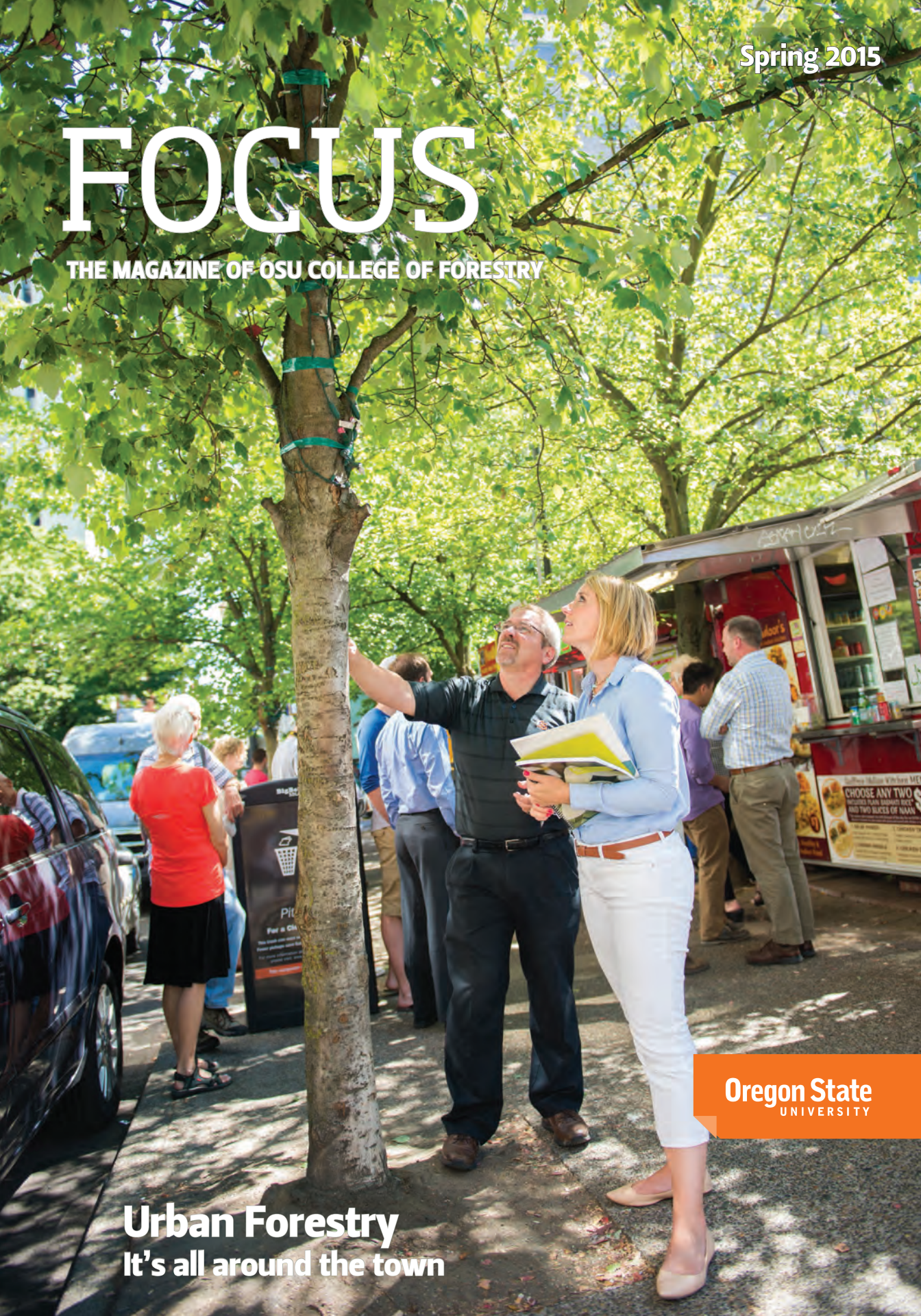
Spring 2015

FOCUS

THE MAGAZINE OF OSU COLLEGE OF FORESTRY

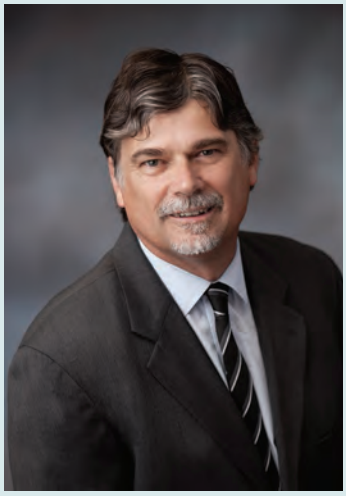


Oregon State UNIVERSITY

Urban Forestry

It's all around the town

Dean's Column



Oregonians live in a forest landscape shaped over thousands of years of human influence. Even when I hike remote wilderness landscapes I am constantly reminded of the human presence and influence that molded these incredible landscapes into what they are today. Our generation is only just beginning to understand what this means.

Today, landscape restoration is the occupation of the conservation community. I wholeheartedly welcome the passion to fix the ills often associated with a commodity approach to land management. However, I also worry that restoration looks backward in time, as if there were some magic moment in history when landscapes were intact and we only have to go backward to achieve our goals. It's like advocating that dieting is the answer to being healthier when a change in lifestyle is required.

Forestry is about the future. Our attitudes and approach to landscape management and production must meet society's needs today, not those of yesterday. To be sustainable we have to learn to live on our landscape without destroying it. We have to learn to love it. We are not really "restoring" but instead creating the landscapes of the future, in the same way our ancestors have done. These future landscapes will be neither more nor less human influenced than those we inherited.

Exploring this relationship between humans, communities, and ecosystems is the mission of the college's Institute for Working Forest Landscapes. The Institute operates under the auspices of the state-funded Forest Research Laboratory and leverages the college's resources in support of the social, economic and ecological needs of the state. It fosters research that combines two or more of its four thematic areas—resilient ecosystems, intensively managed forests, competitive and innovative products, healthy people and communities. Its 20-member advisory board consists of foresters, wildlife professionals, conservation managers, architects, engineers, and manufacturers.

Our focus on "working forest landscapes" does not mean that we concentrate on those parts of the landscape that produce commodity goods. A wild forest is working too: producing clean cold water, wildlife habitat, and a vital spiritual portal into the natural world. A working forest landscape is, to put it simply, a landscape that works. It is a mosaic of highly productive private lands, high conservation value lands, communities, roads, businesses, and people. We have to relearn how to make this mosaic work—because our world is constantly changing. We can't go back in time and set the controls to idle.

When the Institute Board met last month, our discussions highlighted the importance of interdisciplinary science. We reviewed two dozen letters of intent for research projects that address the four thematic areas. Our faculty gave short presentations and poster vignettes of their research ideas. It was a "tour de force" of science ideas to help solve our most vexing problems, and I was incredibly proud of our college. In the end I approved eight letters of intent for the full proposal stage, and we will fund about half of those proposals.

My sincere thanks to all of our college scientists who collaborated in new ways to produce these research ideas. You built new teams, you stretched our imagination, and you showed us what this new institute can be. I am excited about the future, and our role in it.

Thomas Mess

Dean
Thomas Maness

Development Director
Zak Hansen

Editor-In-Chief
Caryn M. Davis

Writers
Bryan Bernart
Caryn M. Davis
Nick Houtman

Designer
Sandra Arbogast

Photographers
Bryan Bernart, Hannah O'Leary, Fremont-Winema National Forest, Jim Kiser, Jeannette Krampien, Matt Miner, Erik Vermaas, Forestry Communications, and others

How to Reach Us

Address changes:
Tonya Fodge
Oregon State University Foundation
850 SW 35th Street
Corvallis, OR 97333
Tonya.Fodge@oregonstate.edu
(541) 737-9846

For information about the *Focus* magazine and other College of Forestry publications:

Caryn M. Davis
College of Forestry
Oregon State University
202 Peavy Hall
Corvallis, OR 97331-5704
(541) 737-4270
Caryn.Davis@oregonstate.edu

Focus is published by Oregon State University College of Forestry. Our goal is to keep Forestry alumni, friends, faculty, staff, and students informed about the College of Forestry and its many activities and programs.

Does the College of Forestry have your e-mail address? Please help the college save money and improve communication by sharing your e-mail address. Please send an e-mail to Tonya.Fodge@oregonstate.edu and ask us to update our e-mail records. Thank you.

For questions about College of Forestry events and other matters, contact the Dean's office: (541) 737-1585, or visit

www.forestry.oregonstate.edu

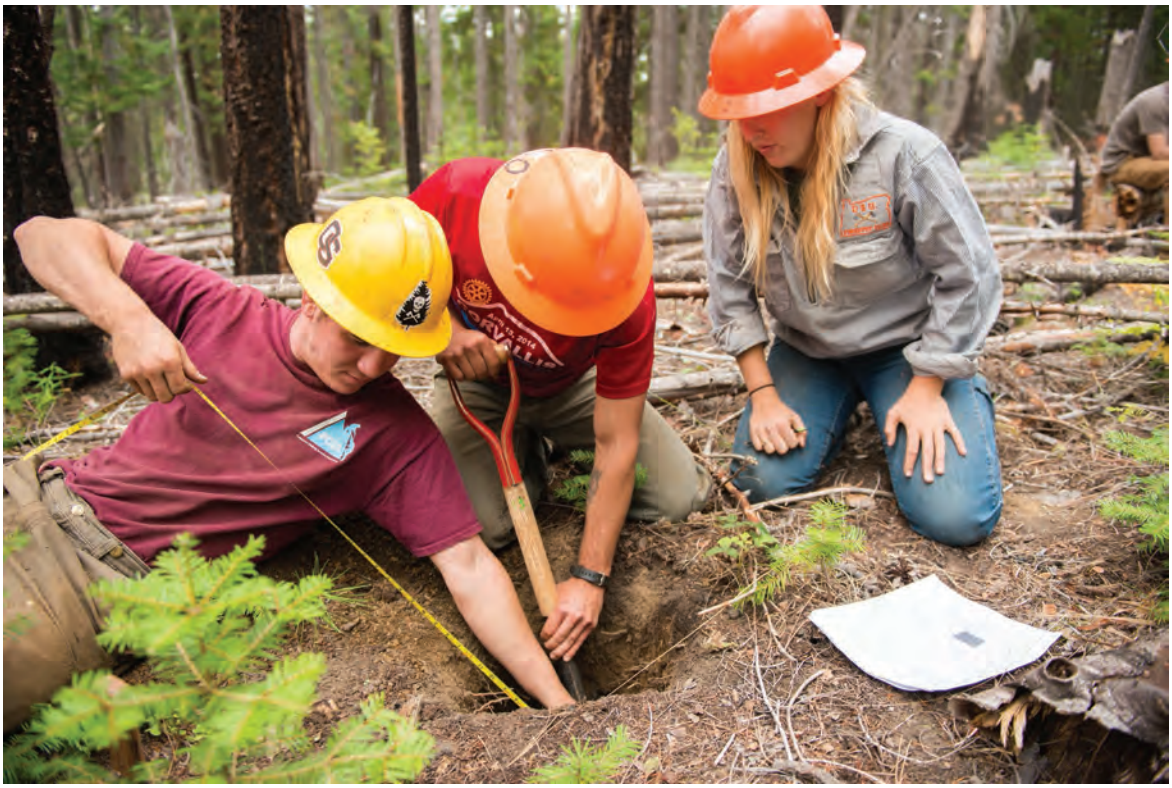
FOCUS

Spring 2015

THE MAGAZINE OF OSU COLLEGE OF FORESTRY

Contents

Cover photo: Urban foresters Paul Ries and Abbey Driscoll examine a city tree; in the background a queue forms near some of Portland's ubiquitous food carts. By Hannah O'Leary, OSU.



Eastside, Westside

Forestry students go into the woods for hands-on learning at field school

by Bryan Bernart

Jim Kiser arrived at his alma mater just in time to begin a new old tradition at the College of Forestry—and one that is deeply rooted in the past: field school. Kiser, who earned his doctorate in forest science at OSU in 2009, returned to teach in the Department of Forest Engineering, Resources & Management in 2013. Two weeks before the start of fall term, he and 25 forestry undergraduates headed to the woods for 13 days of outdoor school in the forests of eastern and western Oregon.

Photos: (from top) Assessment of Eastside volcanic eruptions through the soil layers; students learning to quantify and map stream habitat units (photo credits: Hannah O'Leary).

With the success of that initial course, Forestry Field School (FE/FOR 312) is now part of the curriculum for students in the Forestry and Forest Engineering majors. As the "gateway course for students in the FE and FOR degree programs entering their first year of Professional Forestry School," it is required for all students who move forward in those programs. As Kiser explains, the reason is to ensure that "all of our Professional School students enter the second half of their undergraduate education with a common base of forestry knowledge."

While it may at first seem that the concept of "field school" is more-or-less self-explanatory, this course is unusual in the depth and breadth of material covered. Students spend the first seven days on the Westside of the Cascades studying surveying and ecology, aerial photos, regeneration, thinning, mature forest stands, hydrology and watersheds, and harvesting. They

then transition to the Eastside to do the same, but in a completely different setting. Students focus on only one topic every day, enabling an entirely different learning experience from the multi-tasking they're accustomed to in normal academic life.

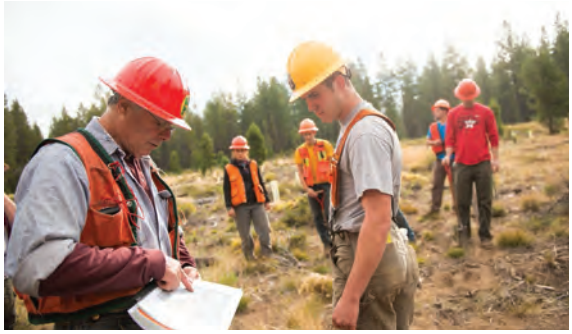
One objective of the Field School course is to teach students strong critical thinking skills, which are highly necessary in complex, multi-disciplinary fields like forestry. A key course objective is for students to "develop their imaginations" and learn to effectively communicate the characteristics of a forest to a third party. To accomplish this, "we ask the students to develop Sherlock Holmes-esque analytical abilities," explains Kiser. "We teach students in such a way that they can be presented with data and information, 'clues,' if you will, about a given scenario in the forest, and be able to deduce 'the story' from them, all while demonstrating skills they've gained through hands-on learning."

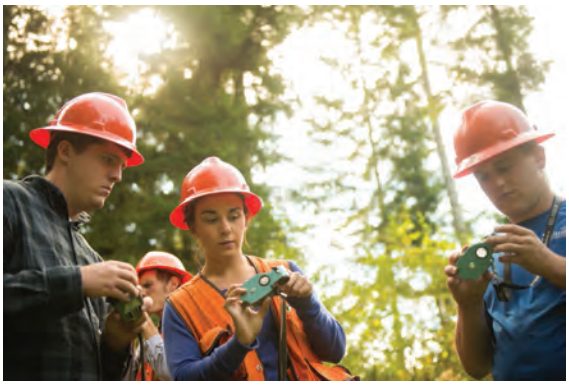
Although the approach taken in Forestry Field School is very similar to traditional labs in other courses, the lack of the usual classroom time constraints allows Kiser to greatly expand the experience, enabling students to participate in analyses and discussions while still in the field. An important part of each day is when students are given about 30 minutes of observation time, Kiser says. "They're asked to walk the area and record their observations about stands, soils, vegetation, or operational concerns. In the beginning, this is a short exercise, but as each day passes, their skills with this are pushed," which hones their concentration.

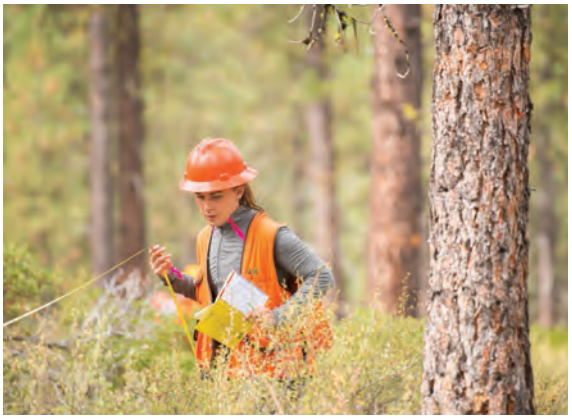
If it sounds rigorous—and some might say grueling—it is. But for these fledgling foresters, it's also an incredible opportunity to explore the natural environments that will be an integral part of their future careers.

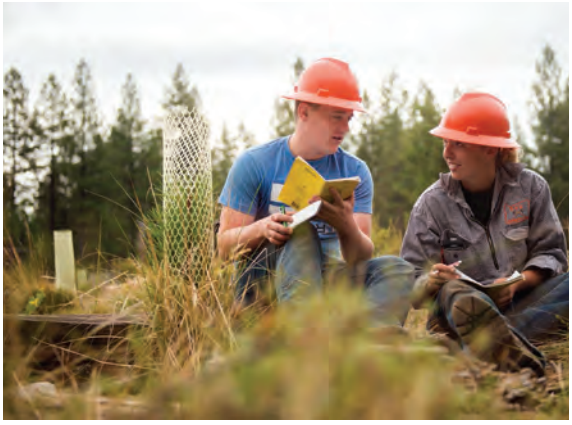
Finally, the course offers benefits that can't be gained any other way: the inevitable friendships formed when students share chores, living space, and each other's company for two whole weeks away from campus. "Students bond over some of the exercises, but mostly through the period of studying and relaxing together," says Kiser.

In this, Forestry Field School hearkens back to the early days of the forestry program at Oregon Agricultural College when all forestry students and faculty would take to the woods each year to learn, camp out, share chores, and build camaraderie. A century later, a new version of this old tradition marks an exceptional addition to the learning experience for future foresters.

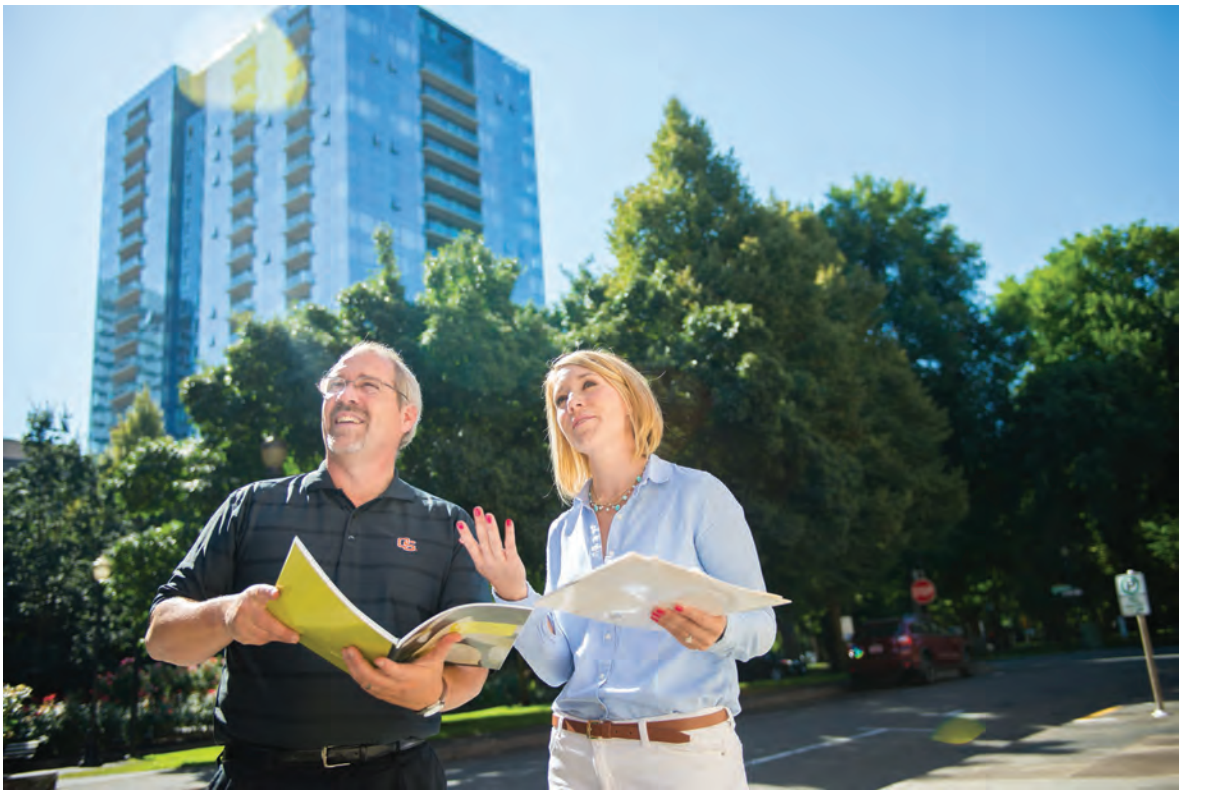








Photos (from top): Jim Kiser explains the day's work tasks—each day students are picked to lead crews in order to start developing leadership responsibilities; students becoming competent with new instruments and field procedures; attention to detail in data collection is stressed in order to promote ownership of the data; comparing Eastside regeneration survey results with the Westside results (photo credits: Hannah O'Leary).



All around the Town

Urban forestry at OSU explores the science of greener, healthier cities

by Bryan Bernart

When you think of a classic American metropolis, what images come immediately to mind? Metallic, yellow taxicabs weaving through downtown streets? Concrete skyscrapers, cold and still, stretching ever upward? A good start, but it's missing something important. Something green and leafy.

Historically, as well as in modern times, trees have been a constant feature of the urban environment. "Consider Boston Commons and New York City's Central Park—these two city greenspaces date back to 1634 and 1857, respectively," says Paul Ries, director of the Graduate Certificate in Urban Forestry program at Oregon State. "We've been planting and caring for trees in cities as long as there have been cities."

The discipline of urban forestry emerged to teach people about the selection, planting, and long-term care of trees in the spaces where we live—cities, towns, and neighborhoods—which in term contributes to community livability. "In the United States, 80 percent of the population lives within the incorporated boundaries of a city or town," says Ries. "This suggests that four out of every five Americans live in an 'urban forest.'"

Given the prevalence of urban forests in the United States, it's a little surprising that urban forestry didn't appear in U.S. Federal Forest Policy until the Cooperative Forest Management Act in 1978. Rapidly making up for lost time, undergraduate degrees in urban forestry were first offered in the 1990s. OSU offers the Urban Forest Landscapes option within the Natural Resources degree program as an option for undergraduates.

In the fall of 2014, the College of Forestry launched something new: an urban forestry graduate program online. The Graduate Certificate in Urban Forestry (or GCUF) is offered exclusively through OSU Ecampus and was designed for practicing urban forestry professionals. Existing wholly in cyberspace, the GCUF attracts a more diverse student body than do traditional courses. "The flexibility of online learning offers increased access to people for whom a graduate certificate or degree would

have been unattainable in the past," Ries says. An added benefit is that online classes, especially with participation via discussion boards, tend to "foster equal, if not greater, student-to-student and student-to-instructor interaction than is found in a traditional classroom."

The breadth of the GCUF curricula reflects the highly multidisciplinary field of urban forestry: courses include urban forest planning, policy, management, green infrastructure, and urban forestry leadership, as well as electives related to natural resources. "Urban forestry, as a discipline, takes in elements of forestry, horticulture, landscape architecture, and urban planning," Ries explains. "Most practicing urban foresters today came into it from one or more of these related fields."

For example, Abbey Driscoll, who recently completed her master's degree in urban forestry at OSU, studied environmental science and geology as an undergraduate. Her MS thesis work focused on collaborating with a diverse group of stakeholders to create a regional, urban forestry-focused natural resource plan for jurisdictions in the Portland-Vancouver metropolitan area. Driscoll, who served as the project coordinator for the regional plan, explains that because the urban forest is a collective resource that crosses political boundaries, coordinated management can be difficult—thus necessitating a regional rather than city-specific focus when it comes to planning.

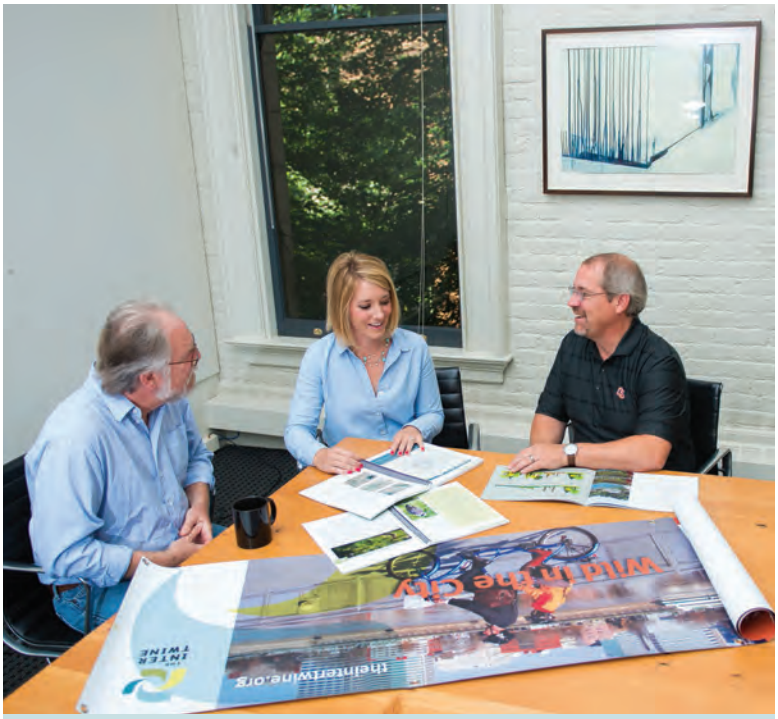
"The project tied a couple of different pieces together," she explains. "It included a review of how local cities and counties currently manage their urban forests; a survey of community officials and program managers to discern what the needs, barriers, and priorities are to expanding these programs; and finally, collaborative workshops and forums to envision what we want our regional urban forest to look like and how we can make that happen. Our goal was to see if we could expand the capacity of local cities and organizations to address urban forest management and making an investment in our shared resource."

Driscoll, who is now a Natural Resource Specialist in the Private Forests Program at the Oregon Department of Forestry, notes that although urban forestry includes the maintenance of trees in an urban environment, it is not all tree-focused. "It's focused on the system, with trees, water, and groundcover, and how they all interact in an urban environment," she says. "And when we realize that all of these things are resources that our cities depend on, and that what many people really enjoy about where they live is the natural features of that place, we understand how important urban forestry really is."

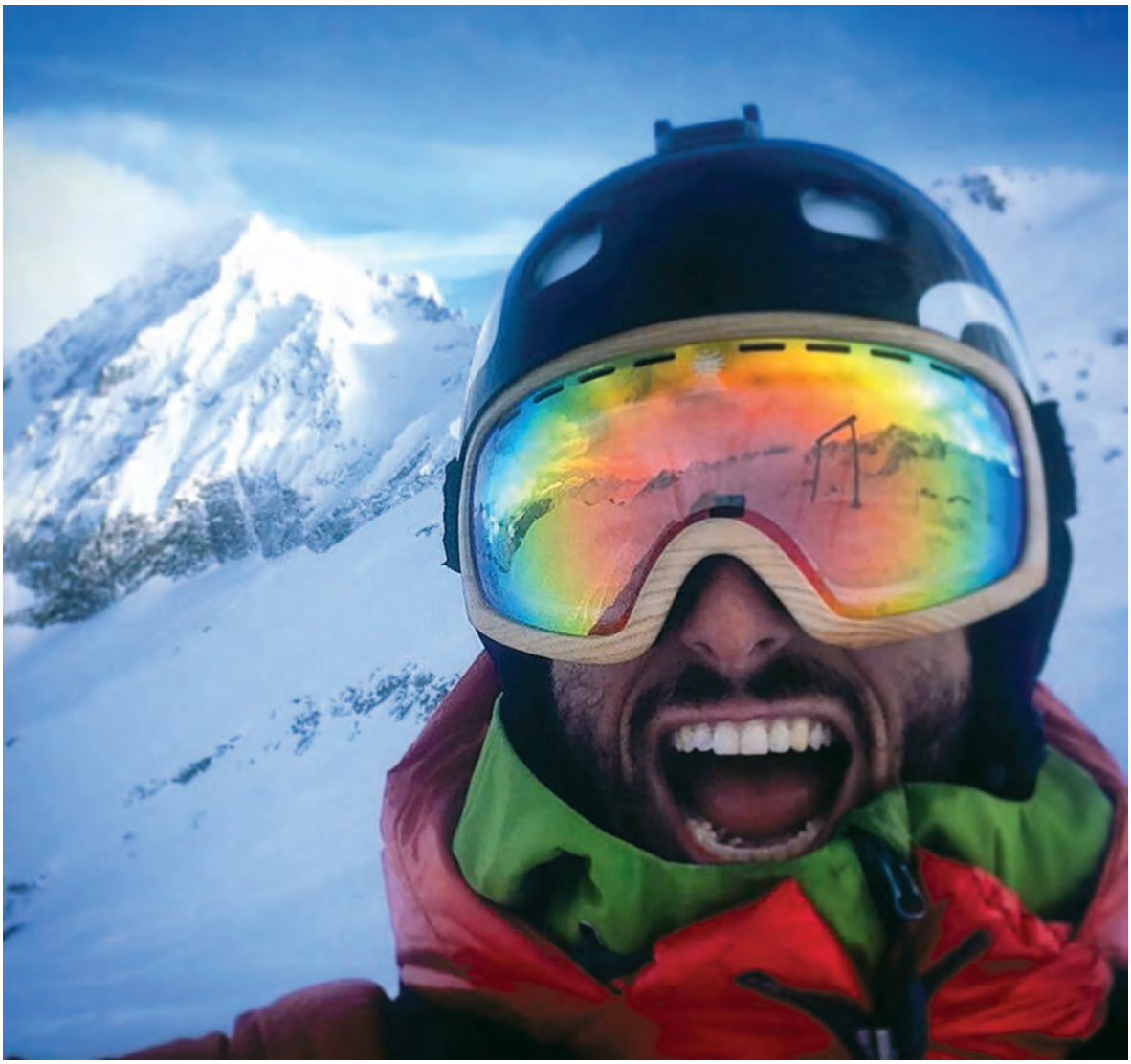
Trees have been found to provide universal positive impacts for the environment, as well as for people who live and spend time near them, Driscoll notes. "For instance, patients with a view of trees out of their window in a hospital have been shown to recover faster, and trees in neighborhoods can help to reduce crime levels. It just goes to show that the more we learn about trees in the urban environment, the more benefits we find."

The OSU College of Forestry has been a leader in providing forestry education for more than a century, and now it is a leader in providing urban forestry education, too.

Photos by Hannah O'Leary, OSU.



For more information about the OSU Urban Forestry graduate program, visit http://ecampus.oregonstate.edu/online-degrees/graduate/urban-forestry/



Riding a new wave of renewables

With student startup success, sustainable shades hit the slopes

By Bryan Bernart

Ever wanted to start a community garden? How about record a music album, make a feature film, or design the perfect kid's toy? Chances are, whatever your interest, there's an enterprising someone "crowdfunding" (raising monetary contributions from a large number of people) a project based around it at this very moment, using a website like Kickstarter or Indiegogo. But what if you had larger aspirations? What if, at age 21, you decided to begin an entire career by harnessing the power of like-minded strangers?

Last year, Renewable Materials senior Matt Miner, together with his friend and business partner Alex Cruft, founded Bosky Optics, a company dedicated to providing quality sunglasses and snowboarding goggles made from natural materials. In fact, the word "bosky," itself, is an adjective that describes a treed or wooded area—an appropriate choice for a venture created by a soon-to-be-graduated Forestry student.

Describing his fledgling business's aims, Miner is quick to point out the obvious. "We are not the first company to bring wooden sunglasses to the market," he says, referring to a well-known Portland brand. Fortunately, he doesn't mind. "For Bosky, we see wooden sunglasses as the starting

point. It's the first step on our way to creating something much bigger."

But with stiff competition, even in his home state of Oregon, how does Miner plan to set Bosky apart from the pack?

"We're working to become the first brand that creates a comprehensive line of goggles and sunglasses that are not only made from renewable materials, but also designed in collaboration with artists and professional athletes, effectively turning our wooden frames into a canvas," he says, before adding mischievously, "no other company is doing this. It's our 'secret sauce,' if you will."

In the beginning, Miner and Cruft decided to launch their endeavor using Kickstarter because it seemed like a good way to learn about their market, as well as test their products. "It was useful as a means to reach our potential customers, and we are actively planning a second Kickstarter campaign, launching later this year, to promote our snowboarding goggles," Miner says. "Our backers [contributors, who often receive a product or promotional materials in exchange for funding a campaign] were also great about giving us feedback on how we could improve our sunglasses," he adds, implying that early adopters actually function as a kind of focus group/customer hybrid.

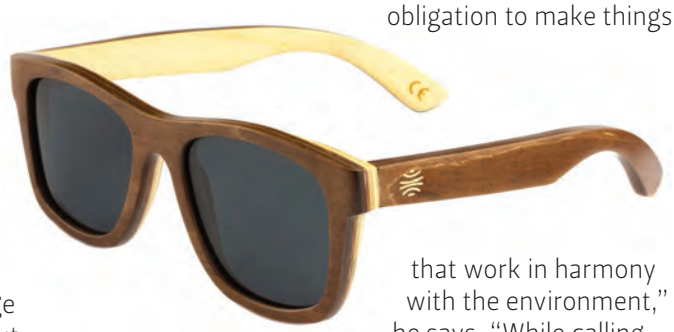
Speaking as a forestry student, Miner says that the response from his cohort has been largely positive. "I think it excites them to imagine how they could launch companies, themselves," he muses. "When you go into business, which is a fairly open-ended field, it's difficult to figure out where to start. However, visualizing what you want is really all you have to do—once you have an image of your goals, you just work out the steps between where you are and where you want to be."

After graduating this spring, Miner intends to continue in entrepreneurship, sustaining himself on his shared business venture alone. "We're right at the point where we can begin working with bigger name retailers and some larger distributors that can take us to the next level," he says.

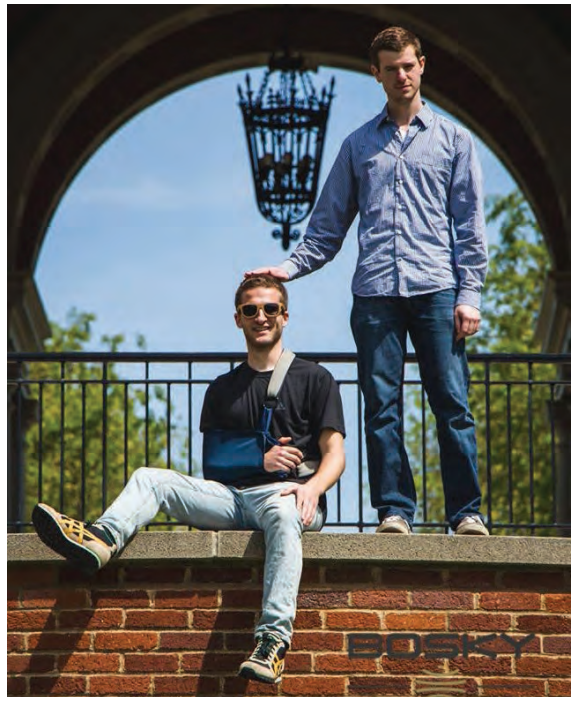
Miner and Cruft are currently navigating Bosky through its first winter buying season for both its sunglasses and goggles. If their website is any indication, things are going well: Bosky was recently featured in the South Korean editions of *Vogue, Cosmo,* and *Harper's Bazaar,* and an Italian hiker even tested Bosky's goggles in Antarctica.

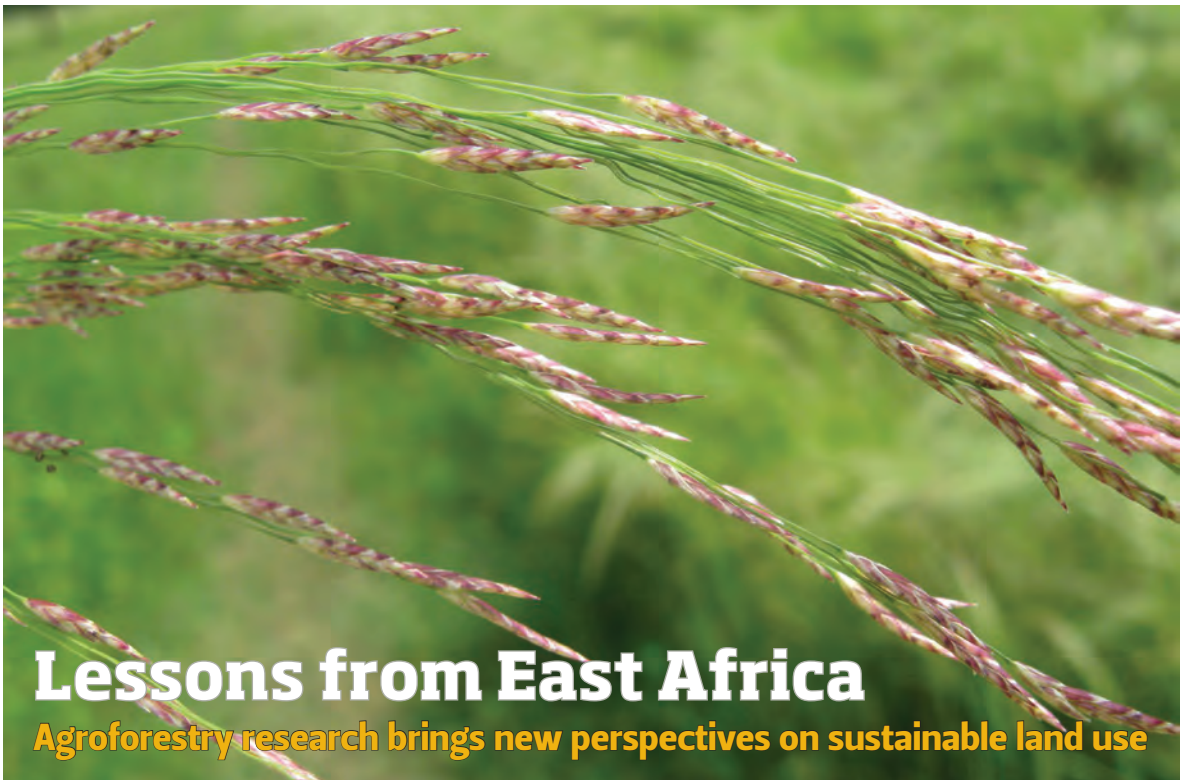
"Before I began in the OSU Renewable Materials program, I didn't realize all of the potential applications for wood-based products," says Miner. "It was a privilege to work under Dr. Fred Kamke (JELD-WEN Professor of Wood Based Composites Science) and learn more about those, as well as the properties of wood, itself, and how they can be modified under heat and pressure. I was initially ignorant of the industry and thought that Renewable Materials was just about plywood and dimensional lumber, but that's not true at all—there are so many possibilities."

Miner says that being an RM student has also inspired him to create products using other materials, such as hemp and plant-based plastics. "I really do feel an obligation to make things



that work in harmony with the environment," he says. "While calling something 'green' can be a simple way to generate sales, I'm more interested in creating a product that really inspires people to see the possibilities that natural and alternative materials can offer, on their own merits—this is amazing stuff."





Lessons from East Africa

Agroforestry research brings new perspectives on sustainable land use

by Bryan Bernart

Agroforestry is a type of land-use system that is at once traditional and forward-looking. In agroforestry systems, trees and crops are planted together in order to increase sustainability and biological diversity. This is particularly important for people living in areas expected to be most affected by the effects of climate change, but it also holds promise for wider use in many different regions, including the Pacific Northwest.

Under the leadership of Professor Badege Bishaw (FES), the College of Forestry is fast becoming a key center for agroforestry research in the United States and beyond. Agroforestry initiatives include the recently established PNW AgroForestry Working Group, which connects participants from agencies, universities, and institutes from Oregon, Washington, and Alaska with collaborators in Nebraska and the USDA National Agroforestry Center in Washington, DC; long-standing collaborations with the World Agroforestry Center (ICRAF) and the Ethiopian institute of Agricultural Research; and past partnerships between OSU and universities in South Africa and Ethiopia. The College currently offers two agroforestry courses at both the undergrad and graduate level, which can draw as many as 45 students from across campus, and a new graduate certificate in Forests and Climate Change is in development.

These efforts have created opportunities for students and faculty alike to participate in exchanges between OSU and its partners abroad. This spring, international visitors to Corvallis will include the ICRAF Ethiopia Country Representative and the East and Southern Africa Regional Coordinator. These efforts have created opportunities for students and faculty alike to participate in exchanges between OSU and its partners abroad.

Last summer, Jeannette Krampien, a master's student in Forest Ecosystems and Society, spent five months in Ethiopia studying agroforestry systems. In particular, she focused on two plants grown together in a parkland-type agroforestry system: the indigenous *Faidherbia* tree, which fixes nitrogen in the soil, and the "ancient grain" crop known as "teff" (*Eragrostis tef*), a staple food grain in Ethiopia and Eritrea. In a conversation with the *Focus*, Krampien details her work, her experiences in East Africa, and her thoughts on agroforestry and climate change.

What can you tell us about the research you conducted?

My work is related to the effect of environment on the physiology of plants in an agroforestry system. I wanted to examine the effects of tree

pruning and crop distance on various attributes in both species. For the trees, I looked at leaf area index and used sap flow gauges to measure water use, which were then related to environmental conditions. For the crop, I measured growth, leaf area index, and relative chlorophyll content, as well as took samples that will be used for 13C determination—a measure that can be helpful in examining plant metabolism and may also be used in tests that indicate whether a plant has experienced drought stress.

Was there any particular reason you chose to work in Ethiopia?

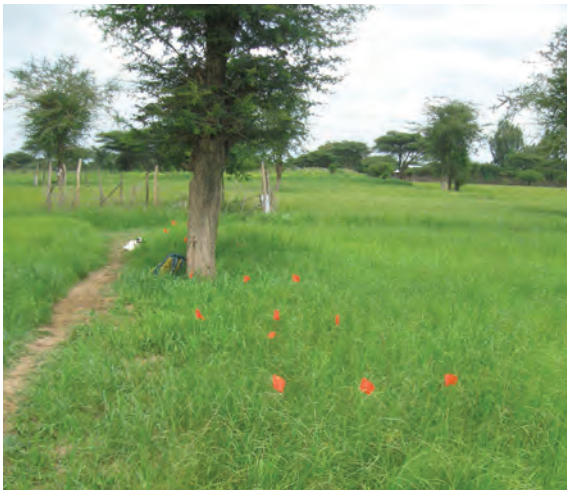
My goal, initially, was to go somewhere in East Africa. Opportunity just happened to present Ethiopia as a suitable location at the time I wanted to go; equipment, site and advisor availability, and funding, provided by the World Agroforestry Centre, Ethiopian Institute of Agricultural Research, Australian Centre for International Agricultural Research, and OSU, were factors in my decision.

Why have you chosen to study agroforestry, and in your own words, why does agroforestry matter, and to whom?

My first experience with agroforestry was as a Peace Corps volunteer in Niger, where I worked as an Agroforestry extension agent. From my experience, I've learned that agroforestry is a means to sustainable production of agricultural and forest products—but it's not just about production. It's about protecting soils, water, biodiversity, and the atmosphere for future use. Agroforestry is important not only for land owners and managers, but for the general public that ultimately depends on the sustained use of natural resources.

What kinds of ideas and strategies regarding agroforestry implementation that you learned and observed in Ethiopia are applicable to agroforestry in the Pacific Northwest?

I think I came back with a greater appreciation for flexibility in land management. Most farmers in Ethiopia practice smallholder farming (a blend of subsistence and cash crop farming meant to support a single family), and they really try to get the most out of their land by using multiple agroforestry practices. Because, in the Pacific Northwest, so many types of landscapes exist, often blending into each other, farmers here must also be creative and flexible in order to reach production, ecosystem service, and conservation goals. Multiple management practices, including silvopasture, riparian buffers, and windbreaks,



are often employed on a single piece of land, and success depends on using them effectively.

Do you see agroforestry as an issue that should be addressed at a global scale? How could world-wide implementation of agroforestry affect communities ecologically and economically?

Sustainable agriculture, sustainable forestry, improved ecosystem services, and biodiversity conservation are issues that need to be addressed at a global scale. I see agroforestry as a possible means to those ends, along with other strategies undertaken at the global level. Agroforestry systems can protect soils, sequester carbon, improve water quality, and increase biological and economic diversity, leading to greater resiliency of communities

(continued on p. 13)

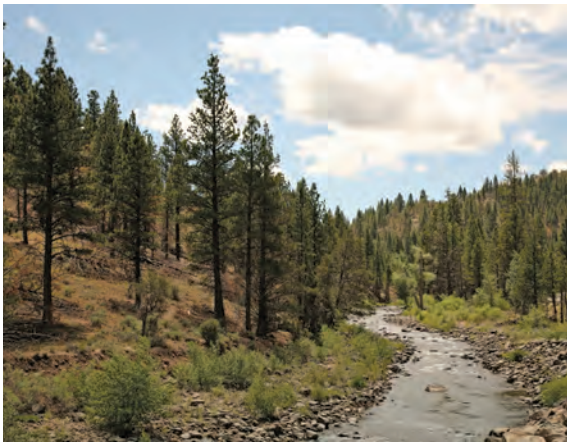
Photos: (clockwise, from top left page) "teff" (Eragrostis tef) panicle; research plots along a tree; Jeannette Krampien (right), with friends Atika, Abdu, and Hawi.

Respect, Creativity, and Fairness

OSU alum shares his leadership philosophy as Deputy Forest Supervisor of the Fremont-Winema

by Bryan Bernart

To visit the Fremont-Winema National Forest is to understand the meaning of the word "immense." Extending from the edge of Crater Lake National Park to the Oregon/California border, its 2.3 million acres contain the kind of wide open spaces people used to sing about in folk songs. Paradoxically, the opportunity to experience not just a place, but an entire landscape in almost total seclusion, if one so chooses, draws thousands of visitors to the Forest every year for boating, camping, fishing, hunting, hiking, birdwatching, horseback riding, and many other outdoor activities.



To supervise a forest this size appears a herculean task; just to drive from one border to another other takes more than three hours at highway speeds. The forest comprises seven ranger districts, staffed by over 250 employees working across a large range of forestry fields—recreation, fire, timber, botany, fisheries, range, water, and wildlife , to name just a few—while collaborating with tribes, elected officials, neighboring landowners, and timber customers. So, how does one approach management?

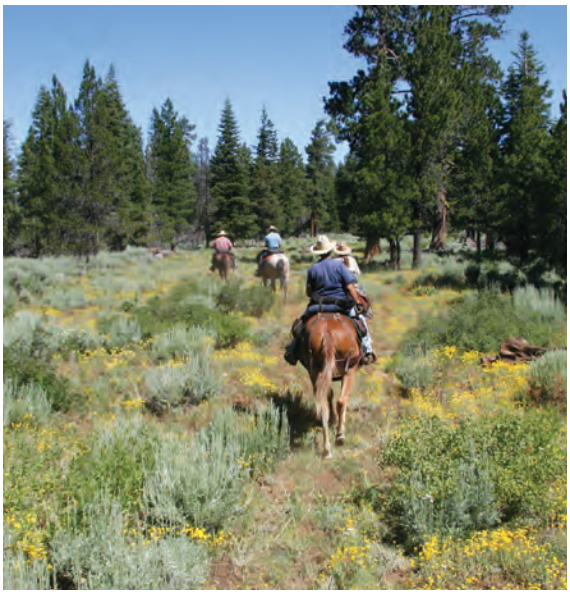
With creative problem solving, strategic thinking—and a leadership philosophy that has some unconventional twists, explains Deputy Forest Supervisor Eric Watrud, an OSU alumnus (NR, 2000). "Every day is different, and because of that, the work constantly challenges my creativity," he says. "There are lots of opportunities to apply strategic thinking, because, in a given day, 15 different crises can pop up, and you have to be able to prioritize between them. You have to make sure you're showing everybody (employees, visitors, neighboring landowners, and everyone else)

respect by getting back to them quickly, while simultaneously not rushing into important decisions."

An emphasis on respect is an important aspect of Watrud's leadership philosophy. The most important thing one can do, in any position, is to treat others fairly, he says. "If you're respectful to others, they'll behave respectfully in turn. That's something I've always believed in, and it's especially helpful when disagreements come up, which is a natural part of work."

Complexity is a natural part of work for managing issues that arise on the Fremont-Winema National Forest, Watrud says, and for that reason it's critically important that a supervisor trusts his or her staff to do their work well. "Delegation is a real art, because, especially for a new manager, it can be tempting to try to solve everything yourself—but that won't work," Watrud says. "At the Forest we have a host of professionals across different disciplines that I can turn to and ask their opinion, advice, or counsel. By using that resource, together, the Leadership Team can point the whole Forest in the right direction."

But that's not all, Watrud explains. In his view, sometimes the best person for a job may be someone unexpected. "In management, it's critically important to always be on the lookout for future development," he notes. "Suppose that, every time you have a particular issue, you give it to Person A. That may work fine; however, sometimes it's good to let Person B take a crack at it. Although due to their lack of familiarity, or more limited skills, they may not get it done as quickly or as thoroughly as Person A, they now have a chance to grow and improve, as well as



provide new insights that you or Person A may not have seen before."

This understated yet effective leadership style based on teamwork, cooperation, and mutual respect was evident during his undergraduate years at OSU. Watrud came to OSU knowing that he wanted to study forestry here because, as he says simply, without boasting, it was the best forestry school in the country. Upon enrolling, Watrud discovered another advantage: the freedom to set his level of involvement in its many academic clubs. He leapt right in, eventually becoming the head of the Natural Resources Club, as well as chairing the OSU student chapter of the Society of American Foresters (SAF), which included hosting the student activities at the SAF National Convention. In his senior year, Watrud was chosen to receive the prestigious Harold Bowerman Leadership Award, given to students who demonstrate outstanding service to the College of Forestry or to OSU.

His unconventional advice to undergraduates, the next generation of leaders, who seek to chart a similar path through academia? "I learned at OSU that part of being a leader is that you don't make yourself stand out," he says. "You work with who's around you, and help match people's strengths to their interests—if you let people work on things they're passionate about, they'll turn in great work." As for himself? "I'm really grateful to be able to do what I do," Watrud says. "I've really been blessed in my life."

One final note: it should be no surprise that this interview found Watrud attending a leadership conference in Portland. "It's a good opportunity to connect with the other forest supervisors from around Oregon and Washington," he says. "It enables us to ensure we're all moving in the same direction."

All photos courtesy of the Fremont-Winema National Forest, USDA Forest Service.

Right Time, Right Place, Right Training

Sky high goals and down-to-earth skills find new forestry alumnus headed in the right direction

by Bryan Bernart

Erik Vermaas didn't set out the morning of June 21st, 2014 to save a man's life. A scant week after graduating from OSU with his bachelor's degree in Forest Management, Vermaas was simply going to inspect a timber sale as part of his new job with the Idaho Department of Lands (IDL).

His forestry degree and the career it launched were already milestones for the young man who sometimes found the academic road to be a bit rocky. "College wasn't always so easy for me," Vermaas acknowledges. "I struggled here and there, until I realized that what I really needed was a goal to help me focus—something specific to work for."

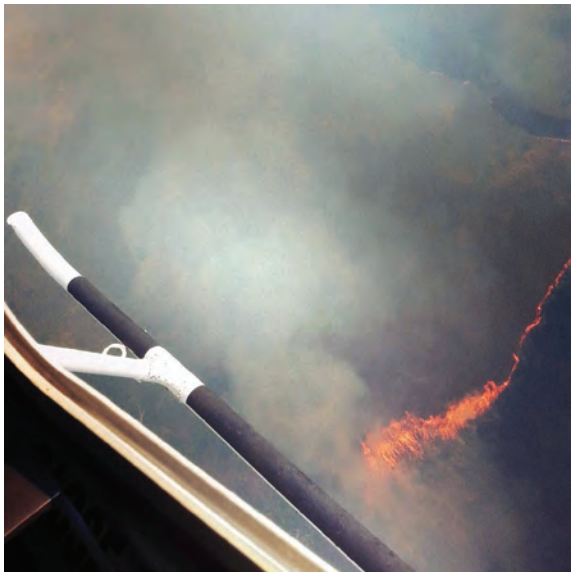
The goal he set is a lofty one: to become a smokejumper, part of an elite crew of highly skilled firefighters who parachute into remote areas to combat wildfires. "I decided that every decision I made was a decision that could get me closer to that goal," he says, "and that's what got me through."

Just after graduation in June 2014, Vermaas took another step forward when he began working for the IDL. Along with his background in fire management and timber, Vermaas credits his experience working for Jeff Wimer on the OSU Student Logging Training Program with helping him obtain the position. While at OSU, Vermaas had also taught skiing racing at Crescent Valley High School, in part because he had been looking for leadership experience. As he set out on that summer morning in 2014, little did he know that a leadership experience of a different flavor was about to find him.

Vermaas was driving through an extremely isolated but incredibly scenic part of Idaho known as the Joseph Plains, near the Hells Canyon National Recreation Area where golden hills tumble into azure creeks. By the side of the one-lane, dirt-and gravel road, he came upon a man on an ATV, who flagged him down. This immediately struck Vermaas as odd because, as he explains, the ranchers in the sparsely populated area "generally handle their own business."

Stepping out of his truck, Vermaas saw that the man was in dire need of medical assistance. He had suffered severe chemical and hot water burns due to an overheated radiator and was in a lot of pain. "He'd been out there for over an hour," Vermaas says, "and in an area this remote, there's no guarantee anyone else would have even come by that day."

Faced with the crisis, Vermaas had to move fast. In an incredible turn of fortune, he had completed a first aid course just two days prior to the incident, and knew exactly what to do. He provided immediate medical assistance and then drove the man to a hospital. While he was being



treated, Vermaas looked after the man's service dog, and then gave the pair a ride back home.

A short while after the experience, Vermaas had something to help him remember it: a letter of appreciation for his actions and service written to the Director of the Idaho Department of Lands. It reads, in part: "You are fortunate to have an individual of such caliber working in your department. This young man displayed clear thinking in an emergency situation, has displayed a clear ability to act decisively without delays, [and] has an innate understanding of others' needs in critical situations."

For someone whose career goal is a high-risk occupation, where every decision requires critical thinking under pressure, the letter is one more indication that Vermaas is well on the way toward his chosen destination.

Note: As this issue was going to press, Vermaas shared some good news: he has been offered a position as a smokejumper in Idaho and will begin training in May. He writes, "This is the career I have dreamed of, and with a little hard work, patience, commitment, and determination good things can happen. I am beyond thrilled to have this opportunity!"

Photos taken by Erik Vermaas while working on fire crews in Idaho. From left: Bingham Ridge fire in the Snake River Breaks, where he was conducting the air-to-ground communications directing SEAT aircraft retardant drops. On the Wapshilla fire in the Salmon River Breaks with the Craig Mountain Helitack Crew; Vermaas was the lead sawyer eliminating hazard trees ahead of the line dig crew, who were Canadians from the Yukon. Initial attack situation on the Camas fire as seen from the helicopter—once on the ground, Vermaas assumed the role of Incident Commander.

(continued from p. 9)

that depend on natural resources. However, due to the diversity of environments in which agroforestry may be practiced, regional and local-level knowledge and support will be needed in order to implement any global strategies.

Do you believe agroforestry could help developing nations adapt to or mitigate the effects of climate change? If so, how?

Yes, I do. Beyond sequestering carbon in woody vegetation, the ability to adapt to or mitigate the effects of climate change comes from the diversity of species and functions in agroforestry systems. In any given year, there's a chance that some monocultures will be wiped out as a result of abnormal climate conditions—a situation that leaves landowners with no source of income, and potentially, their soils with no cover. A system that has multiple plant and animal species is more likely to retain some economic value if one of the components fails due to extreme drought or flooding. As we've seen even recently, here in the United States, crop diversification should be a priority for developed as well as developing nations.

Atika's coffee stand (photo credit: Jeannette Krampien)

How did you spend your non-research time? What would you like to communicate about your cultural experiences in Ethiopia, a country to which relatively few in the United States travel?

My take-away from Ethiopia is that it is a really diverse country, both culturally and ecologically. I spent my time reading, grading, walking, enjoying the company of my friends Abdu and Atika, and on many coffee socials. I saw warthogs in the beautiful and cold Bale Mountains and a tornado-swarm of storks in the semi-arid Rift Valley. I'd also like to add that *kitfo* (raw beef, marinated in chili powder and clarified butter) is delicious–that alone would make a visit worthwhile.

Two Awards to FES Graduate Student

David Mildrexler, PhD student (FES) working in the Laboratory for Applications of Remote Sensing in Ecology (LARSE) with Professor Warren Cohen, received the Outstanding Student Paper Award in the Global Environmental Change section of the 2014 Fall meeting of the American Geophysical Union (AGU) for his presentation, "Characterizing an Integrated Annual Global Measure of the Earth's Maximum Land Surface Temperatures from 2003 to 2012 Reveals Strong Biogeographic Influences."

Mildrexler has also been selected as one of the Wilburforce Fellows in Conservation Science. His research focuses on the development of a new methodology to detect where Pacific Northwest forests are under stress associated with drought and high temperatures, and on integrated approaches for monitoring the Earth's land surface temperatures.