



# CNRE NEWS

ADVANCING THE SCIENCE OF SUSTAINABILITY

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## FIELD TOURS 40TH ANNIVERSARY

### One of Virginia Tech's finest outreach programs impacts one of the state's top manufacturing sectors

Forests cover more than 62 percent of Virginia's landscape, totaling over 16 million acres. Private individuals and families (405,000) own more than 62 percent of these woodlands, with Virginia's forests growing more timber than is being harvested. As such, the forest products sector consistently ranks among the state's largest industries.



*Rep. Rob Whitman (left) of Virginia's 1st Congressional District talks with Page Ball, president of his family's Tidewater Lumber Corp. in Essex County, about the sawmilling and planing operations at the company, which ships pine and hardwood products along the East Coast and overseas.*

So it's no wonder that 40 years ago Harry Haney, the now-retired Honorable and Mrs. Shelton H. Short Jr. Professor of Forestry, saw the need to educate forest landowners and had the vision to start the popular and highly successful Fall Forestry and Wildlife Field Tours. Since 2005, Jennifer Gagnon, Virginia Cooperative Extension associate in the college's Department of Forest Resources and Environmental Conservation, has managed the Virginia Forest Landowner Education Program that runs the field tours, which is the longest running event of its kind in the state.



"In Virginia, we rely on private landowners to conserve more than 10 million acres of woodlands as healthy and productive forest," said Department Head Jay Sullivan. "Faced with the challenges of invasive species, insects and diseases, severe weather, ever-changing markets, and continuing turnover of owners, our forests need wise managers. Jen's program provides landowners with the training they need."

Combining education, networking, sightseeing, good food, and an opportunity to experience local communities, the field tours offer an incredible outdoor classroom on sustainable forestry management. Participants see and hear about forest farming and wildlife planning firsthand, making for an impactful and long-lasting lesson.

But it takes a village, as dozens contribute to planning the tours. Virginia Cooperative Extension partners with the Virginia Department of Forestry, Virginia Department of Game and Inland Fisheries, Virginia Forestry Association, other agencies, companies, and associations. They work together to share best management and multi-use practices, and showcase research projects at private farms, public lands, sawmills, and other forestry industry operations across the state.

"Extension's four district natural resources agents are vital to the program's success because they personally know the forest landowners who have good practices to share," Gagnon said. "Neil Clark, Adam Downing, Jason Fisher, and Bill Worrell are instrumental in planning the stops for the tours."

During this 40th anniversary year, the tours spanned the entire state, from Prince William and Essex counties to Dinwiddie, Nottoway, and Lee counties. At each stop, participants of all ages met with landowners to hear their stories and learn valuable lessons — not only about what to do but what *not* to do.

A series of videos celebrating the 40th anniversary show the effectiveness of these programs, which have served more than 5,600 participants over the years. Participating landowners share how the workshops and field tours have greatly helped them. (To view the videos, visit [forestupdate.frec.vt.edu](http://forestupdate.frec.vt.edu) and select Impacts from the list of tabs.)

*A highlight of the Dinwiddie/Nottoway Counties field tour was Ward Burton's passionate rundown on his conservation efforts, which include partnering with Fort Pickett in Blackstone to provide the U.S. Army with EPA credits by his turning previously forested land adjoining the base into quail habitat. The retired NASCAR driver is one of the state's most prominent forest landowners, known for his reforestation efforts and management of endangered species.*



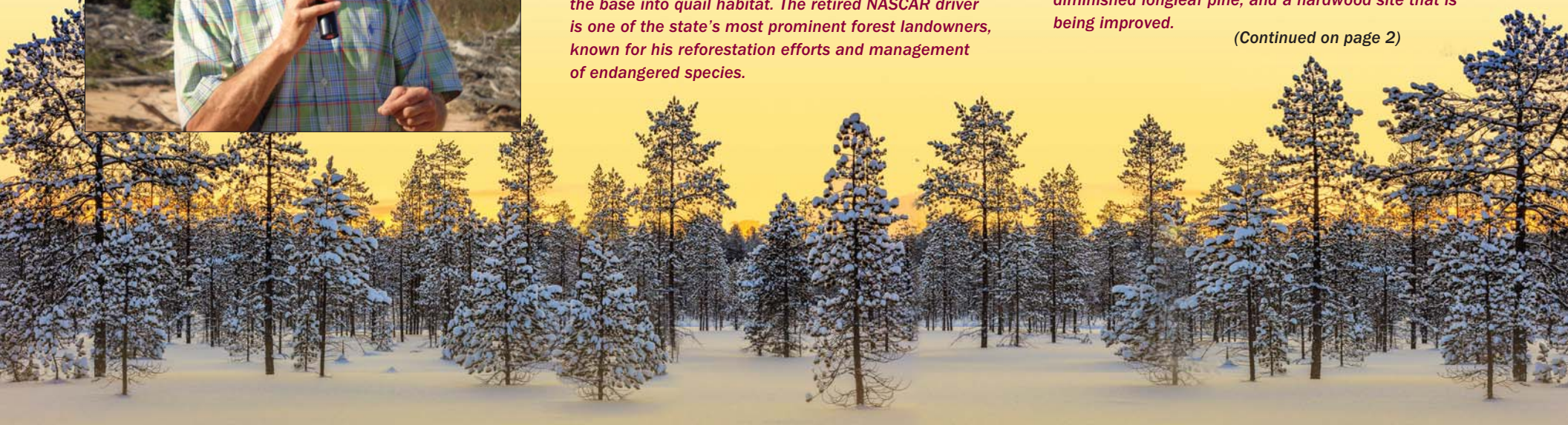
*Page Ball, his wife Deborah, and their sons hosted about 40 forest landowners and natural resource professionals on a tour of their Essex County mill that started with the logging trucks coming in, then the logs being debarked (pictured), and finally sawn into the finished product.*

In recent years the tours have also attracted local politicians, citizens interested in sustainable forestry and wildlife practices, Master Naturalists, Master Gardeners, and K-12 teachers, a particularly strategic group because they can weave what they learn into the science curriculum and begin to educate the next generation of land stewards.



*Extension Agent Neil Clark helped Jennifer Gagnon plan the Essex County tour, which included visits to a tornado-damaged forest, a forest site prepared with mechanical and chemical treatments to ensure successful reforestation, a site that is bringing back the diminished longleaf pine, and a hardwood site that is being improved.*

(Continued on page 2)





The year 2017 marks the 25th anniversary of the College of Natural Resources and Environment. I hope you will join us for our celebration on campus in the fall. We will commemorate not only the formation of the college but also our long history at Virginia Tech and the evolution of our program over time. Watch for details coming soon.

Last fall we recognized the 40th year of our Fall Forestry and Wildlife Field Tours. These tours bring together professionals, partners, citizens, landowners, and industry to examine and discuss practices on the landscape. I enjoyed a beautiful fall day in the field last



Dean Paul Winistorfer (left) talks with alumni at the college's first networking event in Richmond in January. Additional events will be held in other regional cities.

October in Prince William County. Congratulations and thank you to everyone who has been involved in these tours over the past four decades.

Our women's conference was a huge success, bringing together close to 200 participants, including faculty, staff, students, alumni, agency personnel, and industry partners. We must do more to increase opportunities for women and underrepresented groups in our disciplines. One of the more frequent questions at the conference was "are you going to do this again?" We are looking to fall 2018 for a second conference on this important topic.

Last fall we convened the first meeting of our new Dean's Advisory Council. Members met on campus over two days to learn about the college and our challenges and priorities, but also to learn about each other so we can develop a productive working relationship. The council will be my eyes and ears on the horizon as we chart the path forward and execute on our strategies across the college.

Over the winter break, faculty led study abroad programs to Costa Rica, Panama, and New Zealand; the Leadership Institute made its annual trek to Richmond, Washington, D.C., and beyond; and we convened our third cohort of the Sustainability Institute, comprised of 42 juniors and seniors from across the campus for a 10-day intensive training program.

Corrine Woods has joined our team as director of alumni relations. We are excited to have her with us, and we all look forward to being more engaged with our

alumni, friends, and partners. Corrine is already busy planning for the 25th anniversary celebration.

As we launch into the new year, it is important to keep our focus and energy on our priorities — undergraduate enrollment growth, space quantity and quality, scholarship support, and retaining and recruiting world-class faculty. We are making progress across all priorities, but have much more to do.

And to my college colleagues — each year the pace seems to quicken, and each year you respond by doing more and doing better, all while making the college one of the best places to work at Virginia Tech. I am constantly reminded of the positive, productive, and collegial climate among us. Thank you for all you do — every day, every week, every month, and every year. Clearly, you make a difference in people's lives and in the stewardship of our natural resources and the environment.

And to our alumni, friends, and supporters — thank you for your engagement with us and for your support. Our success is your success. We look forward to a productive and successful 2017!

Warm regards from our faculty, staff, and students,

Paul M. Winistorfer  
Dean  
pstorfer@vt.edu

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## Field Tours 40th Anniversary (Continued from page 1)



Tour speakers included Jim Vadas, a consulting forester who discussed the best management practices used at Essex County's historic Blanfield Plantation, which has 2,500 acres of managed forests.

In addition to the field tours, Gagnon develops educational programs, newsletters, materials, workshops, a website, and online classes for the state's private forest landowners. To reach new woodland owners, she helped develop the Real Forestry for Real Estate Program, which engages real estate professionals who sell woodland properties by offering them continuing education credits on forestry topics.

Gagnon has garnered national and state awards for her exemplary work, including the Virginia Agribusiness Council's Land-Grant University Award in 2015 and the 2013 Virginia Tech Alumni Award for Excellence in Extension. Forestry industry members attribute her success to her effective engagement with both landowners and the forestry industry.

More than 103,000 Virginians are employed in the forest products industry, which contributes \$17 billion annually to Virginia's economy. One of the state's largest manufacturing industries, forestry ranks first in employment, wages, and salaries. The value of recreation and ecosystem services also add to the state's gross domestic product.

In sum, forestry is an enormous contributor to the economic and general well-being of the citizens of Virginia. The Fall Forestry and Wildlife Field Tours help to ensure the sustainability of this powerhouse.



Extension Agent Bill Worrell helped plan the first-ever tour in Lee County in the far southwest corner of the state, where participants got to see a low-impact feller buncher (pictured) cut trees and move them to a log landing for loading onto a truck for transport. Also on the tour was a visit to the B.J. Fortner Hardwoods mill, where the family-owned business demonstrated its commitment to sustainable forestry and showed how high-quality logs are cut into lumber and graded for the veneer export market.

## Women's conference was a rousing success!

The college welcomed nearly 200 students, alumni, faculty, staff, working professionals, and invited guests to the Inn at Virginia Tech for the Women in Natural Resources: Leading, Mentoring, and Connecting conference in October. "This conference was part of a continuing effort by the college to enhance our understanding of diversity and inclusion in natural resources," said Dean Paul Winistorfer. "Women are underrepresented in our disciplines, so we invited inspirational and successful women to campus to interact with our faculty, students, and alumni."



Dean Paul Winistorfer with keynote speakers Carolyn Finney (left) and Kathy Abusow.

Emily Hutchins, the college's chief advancement officer, said, "I was hearing from alumni and working professionals that they really wanted to connect with current students. The process of hosting the conference has truly been a cross collaboration between staff, faculty, students, and alumni, with a diverse range of voices at the table."

The conference agenda, designed to appeal to a range of interests, included guest speakers, concurrent sessions, an alumni panel, and networking opportunities, as well as field trips, a vendor showcase, an evening campfire mixer, and a sunrise yoga class.

Keynote speakers included author Carolyn Finney, an assistant professor of geography at the University of



The alumni panel discussion "Lead from Where You Are" was very well received. Front row (L-R): Dana Zambrotta, Charisa Morris, and Anne Zimmermann. Back row: Michele Deramo (moderator), Teresa Martinez, Kathryn Procriv, and Bettina Ring.



Alumna and retiree Suzie Leslie (in orange shirt) welcomed attendees to her home to learn about creating an urban backyard habitat. Other outings included a drone demonstration at Kentland Farm, a virtual reality severe weather tour in The Cube at the Moss Arts Center, and a tour of the Center for Packaging and Unit Load Design.

Kentucky, who has built a career exploring how diversity and privilege impact participation in decision-making processes designed to address environmental issues, and Kathy Abusow, president and CEO of Sustainable Forestry Initiative Inc., whose address was titled "You Don't Have to Be a CEO to Lead."

A key element of the conference, which was made possible by donations to the college's annual fund, was fostering mentorship relationships between current students and alumni. "We're very cognizant of opportunities



Attendees enjoyed the conference photo booth, including (L-R) Amy English, Julie Spapperi-Morton, Michelle Prysby, and Becky Winters.

to engage alumni in meaningful ways, and we want to connect them with our students," Hutchins explained. "When donors support the college annually, it allows us to do things like this. Every gift matters, no matter the size."

"This conference was absolutely amazing," said alumna Sara Murrill, conservation program coordinator for the Student Conservation Association. "It was inspiring and invigorating to be around so many smart, interesting, accomplished women in the natural resources field. Women face unique challenges in our careers, and it was great to be able to get together for a conference like this — it was both a bonding and empowering experience."

## Dean's Advisory Council established

The college is pleased to announce the creation of the Dean's Advisory Council. Members include professionals, donors, and stakeholders who represent a wide spectrum of practices. "We've assembled a strategic group of accomplished individuals to help us position the college for the future," said Dean Paul Winistorfer. "Looking outward, not inward, is how the council will function." The college is still in the process of building the council, which will grow to about 15 members at full capacity. Current members are:

- **Mike Melo** ('79 B.S.), President and CEO, ITA International, Yorktown, Virginia;
- **Charisa Morris** ('99 B.S., '06 M.S.), Senior Federal Natural Resources Agency Manager, U.S. Fish and Wildlife Service, Washington, D.C.;
- **Kathryn Procriv** ('11 B.A., '12 M.S.), Meteorologist and Producer, The Weather Channel, Atlanta, Georgia;
- **Jeff Rudd** ('83 B.A., '01 B.S.), Investor, Madison, Wisconsin;
- **Bob Simpson** ('79 B.S.), President, GreenwoodGlobal Consulting, Ltd., Washington, D.C.;
- **Julie Spapperi-Morton**, Co-Founder and President, The Morton and Spapperi Family Foundation, Vienna, Virginia; and
- **Anne Zimmermann** ('79 B.S.), Retired, U.S. Forest Service, Springfield, Virginia.

"I am honored to serve on the Dean's Advisory Council," said Jeff Rudd. "It provides me an opportunity to help the dean educate prospective students, employers, and research partners about the college's national leadership in interdisciplinary subjects such as biomaterials, water, wildlife conservation, and sustainability. I look forward to learning more about the college's programmatic needs and participating in strategic discussions with council members to generate an enduring foundation of support for the college."



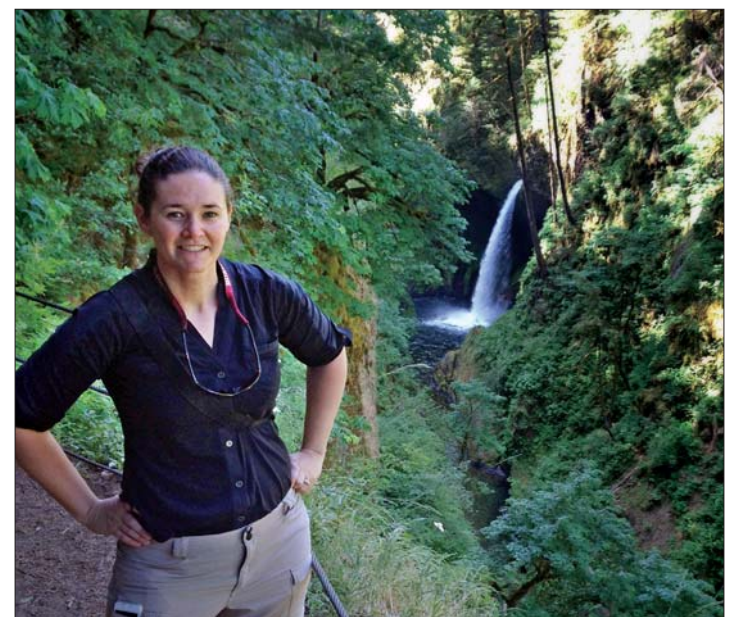
Front row (L-R): Jeff Rudd, Julie Spapperi-Morton, and Kathryn Procriv. Back row: Anne Zimmermann, Mike Melo, Bob Simpson, Dean Paul Winistorfer, Chief Advancement Officer Emily Hutchins, and Charisa Morris.  
Photo by Amy English

## College welcomes new alumni director

The college welcomed **Corrine Woods** as its director of alumni relations in January. Woods earned her bachelor's in hospitality tourism management from Virginia Tech in 2005. Following graduation, she worked in hotels in Missouri and Tennessee, and earned an MBA from Webster University in 2012. She made her way back "home" to Virginia Tech in 2013 and previously worked as a special events coordinator in University Development.

"I am eager to begin work on programs that will keep our alumni engaged with the college for many years to come," Woods said. "I am especially excited to help plan the college's 25th anniversary events. It is such a significant milestone that will be fun to celebrate and will offer opportunities to meet many of our alumni."

Woods and her husband Matt ('03 B.S. fisheries science) live in Blacksburg and enjoy all of the outdoor activities the New River Valley has to offer.



## Assistant Dean Thomas Olson retires



**Thomas Olson**, the college's assistant dean of finance, human resources, and research since 2000, retired in December after 28 years at Virginia Tech. Thomas was an integral part of the college's day-to-day operations, including managing the college's financial portfolio, serving as the college liaison for new faculty hires and search committees, and representing the college on the associate deans for research and graduate studies group. Yet he was always willing to roll up his sleeves and pitch in with preparing for space renovations or handling emergency situations. Thomas and his wife Martha will remain in Blacksburg and look forward to traveling, including extended vacations to Thomas's native Sweden. Congratulations Thomas, you will be missed!

## Candice Albert named director of administration and finance

A consummate planner, Thomas Olson always had an eye toward the college's future and worked closely with **Candice Albert** over the past five years to ensure a seamless transition when he retired. Candice, who has been with the college nine years, was named director of administration and finance in December 2015 and has taken over most of Thomas's responsibilities, guided by his expertise. Candice, who already had a business degree, earned her master's in human services counseling: executive leadership from Liberty University, completed the Administrative Management Institute at Cornell University, and graduated from the Virginia Tech Management Academy as part of the long-term plan to ensure a smooth transition.



## Internship with multicultural program shapes student's career plan

During summer 2016, Associate Professor Carolyn Copenheaver partnered with Keita Shumaker, associate professor of biology at the University of West Alabama, to provide a worthy student with a unique opportunity through Virginia Tech's Multicultural Academic Opportunities Program (MAOP) Summer Research Internship.

Brittany Butcher, a senior majoring in biology at the University of West Alabama, was recruited by Copenheaver and Shumaker for the 10-week internship, designed to prepare undergraduate students for graduate-level work. The three studied the effects of climate change on sugar maples, funded by a U.S. Department of Agriculture grant.

In addition to conducting research, Butcher's internship included preparation for graduate school through a variety of workshops, Graduate Record Exam prep courses, and professional development opportunities. One of these opportunities was the chance to present the group's findings at the MAOP's Summer Research Symposium. The MAOP, which hosted 46 interns from around the U.S. last summer, is designed to increase participation of traditionally underrepresented groups in graduate programs.

"Brittany had never realized that she was well suited for research," Copenheaver said, "but I watched her gain in confidence and, by the end of the summer, I was able to communicate with her as though she were a scientific peer rather than a student."



For Butcher, the internship was also an opportunity to discover an exciting new career path. After discussing her interest in the field of medical geography with Associate Professor Korine Kolivras, Butcher decided to continue working toward a career in research. With her eye-opening internship behind her, Butcher plans to return to Virginia Tech after graduation to pursue a master's degree in geography.

*(L-R): Carolyn Copenheaver, Brittany Butcher, and Keita Shumaker studied the effects of climate change on sugar maples during Butcher's MAOP Summer Research Internship.*

## Effort continues to preserve Stadium Woods



Work continues on protecting and preserving 11.5 acres of old-growth forest on the Virginia Tech campus commonly known as Stadium Woods. Last summer, senior **Emily Newton of Blacksburg** established permanent plots that can be used to measure the ecological health of the forest over time. She measured the size and species

of the trees to establish a baseline on the forest's current state and examined whether new trees are beginning to grow from existing vegetation in a process called natural regeneration. Newton also worked with several community groups to remove invasive plants like privet, multiflora rose, and oriental bittersweet throughout the woods.

"Having this information allows us to take the actions necessary to ensure the health of the trees," said Professor John Seiler. "For example, if we find few or no seedlings in our sampling locations, we'll know that the trees are not naturally regenerating, and that may mean we need to plant seedlings or take other corrective actions."

The research project and removal of invasive plants are two of the recommendations included in the stewardship plan for the site, written by Rodney Walters, who completed his master's degree in urban forest ecology and management last year. The 377-page plan includes a list of recommendations the university is considering for implementation.



## WEI 2017 product

The Wood Enterprise Institute (WEI), a student-run entrepreneurial venture, has knocked it out of the park with its 2017 product — a VT-shaped tabletop wine rack. The design easily lends itself to other uses, such as for books, rolled up towels, or simply as a decorative piece of beautiful craftsmanship. To order, visit [vtwei.com](http://vtwei.com), email [vtwei1@gmail.com](mailto:vtwei1@gmail.com), or call 540-257-3544. Orders will be accepted until April 28, 2017, or until the supply is sold out. Demand is sure to be high throughout Hokie Nation for this one-of-a-kind item, so don't delay!

## Mussels released into Tennessee's Powell River

The Powell River, located in northeastern Tennessee, became home to 750 new mussels last fall thanks to a restoration effort funded by the Tennessee Valley Authority. The mussel release was the result of partnerships between several organizations, including Virginia Tech's Freshwater Mollusk Conservation Center, the Virginia Department of Game and Inland Fisheries' Aquatic Wildlife Conservation Center, The Nature Conservancy, the U.S. Fish and Wildlife Service, Lincoln Memorial University, and the Well Being Foundation.

"Mussels act as a foundational food base for everything else in the river and can filter particles from the river," explained Jess Jones, a restoration biologist with the U.S. Fish and Wildlife Service based in the college.

The mussels, which were grown at the Freshwater Mollusk Conservation Center and the Aquatic Wildlife Conservation Center, include specimens from three endangered species. The mussels are raised on a diet of pond water and algae until they mature and are large enough to be released into the wild.

The event not only helped to restock the river with vital mussel species but served as an opportunity to educate local students and residents about the importance of mussels to freshwater ecosystems like the Powell River. Along with community volunteers, students from Lincoln Memorial University in Harrogate, Tennessee, helped release 400 oyster mussels, 200 Cumberlandian combshell mussels, 100 snuffbox mussels, and 50 rainbow mussels.

According to fish conservation graduate student Aaron Adkins, these endangered mussels are an integral part of maintaining a healthy aquatic ecosystem like the Powell River. "Working with endangered species is like playing Jenga," he explained. "You take out a few blocks at first and you're fine, but you finally take out that one block and the whole thing topples."

For Anna Dellapenta, mussel propagation and culture specialist at the Freshwater Mollusk Conservation Center, helping to ensure that the river's ecosystem remains strong and healthy was a defining career moment. "The best part of working on the release was seeing the snuffbox mussels that I cared for seven days a week for well over a year settling in to their new home in the wild, where they're meant to be. Mussel propagation can be challenging and quite demanding, but releasing them makes all of the work worth it."



*Mussels propagated at Virginia Tech's Freshwater Mollusk Conservation Center and the Virginia Department of Game and Inland Fisheries' Aquatic Wildlife Conservation Center were tagged before being released into the Powell River in northeastern Tennessee.*

## Meteorology student lands impressive mountaintop internship



While many people spend their summers in the sun and sand, **Tim Greene of Princeton, Massachusetts** ('16 B.A. meteorology), was more than happy to spend his summer in conditions of snow, ice, and winds in excess of 100 miles per hour. He completed an internship at New Hampshire's Mount Washington Observatory. Located at 6,288 feet above sea level, the site is famous for extreme weather conditions. Scientists have been recording hourly weather observations there since 1932.

Greene was tasked with testing instruments to determine whether they were an efficient choice to use with Mount Washington's databases. "I helped determine a range of temperatures in which we could rely on these instruments and helped develop equations to calculate when wind speed and temperature were such that we might need to consider switching to another instrument," he explained.

Advanced Instructor Dave Carroll added, "Your chances of being struck by lightning are probably greater than getting this internship, but Tim had experience that typical undergrads don't get," citing Virginia Tech's cutting-edge meteorology program as the platform for Greene's success.

Greene had the chance to work with Carroll at Bald Knob near Virginia's Mountain Lake, where a team installed a weather station last February — one of six planned for high-altitude points around the region. Greene cited this experience as being especially useful in preparing him for his work on Mount Washington. All of that practical field experience paid off. Now working on his master's in geography, Greene hopes to continue a working relationship with the Mount Washington Observatory as part of his master's thesis and has plans to visit the site this winter.

"I grew up with Mount Washington on the horizon, and I heard stories about the extreme weather up there. It was an amazing experience to actually work there," Greene added. "Virginia Tech allowed me to hit the ground running, and I could apply all the concepts I learned in undergrad to my work."

## Moser studies rare cottontail for ACC Fellowship



Senior wildlife conservation major **Allison Moser of Ashburn, Virginia**, spent the summer in the mountains of Roan, North Carolina, studying the Appalachian cottontail, a rare rabbit species, under an ACC Creativity and Innovation Fellowship. The Fellowship, one of six awarded at Virginia Tech in 2016, allows

students to lead their own project under the guidance of a faculty mentor. Moser was assisted by both her advisor, Associate Professor W. Mark Ford, and Corinne "Cordie" Diggins, a Fellow with Virginia Tech's Global Change Center.

"Appalachian cottontail are a species of concern (for the International Union for Conservation of Nature)," explained Moser. "My work will contribute to current knowledge on the species and provide a context for future projects. This information will help state and federal agencies better conserve Appalachian cottontail and their habitat."

Moser shared that the experience of implementing her own project and putting coursework into practice confirmed her desire to attend graduate school. She hopes to contribute to endangered species conservation and provide new information on less-understood species in her career.

## Wentzel studies black bears with the Fralin SURF program

**Lindsay Wentzel of Yorktown, Virginia**, was selected for the Fralin Life Science Institute's Summer Undergraduate Research Fellowship (SURF), a 10-week training program designed to give motivated undergraduates the opportunity to engage in full-time research and related professional development activities that mirror graduate training.

Wentzel, a junior double majoring in wildlife conservation and fish conservation, worked with a team that studied black bears for evidence of pseudopregnancy — when a nonpregnant female produces hormones similar to those of a pregnant female. Wentzel analyzed hormones in blood serum samples from 29 adult female bears: 10 pregnant that produced cubs, nine pregnant that did not give birth to

cubs, and 10 non-pregnant. So far, the team has found that black bears do not experience pseudopregnancy. Previously suspected pseudopregnant bears did not actually show the same hormone profiles as truly pregnant bears. Instead, the team's results point to the conclusion that the non-cub-producing bears became pregnant but miscarried.

"As conservation biologists, we need to actively promote the conservation of species. In order to do so, we need a comprehensive understanding of an animal's reproductive physiology," explained Wentzel, who is advised by graduate student Bernardo Mesa and Professor Marcella Kelly. Wentzel presented her findings at the university's Summer Undergraduate Research Symposium.



## One for the record books!



**Hae Kim with his state-record carp.** Photo by Jason Emmel

Senior **Hae Kim** and master's student **Jason Emmel** are not only fishing buddies and fellow fish conservation students; they have traded the Virginia record for the largest carp captured using bow and arrow. Kim first took the record with a catch of 26 pounds, 3 ounces in July, shortly after the Virginia Department of Game and Inland Fisheries started recognizing record fish captured with bow and arrow. Emmel returned with a 33-pound catch in October. Later during the same outing, they noticed a behemoth lurking near their boat and agreed to fire their bows in unison. Kim's shot hit the mark, bringing in a new record of 45 pounds, 7 ounces. Congratulations Hae! Read more at [bit.ly/2gbCekb](http://bit.ly/2gbCekb).

## Cadets receive colors at Bristol



**Cadets James Stutz (left) and Natalie Rosas received the flags at the Tennessee game at Bristol Motor Speedway.**

Two students from the college were among the three cadets selected to receive the flags before the Battle at Bristol, when Virginia Tech took on the University of Tennessee in front of over 155,000 fans on Sept. 10. **Natalie Rosas of Leesburg, Virginia**, and **James Stutz of Chesapeake, Virginia**, both juniors majoring in meteorology, were chosen for their leadership and dedication in training first-year cadets. Each has received a corps Emerging Leader Scholarship.

## New classroom building is state-of-the-art



Sarah Karpanty's Principles of Fisheries and Wildlife Management and Conservation course meets in Virginia Tech's new classroom building, a state-of-the-art facility that includes 15 classrooms and four labs designed for interdisciplinary use by students and faculty across the university. The moveable furnishings, wall-mounted writing spaces, and multiple screens in each classroom facilitate group projects and discussions, such as the case studies Karpanty incorporates into the curriculum of her course, which draws students from all class levels and a diverse range of study areas, including engineering, math, business, and agriculture.



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## Schoenholtz leads National Institutes for Water Resources

Across the nation, awareness of water as a critical, increasingly limited resource is seeping into public consciousness. With an eye toward the future of water, Professor **Stephen Schoenholtz** has been named president of the National Institutes for Water Resources.

Schoenholtz has served as director of the Virginia Water Resources Research Center since 2006 and coordinates Virginia Tech's water: resources, policy, and management degree. The interdisciplinary undergraduate degree, which launched in fall 2015, is the first of its kind in the nation.

A water degree would have been unheard of a decade ago, Schoenholtz remarked, but the topic of water resources is now on the table. "The excitement and



*Stephen Schoenholtz (left) began his term as president of the National Institutes of Water Resources on Oct. 1.*

energy of my colleagues working hard and solving complex water challenges, being around young people who are studying with the energy and enthusiasm to go at it and tackle problems — that makes me optimistic about our water future."

## NEW COLLEGE FACULTY



**Anamaria Bukvic**  
Research Assistant Professor  
Department of Geography  
Ph.D. (2012) Virginia Tech  
M.C.P. (2006) and M.S. (2002)  
University of Cincinnati  
B.E. (1998) University of Zagreb

**Special interests:** Climate change impacts, adaptation, and disaster risk reduction; population displacement, resettlement, and relocation; coastal hazards and disasters



**Michael Cherry**  
Assistant Professor  
Department of Fish and Wildlife Conservation  
Ph.D. (2014) and B.S. (2010)  
University of Georgia

**Special interests:** Wildlife-habitat interactions; predator-prey ecology; ungulate ecology and management



**Ashley Dayer**  
Assistant Professor  
Department of Fish and Wildlife Conservation  
Ph.D. (2013) Cornell University  
M.S. (2006) Colorado State University  
B.A. (2001) Harvard University

**Special interests:** Human dimensions, private lands conservation, bird conservation, human-wildlife conflict, citizen science, research to action



**Alex Silvis**  
Assistant Research Professor  
Department of Fish and Wildlife Conservation  
Ph.D. (2014) Virginia Tech  
M.S. (2011) The Ohio State University  
B.S. (2008) Wittenberg University

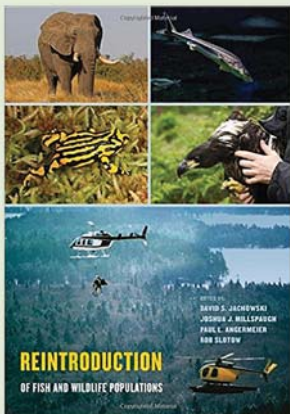
**Special interests:** Applied conservation of nongame mammals, wildlife social and population dynamics, distribution ecology, genetic structuring of wildlife social groups



**Stephanie Zick**  
Assistant Professor  
Department of Geography  
Ph.D. (2013) University of Florida  
M.S. (2007) The Pennsylvania State University  
B.S. (2005) Rutgers University

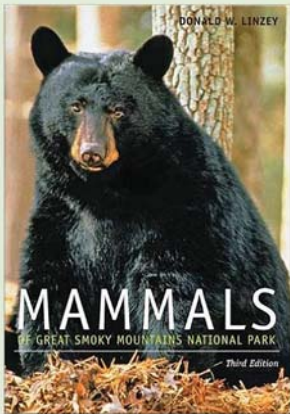
**Special interests:** Tropical meteorology, numerical weather prediction, precipitation, shape analysis

## Faculty publications focus on wildlife



Professor **Paul Angermeier** is co-editor of a new textbook, "Reintroduction of Fish and Wildlife Populations." According to Angermeier, "The book focuses on those species that have suffered via human interventions. The underlying theme

is to meld societal goals, institutional capacity, and scientific knowledge." Over-hunting and over-fishing were primary causes of some losses, for example, of the American bison, passenger pigeon, and lake trout. The most pervasive current causes of species decline are human-mediated habitat alteration and destruction as well as the introduction of exotic species. The book's chapters include information on both failures and successes of reintroduction projects.



Instructor **Donald W. Linzey** has two new publications on a subject he has studied since 1964. His third edition of "Mammals of Great Smoky Mountains National Park" has several new features, including recent additions to the

mammal fauna, the origins of genus and species names, and skull drawings of some species to illustrate distinct features. He also released "Mammals of Great Smoky Mountains National Park: 2016 Revision," a monograph published by Southeastern Naturalist. This comprehensive technical publication includes extensive information on the 73 mammals either currently known to inhabit the park or that have inhabited the park during historical times.

## Wiseman receives arboricultural award



Associate Professor **Eric Wiseman** received the 2016 Alex L. Shigo Award for Arboricultural Education from the International Society of Arboriculture. The award, named for an acclaimed tree biologist and plant pathologist known for his studies on tree decay, recognizes the important role that education plays in enhancing the quality and professionalism of the arboriculture industry.

For Wiseman, fostering curiosity and enthusiasm in his students is crucial. "I teach a lot of students who aren't destined to become arborists, but most of them are living in areas surrounded

by urban forests," he explained. "I try to show them that they're going to learn something that will be relevant somewhere down the line."

Wiseman makes an effort to provide many hands-on learning opportunities and has encouraged students to participate in Sustainability Week, Arbor Day events, and a campus tree inventory. "As an undergraduate, I didn't do as much as I could have to prepare for my career, so I want to make sure that my students have those opportunities," he said.

Receiving the award is both surprising and humbling for Wiseman. "It causes you to reflect and appreciate the people who have helped you get where you are and the hard work you've put in," he remarked.

## Orth garners multiple honors

**Donald J. Orth**, the Thomas H. Jones Professor in the Department of Fish and Wildlife Conservation, has recently been honored with multiple awards for his teaching.

Orth received the 2016 Scholarship of Teaching and Learning Award from Virginia Tech's Center for Instructional Development and Educational Research. The annual award honors faculty members who have shown ongoing dedication to scholarship in the realm of higher education teaching and learning.

The American Fisheries Society has named Orth a Fellow, honoring his outstanding contributions to the society through efforts in leadership, research, teaching and mentoring, resource management, and public outreach. In addition, the society has recognized his teaching practices with the Excellence in Fisheries Education Award.

"My role as a teacher is to help students find meaning in their work," Orth said. His approach to education also emphasizes the importance of respecting his students and giving them "choice, challenge, and control over their own learning."

"It was rather humbling to think about all the students I've taught over the years and to consider that their success started with something that I did," Orth said. "It's surprising and somewhat emotional. None of this is due to any one single contribution, but rather the culmination of a career."



## ALUMNI CORNER

### SEAN WETTERBERG

#### Working in a winter wonderland

When **Sean Wetterberg** ('00 B.S. forestry) graduated from Virginia Tech, he never imagined that he could combine his passions for skiing and forestry into a career with the U.S. Forest Service.

Wetterberg moved to Colorado after graduation and took a position with the agency as a wilderness ranger and ski patroller. After two years as a seasonal employee, he accepted a position as a snow ranger and wilderness manager. Wetterberg currently works as the Forest Service's national winter sports program manager, responsible for coordinating the winter sports program as well as the National Avalanche Center.

"There are 122 ski areas located on public lands managed by the Forest Service, and downhill skiing is the second primary activity on national forest land after hiking," Wetterberg explained. Downhill skiing brings roughly 23 million visitors to national forests each year, and the private ski industry contributes nearly \$33 million annually to the national treasury.

In his current position, Wetterberg provides support to Forest Service regions that have ski areas, acts as a liaison between the agency and the ski industry, and contributes to policy that will help elevate the avalanche information and education program in the



United States. An avid skier himself, Wetterberg values the opportunity to be involved in the experience visitors have at the ski sites. "It's awesome to be in a position to help people have these amazing experiences on their public lands," he said.

Wetterberg also manages the National Avalanche Center, an organization that provides program guidance and support to 13 regional avalanche centers across the western states and in New Hampshire. According to Wetterberg, the Forest Service is the primary public agency that offers avalanche forecasts in the country. "We're providing critical safety information for the public, the ski industry, and the transportation departments," he said. In addition to important public outreach efforts, the National Avalanche Center coordinates the use of military artillery provided by the U.S. Army to trigger controlled slides that reduce avalanche danger.

"I don't think I would be doing what I'm doing if I hadn't gone to Virginia Tech," Wetterberg said. "The forestry program was hard, but it gave me the background and the confidence to work on a variety of often controversial environmental and social issues at a national level."



Photo by Randy Leslie

#### Alum is a master "green thumb"

College alumna and retired academic advisor **Suzie Leslie** was featured in the November/December 2016 issue of Virginia Gardener magazine for her efforts to create a biologically balanced landscape in her 1 1/2 acre yard in Blacksburg. Over the past 16 years, she has worked doggedly to convert the lawn to understory trees, shrubs, and an herbaceous layer, incorporating native species throughout the landscape and using sustainable, eco-friendly gardening practices. She uses her garden as an educational platform, welcoming groups of Master Gardeners, Master Naturalists, and others to hear about creating backyard habitats for wildlife and gardening with native plants. The college is indebted to Suzie for creating and continuing to maintain the butterfly garden outside the main entrance to Cheatham Hall. Thanks, Suzie!

## DONOR PROFILE

### Bob Garst makes a generous commitment in the name of service



When asked why he has chosen to give annually to the college since 1974, **Bob Garst's** answer is simple: "It's the right thing to do." For Garst, *Ut Prosim* (That I May Serve) isn't just a motto; it's a lifestyle. That's why he has made a significant commitment

— pledging to donate annually over the next five years, using gifts of stock.

"When I look back over the jobs I've had in my career, every one of them was the result of graduating from Virginia Tech," Garst said. "The returns I've gotten back from Virginia Tech are far more than what I contributed in tuition many years ago."

A 1966 forestry graduate, Garst was also a member of the Corps of Cadets. He commissioned into the U.S. Army

and served as an officer for 22 years. Upon retiring from the military, he worked in the forest production industry before eventually returning to Roanoke. "It was like coming home," he recalled. "Being close to Virginia Tech and participating in campus events and culture was a big draw for me."

Garst continues to remain involved on campus, regularly attending football games, serving on the college alumni board, and helping to plan his 50th class reunion last year. For Garst, these activities are just another way of demonstrating his commitment to service. "If I can do something to help Virginia Tech, sign me up!" he said.

Garst also described the joy he receives from seeing firsthand how his gifts are used. Annual donations like his go to support the college's annual fund, which helps to support some of the most pressing priorities, including sending students to professional conferences, providing scholarships, and funding the Leadership Institute, a yearlong undergraduate program aimed at honing the leadership skills of future natural resources professionals.

"Getting to listen to what these students have done and what they are doing is amazing," Garst said. "Anybody who donates to the school can listen to these students and think, 'Wow! I'm adding something to the overall greatness of this program.'"

#### Gifts of Stock

Your gift of stock or other securities can fund all or part of any gift you would otherwise fund with cash — and donating securities can provide tax benefits that effectively reduce the cost of making your gift. For more info, contact Emily Hutchins at ehutch@vt.edu or 540-231-8859.

WINTER 2017

# CNRE

NEWS



### Bristow generates POWER at NASA



Since earning his bachelor's degree in geography in 2011, **Tyler Bristow** has put his studies to the test, working to improve the technology available to the global renewable energy community. Bristow is a GIS developer at the NASA Langley Research Center, where he designs and develops geographic information system (GIS) web mapping applications that provide user-friendly visuals of Earth science datasets.

Bristow became familiar with GIS technology during his time at Virginia Tech. "My position at the Conservation Management Institute as a GIS technician showed me the true value and importance of geospatial technology," Bristow said. He added that working with GIS technology in other classes like forestry, biology, and meteorology added to his knowledge, which has led him to success in his career.

Bristow is currently working on the Prediction of Worldwide Energy Resource (POWER) project, providing geospatial solutions and web mapping capabilities to researchers, students, and professors worldwide. "We are helping expand the user community and accelerating the realization of economic and societal benefits from Earth science, information, and geospatial technology," he explained.

### Alumni news online

We love hearing about the great things going on with our alumni, but we don't have enough space in the newsmagazine to print them all. Catch up with former classmates and fellow Hokies online; scan the QR code or visit [cnre.vt.edu/tags/alumni.html](http://cnre.vt.edu/tags/alumni.html).

#### Recent posts

Pete Bettinger ('87 B.S., '89 M.S.)  
Linda Casey ('74 B.S.)  
Jay Stauffer ('75 Ph.D.)  
Chris Stubbs ('91 M.S.)

#### In memoriam:

Donald Progulske ('52 M.S.)



## CNRE celebrates 25 years!

The year 2017 marks the 25th anniversary of the establishment of Virginia Tech's College of Natural Resources and Environment. Visit [cnre.vt.edu/25years](http://cnre.vt.edu/25years) for updates on our signature celebration event to be held in the fall and other activities throughout the year to commemorate this milestone.

# Virginia Breeding Bird Atlas project relies on volunteers to update data



Many people recognize the most common bird species in Virginia, but according to Ashley Peele, a research associate with the college's Conservation Management Institute, there is still much that scientists don't know about these species.



**Veery nest and eggs**  
Photo by Ashley Peele

To fill those knowledge gaps, Peele is coordinating the second Virginia Breeding Bird Atlas. This statewide project sponsored by the Virginia Department of Game and Inland Fisheries gathers data collected by volunteer birders over a five-year period to determine where birds are living and breeding. "We tend to assume that common birds stay common," Peele said. "But bird populations can begin to decline without us even realizing it. The atlas will provide an overview and assess the status of all bird species in the state, not just the ones that we're already monitoring."

Another atlas of this type was conducted in the 1980s, but birding atlases should be re-published every 15 to 20 years. "We want to document evidence that birds are breeding, where they are choosing to do so, and how it compares to Virginia bird populations 25 years ago," Peele said.

To gather data most efficiently, Peele and her team use a system that divides the state into 4,400 blocks, each measuring about nine square miles. A subset of priority blocks are targeted first to ensure that each part of the state receives equal coverage. "Once we survey those priority blocks, we can start filling in the gaps between them," she explained.

Volunteers are recording more data than in most citizen science endeavors. "Birders are often asked to do basic surveys just to identify and count birds. Instead of focusing on numbers, we want people to slow down and make behavioral observations," Peele said. "We want to know where birds are, how and where they're breeding, how habitat degradation and loss affect populations, how landscape changes affect populations, and how we might mitigate those effects."

Scott Klopfer, director of the Conservation Management Institute, explained that in addition to gathering valuable data about bird populations, the project also highlights the importance of citizen science in natural resource management. "Watching birds provides birders with a window into what's going on in natural resources," he said.

The project's 450 volunteers have completed their first year of data collection, taking observations from 37 percent of the total blocks and 45 percent of the priority blocks. So far, their work is paying off. "In the first atlas, 191 species were identified as breeders in Virginia," Peele said. "At the end of this first year, we've already identified over 210 species and confirmed that 174 of those species are currently breeding."

Volunteers submit their findings to the atlas' own eBird portal, an online resource maintained by the Cornell Lab of Ornithology. eBird allows citizen scientists to submit observational data that is then fed into Cornell University's larger mainframe, enabling Peele and other researchers to analyze the data.



**Mallard female with hatchlings**



**Red-shouldered hawks**



**Blackburnian warbler**



**Northern cardinal**



**Black-necked stilt**



**Wood thrush**

All bird photos by Bob Schamerhorn

To volunteer for the Virginia Breeding Bird Atlas project, visit [vabba2.org](http://vabba2.org).



Project coordinator Ashley Peele with volunteers Sujan Henkanaththehedara and Ellison Orcutt, who serves as regional coordinator, at the Amelia Wildlife Management Area about 25 miles southwest of Richmond. Photo by Meghan Marchetti



Nearly 100 CNRE students celebrated earning their degrees at December 2016 commencement.

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