

CNRE NEWS

COLLEGE OF NATURAL RESOURCES AND ENVIRONMENT

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FISHERIES DEPARTMENT AND PARTNERS RELEASE MUSSELS ON A GEM OF A RIVER

Crown of Southwest Virginia's Mountain Empire region, a river flows southward from its headwaters near the town of Tazewell and meanders some 135 miles through the counties of Tazewell, Russell, Wise, and Scott into the Tennessee River southwest of Knoxville. The river has such tributaries as Coal Creek, which hints at what industry is king of the hills. North of Knoxville, the Powell River merges into this river, which is named after a forgotten explorer — Clinch.

The Clinch River not only has some of the most diverse mussel populations in North America but it also has the most endangered species of any river in the country; at one time this southern Appalachian river was a major producer of freshwater mussels and pearls. Dams, pollution from mining, and toxic spills in past decades put the river on a dying path, but in recent years a 20-year-old strong partnership of the college's Department of Fisheries and Wildlife Sciences along with the Virginia Department of Game and Inland Fisheries (VDGIF), Tennessee Wildlife Resources Agency, U.S. Fish and Wildlife Service, The Nature Conservancy, and Virginia Department of Transportation has been successfully restoring the mussel populations and the river's health.

Dick Neves, the pioneering father of mussel propagation, isn't joking when he said it took him 20 years and 52 graduate students to determine the exact life cycle of the various mussel species. "Once we found this out," he explained, "we could then develop ways to propagate juvenile mussels at our Freshwater Mollusk Conservation Center." Neves, who is professor emeritus of fisheries and wildlife after 30 years of mussel research, remains involved in the center and continues to oversee his remaining graduate students. Jess Jones, U.S. Fish and Wildlife Service restoration biologist based at the college under a cooperative agreement, now directs the center.

The partners held a public demonstration day this fall when they released the largest hatchery-reared batch of endangered freshwater mussels to date into the Clinch at Cleveland Islands near the town of Cleveland some 25 miles north of Abingdon. "We have been concentrating our efforts on this area the river because it is showing signs of improved water and habitat quality for stocking mussels," Jones said. "There the river parts



Dick Neves spent his career doing mussel research.

into three channels, which provide an ideal habitat for mussels and monitoring area for us. Plus we have strong community support, which is another key criterion that determines where we plant the mussels."

Some of the released mussels were grown at the college's Freshwater Mollusk Conservation Center, while many others were reared at VDGIF's Aquatic Wildlife Conservation Center near Marion, Va., under the supervision of Mike Pinder, wildlife diversity project manager for VDGIF.

Dave Whitehurst, VDGIF's director of wildlife resources who calls Neves the foremost mussel expert in the world, emphasized that "The release of these two-year-old mussels into the Clinch marked the largest release of endangered mussels in the eastern United States. We are making a difference, and it is a reason to celebrate." Tags were glued onto the mussel shells, which were planted by species type in various areas of the riverbed. Jones and Hua Dan, propagation lab manager for the mollusk center, will participate in research teams that will check on the planted mussels during the next five years to assess their survival and growth.

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Researchers (L) use a PIT tag recorder, a specialized piece of equipment to locate the tagged mussels, to ensure that the mussels can be located on follow-up visits.



Students from a local fourth and fifth grade class participated in the planting of 5,000 juveniles mussels into the Clinch River.

Huang Zhitao (R), a Chinese student who is working on his doctorate in mussel research, looks for tagged mussels with Hua Dan, who manages the college's mussel propagation lab.



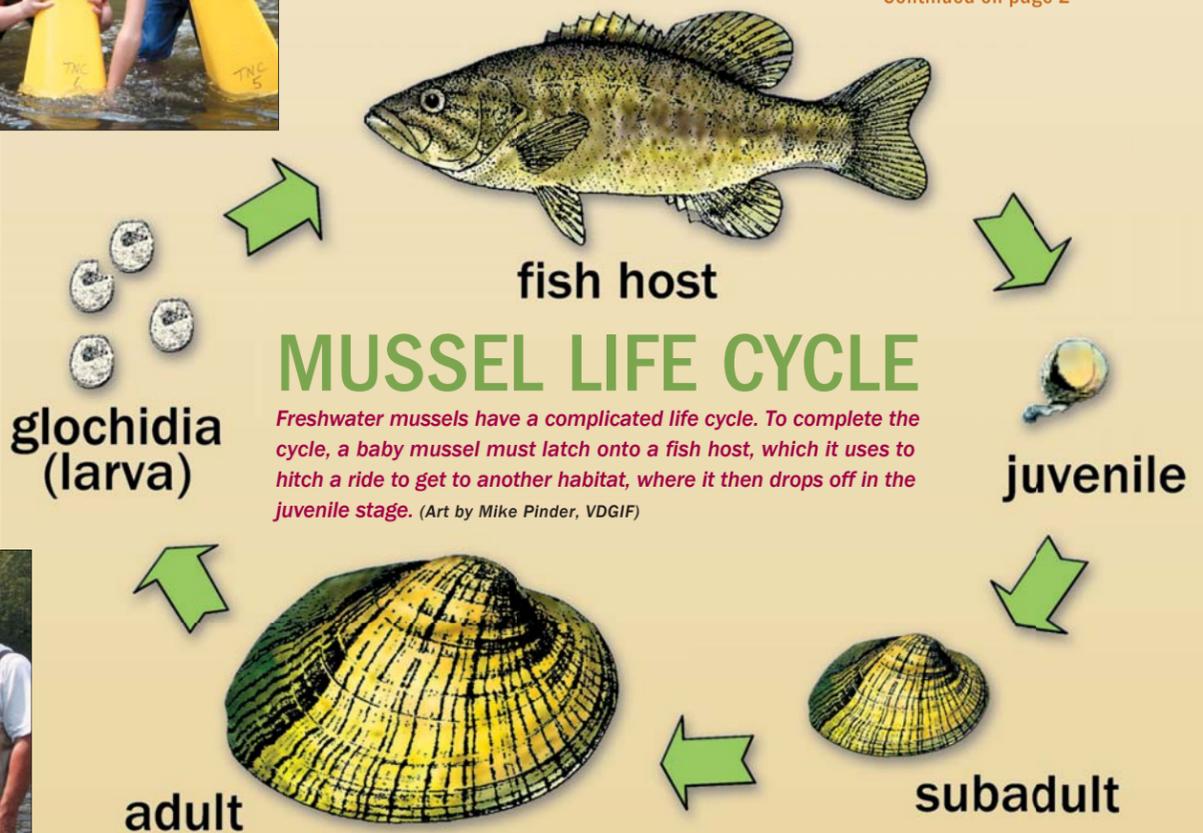
Hua Dan (L), a mussel scientist who came to the college from China nearly 10 years ago, shows one of the tagged mussels.



Two local school children use a viewscope to look at mussels planted in the riverbed.



The Virginia Department of Game and Inland Fisheries is one of the partners in the highly successful mussel restoration project: (L-R) Dave Whitehurst, Mike Pinder, Ron Southwick, and Joe Ferraro.



Greetings from the College of Natural Resources and Environment! We are wearing our new college name well and have received positive comments on the name and the future of the college.

We continue to enjoy the generous support of friends and alumni. On behalf of our students, faculty, and staff, I thank each of you who contributed to the college in the past year. We are working hard to be wise stewards of your gifts so they align with your wishes and interests. My long-time friends Helmut and Claudine Boehme of Sevierville, Tenn., have made a generous gift for the Wood Enterprise Institute and student scholarships in wood science, which will create a significant thrust forward. Thank you Helmut and Claudine for supporting our vision for wood education and for believing in our program.



Virginia Governor Bob McDonnell (R) met with Dean Paul Winistorfer at the Blue Ridge Parkway 75th Anniversary Celebration at Cumberland Knob on Sept. 11.

Following a national search, Professor Dean Stauffer of the fisheries and wildlife sciences department has been selected as our new associate dean of academic programs. Dean has had a great career in teaching and research, and is a perfect fit for this new role. Also, Barry Goodell, professor of wood science at the University of Maine, has been selected as the new department head of wood science and forest products, and will join our team in early January.

The students are back in force, with the college at a near-decade high enrollment. They are the reason we are here and it is a great joy for us in higher education to be working with such outstanding young people. We are shaping the future as we shape these young people for success in life and in their careers. Remember — they will take over one day! Our new Leadership Institute is up and running — a yearlong experience

for students to learn about leadership, hone their own skills, and visit with leaders throughout the arena of natural resources and environment. I know the institute will grow to become a signature experience for students. The education of all of our students remains strategic and critical to the management and wise use of our natural resources and stewardship of the environment. The work we do and the role of our students are front and center in the future global good.

Congratulations to Professor Jim Fraser and Assistant Professor Sarah Karpanty and their entire research team for success in securing a major federal grant (\$3.4 million) to address piping plover habitat issues in the Gulf following the oil spill. Large-scale projects such as this are not easy to assemble and execute, and the team has been working tirelessly over the summer to secure this contract and begin their research. We now have a flotilla of boats and people working in the Gulf. In addition, our Conservation Management Institute has been digitally mapping all coastal wetlands, a project that is more important than ever following the spill. The discovery efforts of our faculty are truly global in scope.

Enjoy the fall season — go outside, look at the changing trees, notice the fall migration of birds. If you live in the area, savor a drive along the Blue Ridge Parkway, which celebrates its 75th anniversary this year. Our college participated on the 75th anniversary board and hosted a conference on the future of the parkway, at which I had the pleasure of giving the opening remarks on behalf of Virginia Tech.

As you experience the outdoors, remember that most of our housing and packaging infrastructure comes from renewable natural sources. That we are in the business of storing carbon and providing fresh air and water. That clean and abundant water is our emerging challenge for the future. That species biodiversity is critical for our survival. And that, as humans, we interact each day with our natural resources and the environment. Our college and the work that we do are at center stage. We intend to live up to our calling and social responsibility.

Please stop in if you are near to Blacksburg or let us hear from you via e-mail. Thank you for your continued support and interest in the college. From all of us ...

Warm regards,

Paul M. Winistorfer
Dean
Email: pstorfer@vt.edu

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FISHERIES DEPARTMENT AND PARTNERS RELEASE MUSSELS ON A GEM OF A RIVER

The mussel restoration at Cleveland Islands would not have its high probability of success if not for The Nature Conservancy, which owns the islands and land bordering the river. Braven Beaty, stewardship ecologist of the Clinch Valley Program for The Nature Conservancy, reiterated that the Clinch is a globally significant area for freshwater mussel conservation. "There are 45 species in the Clinch, 15 of which are endangered," he recounted.

Neves noted that the Virginia Department of Transportation also plays a key role in the river's restoration. "Because state roads follow the river and can have an impact on water quality, VDOT has worked closely with us and provided helpful resources with our mussel surveys and research," he said.

The mussel propagation and restoration program now serves as a model that communities and government agencies across the country are using to restore their dying rivers. It has been one of the college's signature projects that positions the college and its fisheries program among the top in the nation.

These tagged juvenile mussels are about to be planted into the Clinch River. Mussels clean the water by removing bacteria, algae, and other particles; serve as indicators of water quality in rivers and streams; and provide a food source for wildlife, including muskrats, wading birds, and fish.



L-R: Hua Dan, manager of the college's mussel propagation lab; Caitlin Carey, graduate student who will assess how the planted mussels do; Braven Beaty, stewardship ecologist for The Nature Conservancy; and Jess Jones, U.S. Fish and Wildlife restoration biologist at the college, who was one of the chief coordinators of the mussel release.

Shells are used in the production of cultured pearls. Though faded, the inside of this shell shows the mother of pearl called the nacre, the lustrous part of the shell that helps to form a pearl.

JOB POSTINGS ON HOKIE NATION NETWORK

Hokie Nation Network, a free social and professional networking site exclusively for Hokies brought to you by the Virginia Tech Alumni Association, includes job postings. Log in, create your profile, and start networking today! Visit www.alumni.vt.edu/hnn.

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China Sustainability Initiative One of a Kind

The new China Sustainability Initiative — developed by college faculty in the National Capital Region — offers a variety of cultural exchange and applied research experiences for alumni, faculty, graduate students, and working professionals. The initiative's flagship programs include a series of two-week study abroad trips to China in which students gain international work experience as part of a consulting team performing service-learning projects for local clients and international partner organizations.

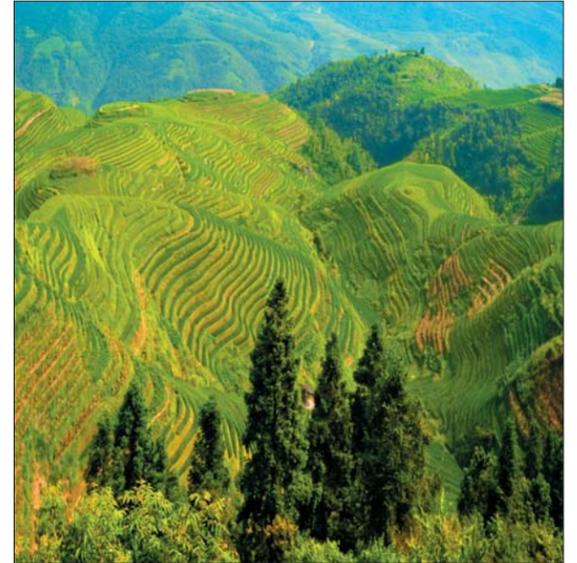
"Participants have the opportunity to engage firsthand in developing solutions to sustainability challenges faced by our Chinese partners," said Michael Mortimer, director of the National Capital Region's Natural Resources Programs, which focus on urban issues, public policy, and international perspectives. "The initiative examines contemporary social issues faced in China and the natural resource conservation challenges associated with them."

"The objective is to provide leadership for sustainability by helping our Chinese clients successfully integrate economic development and environ-

mental conservation goals. Students, faculty, and partners work as a professional consulting team toward this end," said David Robertson, who directs the college's new Executive Master of Natural Resources program, which also includes an international residency component.

During summer 2010, participants completed a consulting project in the Yunnan Province of South China to evaluate opportunities and constraints for sustainable tourism development in the region, and made specific recommendations to the Yunnan Natural and Cultural Heritage Conservation Council.

In January 2011, a new team of faculty and students will travel to neighboring Guangxi Province to work with partners such as the Chinese Language Institute on a sustainable development project focusing on urbanization, tourism, and natural resource management. For more information or to register for the January program, visit <http://nr.ncr.vt.edu/chinasustainability/> or e-mail nrstaff@ncr.vt.edu.



The China Sustainability Initiative focuses on helping our Chinese partners develop solutions to meet environmental conservation and economic development goals.



The graduate program in forestry has excelled under its outstanding faculty and leadership. Harold Burkhart (second from left) led the department for 13 years before Janaki Alavalapati became department head in 2008.

Forestry Doctoral Program Ranked Among Best

In its recently released rankings of doctoral programs, the National Research Council rated Virginia Tech's graduate program in forestry as one of the best in the nation. The study does not rank programs numerically, but rather identifies the top programs across many different fields of study. According to a *Washington Post* article announcing the release of the rankings, "Virginia Tech excels in forestry."

The Department of Forest Resources and Environmental Conservation currently enrolls 34 doctoral students, as well as 38 master's students, in fields such as forest biology, ecology, and soils; forest biometrics and geomatics; forest economics, policy, and management; forestry molecular genetics, genomics, and biotechnology; human dimensions of natural resources management;

industrial forest operations; natural resource recreation; urban forestry and environment; and geospatial and environmental analysis.

"Graduate education in forestry has a strong tradition of excellence at Virginia Tech, and it is gratifying to receive this national-level recognition," said department head Janaki Alavalapati.

In its assessment, the National Research Council, the principal operating agency of the National Academy of Science, evaluated doctoral programs for more than 5,000 programs in 62 fields of study at 212 universities across the United States from 2001 to 2006, the most recent time period for which data were available.

Taking Care of the Topaz

British boat manufacturer Topper Industries recently expanded the market for its Topaz Sailing System product to North America. These 12-foot plastic sailboats are shipped in sea containers from the manufacturing facility in England to Baltimore, Md., where they are repackaged and distributed directly to customers via UPS. The two-step transport system, though effective, often results in cosmetic damage to the boat's finish.

A leading pallet company, Ongweoweh, referred Topper Industries to the Center for Unit Load Design in the Department of Wood Science and Forest Products for help in improving the boat's packaging. Students in the Virginia Tech Chapter of the Institute of Packaging Professionals (IoPP) accepted the challenge of developing an improved, innovative "boat in a box" packaging design for the Topaz sailboat. IoPP chapter president Jim Bisha and secretary Russ Carr headed the project with support from Ralph Rupert, director of the Center for Unit Load Design.

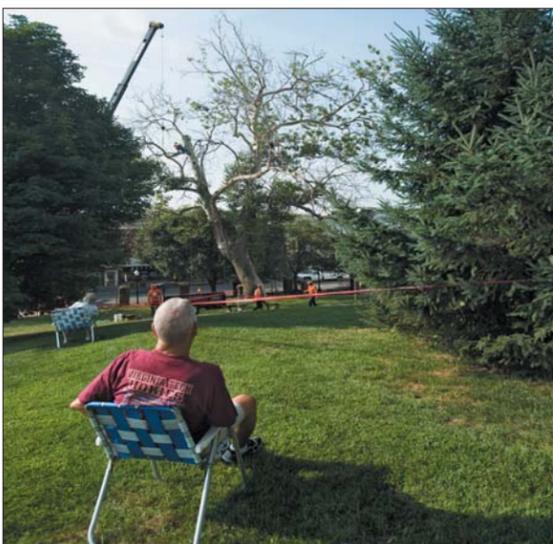
"The majority of the boat's damage issues were experienced on the last leg of its journey," stated Bisha. "Our packaging club worked all semester on developing a design that would allow for safe transport of the boat in the container, as well as by fork truck, hand truck, and by hand."

Creating a lightweight pallet for such a large, irregularly shaped product proved the most difficult aspect of the process. The team's inventive design includes triangle-shaped supports to limit the boat's lateral movement during distance shipping, and specified points of fork truck access to minimize damage. Recyclable, corrugated materials account for 97 percent of the total packaging system, intended for low impact disposal.

Representatives from Topper Industries visited the center once the new transport system was complete. After minor changes, the final design was implemented into the company's shipping procedures. In a show of thanks, Topper Industries donated a Topaz sailboat to the IoPP chapter, which raffled it off to raise funds for future projects.



Topper Industries delivered a sailboat to the Center for Unit Load Design for the students to use during the design process. (L-R) IoPP President Jim Bisha, Karen Morris and Peter Cook of Topper Industries, and Ralph Rupert, director of the Center for Unit Load Design.



Members of the community watch as the historic sycamore is removed from Henderson Lawn.

A Piece of Virginia Tech History

The Virginia Tech community lost a piece of its history when the 143-year-old sycamore tree on Henderson Lawn was removed this summer after illness and old age had rendered it a safety hazard. Although it was not the oldest on campus, many in the community will miss the tree that sat on the corner of College Avenue and Main Street, a popular meeting place for generations.

College faculty members were among those consulted to decide the tree's fate. Urban forestry assistant professor Eric Wiseman, who chairs the campus Arboretum Committee, reported that despite efforts to save it, the tree would likely have died within a year or so. "The sycamore was an icon in the campus community for many years, but time had taken a toll on the tree and its environment," Wiseman noted. "We came to the conclusion that rehabilitation was not feasible and made the removal recommendation to the university out of concern for public safety."

Wiseman and forestry professor John Seiler have taken three sets of a hundred cuttings each from the tree with hopes that some will take root. "Just yesterday, I pulled one up and it had roots on the end so I replanted it very carefully," Seiler explained just before the tree was removed. "I saw poetry hung on the tree by a couple, now husband and wife, who had actually met under the tree on their first date, so it's real important to them. We just thought if we could tell them, 'Hey, you've got this tree,' it will literally be a clone of the original tree."

Virginia Tech plans to plant another tree within the vicinity of the felled sycamore and to use the wood from the removed tree. People have suggested making everything from paperweights to pens from the tree, but no firm plans are yet in place. Alumni and community members, however, are already lining up for a piece of Virginia Tech's history.

Muza Receives ACC Athletic and Academic Honors

Matej Muza of Zagreb, Croatia, a master's student in geography, was one of 40 student-athletes in the Atlantic Coast Conference (ACC) to receive the Weaver-James-Corrigan Award and one of only three in the entire conference to receive the Thacker Award. Both scholarships are given to student-athletes who have demonstrated outstanding performance in both athletic competition and in the classroom, and who intend to further their education through post-graduate studies.

Muza competes in the throwing events for the Hokies track and field team. Because he red-shirted one season, his eligibility was extended into his first year as a graduate student so that he could continue to compete as an "athletic senior." Muza also achieved All-ACC Academic honors for the third time in his career, earning a 3.0 GPA or above along with athletic merit for the fall semester and for his career.

Muza, who has undergraduate degrees in geography and economics, is currently studying Decision Support Systems in GIS. As part of his thesis project, he is learning to synthesize different GIS tools into a customized and more comprehensive software application. "I hope to develop the skills necessary to become part of an organization that uses information systems such as GIS in order to reach more informed decisions about various phenomena," he commented.

The Weaver-James-Corrigan Award is named in honor of former ACC commissioners Jim Weaver, Bob James, and Gene Corrigan. The Thacker Award originated in 2005 in honor of the late Jim and Pat Thacker. Jim Thacker was the primary play-by-play announcer for the ACC's first television network.



Fowler Named Outstanding Graduating Senior

Senior forestry major **Shannon Fowler** of Linthicum, Md., was named the college's Outstanding Graduating Senior for the 2009-10 academic year. Award recipients are selected from each college for outstanding performance in academic achievement, extracurricular activities, leadership positions, and contributions of service to the university and/or community.

Fowler served as an ambassador for the college and in the Xi Sigma Pi national forestry honors society. She also assisted the Department of Biological Systems Engineering with the Stroubles Creek Stream Restoration project, working to prevent stream bank erosion. Fowler has worked as a camp counselor for Outdoor Discovery with the Maryland Park Service and as a camp counselor and environmental educator for the Howard County Conservancy.

Fowler, who will start on her master's in forestry in the fall, has been offered an assistantship with forestry professor John Seiler and John Munsell, assistant professor and forest management Extension specialist. The project involves surveying high school and middle school biology and environmental science teachers to determine their beliefs about forestry and natural resources as well as what they are teaching their students about the topics.

"This is an important task as these teachers are providing students with some of the first information they will have about the field," explained Fowler, who will also teach a class of undergraduates to lead educational forestry programs with high school students in coordination with Mason Neck Wildlife Refuge.

Wesson Earns Girl Scout Gold Award

First-year geography major **Kathryn Wesson** of Charlottesville, Va., has earned the Gold Award, the highest achievement given by the Girl Scouts of the USA. She spent more than 75 hours renovating and organizing the drama room at Camp Holiday Trails, a camp for children with acute and chronic medical conditions.

Part of the camp's mission is to empower, encourage, and educate young campers. Wesson hoped that renovating and arranging the drama room would help the camp achieve those goals, increasing the children's independence by helping them have more control over their plays.

Wesson began by taking inventory and organizing the items in the drama room. She placed hats, shoes, and accessories in plastics bins donated from Lowe's and Target, so the children

could easily find the items they needed. She also solicited donations of costumes and props, which were then catalogued and neatly stored. Creating and hanging a curtain across the stage completed the project.

"I thought arranging everything in a way that would be more easily accessible would provide the campers with more options to expand the creativity of the plays and build their confidence. I hope that my contribution has encouraged the kids to be more independent, creative, and confident in their decisions," Wesson explained. As for her future plans, she added, "While I am trying to focus on my future career as a geographer, I would still like to stay involved in Girl Scouts. Not only does it help the community, it makes you feel more independent and confident in your decisions and ability to lead others."



Grant Sends Doctoral Student to ACS National Meeting

Carter Fox, a doctoral student in macromolecular science and engineering, received an American Chemical Society (ACS) Polymers Division travel grant that enabled him to travel to the ACS National Meeting in San Francisco. He presented his research on cellulose derivatives at the 2010 Excellence in Graduate Research Symposium as well as the Cellulose and Renewable Materials poster session.

"Attending the ACS meeting was great because I got to meet face-to-face with many of the top cellulose scientists in the world," said Fox. "I had been reading journal articles by several of these people, and I finally got to talk to them

in person. I got to see the quality and breadth of cellulose research going on in other groups at other universities, and that got me excited to be a part of the field."

Fox's poster demonstrated a method of control over the way chemicals react with cellulose and this method's potential to create innovative, useful materials. Fox continues his research with this particular cellulose derivative in hopes of making new ionic derivatives, which he and his advisor, Professor Kevin Edgar of the wood science department, are particularly interested in using in drug delivery applications.

Students Host Packaging Jamboree

Thanks to the efforts of its president, graduate student Jim Bisha, the Virginia Tech Chapter of the Institute of Packaging Professionals hosted this year's National Student Packaging Jamboree. Under the theme "The New GDP: Green Distribution Packaging," the event drew over 50 students from Michigan State University, the University of Wisconsin-Stout, Clemson University, and Virginia Tech, as well as professionals from across the country. Keynote speaker Lt. Colonel Robert Barnes, director of the Joint Culinary Center of Excellence, U.S. Army Quartermaster School, addressed the logistics of feeding military troops and treated attendees to a lunch of military meals ready to eat (MREs). To close the jamboree, 10 student teams competed in an egg drop competition, constructing protective packaging using only a 19-inch-square piece of corrugated board, paperboard, and 2 feet of tape.

Only four team's eggs remained intact after a 12-foot drop in the egg drop competition. The winning design from these Michigan State and Clemson University students cradled the egg within two paperboard tubes and weighed only 2.5 ounces.



Faculty Promotions and Tenure



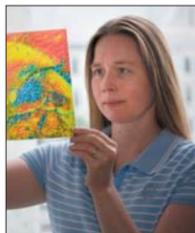
Daniel Hindman has been promoted to associate professor with tenure in the Department of Wood Science and Forest Products. His research program focuses on the efficient use of structural wood composite materials for residential and commercial applications. Emphasis areas include structural engineering (the differences between engineered wood products and solid-sawn material), safety (issues related to workers installing bracing during construction), and sustainability (waste management of wood composites on green building construction sites and life cycle analysis of post frame buildings).



John McGee has been promoted to associate research professor and geospatial Extension specialist in the Department of Forest Resources and Environmental Conservation. He serves as a geospatial knowledge broker to Virginia Cooperative Extension, the Virginia Community College System, and local, regional, and state government agencies. He also creates specialized workforce courses and training through Virginia's Community College System and Virginia Space Grant Consortium member universities.



Lynn Resler has been promoted to associate professor with tenure in the Department of Geography. Her research explores the biogeographic and geomorphic dynamics of mountain environments, such as the alpine tree lines of western North America, where she has worked extensively for the past 10 years. Her research goals are to understand spatial and temporal links between local and global mechanisms that shape landscape patterns under regimes of change, including the effects of exotic and invasive disease, climate change, and anthropogenic disturbance.



Maren Roman has been promoted to associate professor with tenure in the Department of Wood Science and Forest Products. Her research focuses on the properties and potential applications of wood-derived nanoparticles, including targeted drug delivery for cancer treatment, inkjet-printed micropatterns, and oral vaccines against swine flu. She is associate director of education for the Macromolecules and Interfaces Institute and a founding member of the Bio-based Materials Center, funded by the Institute for Critical Technology and Applied Science.



Neil Clark has been promoted to Extension agent, extra-collegiate faculty. In his position as Extension forester for the southeast district, Clark is responsible for educational outreach to citizens, the forest products industry, and landowners. He has organized and conducted numerous educational programs in southeast Virginia and across the state over the past 3 years that enhance the profitability and sustainability of natural resources utilization.



Jason Fisher has been promoted to senior Extension agent. He has developed comprehensive educational programs in both 4-H youth development and natural resources that yield significant impacts for youth and natural resources clientele, and has involved over 30 adult forestry professionals from organizations such as the Virginia Department of Forestry, MeadWestvaco, Huber Engineered Woods, and Natural Resources Conservation Service in conducting and evaluating events. He continually seeks to serve landowners, loggers, foresters, and youth with regards to natural resources education needs.

Stauffer New Associate Dean

Professor Dean Stauffer of the Department of Fisheries and Wildlife Sciences has been named associate dean of academic programs. Stauffer succeeds Richard Oderwald, who retired in June after serving as associate dean since 2001.

"Dr. Stauffer brings a wealth of experience in teaching and student engagement to the role of associate dean of academic programs," said Dean Paul Winistorfer. "He has had a very successful career focused on students and learning, and will bring this perspective to his new role. I am very pleased and excited to have Dr. Stauffer join our college leadership team."

As associate dean of academic programs, Stauffer will provide critical leadership in both undergraduate and

graduate education, as well as student services across the college. He will oversee degree programs, central advising, student recruiting and orientation, education abroad, and transfer students, and will serve as an advocate for the college.

"I am excited to have this opportunity to serve both undergraduate and graduate students in the college," Stauffer explained. "The College of Natural Resources and Environment has a strong academic foundation to build upon. I hope to ensure all students the opportunity to excel and succeed in their academic endeavors. I look forward to contributing to the education of the next generation of leaders and preparing them to be engaged, productive stewards of our natural resources."



Kirwan Named Professor Emeritus



Forestry professor and Extension specialist Jeffrey Kirwan has been conferred the title "professor emeritus" by the Virginia Tech Board of Visitors.

A dedicated advocate of trees, Kirwan pioneered the use of information technology to involve citizens of all ages in the care and appreciation of trees. A four-year odyssey across the state resulted in the publication of the widely

acclaimed *Remarkable Trees of Virginia*, which highlights trees that are remarkable for their age, size, historic, and community significance. "We tried to emphasize the value of trees and the services they provide," said Kirwan. The Virginia Big Tree Program, coordinated by Kirwan and funded by Trees Virginia (Virginia's Urban Forestry Council), provided the foundation from which Kirwan, co-author Nancy Ross Hugo, and photographer Robert Llewellyn worked. The authors struggled to select the book's 100 entries from the more than 1,000 trees that were nominated.

Remarkable Trees of Virginia earned Kirwan and his co-authors a finalist spot in the nonfiction category at the 2009 Library of Virginia Literary Awards. Kirwan's tree conservation efforts have garnered more publicity for the college than the work of any other professor to date.

Among his many accomplishments since joining the Virginia Tech community in 1978, Kirwan led a natural resources and environmental education program that annually reached 30,000 youth who planted trees and took other positive steps to care for the environment. For 20 years, he directed a 4-H program for citizens in

Albemarle and Loudoun counties, inspiring program volunteers who later served on boards of supervisors, the governorship, and other positions of public service. He was recognized for his collaborative work on developing interactive web sites to help youth identify woody plants and trees, and also integrating service learning into classes taught in both the college and in the American Indian Studies Program.

Most recently, Kirwan was honored with the Virginia Resource-Use Education Council Education Award, presented at the Virginia Environmental Education Conference last fall. The award recognized his tremendous work in educating Virginians about natural resources during his 32-year career with Virginia Cooperative Extension.

Kirwan's future plans include teaching and research in the area of indigenous ecology — the study of indigenous peoples and how they relate to their world. He also plans to continue working with youth, volunteering in the local area, and supporting Extension agents statewide who are interested in environmental education.

Edgar Appointed Associate Editor

Professor Kevin Edgar was appointed North American associate editor of *Cellulose*, a leading peer-reviewed journal in the field of cellulose and related naturally occurring polymers. Edgar, who was an active reviewer of the magazine before joining the editorial board in 2007, has published extensive work in the field with a focus on the synthesis, analysis, and structure-property-performance evaluation of polysaccharide derivatives.

After being named an inaugural Fellow of the American Chemical Society (ACS) last year, Edgar was recently named a Fellow of the ACS Cellulose and Renewable Materials Division (CELL). "Colleagues in CELL have taught me a great deal, not only about the science, but about how to be a collaborative professional," he remarked. "I will always be grateful to the division for the education obtained by working closely with such remarkable and supportive colleagues." Edgar has been an active member of ACS, having served as the Councilor and Divisional Activities Chair, as well as a member of the Board Committee on Planning.



Boehmes' Personal Gift Supports WEI

Helmut and Claudine Boehme of Sevierville, Tenn., have made a \$145,000 gift to the Department of Wood Science and Forest Products to support the Wood Enterprise Institute (WEI), a concept-to-market business start-up, as well as student scholarships in wood science. College dean Paul Winistorfer, who has known the Boehmes since he began his faculty career at the University of Tennessee in Knoxville in 1985, said, "Helmut and Claudine are personal friends who share a common passion for learning, students, all things wood, and generous and gracious treatment of others."

Helmut and Claudine met in Chicago while attending night school after World War II. Claudine was trained in her native Switzerland to work on the hairspring mechanism in fine Swiss watches. Helmut, who played in his father's woodworking factory while growing up in Leipzig, Germany, later apprenticed in another woodworking shop and went on to earn degrees in architecture and interior design. In Chicago, he worked for a sculpture and industrial model-making firm before taking the over company, and was one of the first to experiment with vacuum form-

ing of early plastic materials. "Helmut is one of the most creative and technologically sound people I have ever met," Winistorfer remarked. "He is infinitely talented with design, materials, wood, and woodworking." Since retirement, Helmut has created and crafted over 300 stringed musical instruments. "There is nothing like his collection of instruments in the world," Winistorfer added.

Winistorfer and Helmut Boehme first met when Boehme attended Winistorfer's wood properties and identification course. Since then, their 25-year friendship has grown well beyond the mutual interest in wood as a material. Winistorfer and his family recently joined the Boehmes to celebrate Helmut's 90th birthday, and the two families remain very close. "Helmut and Claudine are very special people and their gift will be of significant help to us in solidifying the Wood Enterprise Institute for years to come. We are very fortunate to have their support," Winistorfer affirmed. "Helmut and I have shared a mutual interest in wood and I've learned much from him. We have grown together like family and that makes their gift even more special."



A generous gift from Helmut and Claudine Boehme, long-time personal friends of college dean Paul Winistorfer (L), will help support the Wood Enterprise Institute.

Hahn Hall of Biodiversity Stunning

Former Virginia Tech President T. Marshall Hahn was the guest of honor at the opening of the Virginia Museum of Natural History's Hahn Hall of Biodiversity in August. Hahn, an avid hunter, donated his extensive collection of taxidermied African animals to the museum, which placed them in a hall bearing his name. "I was pleased to be able to contribute the big game trophies and mon-



etary support to the Virginia Museum of Natural History to make it possible for school groups and other visitors to enjoy and learn from the collection," Hahn remarked.

As reported previously in *CNRE News*, Hahn shared his vast collection between the museum and the college. Over 30 specimens from Hahn's collection of North American animals now grace the offices and common areas of Cheatham Hall. During his remarks at the hall opening, Hahn thanked the college for its partnership in sharing the biodiversity collection. Eric Hallerman, head of the fisheries and wildlife department who got the museum involved and represented the college at the opening, said, "The museum did a fantastic job of displaying the collection. You won't find a more sophisticated gallery even in New York!"

Eric Hallerman, head of the fisheries and wildlife sciences department, T. Marshall Hahn, former president of Virginia Tech, and Joe Keiper, executive director of the Virginia Museum of Natural History, at the hall opening.



The museum's Hahn Hall of Biodiversity includes an impressive display of African mammals.

In recalling some of his animal adventures, Hahn joked that one time when his late wife, Peggy, was along, they had to wait seven hours up in a tree for a bear. It was the last time she ever accompanied him on his animal travels, he added.

EXTENSION AND OUTREACH

Students Contribute to Whole-Farm Agroforestry Planning

For a second year, a group of agroforestry students worked on a collaborative service-learning program with landowners in the Catawba and North Fork valleys and the university's Catawba Sustainability Center as a component of the Department of Forest Resources and Environmental Conservation's agroforestry course. The program's primary objective is to facilitate shared whole-farm agroforestry learning — the combination of agricultural and forestry technologies to create more diverse, productive, profitable, healthy, and sustainable land-use systems — by pairing students with landowners throughout the semester. In addition to lectures and laboratories on agroforestry principles, history, and practices, students conduct a series of service-learning property- and landscape-level assessments.

The learning initiative promotes semester-long discussion and planning to integrate trees and crops as part of an

agroforestry plan that incorporates the biological, social, economic, and technical aspects of whole-farm management. At the same time, the students must meet the goals of the participating landowners. At the property (i.e., landowner) level, the program helps achieve important land management objectives such as reducing soil erosion, minimizing nutrient leaching, maximizing marketable crop production, augmenting income, and increasing biodiversity. On a larger scale, the program helps tend the environmental, social, and economic well being of the Catawba and North Fork valleys.

Christy Gabbard, the Catawba Sustainability Center director, claims, "Working with students is a win-win for the Catawba Sustainability Center and for the students. For the students, it provides a unique opportunity for experiential learning with real-world applications. For the Catawba



Landowner Betty Bailey (second from left) welcomed service-learning students (L-R) J.B. Snelson, Chris Mernin, Spencer Blankenship, and Bonnie Lawrie on a rainy fall day to identify possibilities for planting trees to reduce erosion along stream banks on her property.

Sustainability Center, it provides an opportunity for consultation to gain new perspectives and creative means for implementation."



Fun With Science: Kids Tech University

Rick Caudill and Linda Caudill of the Department of Wood Science and Forest Products helped a group of children in Virginia Tech's Kids Tech University (KTU) program learn why it was so important for the pioneers to use the right oak species to make the water barrels for their covered wagons back in the 19th century.

The demonstration showed these budding scientists why the cellular structure of white oak is perfect for tight coopeage when compared with red oak. The

Rick Caudill shows a participant how to test red and white oak dowels at the Kids Tech University event in April.

children looked at red and white oak samples using hand lenses and then tried blowing bubbles through oak dowels. If no bubbles appeared on the other side, they had selected the right species for the job.

The groundbreaking KTU program was developed by the Virginia Bioinformatics Institute two years ago to provide kids between the ages of 9 and 12 the opportunity to participate in a series of fun and engaging scientific activities, including lectures presented by scientific researchers. KTU's goal is to create an exciting, interactive environment while exposing young minds to cutting edge research in science, math, engineering, and technology.

Alumni Profile

Diana Stillwell Dove

Though every day is different for **Diana Stillwell Dove** ('81 B.S. in forestry and wildlife management, '81 B.A. in communications), two things remain constant — her ability to think outside the box and her determination to never give up. The first Virginia Tech student to graduate with bachelor's degrees in both forestry and wildlife management and in communication, Dove paid for her own education while pursuing these degrees, as well as a concentration in biology, for over six and a half years. It was not an easy road — Dove worked as a resident advisor, a singer in restaurant lounges, and an employee in the registrar's office while completing her diverse course requirements.

Dove began her career as an environmental educator as a summer seasonal naturalist for New Jersey's Somerset County Parks in her sophomore year, and she stayed on as a senior naturalist after graduation. Dove and her husband, Mike, now co-own Dove Environmental Education in Washington, N.J., which offers 30 environmental education programs.

Known for her creative programming, Dove is a sought-after presenter who leads guided walks, pond studies, and featured programs. Interactive program

components include singing, guitar playing, crafts, photography, taxidermy animals, natural artifacts, field guides, animal costumes and puppets, field activities, gardening, and original multi-media shows.



Dove is a passionate advocate of outdoor-based, hands-on learning. Her programs promote early childhood environmental education and encourage youngsters to think and learn for themselves. (Photo by Cathy Miller)

The Cape Cod whale trips that Dove Environmental Education offers on board the Dolphin Fleet of Provincetown, Mass., have led to new programs about whales, sharks, and sea turtles, motivating kids to learn more about protecting the world's oceans.

"As an environmental educator, knowing your subject matter and applying communication skills go hand in hand," says Dove. "It's important to be passionate about your career." Dove has consistently motivated people of all ages to become engaged in taking action. Recognizing her educational programming for the very young, the Alliance for New Jersey Environmental Education honored her as Environmental Educator of the Year in 2000.

Dove's passion for the outdoors does not end with her job; she also serves her community. She founded the Warren Junior Gardeners Club in 1997 and serves as president of the not-for-profit Karen Nash Memorial Butterfly Garden, which the club tends to. This award-winning youth garden club and schoolyard wildlife habitat garden serve as role models nationwide.

Life is rarely without obstacles, and Dove encountered a formidable one when doctors diagnosed her with multiple sclerosis nine years ago. Though a serious concern, the diagnosis has not dampened her enthusiasm for working outdoors with children. "I still do the things I love," she says. "That makes me a happy person!"

Dove credits her experience at Virginia Tech for providing her with the tools needed to pursue her passions. "I will always be indebted to my professors," she says. "I'm still using information I learned in my classes. If you love what you do, you do it well and succeed." And succeed she certainly has.

Kendall Honored With Alumni Leadership Award

The Department of Fisheries and Wildlife Sciences presented **Ronald J. Kendall**, director of Texas Tech University's Institute of Environmental and Human Health and a leader in the field of wildlife toxicology, with the Gerald E. Cross Alumni Leadership Award. Professor Emeritus Gerald E. Cross, who served as the head of the fisheries and wildlife sciences department from 1976 to 1989, built up the department significantly during his tenure and increasing the number of faculty from six to 18. "Initially, the department was unknown" said Eric Hallerman, department head. "Dr. Cross made it known." The leadership that Cross demonstrated inspired the creation of the award, whose recipients are recognized for their dedication and outstanding achievements in leading others.

Kendall ('80 Ph.D. in fisheries and wildlife sciences) is the founder and director of the Institute of Environmental and

Human Health at Texas Tech University, as well as the founding chairman and professor of the university's Department of Environmental Toxicology. He served in similar roles at Clemson University, where he founded and directed the Institute of Wildlife and Environmental Toxicology, and founded and served on the faculty of the Department of Environmental Toxicology. He also established the Institute of Wildlife Toxicology at Western Washington University.

Kendall has played a leading role in the initiation of the field of wildlife toxicology and has left an indelible mark on the discipline through the students he has mentored and the work he has fostered by establishing and leading these research institutes. "Clearly, Dr. Kendall has demonstrated leadership in all domains of university life, and merits recognition with the Gerald E. Cross Alumni Leadership Award," remarked Hallerman.



Ronald J. Kendall (L) receives the alumni leadership award from its namesake, Gerald E. Cross.

Linking Water Quality and Human Health



As a post-doctorate researcher, **Nathaniel "Than" Hitt** ('07 Ph.D. in fisheries and wildlife sciences) investigated the relationship between stream ecological integrity and human cancer mortality in West Virginia. Hitt and Michael Hendryx, an epidemiologist with the West Virginia University Department of Community Medicine, co-authored a study evaluating this research, which was recently published in the journal *EcoHealth*. The study

established a groundbreaking connection between stream quality and public health. "Our research shows the importance of streams for people. We learned that some of the smallest organisms living in streams can provide a warning system for one of the largest human health problems — cancer," said Hitt.

The research revealed new links between coal mining, stream integrity, and public health. Increased coal mining activity was linked to poor water quality and increased cancer rates. Stream quality was also shown to provide information about human cancer rates that went above and beyond other known risk factors for cancer, such as smoking, age, and urbanization.

Hitt, now a research fish biologist with the U.S. Geological Survey at the Leetown Science Center in West Virginia, continues his research of freshwater ecosystems and Appalachian coalfields. His current work focuses selenium bioaccumulation in stream food webs and community ecotoxicology.

In Memoriam

Maynard Stoddard IV



Alumnus **Maynard Stoddard IV** of Staunton, Va., passed away on Feb. 21, 2010, at the age of 83. He and his wife, Dixie Hawks Stoddard, had been married for 58 years.

Stoddard received his bachelor's degree in forestry and wildlife conservation in 1951. A veteran of the U.S. Army Air Force and the U.S. Air Force, he served during World War II in the United States and Germany. Stoddard

worked in positions for the U.S. Forest Service and the National Park Service, and retired from the Virginia Department of Forestry as assistant chief of fire management in 1989 after serving for 36 years. In 1987, he was awarded the National Silver Smokey Bear Award from the U.S. Forest Service, the Advertising Council, and the National Association of State Foresters for outstanding public service in wildfire prevention.

Stoddard's numerous volunteer activities included working with the Boy Scouts as well as serving as president of the Farmville Rotary Club, as a founding member of the Skidmore Hunt Club, and as a member and chairman of the "Happy Birthday U.S.A." celebration committee.

Alumni Events Calendar

JANUARY 26-28, 2011

Appalachian Society of American Foresters Winter Meeting
Francis Marion Hotel
Charleston, S.C.
www.apsaf.org/va/index.php

MARCH/APRIL 2011

American Fisheries Society Student Chapter
28th Annual Mudbass Tournament at the Duck Pond
Time and Date TBD
Blacksburg, Va.

MARCH 14-19, 2011

Wildlife Management Institute
76th North American Wildlife and
Natural Resources Conference
Westin Crown Center
Kansas City, Mo.
www.wildlifemanagementinstitute.org

APRIL 12-16, 2011

American Association of Geographers Annual Meeting
Seattle Sheraton Hotel and
Washington State Convention Center
Seattle, Wash.
www.aag.org/cs/annualmeeting

JUNE 16-18, 2011

Virginia Tech Alumni Association Drillfield Series
Sustainability in Agriculture and Natural Resources:
Gardening, Crops, Urban Forestry, Livestock,
and Food Safety
Blacksburg, Va.
www.alumni.vt.edu/index.php

BIKING ACROSS THE US FOR MS

CNRE

College staff member **Don Fraser** ('07 B.S. in biology), a watercraft and biological technician in the Department of Fisheries and Wildlife Sciences, had always wanted to bike across the country, and the summer after he graduated from Virginia Tech presented the perfect opportunity. His mother's long battle with multiple sclerosis gave him a reason to ride — Fraser organized the trip as a fundraising effort to help those afflicted with the disease.

Multiple sclerosis (MS), a chronic autoimmune disease that attacks the central nervous system, affects approximately 400,000 Americans. Neither the cure nor the cause of the disease is currently known, a fact that Fraser and his fellow cyclists ride to change.

Fraser set out with three friends in the summer of 2007 to raise funds and awareness for MS while completing a two-month transcontinental bike ride. When he repeated the trip in 2009, 12 cyclists participated. This year, the number of riders more than doubled, with 25 people completing the entire route and two other cyclists joining in for shorter portions of the ride.

The 2009 ride began in Yorktown, Va., passing through Blacksburg and ending in Florence, Ore., 66 days and 3,981 miles later. Cyclist Bret Taylor ('10 B.A. in geography) developed an online route map and recorded the trip for his Web Mapping class, taking photos every 10 miles and blending them into a Google map so that sponsors could follow the group's journey. The 2010 team also left from Yorktown but followed a slightly different route, ending in San Francisco 61 days and 3,875 miles later. Though physically demanding, Fraser says, "The trips require more mental endurance than physical. You get tired but you just keep going."

During the past two trips, the group stopped at points along the way to perform service projects for people with MS. Because few such people were aware that a group like Fraser's wanted to help them, Fraser sometimes had difficulty finding people for the cyclists to serve. He says, however, that even the act of stopping to spend time in support of people suffering from the disease had an impact. "Most people don't bring daily attention to the fact that they have MS," he adds. "It really makes their day when people show up and say, 'I'm riding for MS.'"



A group of cyclists, including trip organizer Don Fraser (far right) and 2011 program manager Amanda Clark (far left), stop at Hoosier Pass in Colorado, which, at 11,539 feet, was the highest point of the 2009 route.

As the event has grown, so has its impact. "We are moving toward becoming a more organized group," says Fraser. This year's riders completed four hands-on service projects and raised more than \$100,000 to go toward a nurse practitioner position at the James Q. Miller MS Clinic in Charlottesville, Va. Next year, Fraser and program manager Amanda Clark ('07 B.A. in history and art history) plan to accommodate expanding interest in the event by scheduling multiple routes. Sixteen of the 38 cyclists who have participated in the transcontinental bike ride since 2007 have direct connections with Virginia Tech.

With the 2010 tour successfully completed, Fraser is now recruiting for 2011. He calls the ride "a life-changing experience," not the least because of its appropriateness as an MS fundraiser. "The day-to-day challenges of the ride are challenges that you can live through," he explains. "You will survive and in the end you will be stronger and more confident, just like people who have to live with MS every day."

SEE MORE ONLINE

- Bike the US for MS website www.biketehusforms.org
- Videos of the tour www.youtube.com/biketehusforms
- A three-minute compilation of photos from the 2010 tour www.youtube.com/watch?v=zLWF4fXUtvM&feature=related



Service projects for those with MS, such as this stop to rake leaves in Southwest Virginia, address an important component of the trip's purpose.

The 2010 Bike the US for MS team lines up in Yorktown, Va., ready to begin the long ride to San Francisco.



Ben King (front), a geography major, and Jeff Huizing (back) pedal along a winding road in Utah.



Fraser receives a hug from MS patient and motivational speaker Robin Creemer, who participated in a dinner the community organized for the cyclists and gave an inspiring speech to them at a stop in Pittsburgh, Kan., during the 2010 ride.



Fraser wakes up early on a cold Colorado morning in 2010 to cook breakfast for his team as they prepare to climb up Monarch Pass. Don's teammates always appreciated these breakfasts, nicknaming his outdoor kitchen "Don's Diner."



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