvements were conducted.
- ▲ Under the auspices of the OSU Institute for Natural Resources, now directed by Gail Achtermann, and in conjunction with the Oregon Watershed Enhancement Board, FRL scientists are developing basin-scale indicators and research programs that will aide in revisions to the Oregon Plan for Salmon and Watersheds.

Cooperating with Stakeholders The Pacific Northwest Tree Improvement Research Cooperative celebrated 20 years of research and the Vegetation Management Research Cooperative celebrated 10. Their work over the years has significantly benefited their respective fields.

Developing Red Alder Data for Modelers Interest in red alder management is increasing as red alder

logs have become more valuable than Douglas-fir. The Hardwood Silviculture Cooperative (HSC) in FS has developed 26 variable-density alder plantations extending from southern Oregon to Vancouver Island. The BC Ministry of Forests is currently using measurements from these plantations to develop a growth-and-yield model for this species under plantation management. In addition, the HSC has teamed with industry and agency researchers to create and offer modelers an even larger regional alder database to use in model development.

Enhancing Utilization of Small Wood Since the beginning of the USDA Center for Wood Utilization Research (CFWUR) special grant in 1985, Forest Engineering studies have pioneered the harvesting and in-woods utilization of small wood through research and outreach activities. Forest engineers working in interdisciplinary groups have developed decision support tools to help plan operations; identified and evaluated innovative harvesting equipment; supported a work force; and helped understand the costs, effectiveness in meeting land management objectives (such as fuel reduction), and environmental impacts of operations. This knowledge provides the foundation for the effective implementation of programs such

as President Bush's Healthy Forest Restoration Act.

Evaluating Post-Fire Salvage and Restoration The Biscuit Fire Report, prepared for Oregon Douglas County Commissioners and used by the Oregon Congressional delegation, evaluated the costs of delays in salvaging and restoring the 500,000-acre burned area. The value of the fire-killed timber immediately after the fire was greater than the costs of fire suppression and regeneration if action was immediate. The window for economic salvage by helicopter without new roads closes within 2 years. Delays would reduce economic value of salvaged wood to the government and communities by up to \$200 million, increase cost of restoration to new conifer forest by up to \$100 million, and delay development of desired forest habitats by 80–100 years.

Improving Stream Quality and Fish Passage From 1995–2001, private forestland owners and state forests in Oregon have voluntarily invested over \$70 million in road system improvements to reduce sediment and improve fish passage, consistent with the goals of the Oregon Plan for Salmon and Watersheds. Results from CFWUR-funded

studies of stream-crossing structures for improved fish passage, landslide triggering mechanisms and relationships with forest practices, riparian buffers and stream temperature, and forest road hydrology have guided investments in these road-related activities, including 1426 stream crossings improved for fish passage, 1841 miles of stream made accessible for spawning with stream crossing improvements, 4089 miles of road improvements, 1648 miles of road closures and decommissionings, and 2075 miles of riparian treatments.

Improving Log Value Recovery Net log value recovery can increase substantially with increased log scanning effort during mechanized harvesting and processing, up to full log-length scanning. Value recovery is greatest with higher value species and larger tree sizes. For Douglas-fir, contractors could invest an additional \$670,000–1,410,000 for scanning technology on harvesting/processing machines, and only \$20,000 for smaller, poorer quality ponderosa pine. Improved in-forest processing and product segregation with smart sensors can further enhance yields from stands. New tech-

nologies such as aroma tracking of applied scents show promise for inventory tracking of log sorts. This work was funded primarily by CFWUR.

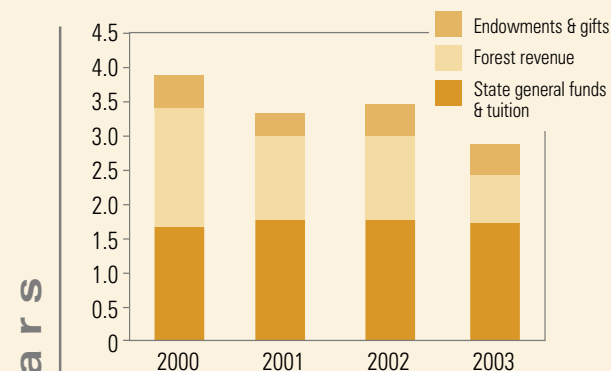
Reducing Pole Replacement Costs. Portland General Electric estimated that one WS&E research project on decay in the above-ground portion of poles saved them the cost of replacing 90 poles last year; at \$5,000 per pole, that translates into around \$450,000 that year. PGE is a small utility; those savings translate into millions of dollars annually for the other utilities in the Utility Pole Research Cooperative and elsewhere. Those savings help to avoid rate increases for consumers and manufacturers.

Trimming Costs of Kiln Emission Tests. WS&E faculty research demonstrated that measuring volatile organic compound emissions from lumber dry kilns could cost \$25,000 less per kiln than proposed by environmental regulators. Earlier research on how kiln conditions impact emissions eliminated the need for equipment estimated at \$1.5 million per kiln with accompanying annual fuel costs of \$100,000.

Finances

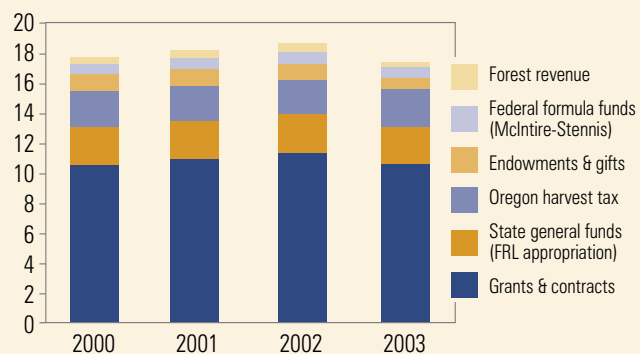
College of Forestry

Forestry Education Funding

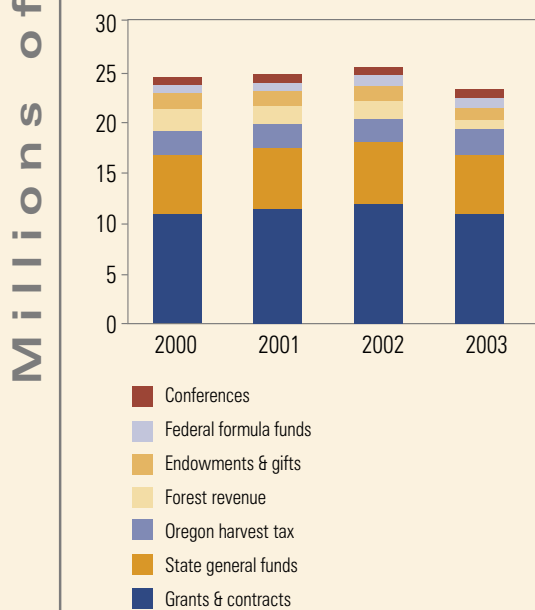


FRL Research

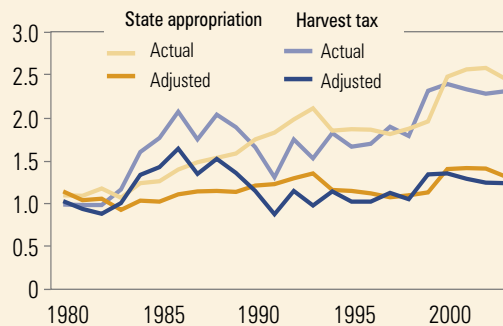
Total FRL Research Funding



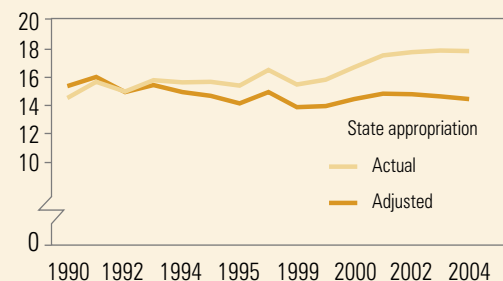
Consolidated Forestry Funding Education, Research, Extension



FRL Legislative Appropriations



Education & General Funding



Fiscal Year

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