

Annual Academic Report, 2013-14
College of Forestry/Oregon Forest Research Laboratory

The College of Forestry achieved a number of strategic priorities in 2013-14 supporting academic, research and teaching excellence, as we continue to work toward our vision of becoming the top education and research institute in the world focused on the relationship between healthy ecosystems and healthy communities, people and businesses. In 2014, Oregon State University was recognized as a world-class center in forestry and agriculture for the second year in a row, moving up from 8th place last year to 7th place in 2014, according to an international survey of more than 200 schools conducted by QS World University rankings.

Institute for Working Forest Landscapes: In a key step forward in our efforts to promote collaborative, relevant research, the Forest Research Laboratory Advisory Committee adopted the Institute for Working Forest Landscapes (IWFL) proposal on November 15, 2013. The first steps toward implementation include seeking research proposals and creating a Forest Research Roundtable to help frame research questions and communicate findings with various constituencies. The new IWFL will explore how proactive management of forest lands can improve the health of rural communities and provide ecological integrity and long-term resilience of vital ecosystems. This new vision builds on the college's longstanding role as Oregon's principal research engine for providing science-based information about forests and their value to people and communities.

Student Success: The key to our success is the success of our students. We are growing the next-generation of forestry leadership and practitioners who will assess and seek solutions for complex forestry and natural resources issues. We have recommitted ourselves to focusing on our students' experiences while they're here in addition to when they go out into the workforce. Our newest initiative to ensure our students' success will be to completely renovate Peavy Hall. Students and faculty will benefit from dynamic, up-to-date laboratories, advanced technological infrastructure, and collaborative learning spaces. The renovation will also provide a once-in-a-lifetime opportunity to demonstrate the sustainability and beauty of engineered wood construction, showcasing innovative uses of wood in building design and helping to set the stage for changing attitudes about the importance of sustainable forest products and expanding markets for high-quality Oregon forest products.

New FES Department Head: The college welcomed new Forest Ecosystems and Society Department Head Dr. Troy Hall in June. An internationally known conservation social scientist who holds degrees in anthropology, cultural anthropology and forest resources, Dr. Hall is a top-notch researcher, teacher and administrator, with a strong commitment to enhancing collaborative approaches to bringing scientists and stakeholders together to improve resource management. She also has the experience and demonstrated skills in curriculum design and strategic planning that will be very valuable to us as we move the college into the future.

Dean's Investment Fund: In addition to new research initiatives, this year we inaugurated the Dean's Investment Fund program, supporting collaboration and innovation across the college to develop programs enhancing undergraduate and graduate education and international experiences for students and faculty. More than 40 faculty members, staff and graduate students submitted 27 funding proposals for strategic projects. Their collaborative work will make a significant and lasting difference for the college.

Forestry Education Council: Established by the State of Oregon in 2012, the Forestry Education Council advises the CoF Dean and manages harvest tax revenues for investment in Oregon State's professional forestry degree programs. In FY14, we worked closely with the Council to develop metrics for student success and targets for learning outcomes in our forestry and forest engineering programs. This is one more way we are preparing our students for successful careers here in Oregon and around the world.

Private Fundraising: The college experienced continued success in private fundraising, raising more than \$6.1 million in FY14. Our Board of Visitors continues to be the driving force for new private investment in the college, and has embarked on an ambitious fundraising initiative to renovate and expand our facilities to provide support for student enrollment growth, professional development, career preparation, and a state-of-the-art student experience.

2013-14 Programmatic Achievements

a. Student engagement and success

Initiatives focused on innovations in the curriculum, growing enrollment, connecting students with research, and fostering students' professional development. The Renewable Materials undergraduate program was re-accredited by the Society of Wood Science and Technology (SWST) for 10 years, effective January 1, 2014.

Academic program innovation

- The new College of Forestry teaching policy was implemented this year, which allows us to be more creative in curriculum planning and create new opportunities for graduate and undergraduate students to learn from a variety of faculty experts across different forestry fields.
- The new Professional School for the BS Forestry and BS Forest Engineering degree programs admitted its first class of nine juniors in fall 2013. The program's inaugural Field School was a great success and the new Professional School model makes us *the* place to go for professional forestry education in the Pacific Northwest, the western United States, and Canada. The BS Forestry degree added a third option, Forest Landscape Processes and Management, emphasizing management of and for landscape-level disturbances, such as wildland fire and insects.
- Because of industry demand for our Renewable Materials graduates, we continue to build the RM curriculum to attract more students. Renewable Materials in the Modern Age, a studio-based course that teaches macro/micro wood anatomy and anatomy of other natural fibers, was offered for the first time in fall 2013 and will be offered again in 2014-15, including a section for Honors College students; Advanced Wood Design was offered for the first time in spring 2014; and a course sequence in wood machining began this year.
- Forest Ecosystems and Society proposed a new undergraduate degree program to prepare students for a range of careers, including policy, management, and ecosystem science, and is developing a set of new courses to support the program. The program will integrate knowledge around social, philosophical, political, and ecological frameworks and improve students' abilities to help solve natural resource problems. It will be available both on campus and through Ecampus. FES faculty continue to build innovative courses, including the first fully online course in dendrology in the nation.
- The college also added several international programs, including Managing Forest Resources and Ecosystem Services in Australia, an interdisciplinary study abroad course offered by FES and Wood Science & Engineering. Our Scandinavia study abroad course, now in its third year, included students from universities across the state, and faculty-led study abroad opportunities also took place in Spain and Japan. We are working to establish relationships with more universities where our students might study abroad for an extended period of time. An agreement has been established with École supérieure du bois (ESB) in Nantes, France, and we are working on agreements in Austria and Chile to add to our existing programs in Australia, New Zealand, Canada and Spain.

Growing Enrollment

- Enrollment in the College of Forestry continues to grow. The total number of students in Wood Science & Engineering programs is at a 20-year high, and our cross-campus, interdisciplinary BS program in Natural Resources continued to increase in enrollment, with a total of 778 students in summer 2014.
- The Forest Engineering, Resources & Management department worked with Southwest Oregon Community College to develop articulation agreements for the first AA Forestry degree program that aligns with our pre-professional forestry program. Students who complete the SWOCC AA degree with C or better in all classes will have met the admission requirements for our Forestry Professional School. We are working with several other community colleges to align their AA Forestry programs with our pre-professional school program.
- Graduate programs continue growing, with the first Sustainable Forest Management graduate student defense taking place in fall 2013. Overall, FERM faculty supervised 40 SFM graduate students this year; 14 are confirmed for fall 2014. As of June 2014, only three years into the program, the Master of Natural Resources program has graduated 23 students, with an enrollment of 86. An Urban Forestry Certificate—the first online graduate program in urban forestry in the U.S.—was approved as part of the MNR degree and is expected to draw more graduate students.

- In May, the college hosted the annual State Competition for High School Forestry Clubs on campus and at the college Forests. It was a great opportunity to connect high school students and teachers with the college and forestry careers. A number of students who attended will be joining the college next year.

Connecting students with research

- Graduate students demonstrated key leadership by organizing, coordinating, and promoting the annual Western Forestry Research Symposium, a full two-day program designed to illustrate the breadth of their research activities. The Symposium showcased more than 35 presentations of current graduate student research and more than 40 poster presentations, drawing participation from all three College of Forestry departments, other OSU colleges, and forestry programs throughout the region. It was a great success, and will be repeated in 2015.
- Providing experiential learning opportunities for forestry students continues to be a major focus of the college. More than 400 students from across the university used the HJ Andrews forest field station for research and course work this year, 30 wood science and renewable materials students collaborated on projects with faculty, and numerous FES and FERM faculty members served as advisors for undergraduate research projects.

Fostering students' professional development

A major effort is underway to provide internships and experiential learning opportunities to undergraduates, with the recognition that forestry students need hands-on field and laboratory experiences to ensure that the next generation of foresters will be fluent in new theories and technologies, and will have the skill sets to make an immediate impact for the companies who hire them.

- Our Renewable Materials faculty continues to work with industry to provide internship opportunities for RM students. Last summer WSE had approximately 30 students working at a number of major companies throughout the region. They also teamed up with the Oregon Wood Innovation Center (OWIC) to coordinate the 2nd annual OWIC Innovation Days, where RM undergraduates interacted with industry partners in workshops and one-on-one interviews.
- The FERM department placed the first students in our Cooperative Education Work program in summer 2014.
- More than 75 CoF students had a rare chance to meet and talk with Oregon's senior senator, Ron Wyden on January 21, in Peavy Hall. Students peppered the senator with questions about his new forest management bill, ecological forest practices, future jobs, how students can affect policy decisions, climate change, the importance of tourism and recreation, and more.
- The FERM department implemented the Forest Harvesting Simulation Laboratory. With a joint donation from Ponsse, a Finnish forest harvest machinery manufacturer, and Professor John Sessions, the college obtained a state-of-the-art harvest simulator, allowing students to safely learn how to operate large equipment through computer simulation. This provides students with an edge when seeking jobs, without the college having to purchase and maintain expensive, large-scale equipment. The first class on harvesting methods using the simulator was taught in spring 2014. The new lab also provides FERM faculty with an opportunity to expand research efforts in the area of harvesting worker productivity and logging safety.
- We've increased enrollment in the Leadership Academy, our partnership with the College of Agricultural Sciences, which provides opportunities for students to work with faculty mentors to evaluate their leadership skills, set goals for leadership development, and identify professional development activities.
- By increasing the number of Writing Intensive and Baccalaureate Core Courses, we've increased access to core courses within the natural resource majors.

Research and its impact

The CoF and OFRL are known regionally, nationally and internationally for research that brings both discovery science and real solutions to issues facing forest landscapes and forest industries, agencies, and other partners. Many collaborative research efforts are underway that involve CoF faculty, partners across the University, industry and agencies.

- CoF faculty obtained **\$12,663,044** in extramural funding in FY2014, a 10 percent increase over FY2013: \$10,636,321 from 99 grants and contracts and \$2,026,723 in dues from 11 research cooperatives.

The research cooperatives are the foundation for our industry-agency-university partnerships, with 107 industry and eight agency members participating during the past year.

- The CoF received **\$1,096,008 in federal McIntire-Stennis formula funds** in FY14. Six new projects were approved by the National Institute for Food and Agriculture addressing long-term soil productivity, climate change, sediment control from forest roads, ecosystem services, and forest ecophysiology, bringing the total program of work to 21 active projects.
- With ongoing support from the Oregon Forest Products Harvest Tax, the **Fish and Wildlife Habitat in Managed Forests Research Program** funded five new studies in FY 2014, addressing sediment transport in streams, effects of different forest practices on fish and other aquatic organisms, and providing database support for watershed studies.
- The **College Forests** hosted six new faculty and student research projects that address ecology and control of false brome (two studies), purple martin use of snags, pollinator populations, and road construction techniques and sedimentation processes.
- The **HJ Andrews Experimental Forest** hosted more than 80 research projects that engaged at least 120 researchers, graduate students, and undergraduates; outreach events engaged more than 1,500 people in classes, tours, and conferences.
- **Multi-Chamber Modular Environment Conditioning System** – The Green Building Materials Laboratory, co-led by Fred Kamke, installed a new state-of-the-art test facility that will enable accelerated evaluation of the long-term durability of full-scale building assemblies. College funds were leveraged with support from the Murdock Foundation and Oregon BEST.
- **Less-toxic Adhesives** – Kaichang Li's research group developed a new generation of adhesives for the forest products industry that use less petrochemicals, emit less urea-formaldehyde, and are less expensive. Hundreds of millions of wood-based composite panels are made with these adhesives each year in the U.S. by more than 20 manufacturing facilities. A provisional patent application was filed for a new vegetable-oil-based pressure-sensitive adhesive, and a new styrene-free unsaturated polyester resin has been developed.
- **Evaluating Transportation Infrastructure** – With the goal of protecting public safety and managing costs, research by Ari Sinha and Jeff Morrell is supporting the state's departments of transportation and the federal highway administration in developing non-destructive evaluation techniques of the mechanical properties of wood components in guardrails, bridges, etc.
- **Nanocellulose Food Coatings** – In collaboration with colleagues in the College of Agricultural Sciences, John Simonsen has developed novel applications of nanocellulose for food coatings that protect and extend the shelf life of fruits and vegetables. He has submitted two provisional patent applications and licensure agreements are in progress. Oregon BEST helps fund this research.
- **Economic Benefits of Tree Breeding** – The PNW Tree Improvement Cooperative initiated an economic assessment of the benefits of tree improvement research. Long-term tree breeding trials provide evidence that 10-20% increases in harvest volumes are achievable in plantations using standard tree improvement approaches. One calculation for a cooperator estimated that using improved tree seed costing \$19/acre would increase the Net Present Value of the resulting plantation by \$134-\$235/acre.
- **Wildland Fire, Forest Health, and Silviculture** – John Bailey participated in six research projects addressed a wide array of forest fire issues, including post-fire stand dynamics, fire behavior and historic insect activity, prescribed burning and biomass supply. The Swiss Needle Cast Research cooperative, led by Dave Shaw, worked with the Oregon Department of Forestry to complete an economic assessment of the impacts of this intensifying disease on Douglas-fir volume growth loss in the Oregon Coast Range. The estimated economic impact of SNC growth loss to Oregon's economy is equivalent to more than 2,100 jobs, and \$128 million per year. The Cooperative is working with members to develop management approaches for mitigating the disease, and is expanding its network of monitoring plots into California and Washington.
- **Forest Watershed Science** – The Watersheds Research Cooperative, led by Arne Skaugset, and with a host of collaborators from industry and agencies, has completed the first of three paired watershed installations established to examine the effects of current forest management practices on watershed hydrology, aquatic habitat, and fisheries. Data analysis and dissemination of results are underway for the Hinkle Creek study. The first Plum Creek Postdoctoral Fellow in Forest Watersheds and Water Science, Matt Sloat, is

focusing on the publication of resident fish responses to harvest treatments and the Alsea and Trask watershed studies are on track for completion in 2017.

- **Eucalyptus Genome Sequencing** – Steve Strauss collaborated with more than 80 scientists from around the globe to complete the genome sequencing of one of the world’s most widely planted trees, *Eucalyptus grandis*.
- **Biomass Utilization** – Seven FERM faculty are examining the feasibility of supplying woody biomass residues to biofuels processing plants as a component of the \$40 million NARA Biomass to Energy project, funded by USDA-NIFA through Washington State University. Collaboration with scientists at Humboldt University secured an additional \$7.1 million Biomass Research and Development Initiative grant that will support further study of the logistics of transporting woody biomass to bioenergy and bioproducts conversion facilities.
- **Climate Change** – FES faculty, including Mark Harmon, Beverly Law and Chris Still, were involved in research that has wide ranging implications for future forest health and management under climate change. A notable publication by co-authors Mark Harmon and Rob Pabst (“Rate of Tree Carbon Accumulation Increases Continuously with Tree Size,” *Nature*) demonstrated that, rather than acting primarily as static carbon reservoirs, large, old trees actively fix large amounts of carbon. Beverly Law’s paper, “Seasonal and annual respiration of a ponderosa pine ecosystem,” was recognized by the journal *Global Change Biology* as one of its top 25 cited articles over the past 20 years.
- **Research Policy Impact** – Norm Johnson and Beverly Law have been called upon to provide testimony to the U.S. Congress, while Bo Shelby was appointed by U.S. courts to be an expert consultant in land management planning. Lisa Ganio provided statistical guidance to the Oregon Department of Justice regarding lawsuits over endangered species.

Outreach and engagement, including international-level activities

Faculty, staff, and students in the college and the related Forestry & Natural Resources Extension Service bring the latest knowledge and technology from the classrooms, laboratories, and research forests directly to policy makers, professionals, woodland owners, the public, and K-12 teachers and students. They also develop high quality educational materials in a variety of print and electronic formats.

- Expanding our connections in the Portland community and building on the work of our faculty and Extension faculty there continues to be one of our key outreach initiatives. Our expanded partnership with Ecotrust to offer educational forums and outreach activities in the city was a huge success this year. We co-hosted a very successful open forum on ecological forestry at Ecotrust’s Portland headquarters, drawing more than 100 participants, and sponsored the Forestry Night at Sundown@Ecotrust, where we were able to offer exhibit space to key partners.
- In November, the college hosted a major summit on the worldwide trend toward building more sustainable tall buildings with wood. The meeting was co-chaired by the College of Forestry and the University of Oregon’s College of Architecture and Allied Arts, and was attended by leaders from the major wood producing companies in Oregon as well as internationally recognized architects, engineers and designers. We also partnered with Portland State’s School of Architecture and Ecotrust on the fifth annual Sustainable Structures Symposium, bringing together architecture, engineering and green building experts to talk about innovative sustainable building strategies.
- Dean Maness co-chaired the Oregon Solutions South Santiam Community Forest Project to create a long-term vision for the forest corridor between Sweet Home and Cascadia. A valuable outcome of the South Santiam project for the college is the creation of a USFS/OSU Willamette Research Forest to promote a new culture of sustainability in forest management based around adaptive management. This will give our faculty researchers and educators access to forest areas across ownership boundaries for applied research in forest management, ecology, social science around healthy communities, and more.
- The College Forests welcomed more than 100,000 visitors this year, engaging them in forestry and natural resource issues through field tours, workshops and educational programs, including STEM Academy, Extension Forestry education events and tours, educational forest hikes, Get Outdoors Day (350 participants), and more. Volunteers from both OSU and the community contributed 4,000 hours of time, the equivalent of approximately \$69,100 in labor.

- The Forest Products Management Development Workshop once again successfully offered “hands-on” opportunities to create proposals around capital investment. In December, the WSE department presented the 65th annual 3-day workshop on “How to Dry Lumber for Quality and Profit,” hosting 46 sawmill personnel from the west coast. Online and traditional short courses on wood composites provided training for approximately 70 professionals and more than 800 contact hours. The Wood Based Composites Cooperative also presented the 11th Wood Adhesion Short Course (WASC) at OSU in August 2013. Surveys of the WASC participants have been overwhelmingly positive.
- WSE Associate Professor Chris Knowles was asked to join the board of the World Wildlife Fund’s Global Forest and Trade Network, a group that helps support sustainability in the global forest industry. He is the first board member from academia to join this organization.
- CoF faculty member Badege Bishaw helped lead a project for climate change adaptation and mitigation through agroforestry in Ethiopia and Kenya. Funded by USAID through ICRAF, the project is a collaboration between the World Agroforestry Center (ICRAF), Oregon State University, Hawassa University, and Institute of Biodiversity Conservation, Center for International Forestry Research (CIFOR).
- The FNR Extension Program conducted 107 educational events across Oregon, the western United States, and the nation. These events provided more than 830 hours of instruction and reached 3,670 individuals. The FNR Extension Program worked with 52 partner organizations in the past year, and generated over \$84,950 in program revenues.
- The Oregon Natural Resources Education Program (ONREP) prepares K-12 educators to actively engage students in the study of Oregon’s diverse natural resources and ecosystems through relevant, meaningful, and place-based experiential learning. In 2013-14, 1100 educators attended one of 46 workshops, institutes, or courses held in 17 of Oregon’s 36 counties. These educators reach a potential of 71,580 students each year.
- Eighty-one Master Woodland Manager volunteers reported 497 individual activities, including 19,022 contacts through 5,490 hours of unique activities with the public, family forestland owners, youth, watershed councils, and various other organizations in 2013. This service is valued at \$100,000 in time invested. Participants reported being able to better manage their 17,141 acres of forestland due to MWM training. MWM volunteers attended 493.50 hours of continuing education in forestry, wildlife and leadership topics.
- The Women Owning Woodlands Network (WOWnet) national program, led by OSU, continues to provide relevant peer-learning opportunities for this emerging landowner group. The more than 400 members of the WOWnet program in Oregon—a 15 percent increase over FY13—attend sessions, participate in the email listserv, or use the WOWnet website and Facebook page. Six regional train-the-trainer events occurred in Oregon, Wisconsin, Minnesota, Arkansas, and Pennsylvania in 2013 and the group produced the Extension publication “Growing your Peer Learning Network: Tips and Tools from the Women Owning Woodlands Network.”
- The Oregon Wood Innovation Center (OWIC), a collaborative OFRL/FNR Extension initiative, fostered the competitiveness of Oregon’s wood-products industry through testing, technical assistance, and market assessment projects for small Oregon businesses. OWIC conducted 20 projects in FY14, 11 of which were fee-for-service. OWIC has now completed four publications in the Wood-based Entrepreneurs Toolkit, including this year’s “New Product Development.” Publications on Finding Market Information, Operational Planning, and Quality Management are currently being reviewed by subject matter experts. More than 30 undergraduate Renewable Materials students have been directly involved in the Center’s research and development activities.
- The Northwest Fire Science Consortium (NWFSC) continues to expand its reach throughout Washington and Oregon, providing outreach to a variety of fire science users that includes field tours and publication of “A Land Manager’s Guide for Creating Fire-Resistant Forests” and four research briefs. In addition, the NWFSC co-sponsored a 3-part webinar series with The Nature Conservancy LANDFIRE group and produced a video on using prescribed fire as a multi-purpose management tool. The video had 400 views on YouTube during the first week.
- As of FY14, the Oregon Master Naturalist Program has graduated a total of 160 Oregon Master Naturalist volunteers from three of Oregon’s eight Ecoregions (Oregon Coast, Willamette Valley, and East Cascades Ecoregions). Many have contributed to volunteer projects for 60+ local, state and federal agencies and non-profits. To date, Oregon Master Naturalist have put in nearly 2,500 volunteer hours, more than 36,000 people through their activities.

Community and diversity enhancement initiatives

The College of Forestry continues to demonstrate a strong commitment to diversity and build on our outreach efforts to underserved populations.

- The College of Forestry's Strengthening Education and Employment for Diverse Students (SEEDS) Program supports students from underrepresented populations throughout their academic career through academic advising, personal and career counseling, community-building, and supporting paid mentored work experiences. In 2013-14 we connected with more than 40 student participants; 13 of those students, including several 1st-year or transfer students, participated in mentored work experiences, many of which proved to be consequential and positive. For example, one student has been published as a result of working with his mentor on a SEEDS-supported research project, and two additional pairs are working on other publishable research projects and papers.
- We continue to partner with the Louis Stokes Alliance for Minority Participation Summer Bridge (LSAMP) program to encourage traditionally underrepresented students in forestry. At the LSAMP Celebration Gala, Renewable Materials student Auna Godinez was awarded the Rising Star Award for her involvement in organizations and research activities. She was also one of 12 LSAMP students selected to serve as a Peer Mentor in 2014-15.
- The CoF took a big step forward in our alumni relations efforts with the hugely successful College of Forestry Tailgate Celebration at Homecoming 2013. More than 250 alumni and friends and college faculty and staff attended, including many alumni that hadn't participated in a forestry event before. The 2nd annual tailgater will be held in November 2014.
- The FES department hosted international visiting scientists and students from Chile, Turkey, Nigeria, Switzerland, China, Korea, Germany, Scotland, Spain and Belgium. Two faculty members participated in professional development through the OSU Global Learning Community.
- FES Extension faculty member Amy Grotta provided leadership in the Vital Vernonia Indicators Project, the culmination of a 20-year community-based project to develop shared goals and indicators for community vitality, with support from the Fort Institute for Community Building.
- Faculty delivered numerous presentations to citizens and community leaders throughout 2013, including many focused on fire and forest restoration, such as Christine Olsen's presentations to the Deschutes and Fremont-Winema Nation Forests and Collaborative Forest Landscape Restoration Project teams.
- K-12 education programs plant the seeds for our next generation of forestry professionals. This year we held our second STEM Academy for high school students in our College Research Forest. Through faculty and students on our Hummingbird Research Team and their NSF-funded research, we have engaged in a citizen science effort that recruits fifth-grade students to monitor hummingbird activity. This year, eight schools and more than 250 children are involved with this work, and three teachers traveled to Costa Rica to participate in research and develop collaborations with schools there. The Wood Magic program was successfully offered to more than 2,000 3rd and 4th grade students, teachers, and parents from schools in the Corvallis area in the fall and Portland in the spring. Multiple Title One schools from Portland attended.

2. Brief assessment of unit's efforts: what worked; areas that need improvement; major barriers

Worked well:

- Our efforts to diversify our faculty and staff have truly paid off this year. We have significantly increased our numbers of faculty from underrepresented groups.
- We held a very successful executive team retreat that focused on teamwork and college budgeting, and excitement continues to build across the college as we move into the second year of our 5-point strategy.
- We held our first Dean's Investment Fund competition to invest in new initiatives related to our 5-point strategy. In 2014, we funded new faculty ideas for student success and internationalization. Some projects funded include: strategic development of the FES graduate program, foundational mathematics for forestry students, and new graduate/undergraduate programs in Peru, Chile and middle Europe.
- We have reorganized the administration of our College Research Forest, with the Director now a faculty position. This is more efficient and builds a stronger relationship between the college forest and faculty.

- Our new teaching policy has been implemented and accepted by our faculty, demonstrating the college's ability to work together to implement new ideas and make necessary changes. We have also developed a new college Ecampus policy that will clarify how new courses are developed, how faculty are compensated, how revenues are used, and how quality is maintained. We worked very closely with faculty in the development of this policy – in a similar way to how our teaching policy was developed. A significant success here is the new way we are using our executive team, Forestry Executive Council and faculty meetings to develop and implement policy.
- We have created a new position, Manager of Experiential Education, that coordinates co-op education, employment, internships, study abroad, undergraduate research, and mentorships.
- We used our Board of Visitors meetings in a new way – to highlight the contribution that the college's research can make to industry competitiveness and the state's economy. Our Board of Visitors meeting in Vancouver, BC highlighted tall wood buildings in British Columbia and the role of research. Governor Kitzhaber's key economic and natural resources advisors attended the meeting, which was a huge success.
- We worked very closely with the forest industry to develop a set of policy option packages for statewide public service funding in the next biennium. The industry is now strongly in support of our efforts to increase funding for the FRL in 2015/2016.
- Our work with Southwest Oregon Community College and several other community colleges to develop articulation agreements for AA Forestry degree programs that completely align with our pre-professional forestry program has worked well.
- We have built good relationships with conservation groups in Portland and will continue to do so.
- Our researchers and research cooperatives continue to address significant applied research questions. Many continue to garner strong support from cooperators, while others have continued their work despite reduced levels of contributions. Co-ops provide an important long-term funding stream to address applied research questions, and additional opportunities exist for the development of new and innovative cooperatives that help broaden the college's base of stakeholders. We are looking for new ways to initiate true interdisciplinary research and produce results that have policy relevance and impacts.
- Our Extension faculty continue to be highly productive and to add value to the college. On campus, they contribute to a variety of service functions; off campus they are our ambassadors, our eyes and ears offered to the rest of the state. We need to continue to find new ways to engage more on-campus faculty in workshops and programs offered by extension faculty. There are also opportunities to engage more with the general public.
- Faculty and staff are pulling together to make things move as smoothly as possible during a challenging time of change. While change is good and exciting, faculty and staff turnover and new positions have meant an increase in workload for faculty and staff involved in recruitment and hiring efforts, which will continue in 2014-15. Retirements and other potential opportunities will allow the college to reinvest in strategic areas of research and instruction. Areas that go beyond traditional forest management concerns and extend to climate change, collaborative land use, invasive species proliferation and the synergistic effects among these stressors are possible given the current and potentially future makeup of college faculty members. We are looking to the future to build the strengths needed to maintain our stature as a leader in the development and dissemination of information needed to address contemporary and pending environmental problems.

Needs Improvement:

- Our student recruiting has been good, but we have not yet achieved significant increases in student numbers. We will be implementing several new ideas this year.
- We have made progress in the area of student success assessment, but much remains to be done and we have enlisted the support of our Forestry Education Council in this area this year.
- We are working hard on budget planning and the college business model, but more remains to be done.
- We've done a great job in creating new programs for student participation in international programs, but need to work on increasing student participation and assisting students in financing international study.

Barriers:

- There are concerns across the college about the new graduate tuition remission policy and how it may affect our ability to support graduate students. We are working to assess the policy's effect on students and our ability to attract new students, and are planning our response. This puts pressure on us to raise new funds for graduate students in the middle of a \$30 million capital building campaign.
- We have great opportunities to recruit forestry students from the state of Washington since there is no professional forestry program there and OSU is the preferred school. However, out-of-state students pay in-state tuition in Idaho, which gives the University of Idaho's program an advantage.

3. Major faculty and student awards

Elijah Allensworth	Society of American Foresters OSU Outstanding Student Award
John Bailey	Oregon Society of American Foresters Research Award
Logan Berner	NASA Earth and Space Science Fellow
Tamara Cushing	Extension Forester of the Year, Forest Landowners Association
Joey Hulbert	Most Innovative Program, Intercollegiate Broadcasting System
Edward Jensen	Gold Award, Association for Communication Excellence, for <i>Shrubs to Know in Pacific Northwest Forests</i>
Mary Rellegert	Forestry Educators Award, Oregon Department of Forestry
Barb Lachenbruch	Fulbright Fellow (France, China)
Beverly Law	American Geophysical Union Fellow Leopold Leadership Fellow, Stanford Woods Institute for the Environment
Kati McCrae	Open Country Award, <i>Outdoor Life</i> magazine
Klaus Puettmann	Jim Pojar Award, Bulkley Valley Research Center for Natural Resources Research & Management, for <i>A Critique of Silviculture</i>
Paul Ries	Award of Achievement, Society of Municipal Arborists
Bill Ripple	OSU Distinguished Professor
John Sessions	SAF National Award in Forest Science, Society of American Foresters
David Turner	Fulbright Scholar (Sweden)

4. Key initiatives to leverage E&G and other base resources and to improve administrative efficiencies

The College of Forestry has outstanding performance leveraging our E&G dollars. The total college budget in FY14 was \$27.96 million for an E&G investment of \$3.93 million. Therefore the College of Forestry leverages every E&G dollar with \$7.12 in earned income from our activities.

Here are some highlights from FY14:

- \$12.38 million in expenditures on grants, contracts, and co-op dues.
- \$2.97 million in SWPS funding for the Forestry Research Laboratory.
- \$3.81 million in Harvest Tax Funding for the Forestry Research Laboratory that covers faculty and administration salaries. This is more than a 1:1 direct match on SWPS funding.
- Our private endowments generated \$888,000 that pays for faculty chairs and professorships.
- The federal McIntire-Stennis funds provided nearly \$1.1 million in research funds.
- Ecampus revenues were \$944,000.

Externally we raised more than \$6 million in private giving and conducted more than 75 external visits with donors last year. We will increase this substantially in FY15 as we start the campaign to renovate Peavy Hall and build a new advanced wood processing building.

College of Forestry

PART 1

Annual Academic Program Review 2013-14

	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	% Change '12 - '14
Faculty FTE													
Professional	79.5	78.1	80.1	78.0	63.9	58.5	62.7	63.2	65.0	62.8	70.4	64.8	3.2%
Non-Professional	109.8	112.3	114.7	122.1	134.4	133.2	123.6	123.8	121.1	119.4	104.9	112.3	-5.9%
Total Faculty FTE	189.3	190.4	194.8	200.1	198.3	191.7	186.3	187.0	186.1	182.2	175.3	177.1	-2.8%
E&G Tenured/Tenure Track	6.0	8.2	4.6	8.9	10.0	9.5	14.0	11.2	9.9	11.7	14.7	9.7	-17.1%
Faculty Headcount													
Professional	86	84	86	81	69	65	67	68	69	67	74	70	4.5%
Non-Professional	117	120	122	130	144	140	130	131	128	124	111	120	-3.2%
Total Faculty Headcount	203	204	208	211	213	205	197	199	197	191	185	190	-0.5%
E&G Tenured/Tenure Track	6	10	6	10	11	10	15	12	10	12	18	12	0.0%

SCH (Academic Year)													
Undergraduate	8090	7406	7673	8379	7977	8550	9180	9605	9525	9176	9365	10495	14.4%
Lower Division	2086	2134	2294	2440	2054	2270	2284	2252	2420	2520	2702	3312	31.4%
Upper Division	6004	5272	5379	5939	5923	6280	6896	7353	7105	6656	6663	7183	7.9%
Graduate	4894	4981	4866	5282	4911	5336	4551	4097	4316	4548	4244	4441	-2.4%
First Professional	0	0	0	0	0	0	0	0	0	0	0	0	-
Other	0	0	0	0	0	0	0	0	0	0	0	0	-
TOTAL SCH	12984	12387	12539	13661	12888	13886	13731	13702	13841	13724	13609	14936	8.8%

Fall Enrollment by Major													
Undergraduate	350	362	387	453	458	586	652	732	779	809	821	829	2.5%
Graduate	136	146	157	167	149	153	150	134	148	173	186	201	16.2%
First Professional	0	0	0	0	0	0	0	0	0	0	0	0	-
TOTAL Enrollment	486	508	544	620	607	739	802	866	927	982	1007	1030	4.9%

* In 2007, seventy-seven (77) from the Natural Resources degree in the College of Agricultural Sciences were reallocated to the College of Forestry.

College of Forestry

PART 1

STRATEGIC PLANNING METRICS 2013-14

	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	College Targets 2017-18
Goal 1. Provide a Transformative Educational Experience for all Learners.													
1.3 First Year Retention Rate (College/University)	75.0/ 80.0	69.4/ 86.1	70.5/ 81.8	63.3/ 73.5	66.7/ 82.2	61.8/ 83.6	67.3/ 86.5	65.2/ 73.9	80.0/ 82.2	74.4/ 79.1	75.5/ 85.7		
1.4 6-Year Graduation Rate (College/University)	37.7/ 59.0	41.2/ 56.9	46.8/ 68.1	52.5/ 62.5	55.2/ 69.0	62.5/ 72.5	44.4/ 72.2	56.8/ 70.5	28.6/ 49.0	46.7/ 60.0	38.2/ 63.6		
1.5 Junior Transfer 4-Year Graduation Rate (College/University)	69.6/ 87.0	57.1/ 61.9	60.0/ 76.0	66.7/ 66.7	61.5/ 61.5	38.5/ 53.8	56.3/ 62.5	71.0/ 71.0	62.5/ 65.6	75.0/ 75.0	68.3/ 68.3		
1.6 % US Minority Students	7.1%	5.7%	5.5%	7.3%	7.2%	7.3%	7.5%	7.0%	7.7%	8.3%	9.2%	10.4%	
1.7 % International Students	9.0%	8.0%	7.0%	6.0%	6.0%	6.0%	6.0%	4.0%	3.0%	3.0%	3.0%	4.0%	
1.8 % High Achieving Oregon High School Graduates	-	-	-	28.3	30	36	41.5	32.4	33.3	21.1	45.2	30	
Goal 3. Strengthen Oregon State's Impact and Reach throughout the state and beyond.													
3.2 Invention Disclosures	2	5	2	2	4	3	0	3	4	6	1	3	

Oregon State University
College of Forestry
 Annual Academic Program Review 2013-14

PART 2

	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	% Change '12 - '14
Resources (Fiscal Year)													
E&G - Initial Budget (\$)	2,351,353	2,263,151	2,575,008	2,764,595	2,834,320	3,209,935	3,251,980	3,443,308	3,427,316	3,692,857	5,196,711	5,868,404	58.9%
Total R&D Expenditures (\$)	18,270,617					20,577,088	23,892,923	22,784,030	23,761,160	25,178,487	22,921,058	Feb_2015	-
Awards from Grants and Contracts* (#)	149	168	161	157	138	125	118	160	110	113	68	92	-18.6%
Awards from Grants and Contracts (\$)	8,101,750	14,074,018	11,566,572	12,814,264	9,488,854	10,830,135	12,170,824	14,568,574	11,570,817	10,968,426	9,445,270	10,636,319	-3.0%
Private Giving (\$)							4,163,291	1,725,537	1,893,782	4,943,720	4,439,197	6,062,415	22.6%

Strategic Planning Metrics 2013-14

	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	College Targets 2017- 18
Goal 2. Demonstrate Leadership in Research, Scholarship and Creativity while enhancing preeminence in the three signature areas of distinction													
2.1 Total R&D Expenditures	see APR data above												
Goal 3. Strengthen Oregon State's Impact and Reach throughout the state and beyond.													
3.4 Dollars Leveraged per Appropriated Dollar for SWPS Research (FRL)	6.25	6.8	6.81	6.63	6.02	5.31	5.59	5.98	6.47	6.79	6.00	6.02	
3.5 Annual Private Giving	see APR data above												

* From 2000-01 to 2007-08, the number of grant/contract awards is based on the accounting transactions from the College's award index, rather than the actual number of awards received by the college.

Oregon State University
College of Forestry
 Annual Academic Program Review 2013-14

PART 3

	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	% Change '12 - '14
Degrees (academic year)													
Bachelor	88	83	65	80	106	123	132	140	171	163	179	177	8.6%
Master	38	31	34	35	29	30	29	27	17	28	29	46	64.3%
Doctorate	16	17	14	10	16	11	24	13	16	9	10	6	-33.3%
First Professional	0	0	0	0	0	0	0	0	0	0	0	0	-
Total Degrees	142	131	113	125	151	164	185	180	204	200	218	229	14.5%

Strategic Planning Metrics 2013-14

	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	College Targets 2017-18
Goal 1. Provide a Transformative Educational Experience for all Learners.													
1.1 Degrees Awarded-Total see APR data above													
Goal 2. Demonstrate Leadership in Research, Scholarship and Creativity while enhancing preeminence in the three signature areas of distinction													
2.3 PhD's Awarded see APR data above													