Oregon State is leading the charge in sustainable forest management.
Leading the charge in sustainable forest management

As a worldwide leader in forestry, natural resources and recreation, Oregon State University conducts balanced and unbiased research to help drive land management decisions throughout the forest landscape. We’ve learned that our forests – small and large, public and private – would benefit from proactive and sustainable management techniques.

Our friends at Starker Forests already know this. They harvest their Douglas-fir trees every 60 years to ensure healthy lands and desired products: larger logs than many of their competitors.

We’re educating our students to create healthy economies and healthy lands; students like senior forestry major Jeremy Felty, who says he is conservation-minded and hopes to one day work for private landowners because he craves personal connection to the land we live and work on.

But we don’t just focus on sustainable forest practices here in Oregon. The College of Forestry is working to partner with key countries around the globe.

Anthony S. Davis, our new associate dean for research, has international interests reaching from Morocco to Haiti. He will continue his work in those places while drawing Oregon State students in to help, giving them an important experiential learning opportunity.

Anthony understands our industry starts with healthy land and high-quality seedlings and ends with innovative wood products that bolster economies.

Renewable materials student Savannah Stanton also shares this belief, as she studied abroad in Chile to increase her own understanding of the supply chain for her future industry. Her studies are focused on art and design, and she believes that wood products can be beautiful and interesting as well as practical.

Through a unique partnership with the American embassy in Malaysia, natural resources students are also traveling abroad to the Asian island of Borneo each summer to learn about international forest management. They’re working together with Bornean forest managers to address complicated conservation challenges.

Back home, our College Research Forests continue to be a valuable asset. Timber harvest specialist Francisca Belart is making sure they stay healthy as well. She’s looking at exciting ways to deal with harvest residues, which pose a fire hazard in the forest.

I believe our alumni and students hold the key to the future of our working forest landscapes. Together, they will ensure a healthy Oregon economy through sustainable forest management techniques while creating the wood products we use every day.

I hope you enjoy this issue of Focus on Forestry, which explores proactive forest management throughout our state, our nation and our world.

Thomas Maness, Ph.D.
Cheryl Ramberg-Ford and Allyn C. Ford Dean
FOCUS  
THE MAGAZINE OF OSU COLLEGE OF FORESTRY  
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College News & Notes

Attention Job Seekers and Employers!

The Student Services Office offers an employment site where alumni can find job announcements and employers can advertise their open positions. See what’s available at jobs.forestry.oregonstate.edu. Or, call 541-737-1594 to advertise your open position(s).

The Cover: Members of the OSU Student Logging Program work in the field.
Starker Forests: deep roots in Oregon State forestry

The Starker family’s roots in the College of Forestry grow deep.

“We have a very tight integration with the college,” says Randy Hereford, vice president and assistant secretary at Starker Forests, Inc.

T.J. Starker was one of the first four graduates to earn a degree in forestry from Oregon Agricultural College (now Oregon State University) in 1910. After T.J. worked for the U.S. Forest Service for a few years, he accepted a teaching position in forestry. During his professorship, he helped with the college’s ongoing efforts to acquire lands that eventually became the McDonald-Dunn Research Forest in Corvallis.

T.J. also began making private investments in cutover forests in the Coast Range, and eventually retired from teaching to become a full-time manager of his own forestland. By 1971, he had established Starker Forests, a formal partnership with his son Bruce, Bruce’s wife Betty and their two sons, Bond and Barte. Over the years, the family acquired 85,000 acres, primarily in Benton and Lincoln Counties, with some properties in Linn, Polk and Lane.

Today, the homegrown timber company’s 11 full-time and two part-time foresters are all Oregon State graduates. One of the things that distinguishes the Philomath-based company is its focus on educating the next generation of foresters. The company’s president, Bond Starker, who will retire at the end of April, serves on the College of Forestry’s Board of Visitors and several other committees and advisory councils at the university. Starker foresters give guest lectures and serve on research boards, faculty search committees and curriculum committees. The company hires several undergraduates for summer work each year, and makes its forests available to faculty for research and teaching, including providing access for class field trips and plots for research projects.
The family-owned business was established on the principles of active forest management, which includes aggressive reforestation, thinning, soil management and maintaining healthy growing conditions in general. The company makes use of all the modern tools available, such as herbicides and slash burning, to establish their forests. It was a pioneer in using mechanical harvesting equipment.

“We’re professional foresters first,” Hereford says, “so we all believe that forests need to be managed.”

Starker Forests is on a 60-year rotation for their stands. This allows them to better manage their lands and differentiate their product by selling larger logs. One of Starker’s core philosophies is to grow forests, not just trees.

The company says their forestry decisions are made based on the characteristics of the land and individual stands of trees and associated resources by utilizing the on-the-ground and landscape level planning expertise of their professional staff.

Starker uses clear-cutting to manage its primarily Douglas-fir forests.

“Clear-cutting leaves the unit exposed to the weather and enables seedlings to get a healthy start,” Hereford says. “We typically replant within a year of harvest, because it reflects one of our critical forest management values. We also try to keep clear-cuts under the 120-acre maximum allowed by the Forest Practices Act.”

Investing in research has always been a strong value at Starker Forests, which enables the company to be in a continuous improvement mode while contributing to the academic discipline of forestry. “Barte and Bond always wanted us to be on the leading edge of things,” Hereford says, “and they’re more than willing to allow us to invest time and effort into making the company more innovative.”

Hereford emphasizes that the Starker family is also strongly committed to supporting its employees, its contractors and the community at large.

“We maintain some essential guidelines that aren’t solely based on economics,” he says.

Starker’s 60-year rotation allows for healthier land and larger logs.
Francisca Belart: promoting sustainable forestry and the Chile initiative

Francisca Belart was initially attracted to Oregon State because of its international reputation in forest operations education. As an undergraduate in forest engineering at Universidad Austral de Chile, she realized that southern Chile and Oregon have a lot in common.

“The landscape and forest operations challenges are similar,” Belart says. “Although we don’t make exactly the same type of forest products, I think we can learn a lot from each other.”

Belart chose Oregon State to earn a master’s degree in forest engineering.

“I’m interested in economic and environmental sustainability,” Belart says, “and something that really attracted me to Oregon is that it keeps a really good balance in that regard. In Chile, it’s more black and white.”

After graduating in 2008, Belart returned to Chile and went to work as a planning engineer at Forestal Mininco, Chile’s second largest forest products company. Three years later, she was offered an opportunity to become involved in a cutting-edge research project to convert biomass to aviation fuel, and she eagerly returned to Oregon State as a graduate research assistant. Funded by the Northwest Advanced Renewables Alliance, the project allowed her to earn a Ph.D. in sustainable forest management.

In August 2016, Oregon State hired Belart as an assistant professor and timber harvesting specialist. In her new position, she supports the work of county extension agents and teaches classes to small woodland owners. In the near future, she wants to develop a new class to support sound decision-making around biomass operations.

“Harvest residues are a fire hazard,” Belart says, “Landowners need to clear up space for replanting and protection laws require that
you have to replant after harvesting, so most of the time they need to get rid of that biomass somehow—and it’s a problem.”

Selling the biomass for conversion into biofuel is one option, but collection and transportation costs present significant roadblocks to landowners. Belart’s doctoral thesis addressed moisture management to improve biomass transportation efficiency.

“I would like to downscale my thesis so that small, private landowners can have better use of the information,” she says. The class will help landowners make decisions about the financial feasibility of selling their harvest residues instead of burning them, thus reducing the environmental impact of harvesting while supporting financial sustainability.

In the research arena, Belart is working with two other faculty members on a project that examines the effects of new harvesting technologies on soil properties.

Belart supports the College of Forestry’s Chile initiative by preparing students and interns to travel to her home country and welcoming scholars who travel from Chile to visit Oregon State. The Chile initiative seeks to link the college with key trading nations in Latin America and around the Pacific Rim.

She also serves as an ambassador of sorts to the Chilean forest industry. Two years ago, she facilitated a tour to Chile with Dean Thomas Maness and several Oregon industry leaders, including providing translation services as the group toured the country’s forestry infrastructure, plantations, sawmills and other sites.

Francisca Belart is an assistant professor and timber harvesting specialist.
Anthony S. Davis joined the Oregon State College of Forestry in September 2016 as associate dean for research. Before coming to Oregon State, Davis served as the director for the Center for Forest Nursery and Seedling Research and associate professor of native plant regeneration and silviculture at the University of Idaho. He earned his doctorate at Purdue University.

“I am truly excited to join the OSU College of Forestry. The research conducted by the faculty in the college is recognized as leading both regionally and globally,” Davis says. “We face grand challenges in forestry-related issues. Working with the diverse group of faculty, staff, students and stakeholders to address these is an amazing opportunity. There are people here who are solving the forestry, natural resources, recreation and wood science problems we’re facing now and help prepare us to solve the problems we will face in 25 or 50 years.”

Davis says Oregon State’s reputation and history of strong forestry programs brought him here, but it’s the future he’s most excited about.

“Dean Maness is a visionary,” Davis says. “The Institute for Working Forest Landscapes provides a framework for us to transform the way we link research to the management and conservation of Oregon’s forests and forest industries.”

Davis says his job is to create intellectual space for faculty and researchers who are working to solve complex problems. He will help make sure their equipment is serviced, their proposals are on time and their research is valued and disseminated widely.

Even though he’s not working outside raising seedlings on a day-to-day basis, Davis says his work is highly rewarding.

“I do what I do because I love forests,” he says. “I love our natural areas, and I love the fact that we have the ability to grow trees, whether they’re used for something as basic as providing habitat for wildlife or to build tall wood buildings.”
Davis also considers himself a steward of the environment, and he says that balance is important.

“At Oregon State we’re making sure that we understand the connections between healthy forests, healthy communities, healthy ecosystems and healthy businesses,” he says. “All of those things are connected.”

Davis believes that Oregon State is leading the charge when it comes to sustainable forest management.

“We’re really fortunate with what we have,” Davis says. “And our forestry practices should lead by example.”

In support of that mission, Davis will continue a project he began at the University of Idaho to help countries who have lost forest cover to grow high-quality seedlings. Davis says this problem is universal. He began working in Lebanon through a project with the U.S. Forest Service and now works in Haiti, Jordan, Togo and other countries devastated by natural disasters, war and mismanagement of forest lands.

“Haiti is my passion project,” Davis says. “It’s a special spot for me. The challenges are seemingly unending and yet there is so much resilience.”

In the past, Davis has used international projects like this to help students cultivate their own international networks and research projects. He believes he can integrate it into the Oregon State College of Forestry because of its history working in similar areas.

“In terms of forest management, no one else is thinking as big and bold as we are at Oregon State through programs like the Institute for Working Forest Landscapes and projects addressing novel uses of wood in construction, pollinators, climate science, forest health issues and more,” Davis says. “Being part of that is exciting.”
Unique partnership leads to international learning

In the summer of 2016, ten Oregon State University students traveled to Malaysian Borneo to study forest conservation in an area of rich biodiversity. John Bliss, formerly associate dean of international programs, now professor emeritus, led the trip with Ph.D. student Gretchen Engbring.

Through a unique partnership, a major portion of the program was funded by the American Embassy in Kuala Lumpur, Malaysia. The embassy has a strong interest in building relationships with forestry professionals whom they believe can work with Malaysian peers to conserve Bornean forest habitat.

Michele Justice, director of international programs for the Oregon State College of Forestry, says the trip represents the beginning of a strategic partnership that will facilitate an exchange of ideas between Oregon State researchers and Bornean forest managers to help address important forest challenges.

The course had a major impact on its participants.

“This experience gave students a chance to learn about tropical ecology and some of the social and political aspects of forest conservation in the developing world,” Engbring says. “Some of our students had never left the country, and one had never spent much time outside the Pacific Northwest or been on a plane before.”

Senior natural resources student Phil Carbary participated in the course because gaining international experience is important to him.

“It kind of just hit me that the summer of 2016 would be my last opportunity to take advantage of studying abroad like this,” he says. “There are so many opportunities through OSU and the college. I knew I had to take advantage.”

Bliss says he’s excited to take students to places like Borneo because it removes them from their comfort zone and gives them access to unique learning opportunities they wouldn’t have at home.

“It’s important to continue taking students to Borneo, specifically because it’s an unmatched opportunity to encounter the huge challenges...
of conserving biodiversity,” he says. “There’s no place like it in the world.”

During their two-week stay in Borneo, students visited the CREATE Center for an introduction to grass-roots community organizations that work to protect the rainforest; the Sabah Wildlife Department’s Orangutan Rehabilitation Centre; the Bornean Sun Bear Conservation Centre and the Rainforest Discovery Centre, where the group learned about the rich diversity of rainforest habitat and wildlife species that make their home in the forest. The group concluded the trip with a visit to the Deramakot Forest Reserve, which facilitated discussion and learning about managed forests and logging operations in Borneo.

Following a visit to the Deramakot Forest Reserve, the class travelled by boat down the Kinabatagan River to the Danau Girang Field Research Center. There they job-shadowed Ph.D. students from around the world conducting primary research on the area’s rich biodiversity. They trapped monitor lizards and civets and observed proboscis monkeys, bats, tarantulas, dozens of bird species and the occasional orangutan and clouded leopard.

At the completion of the class, six students returned home while four others stayed behind to complete internships at the Orangutan Rehabilitation Centre and the Rainforest Discovery Center.

Carbary interned at the Rainforest Discovery Center and conducted species sampling at three previously unexamined streams.

“During sampling, we found two species endemic to Borneo, and the scientists we worked with were really excited,” Carbary says.

Engbring was impressed by all of the program’s destinations.

“They were fantastic,” Engbring says. “Sometimes when Westerners visit places like Borneo, we come in with a savior mentality, but right off the bat, we were working with motivated, educated and knowledgeable local groups doing impressive things in their communities. We were able to come alongside them, and were really impressed with their ideas and solutions to forest management problems.”

The college believes international experiential learning in all areas of forestry and natural resources is important to help students gain experience and really understand the world around them.

“It helps you get a sense of how diverse world cultures are and how similar they are at the same time,” Engbring says. “It’s not just reading a chapter of a book and never thinking about it again after the test. It’s something that completely changes your entire world view.”
Jeremy Felty: the future of managing forests

Jeremy Felty, a senior studying forestry, was a navy brat for most of his childhood. His father’s career took him around the world from Washington to Europe and back again. When it came time for Felty to choose a university, he felt at home at Oregon State the moment he stepped onto its campus in Corvallis.

“An advisor in the College of Forestry greeted my parents, took me for a walk and talked to me all about the forestry program, living on campus and how I would fit in. From that moment, I knew I would feel at home.”

Felty participated in Boy Scouts throughout his childhood, so choosing a major and a future career that would allow him to work outside was important.

“It was always about being outside for me,” he says. “But I’m also very conservation-minded, and my hope is to better the environment.”

Felty hopes to preserve the forest for the future.

“A lot of people imagine that we’re cutting more trees than we have, but the reality is that there are more trees now than there ever have been,” Felty says. “We need people to understand the truth and to see the reality of the place we live in.”

His goal is to manage forests for people – small, personal forests as opposed to large, commercial ones. He’s also open to the idea of working abroad, as his focus is in international forestry.

“Growing up in Spain and Norway made me curious about someday working abroad,” Felty says. “I think it’s important to know how the rest of the world manages timber.”

Felty participated in a faculty-lead tour of Spain and hopes to travel to Chile this summer for another study-abroad experience. He was also involved the Oregon State student chapter of the Society of American Foresters.

“I was involved in SAF because a forester I knew in high school encouraged me to join,” Felty says.

He encourages others to get involved in clubs related to their major.

“I think getting involved in student clubs is a great way to make friends and network,” he says. “Someday, we will be in jobs where these connections will count.”

Clubs and organizations like SAF also provide opportunities for students like Felty to hone their leadership skills.

“I got involved in the student chapter of SAF and was elected president,” he says. “As a leader, I try to get people to step outside their comfort zone and become leaders, also. That’s what the industry really needs right now.”

Felty participates in Boy Scouts from a young age.

Felty enjoys spending time outdoors.
Savannah Stanton: changing the world through renewable materials

Savannah Stanton is just a junior, but she already has plans to graduate from Oregon State debt free and work to change the world.

“I’ve always wanted to do something for my community and for the world,” she says. “Through renewable materials, I have the opportunity to do that.”

The Newberg High School valedictorian chose to attend Oregon State after she was awarded an academic achievement scholarship, but she still attended classes simultaneously at Portland Community College to get her baccalaureate core classes out of the way and discover her passion. She found it in a class taught by Sara Robinson called “Are You Wearing Mold?”

“The class drew me into the world of renewable materials,” Stanton says. “In the class, we dove into the world of fungi and what could be done with it. It was fun to do a hands-on class like that. It really appealed to me and my learning style.”

Stanton believes an interdisciplinary course of study will be the key to her future success. Her focus within renewable materials is science and engineering. She’s taken business classes, math classes and she will also earn a minor in Spanish.

“Every time a new term starts, I get new ideas,” she says. “My business classes inspired me to think about owning my own business someday instead of working for someone else.”

But Stanton isn’t exactly sure what she wants to do yet. Instead, she’s excited about a world of possibilities at home in Oregon and around the world.

During the summer of 2016, Stanton interned at Alto Horizonte, a forest products company with their own sawmills and forestland in Chile.

“That was my first time working in a mill setting,” she says. “It helped me understand the traditional part of our industry while giving me an idea of what the current needs are. It also expanded who I know within the small world of renewable materials.”

Stanton says her experience in Chile was funded through scholarships from the College of Forestry as well as through the generosity of her Chilean host family.

Back at home, Stanton is also involved in the student chapter of the Society of American Foresters at Oregon State.

“I got involved in SAF because I think it’s important to know what other parts of the industry are up to and what their concerns are for the future,” Stanton says. “If you’re able to understand what other components need to make the whole machine work, you won’t get bogged down as much later on.”

She says that as a new professional, she expects to depend on the timber industry for the majority of the current renewable materials markets.

“Renewable materials has a lot to do with timber production at some point,” she says. “Right now, non-wood based renewable materials such as hemp, bamboo or rattan only make up about five percent of the market, but I think it’s important to keep that in mind as I work toward establishing my career and furthering the spectrum of what are considered viable renewables.”

Stanton studied abroad in Chile.
Study abroad program opens minds

International travel opens minds to new information, new ways of perceiving the world and new possibilities. To help students experience these shifts in thinking, Associate Professor Chris Knowles and Professor Eric Hansen in the Department of Wood Science & Engineering offer students from all disciplines and academic institutions the chance to travel internationally while simultaneously gaining exposure to various cultural, historic, manufacturing, construction and sustainability aspects of forestry and wood products.

“The original goal was to give students who have never traveled internationally an easy, safe way to travel, experience another culture and learn something about the field of forestry and wood products in general,” Knowles says.

A student’s level of experience with international travel is not a limiting factor to join the tours, however.

“We like to host students from diverse backgrounds who might not otherwise think about forestry and wood products or understand the sustainability aspects associated with them,” Knowles says.

Knowles’ research focuses on global markets for renewable materials, and Hansen studies environmental marketing and corporate social
responsibility. They both recognize the need to create more interest in the global aspects of forestry, and they want students to take advantage of opportunities to learn how things are done in other countries.

These European educational tours, hosted every other summer, began in 2009 with stops in Finland, Sweden and Norway. Later trips have included visits to Denmark, Slovenia, Switzerland, Italy and Austria. In summer 2017, students will visit Slovenia, Italy, Austria and Switzerland.

“The itinerary includes a good mix of significant cultural and historic sites. For example, in Slovenia we’re going to look at salt production, which is actually living history, because they still produce salt the way they have for hundreds of years,” Knowles says.

The site is relevant to forestry because timber is used in constructing structures for salt production.

“We’ll also be looking at mass timber construction issues in Europe, where they’ve been doing mass timber for quite a bit longer than we have,” he says. “There’s a lot we can learn from them.”

Hansen says the team is especially interested in including architectural students in the 2017 tour, because it will include more focus on architecture. Assistant professor Mariapaola Riggio is an architect and native Italian, and she will be leading visits to noteworthy historic architectural sites in Venice.

Knowles and Hansen ask students to journal daily during the trips, and they have witnessed remarkable changes in participants both during and after the tours.

“It’s great to watch the evolution of their thought,” Hansen says. He tells the story of a College of Business student who traveled with them on the first tour: “She was anti-forestry when she came — not so happy about the idea of cutting down trees. At the end of the two weeks, she understood how harvesting trees could be part of sustainable practice.”

Studying abroad provides students life-changing, experiential learning opportunities.
Support the Student Success Initiative

By 2020, the OSU Student Success Initiative aims to:

- Raise first-year retention rates for all undergraduate students to 90 percent.
- Raise six-year graduation rates for all undergraduate students to 70 percent.
- Achieve higher completion rates for all groups of graduate and doctoral students; and,
- Ensure every OSU student has at least one experiential learning opportunity.

The support of our alumni and friends helps provide scholarship assistance and learning opportunities to prepare students to become leaders who solve society’s most pressing challenges and is crucial to meeting the goals outlined in the initiative.

To learn how your gift can make a positive impact, contact: Zak Hansen, Director of Development, OSU Foundation, at 541.737.4016 or zak.hansen@osufoundation.org.

Leavengood Receives OSU Outreach and Engagement Award

Scott Leavengood, associate professor and director of the Oregon Wood Innovation Center, was recently honored with the OSU Outreach and Engagement Award, awarded by OSU President, Edward J. Ray, at University Day in Fall 2016. The award recognizes significant and meritorious work which enhances reciprocal learning with Oregon State students, partners and stakeholders through outreach and engagement activities.

During his 25-year career at OSU, Scott has developed a broad portfolio of outreach and engagement activities designed to provide technical assistance to Oregon wood products firms to help them solve problems, explore new business opportunities, answer questions and complaints from customers and improve their businesses. His projects include the Oregon Forest Industry Directory, a mechanism for linking suppliers and customers, and improving juniper utilization through the development and publishing of engineering design values for the species.

Mark Needham Receives Excellence in Teaching Award

Mark Needham, an associate professor of nature-based recreation and tourism, social science and natural resources at the College of Forestry, was recently honored with the national Excellence in Teaching Award from The Academy of Leisure Sciences, the leading organization of scientists focusing on park, recreation and leisure research. Needham received the award at the 2016 National Recreation and Park Association conference in St. Louis, Mo.

Administered and voted on by The Academy of Leisure Sciences, the Excellence in Teaching Award recognizes a colleague who has demonstrated outstanding ability as a teacher of parks, recreation and leisure services over the course of her or his career.

In his 12th year at OSU, Needham has routinely been recognized for excellence in both teaching and research. From 2012 to 2015, Needham held the OSU Gene D. Knudson Chair in Forestry. This endowed chair position was established to recognize and reward outstanding teaching, advising and mentoring of undergraduate students, and visible leadership of undergraduate education.

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Marvin Rawley, Former Manager of OSU Research Forests, Passes Away

Marvin LaVerne Rawley, a dear friend and former leader of the OSU Research Forests passed away on January 25, 2017. He was a beloved husband, father, veteran, alumnus of OSU. He served as forest manager from 1973-1986. Marvin served with numerous organizations such as the Philomath City Park Board, Corvallis Chamber of Commerce Natural Resource Committee, Society of American Foresters and many more. His contributions to the OSU Research Forests, the OSU College of Forestry and the community as a whole will not be forgotten.