



# FOREST SEASONS

Summer 2014

The Newsletter of the  
NAU School of Forestry

## Heating up Education: SAFE Students Participate in Nebraska Training Exchange

The Student Association for Fire Ecology (SAFE) is an organization with a primary focus on providing students with a forum to discuss fire management and ecology. The NAU chapter of SAFE also provides students with extracurricular ways to increase their practical knowledge, skills, and abilities in fire management. These have included assisting local agencies in completing prescribed burns, hosting fire professionals as guest speakers, hosting training sessions for basic wildland certifications, and organizing an annual wildland fire career fair. Students also have the opportunity to work on National Wildfire Coordinating Group taskbooks, which are lists of competency areas that students must complete to gain nationally recognized certifications in the wildland fire community.

For the second year in a row, members of SAFE had the opportunity to put what they have learned into action while attending a training exchange at the Niobrara River Valley Preserve, a 56,000-acre preserve in northern Nebraska managed by the Nature Conservancy (TNC). The Nebraska Training Exchange (TREX) is hosted by TNC under the direction of the Fire Learning Network. TREX is held for two weeks in March, which overlaps with spring break at many universities. Its main purpose is to provide students and land managers the opportunity to develop fire management

skills, complete taskbook requirements, and observe fire behavior in a structured environment.

The Niobrara Valley Preserve encompasses a wide variety of landscapes, ranging from prairie grasslands to ponderosa pine-dominated forests. This area is also a model for using bison, cattle, and fire to manage grasslands. In recent years, the once open grasslands of this area have seen increased encroachment by eastern red cedar. The mixed grass prairies of the Midwest traditionally experienced a high-frequency, low-severity fire regime. Traditionally, these fires would kill seedlings and reduce the amount of eastern red cedar across the landscape. However, the suppression of wildfires and lack of prescribed burning has created an environment where the cedars can flourish. This environment provides a “classroom” for students to observe the effects of fire exclusion on ecosystems.

The six students who participated in this year’s TREX were accompanied by Dave Brewer, a retired Forest Service and Ecological Restoration Institute employee who has been a great supporter of our students. Upon arrival,



SAFE students dig fireline during a basic wildland firefighting qualification field-day.

the group was briefed on the objectives, procedures, weather conditions, and burn window parameters. They were then assigned to crews consisting of students from Colorado State University, members of private firefighting companies, and TNC employees.

Over the course of four days, the crews completed multiple assignments ranging from burn preparation to ignitions and holding operations. Students began the week by attending several classes on prairie ecosystems, prescribed fire implementation, and eastern red cedar encroachment. Over the next three

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# Executive Director's Message

Dear Alumni and Friends:

Recently I read a book<sup>1</sup> that identified four major issues that will prove to be decisive for the U.S. and its place in the world during the next quarter century. The issues are education (especially the number of young Americans obtaining college degrees), environment, geopolitics, and diversity. As I reflected on these issues, it seemed to me that the School of Forestry is making meaningful contributions in all four areas. Education, of course, is goal number one for us, and we have always been heavily focused on the environment through our research and our efforts to develop and promote sound natural resource management practices. But what about the other two issues?

While foresters are not typically involved in geopolitics, here at the School of Forestry we are very interested in promoting global engagement on the part of our students and faculty. For the U.S. to continue to thrive in this increasingly connected world, our citizens should be better informed about global issues and more of us need to be engaged with fellow inhabitants of this planet. Through participation in study abroad programs such as the USAC (see Page 4), faculty and student research in other countries, and courses such as *Forestry in Developing Countries*, we are definitely trying to do our part.

Finally, diversity was identified as the greatest challenge, one that will be at the front and center of many future policy issues, both domestic and international. Promoting awareness and appreciation of diversity-related issues is an important goal of NAU as a whole. Our school works hard on this through such means as seeking to diversify our student body and by offering courses such as *Multicultural Perspectives in Natural Resources Management*.

After reading this book and reflecting on it, I feel that much of what we do here in the School of Forestry is right on track. While I am pleased to know that we are already contributing to each of these four grand challenges, I also know that we will always be on the lookout for ways to do more and to improve on what we are already doing. Maybe you can help us with that!

Sincerely,

*Jim Allen*

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*The Price of Civilization: Reawakening American Virtue and Prosperity*, by Jeffrey D. Sachs.



It was a pleasure to see so many of our alumni return to work as recruiters at our Natural Resources Career Fair this past January. From left to right are Diane Cote (BSF, 1976), Grace Hancock (BSF, 2008), Amber (Ramirez) Dorsch (BSF, 2009), Marshal Randol (BSF, 2010), Jacob Lopez (BSF, 2007), Jon Word (2005) and Jeff Sanocki (BSF, 2004).



# Student Highlights

## Undergraduate Researchers Present Their Results

Every year, several of our undergraduate students get the opportunity to engage in research projects under the guidance of a faculty mentor. This work often results in posters being presented at conferences and even publications in peer-reviewed journals. One example is Cami Platts, who won the Best Student Wildlife Poster award at the joint meeting of the Arizona and New Mexico Chapters of the American Fisheries Society and the Wildlife Society this past February. Other examples from this past year include Greg Black, who presented a poster entitled *Stand structure and composition in treatment areas following the 2012 Grand Fire, northern Arizona* at a conference in Lexington, KY, and Nick Affitto, who is first author of an article entitled *Use of acoustics to deter bark beetles from entering tree material*, which was published in the journal *Pest Management Science* with his mentor, Dr. Richard Hofstetter.



Cami Platts posing by her first-place poster.



Annika Keeley (left) and Serra Hoagland.

## Graduate Students Compete in "3MRP" Competition

Serra Hoagland, a School of Forestry PhD student, won NAU's first 3 Minute Research Presentation (3MRP) competition this past spring. Each graduate student in the competition was faced with the challenge of communicating their work in three minutes to a general, educated non-specialist audience. Annika Keeley, also a PhD student in our school, was one of the 12 finalists. Their talks can be viewed online at <https://www.youtube.com/playlist?list=PLZWv2uWxJLainTwwLIImOjuFVkJRdbZAmx2>.



## Students Use Tablets in Senior Year Course

With support from Paul Jagodzinski, Dean of the College of Engineering, Forestry, and Natural Sciences, we purchased 20 Dell Latitude 10 tablets and outfitted them with various spatial, forest inventory, and simulation software. This past fall they were used in the field and in the classroom by students in Semester C. In the photo above, Assistant Professor Andrew Sánchez Meador (right) demonstrates the use of a tablet to students Alyandra Aday and Steven Granroth.

# Faculty and Students Participate in Study Abroad Program



The six senior NAU forestry students that attended the San Ramon Costa Rica USAC program, left to right they are Alec Latuszek, Connor Fimpler, Nicole Krupela, Andrew Mann, Christopher Cutshaw, and Devin Kline.



Students on a field trip near Pau, France. Forestry senior Sterling Wiltbank is pictured in the front left side of the photo.

During the fall 2013 semester, two School of Forestry faculty members participated as instructors in the University Study Abroad Consortium (USAC). USAC is comprised of 33 member universities across the U.S. and 42 host universities in 26 countries. Faculty from USAC members in the U.S. can apply to spend a semester teaching at one of the host universities. Their courses are taken primarily by U.S. students from the member universities.

Professor Pete Fulé spent the fall semester at the University of Pau in southern France, where he taught two courses – *Climate Change and Forests* and *Ecological Restoration*. Associate Professor Richard Hofstetter spent his fall semester at the University of San Ramon, in Costa Rica, where he taught *Forest Entomology*, *Tropical Forest Ecology: Insects and People*, and *Independent Undergraduate Research*.

Participation in the USAC is a great opportunity for our faculty to gain additional international experience, which ultimately will benefit our students and other faculty here at NAU. Furthermore, the participation of faculty acts to encourage

students to study abroad. A total of eight NAU students, including seven forestry students, also spent their fall semester in Pau or San Ramon, where they took the courses offered by Drs. Fulé and Hofstetter.



Professor Pete Fulé examining an increment core with two students during a field trip near Pau.





Students conducting "strip-firing" operations in the Niobrara Valley Preserve.

days the students lit up drip torches and completed firing operations in several burn blocks on the preserve. In total, they helped to treat 4,500 acres with fire. The students also had the opportunity to complete taskbook requirements for positions such as squad boss and fire effects monitor.

In addition to the hands-on experience manipulating fire that is crucial to their professional development, the students were able to gain leadership experience. One student even served as a squad

boss, instructing and leading other students in their fire operations. Due to the cooperative nature of the TREX, students worked with individuals from multiple organizations, which provided the opportunity to build valuable networking connections. As a result, Chris Otten, one of our students at the TREX, received an entry level position with Firestorm, a private firefighting organization from Chico, California.

With such a strong showing, our SAFE chapter was invited to participate again in next year's TREX.



Chris Otten, a NAU SAFE member, translated his experience at TREX into a job opportunity. He would go on to work with Firestorm, a private firefighting company from Chico, CA.

The group is hoping to send double the number of students, and has begun an active program of fundraising, ranging from providing services such as fuels reduction and snow shoveling to seeking grants from a variety of organizations. The money gained through these endeavors will be used both for transportation expenses and to purchase fire resistant clothing, hand tools, and personal protective equipment for the chapter to use both at TREX and closer to home.



## White Pine Blister Rust Research

John Benning (left), a technician with the School of Forestry's Silviculture and Applied Forest Health Laboratory, collects cones from a large southwestern white pine tree. White pine blister rust, a disease caused by a non-native pathogen, threatens to destabilize populations of this important tree species. The lab, which is led by Associate Professor Kristen Waring, began collecting seed in 2012 to be included in long-term cold storage as part of a program to conserve the genetic diversity of this species. Seeds are also being used for research, including a common garden greenhouse study led by PhD student Betsy Goodrich, disease resistance screening studies, and seedling outplanting trials in collaboration with the U.S. Forest Service. On the right, Dr. Waring ascends a surviving tree within the Wallow Fire perimeter in eastern Arizona.



## Student Travel Fund Created



Drs. Dan Binkley (left) and Mike Ryan.

Two School of Forestry alumni recently announced a pledge to establish the Wally Covington Student Travel Award. Drs. Dan Binkley (BSF, '77) and Mike Ryan (MSF, '78) are two of the earliest students to study with Dr.

Covington, who at that time was a new Assistant Professor and is now a Regents' Professor and Executive Director of the Ecological Restoration Institute. They both attribute Dr. Covington with influencing the subsequent course of their careers.

After graduating from NAU, Dr. Binkley and Dr. Ryan each went on to obtain PhDs and become scientists with excellent international reputations.

Dr. Binkley is a Professor at Colorado State University, where he and his students have worked on a wide range of projects, from natural forest and soil dynamics in northern Alaska to ecosystem production in intensively managed *Eucalyptus* forests in Hawaii and Brazil. Dr. Ryan recently retired from the U.S. Forest Service's Rocky Mountain Research Station and is now a

Senior Research Scientist at the Natural Resource Ecology Laboratory, Colorado State University. His research focuses on forests and the carbon cycle, including forest productivity, changes in tree physiology and ecosystem processes with disturbance and recovery, carbon allocation, soil carbon and nitrogen interactions, and coordination of carbon, water, and nutrient cycles. He has conducted research in the US (Colorado, Wyoming, Hawaii, New Mexico), Costa Rica, Canada, Brazil, New Zealand, and Australia. Between the two, their publications have been cited nearly 30,000 times, which is a truly outstanding record and an indication of the major impact of their work.

Drs. Binkley and Ryan plan to build the travel award fund to a level of at least \$100,000, which will help provide opportunities every year for students to travel to conferences, attend workshops, and pursue other types of professional travel opportunities. They encourage other alumni and friends of the School of Forestry to join them in building this fund.

## In Memoriam – Mr. Kay Hafen

Mr. Kay Hafen passed away on December 9, 2013, at 90 years of age. Kay was a very private person and only a few faculty and staff knew him, but he and his wife Irene have had a major impact on our school. It was more than 10 years ago that Kay and Irene began hiring some of our students to work on their property in Munds Park, which they continued to do nearly every summer since. Kay and Irene were so impressed with our students that they set up a very large endowed scholarship that currently benefits nine students every year. The Hafens have helped our students and faculty in other ways, as well. Very few people have done as much for our school as the Hafens, and Kay will be sorely missed.



Mr. Kay and Mrs. Irene Hafen.

# Alumni Updates

## **Robert (Bob) Flynn, BSF, '78**

Bob is Director, International Timber for RISI, the leading information provider for the global forest products industry. Bob has more than 35 years of experience in the forest industry, including nine years as a forester for Champion International in Oregon. He has spent the past 25 years as a consultant to the international forest industry, with a focus on analysis of timber supply and demand trends outside of North America; international trade of logs, woodchips, and biomass; and trends in international timberland investment. Bob recently shared a story about how his career in industry got started and the profound influence that Dean Charles O. Minor and Professors Don Wommack and Ernie Kurmes had on setting him on that career path.

## **Tom Tuchmann, BSF, '83**

Tom is President of U.S. Forest Capital, LLC, an advisory services company based in Portland, OR. U.S. Forest Capital assists clients in: identifying, managing, and financing natural resource transactions; creating and improving governance structures; and resolving public policy and communication challenges. In this role, Tom has helped raise \$240 million in conservation funding that has conserved 110,000 acres of private working forestland. He is concurrently serving as Oregon Governor John Kitzhaber's Forestry and Conservation Finance advisor. Tom has previously worked as the Western Director and Special Assistant to the U.S. Secretary of Agriculture, Director of the U.S. Office

of Forestry and Economic Development, lead staff for the Senate Agriculture Committee, and Director of Resource Policy for the Society of American Foresters.

## **James Pitts, BSF, '98 and Molly (Bulicek) Pitts, BSF, '98**

Jim and Molly continue on their adventure together after meeting in Semester A. Jim accepted a position as a District Ranger on the Rio Grande National Forest on the Saguache Ranger District in 2012, prompting a move from Eastern Arizona to Central Colorado. With this move, Molly made the decision to start graduate school, and just this past June completed her MS in Natural Resources from Oregon State University. This was a distance learning program and Molly was fortunate to have former NAU professor Dr. John Bailey as her advisor. Since completing her MS, she has sprung right into using her new skills working on projects with the Greater Arkansas River Nature Association and National Forest Foundation, and by helping out with a biomass utilization study in the San Luis Valley of Colorado. Jim and Molly have two sons, Caden (10) and Colby (12) who are very active and love living in Colorado and all that it offers. Whether its skiing in the winter, rafting in the summer or hunting in the fall, this active outdoor family treasures the time together.

## **Matthew Hurteau, BSF, '01**

**Matt went on to receive** his PhD in Ecology from the University of California, Davis and is an Assistant Professor in the Department of Ecosystem Science and Management at Penn State. Research in his lab is focused on climate change mitigation and adaptation in forest ecosystems. Current research efforts are focused on quantifying the effects

of different management actions on the provision of ecosystem services and simulating the effects of projected changes in climate and wildfire on forest carbon dynamics. Matt and his wife Sarah enjoy traveling internationally to learn more about the forest ecosystems of the world.

## **Citlali Cortés Montaña, PhD, '11**

After living in México City for nearly a year as the Rainforest Alliance's TREES program national coordinator, Citlali accepted a position as researcher in a federal research center in Durango (CIIDIR, Centro Interdisciplinario de Investigación para el Desarrollo Integral Regional), starting this fall. She will be conducting research in forest conservation and management, as well as in forest and fire ecology. She is happy to be going back to the mountains that she loves.

## Join Us in Salt Lake City

We will be hosting an alumni reception at the Society of American Foresters National Convention in Salt Lake City and you're invited! Our reception will be held from 7-9 pm on Thursday, October 9th, in Grand Ballroom B of the Hilton Salt Lake City Center. The convention will be co-located this year with the International Union of Forest Research Organizations (IUFRO) World Congress. The IUFRO World Congress takes place once every 4-5 years and has not been hosted in the United States since 1971, so we are hoping for an especially big turnout of alumni and friends.





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Unmanned aerial systems, or drones, are starting to be used for forestry and other natural resource applications. Assistant Professor Andrew Sánchez Meador recently purchased this Draganflyer X4 quadcopter and has been learning how to operate it, with the goal of using it for remote sensing, monitoring and traditional photogrammetry applications. You can view one of his early test flights and get an aerial view of our building at <http://vimeo.com/76474176>.

Forest Seasons is a newsletter for Northern Arizona University School of Forestry alumni and friends. We welcome your feedback on the newsletter and encourage you to stay in touch. Please feel free to call us at 928-523-3031 or visit us at [nau.edu/forestry](http://nau.edu/forestry) or on Facebook at <https://www.facebook.com/NAUForestry>



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