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M Trail project leader Dr. Steve Gaskill (cap) carries a railroad tie with Griz football players earlier this summer.
MISSOULA – Missoula volunteers recently contributed over 1,125 hours of rehabilitation service work on the University of Montana M Trail, according to project leader Dr. Steve Gaskill.

“Thanks to the efficient and hard work of many volunteers, the project list for the summer is rapidly being checked off,” said Gaskill, a professor emeritus of integrative physiology and athletic training at UM. “I anticipate that we will finish the summer list with three more sessions. We will be doing fall work to put in more benches and to stage materials for repairing the M platform next spring.”

One of the most popular trails in Montana, the M Trail rises 620 feet above campus over 3/4 of a mile using 13 switchbacks. It reaches the 100-foot-high M on Mount Sentinel.

Crews have repaired the M Trail under Gaskill’s supervision since summer 2020, including fixing steps, extending switchbacks to more sustainable grades, reducing a few trip hazards and improving water drainage.

All the old wire fence was removed, hauled away and replaced with safer, more attractive wood fencing. He said remaining projects for this summer include dirt work at switchbacks three and five and installing more fencing at switchbacks three, five and eight.

“Steve is the driving force behind this whole trail renovation – the super volunteer!” said Marilyn Marler, UM’s natural areas manager. “Without his dedication and skills, UM and the broader community would not be benefitting from the thousand hours of volunteer work to keep the M Trail functional and beautiful.”

When the weather cools, the project will shift gears to installing some memorial benches. These will be the last memorial benches for the zig-zag trail, but there will be future memorial opportunities at the M itself. Gaskill and UM also intend to stabilize the M and provide better sitting areas for visitors to take in the view.

To sign up for future volunteer event notifications, please email Gaskill at MTrailVolunteer@gmail.com. If you would like to donate to the ongoing maintenance and repairs of the M Trail, visit MTrail.org.
Marler said the University is indebted to lead sponsors Run Wild Missoula, REI and the Montana Recreational Trails Program.

Gaskill said many people donated hours, but some were dedicated repeat volunteers who contributed more than 10 hours each to bring the M Trail back to life. Those include Alexandria Albers, Greg Arciello, Stephanie Dolan, Chuck Dumke, Andy Edelstein, Rob Gordon, Miles Knotek, Brandon Leonard, Kate and Mike Lindner, Daniel Mason, the Montana Trail Crew, Charles Palmer, Markus Paminger, Lindsay Richards, Run Wild Missoula, UM ROTC, the Sansalone Family, Geoff Showers, Mark Stelling, the UM football team, Bill Watson, Lewis YellowRobe, Axel Yount and Chad Yurko.

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**Contact:** Marilyn Marler, UM natural areas manager, 506-544-7189, marilyn.marler@mso.umt.edu.
UM sophomore Keeza Leavens is interning this summer for No Kid Hungry through the Whitefish-based Farm Hands – Nourish the Flathead, an organization that addresses food insecurity using locally produced farm products.
MISSOULA – For some college students, landing a summer internship might mean high-rises, office attire, mundane errands and business networking socials. For two University of Montana sociology students, this summer was spent in their hometowns working at the grassroots level to help address two of the state’s most pressing problems: hunger and homelessness. They say the work is real and rewarding, and thanks to a robust training from UM, they say they are fully prepared to do the work.

Keeza Leavens, a UM sophomore this fall, is interning for No Kid Hungry, a national program feeding at-risk children, through the Whitefish-based Farm Hands – Nourish the Flathead, an organization that addresses food insecurity using locally produced farm products.

Kayla Ballou, who graduated in spring 2021, is taking some time before enrolling in law school to work for Tumbleweed, a Billings-based agency serving homeless, trafficked, runaway and other at-risk Montana youth and their families.

The areas of need that Leavens and Ballou have chosen to work in reflect real challenges for the state. About one in 10 Montanans face hunger and nearly 37,000 children live in food insecure homes, according to the Montana Food Bank Network. A report compiled in 2020 documented that more than 11,000 unaccompanied minors are at risk for homelessness, according to the Montana Office of Public Instruction.
Leavens, who works as a youth ambassador for No Kid Hungry, said her interest in addressing food insecurity started back in high school, when she coordinated the Feeding and Reading Project, which provides elementary students with a hot meal while enhancing their reading skills.

Leavens attended an online training with 38 other ambassadors across the country and learned about using social media as a way to discuss hunger in the U.S. At Farm Hands, she attends farmers markets, delivers meals with the North Valley Food Bank, organizes fresh snacks to be delivered with the local bookmobile and helps with administrative work, along with other projects.

“I love working at the farmers market,” Leavens said. “Community members can redeem their SNAP points for locally grown fresh fruits and vegetables. And, for every $20 they redeem, we give them another $20. It’s such a great program.

Recent UM graduate Kayla Ballou is working for Tumbleweed, a Billings-based agency serving homeless, trafficked, runaway and other at-risk Montana youth and families.

Ballou, who coupled her sociology major with a concentration in criminology and a minor in communication studies, also developed an interest in social issues while in high school. She uses her time at Tumbleweed to learn more about nonprofit work – particularly youth in crisis – and finds each day to be a new and challenging adventure.

“Your daily interactions are always different,” said Ballou, who works in development and communications for Tumbleweed. “It’s exciting to show the community the work we do and how we impact youth in need, and how the community can
UM Sociology Students Help Hometown Montanans in Need

help as well.”

Successful outcomes, she adds, are deeply rewarding.

“Everyone we work with has a backstory, and addiction is a big thing that we see,” Ballou said. “Finding the options to change someone’s trajectory and get them back on their feet is something that is so meaningful.”

Internships are an important part of UM’s sociology studies, said Associate Professor Daisy Rooks, chair of the Department of Sociology, housed in UM’s College of Humanities and Sciences.

“We offer a robust credit-bearing internship program in sociology,” she said. “Students must apply to join the program and meet several eligibility criteria, and if accepted they can earn internship credits over several semesters.”

In addition to serving in rural areas of Montana, the department has placed interns in numerous Missoula-based organizations, including the Missoula Food Bank, Poverello Center, Missoula City-County Health Department and Missoula Police Department.

Rooks adds that Ballou’s hiring at Tumbleweed mirrors the quick placement of UM graduates in the sociology program. Ballou recently even took on a new role at Tumbleweed, serving as a youth advocate with the Chafee Foster Care Independence Program, which helps foster care youth become independent adults.

“Local and regional government agencies, nonprofits and companies are eager to hire UM sociology graduates,” Rooks said, “because they know that they will arrive on the job with a systemic understanding of inequality – especially around race and ethnicity – a keen understanding of social dynamics, and strong data analysis and critical thinking skills.”

Ballou credits mentors at UM for equipping her with skills to adapt to changing job roles.

“Being a Grizzly, of course, I had a few professors who helped prepare me for real life,” Ballou said.
Leavens, who is enrolled in UM's Davidson Honors College and Franke Global Leadership Initiative, said her paid internship with Farm Hands and No Kid Hungry has prompted her to consider a minor in nonprofit administration as well as learning more about the societal issues seen locally at a global level.

“I know going into my sophomore year having this experience will be incredible,” she said.

###

Contact: Dave Kuntz, UM director of strategic communications, 406-243-5659, dave.kuntz@mso.umt.edu.
Missoula College announces a new certificate program in legal studies, recently approved by the American Bar Association. The certificate can be completed completely online and finished within one year. It is the only certificate of its kind in the Montana University System.
MISSOULA – Missoula College’s new certificate program in legal studies was recently approved by the American Bar Association.

The one-year program – the only one of its kind in the Montana University System — offers training for those interested in pursuing work in the legal services sector as a paralegal, in law firms, government agencies, public administration, legal justice work and health insurance.

Providing an immersive experience in areas that include legal writing, terminology, the function of law, interviewing and preparing for trial, the program also exposes students to the function of law and legal ethics.

Offered completely online, the Legal Studies Certificate can be finished in one year if participants already possess an associate’s or bachelor’s degree. After completing the program, participants will receive an ABA-approved certificate and be prepared to enter the legal services profession. Additionally, students in the program are required to complete a 90-hour internship program, which is most often paid.

“The goal of the program is to equip students with the ability to perform a variety of skills, in a shorter amount of time than a 2- or 4-year program,” said Michelle Boller, associate professor and program director at Missoula College. “We’re seeing an increased demand in the legal services sector, so we want to make our programs accessible to all by making the certificate available online. We also wanted to create a curriculum that is in-demand for those who are either mid-career or beginning a professional journey.”

The U.S. Bureau of Labor Statistics estimates that the jobs of paralegals and legal assistants are expected to grow 10% through 2029, faster than the average for all occupations, noting that formally trained paralegals and legal assistants with strong computer and database management skills will have the best job prospects. The bureau also states the median pay for those in legal services is about $52,920 per year.

For more information on Missoula College, or to apply, visit https://mc.umt.edu/ or call 406-243-6266.
Missoula College Announces Online, 1-Year Legal Studies Certificate

**Contact:** Michelle Boller, Missoula College associate professor and department chair, 406-243-7877, michelle.boller@umontana.edu.
MISSOULA – Floaters can leave their vehicles behind and hop on the University of Montana's free Clark Fork River Recreation Shuttle starting Thursday, July 22. The UDASH shuttle, which can accommodate up to 20 people and their floatation devices, will run from UM's Campus Recreation Center to the Sha-Ron Fishing Access Site in East Missoula.
UM Launches Free River Shuttle for Floaters

Shuttle service starts Thursday, July 22, and runs Thursday through Sunday until Aug. 29. Shuttles run every hour on the hour, starting at noon and with the last trip departing UM at 6 p.m. The shuttle is free and open to the public.

“Floating the Clark Fork River is one of the joys of summer and has grown immensely in popularity over the past several years,” said Jordan Hess, director of UM’s Office of Transportation, which operates the UDASH bus service. “Students and members of the community can catch the bus to East Missoula and float the river back to campus. We are thrilled to debut our new river recreation shuttle to help improve safety, decrease traffic congestion and offer a more sustainable option for all users.”

The service is a pilot project developed in partnership with Montana Fish Wildlife and Parks, the Missoula Downtown Partnership, Mountain Line, Missoula County and the City of Missoula.

“We can’t be more excited and appreciative of our community partners at the University of Montana for piloting this river recreation shuttle,” said Randy Arnold, FWP regional supervisor. “Over the past few years, agency and community partners have coordinated closely to manage recreation on our area rivers. Providing transportation options is critical to reducing parking conflicts. This pilot will make it easy and intuitive to enjoy the Clark Fork River.”

Floaters can bring their inflated or deflated tubes on the bus, and tubes are available to rent at UM Campus Recreation’s Outdoor Program. Floaters are encouraged to bike or walk to campus to catch the bus. Those wishing to park on campus can obtain a parking permit from the shuttle drivers.

There are a host of take-out spots on the Clark Fork River near campus. For a detailed map visit https://destinationmissoula.org/files/downtown-river-map.pdf. For more information on the UDASH Clark River Recreation Shuttle, visit https://www.umt.edu/transportation/bus/river-shuttle/default.php.

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Contact: Jordan Hess, ASUM director of transportation, 406-431-3222, jordan.hess@umontana.edu.
MISSOULA – Amidst a record-setting drought across the Pacific Northwest and fires raging in
the West, students enrolled in the University of Montana’s Climate Change Studies program have a front-row seat to address the effects of a changing climate.

The UM Climate Change Studies program was established in 2009, becoming the first interdisciplinary undergraduate degree program in the nation aimed at educating students to solve one of the world’s grand challenges.

While based in the Davidson Honor's College, UM’s Climate Change Studies program incorporates economics, geography, political science, business, ecology, ethics, philosophy, geoengineering and more into a degree program popular to students in all majors.

“If we don’t act on climate change, our only options are going to be responding and reacting,” said Peter McDonough, director of the UM program, who teaches classes ranging from Biomimicry to Human Health and Climate Change to Climate Solutions.

McDonough said he fosters an environment in the program where students identify creative and practical solutions for reducing carbon emissions – the primary driver of climate change. And, with a new generation of students who view climate change as one of the worlds’ most pressing problems, they are energized to solve it.

Students from 23 different majors in the Climate Change Studies program bring differing views and ideas to the multilayered challenge that deserves creative and vast solutions. There are now 52 students enrolled in the program, making it one of UM’s fastest-growing academic options.

“There really isn’t a career in climate change,” McDonough said. “Climate change doesn’t have experts. What happens is people in their field become experts in climate change through the lens of their field. The important thing is for students to do whatever they are passionate about with a climate change lens.”

Elani Borhegyi, from a town outside of Boston, learned about the Climate Change Studies program at UM while researching the Davidson Honors College.

“Now climate change is basically my life,” Borhegyi said.

A third-year student, Borhegyi has taken a variety of climate courses, such as Global Cycles
and Climate and Soils, Water and Climate, as an environmental science and sustainability major concentrating on resource conservation. But Borhegyi’s favorite class by far has been Climate and Society.

“I think we really need to work together as a planet to solve climate change,” Borhegyi said.

On campus, Borhegyi works in UM Professor Art Wood’s lab, simulating climate change’s effects on stoneflies. Over three months, Borhegyi and a grad student are monitoring how the populations grow, develop and respond to climate change by measuring the oxygen and temperature levels in tanks and observing changing feeding rates.

“Stoneflies are an indicator species. We can predict what climate change will affect based on what happens to stoneflies,” Borhegyi said.

Students in the program can become involved locally through an array of learning opportunities in urban agriculture on campus, at the University’s PEAS Farm or the MPG Ranch. They have collected climate stories for a documentary, covered the state Legislature and developed curriculum for a kayaking adventure company.

Students also can visit the Mekong Delta in Vietnam, Asia’s breadbasket, for three and a half weeks to connect with farmers affected by the river changing and flooding rice patty fields.

Borhegyi, who just started an internship with campus sustainability coordinator Eva Rocke on how UM can reach zero carbon emissions, is especially interested in international cooperation and how people can create healthier ecosystems for the sake of the planet.

But Borhegyi said any research on climate change – from its science to its effects on animal species – will not necessarily change people’s attitudes or inspire action. Through education and talking about climate change, even out of curiosity, people can become more prepared for the impacts – especially those who will be most affected.

“Climate change doesn’t discriminate,” Borhegyi said. “No matter what you believe in, you will be affected by it. You can turn that into action and hope for a better world.”

McDonough said acknowledging and talking about climate change is important, as well as taking small, everyday actions that add up.
A sense of patience will be needed too, McDonough said, as the solutions won’t take effect for decades.

“We won’t live to see climate change solved,” he said. “No one alive today will, but we can do it anyway for the next generation. That’s the whole point. That’s why we’re here.”

Learn more about UM’s Climate Change Studies Program at https://www.cfc.umt.edu/ccs/.

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**Contact:** Peter McDonough, UM Climate Change Studies program coordinator, peter.mcdonough@umontana.edu.
UM PHARMACY STUDENT ENJOYS INTERNSHIP IN SMALL-TOWN MONTANA

UM's Shelby Brooks worked in Forsyth
MISSOULA – Shelby Brooks realized she might be making a difference while shopping at the Forsyth grocery store and heard someone say, “That’s the girl who gave me my shingles shot.”

It was true. Brooks, a fourth-year Doctor of Pharmacy student at the University of Montana, recently completed a six-week internship at Yellowstone Pharmacy on Forsyth’s Main Street. As part of that experience, she gave lots of shots to an aging farm and ranch community of 1,500 people in eastern Montana.

“At UM, they teach you about the drugs and how they work – side effects and all those things,” Brooks said. “But there are a lot of other aspects, like how to run a pharmacy, insurance and management, that I’ve been exposed to here. It’s so cool to see how it all comes together, and I’ve had lots of patient interaction.”

She admits to some culture shock. Forsyth is a scenic little town 443 miles from UM’s Missoula campus. Situated along Interstate 94 and the Yellowstone River, it’s a place of badlands and sagebrush. She claims the temperature hit 116 one day. Though she has family in Helena, Brooks herself hails from Truckee, California, a mountain town on the Nevada border not far from Lake Tahoe.

“Truckee is small, but Forsyth is smaller,” she laughs. “Everybody here knows everybody, and
it wasn’t long before they started calling me ‘California.’”

Despite the gentle ribbing, Forsyth and Yellowstone Pharmacy taught Brooks a lot. She would handle drug-information questions – doing research, reading studies, writing it all up and submitting it. She gave shingles shots. She assisted with a diabetes education program spearheaded by her “preceptor” Leanna Schwend, a 2011 UM graduate who manages the pharmacy and is the daughter of owner Neil Donner.

“The preceptor is the person looking after you,” Brooks said. “I can do pretty much everything a pharmacist can do except check a prescription that goes out the door. Leanna signed off on my hours and watched me the entire time and made sure I’m doing the right things.”

For her part, Schwend said it was wonderful having a fourth-year pharmacy student in Forsyth, where her family has operated the pharmacy for nearly four decades.

“We don’t get too many on this side of the state,” she said. “Students bring a refreshing sense of enthusiasm. They also provide a wealth of new knowledge, and sometimes they know more about the new medicines than we do.”
“It’s been pretty cool,” Brooks said. “I worked with all three pharmacists, so I learned a little bit from each of them, and then the pharmacy technicians are super helpful, too. There are some things you don’t really learn in the classroom, necessarily. It’s different reading about it in a textbook and then actually applying that information to people who are going to take these meds.”

She said small-town pharmacies like the one in Forsyth are vitally important. They often provide the only option for their clients, so they can’t turn away customers like pharmacies can in larger communities – even if they lose money on certain medications.

“That’s why that gift shop at the front of the store is so important,” she said. “It helps them recoup the costs for certain medications. They also bring in revenue from programs like diabetes education, and they provide medications to the nursing home and local clinic. It was interesting to see how the business model worked in a smaller town.”

Pharmacy students in UM’s doctoral program spend much of their fourth year interning at various locales across Montana. Students can request locations, and Brooks targeted areas where she could stay with friends. Luckily, she had a friend in far-off Forsyth whose mother, Holley Marcy, happened to be a pharmacist at Yellowstone Pharmacy.

“It’s been a lot of couch surfing,” she said. “People have been so generous, and I’ve saved a lot on rent. The Marcy ranch is a 15-minute drive from town. They’ve taught me how to dock sheep, and we are branding tonight.”

Brooks said UM pharmacy students complete three-week rotations during the summers to get exposed to the profession, and last year she did a hospital rotation in Miles City, located 41 miles down I-90 from Forsyth. It gave her a first taste of eastern Montana, as she commuted to work from the Marcy ranch.

After Forsyth, Brooks will complete rotations in Missoula and Helena. Next February she will work at a Veterans Affairs facility in Helena and then in Bozeman at a compounding pharmacy, which can customize medications for patients based on their individual needs. Other UM Pharm.D. students also are interning across Big Sky Country – from St. Ignatius to Boulder and Glendive.

Why attend the Doctor of Pharmacy Program at UM’s Skaggs School of Pharmacy? The average entry-level pharmacist salary is $126,000, and UM graduates have a 97% graduate
employment rate. UM also is ranked No. 2 nationally for graduate debt-to-income ratio. The program accepts about 60 students each year.

“As a six-year program, it’s one of the quickest ways to a doctorate,” Brooks said. “You also get your white coat when you start pharmacy school during a special ceremony. It’s kind of like an initiation. You say the oath of the pharmacist and wear that white coat to lab and all your rotations – it goes with you everywhere.”

Pharm.D. students also are a tight-knit group.

“We study all the time, so I’ve found we don’t really have much time to hang out with those outside the pharmacy school,” she said. “We definitely get together with one another when we can, so you get close.”

She said the pandemic put a damper on much of that socializing, but it also gave her the experience of administering COVID-19 vaccines with UM’s Curry Health Center. But she’s ready for a return to a more-normal semester this fall. Brooks will graduate in May 2022 and intends to stay in Montana.

“It’s kind of far-fetched, but I actually would like to start a compounding pharmacy,” she said. “Maybe in the future.”

And if she wound up in a small town like Forsyth?

“I think I’d be fine with that,” she said. “Everyone is just so community-orientated, and there is always something going on there. And everyone needs a pharmacy.”

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**Contact:** Dave Kuntz, UM director of strategic communications, 406-243-5659, dave.kuntz@umontana.edu.
UM Pharmacy Student Enjoys Internship in Small-Town Montana
Missoula College Nursing Program Director Linda Barnes demonstrates finding a vein for IV placement in the college’s nursing program, recently ranked No. 1 in Montana for its associate of science degree in nursing.
MISSOULA – Missoula College’s associate of science degree in nursing has been ranked the No. 1 ASN program in Montana. The ranking comes from NursingProcess.org, a nonprofit online resource that provides students with nursing education and career information.

Rankings are based on the first-time pass rate for the National Council Licensure Examination, academic quality and statistics gathered from U.S. News & World Report, the Integrated Postsecondary Education Data System and state board of nursing websites.

The organization noted Missoula College’s focus on providing quality training for students interested in professional nursing careers. The organization also cited the program’s low student-to-faculty ratio that is as low as 13:1, in addition to the close support from faculty and mentorship on career placement.

Linda Barnes, Missoula College Nursing Program director, said the ranking reflects the commitment of MC to provide the training necessary for building nursing skills and career development.

“The Missoula College ASN program offers students a strong foundation in nursing skills, as well as didactic theory that enables graduates to work in a variety of health care settings, including hospitals, clinics, home health care and hospice, to name a few,” she said.

Barnes said the mission of MC nursing faculty is to create a supportive environment where students can practice their skills in a non-judgmental, safe setting before taking care of patients in the clinical setting.

“With over 100 years of combined nursing experience, our faculty are dedicated to offering real-world examples of nursing care,” she said. “Our state-of-the-art skills lab is the perfect environment for achieving competency in the necessary skills needed for safe nursing practice.”

The college also includes other health care programs including respiratory care, radiologic technology, surgical technology and paramedicine, which offers a unique opportunity for students to practice interprofessional collaboration. Hands-on learning — including live simulation scenarios that emphasize teamwork with a variety of health care occupations that mimic the environments in hospitals and clinics — are central to the program.

Accredited by the Commission for Education in Nursing, the MC degree program requires 72-
73 credits that can be completed in four semesters. For the registered nursing track, the college cites a 100% job placement in 2020 and a 94% three-year pass rate on the NCLEX exam.

The ASN program prepares students as excellent nurses who will play a vital role in patient care and recovery as they obtain the knowledge and skills to promote health, prevent disease, help patients cope with illness and advocate for patients, families and communities.

For more information on the Missoula College Nursing program, visit https://mc.umt.edu/nursing/default.php.

Contact: Linda Barnes, Missoula College nursing program director, 406-243-7875, linda.barnes@msou.montana.edu.
Missoula College Associate Degree in Nursing Ranked No.1 in Montana
UM RESEARCHER: HOW ANIMALS ADAPT TO CLIMATE CHANGE DEPENDS ON WHAT THEY BUILD

09 JULY 2021
Tent caterpillars in the Rockies build silk tents for warmth in cool climates. Researchers are not sure how these caterpillars will be affected by a warming climate.

MISSOULA – Across the globe, rising levels of carbon dioxide in the Earth’s atmosphere are causing temperatures to rise and precipitation patterns to shift. For biologists, a key problem is understanding the current effects of climate change on animal species and predicting future effects, such as the shifting of species’ ranges and their relative risks of extinction.

In a new paper in Trends in Ecology and Evolution, a group of researchers from the University of Montana, the University of Wyoming, the University of Tours in France and Stellenbosch University in South Africa argue that understanding how animals modify their own, local experience of climate can help predict the impacts of climate change.

Many animals dig burrows, construct nests for themselves or their offspring, build homes for entire colonies, induce plants to produce galls that protect insect eggs, build leaf mines or simply modify the structure or texture of their local environments. These modifications, known as extended phenotypes, filter climate into local sets of conditions immediately around the organism – their microclimate.

“In our view, those microclimates represent an underappreciated and highly understudied set of processes that may reveal how species will respond to climate change,” said Art Woods, a professor in UM’s Division of Biological Sciences.

Bird nests keep eggs and nestlings warm during cool weather and cool in hot conditions. Termites build mounds that capture wind and solar energy to drive airflow through the colony and stabilize its temperature, relative humidity and oxygen level. Mammals that sleep or hibernate in underground burrows experience stable, moderate temperatures and avoid above-ground extremes.

Woods said as microclimates typically strongly differ from nearby climates, the area climate provides little information about what animals experience in their microhabitats. Because extended phenotypes are built structures, animals can modify them in response to local climate variation and potentially in response to climate change. These kinds of responses are known as phenotypic plasticity.

Ultimately biologists don’t know how species will respond to a changing climate – whether they
will move or alter their phenotypes or evolve new traits through natural selection, Woods said.

Species most vulnerable to climate change usually have small ranges and population sizes and live in areas that are isolated without other nearby habitats.

“Some high elevation species are at risk because as their habitats warm, they may try to migrate uphill – but sometimes there is no suitable uphill habitat,” Woods said.

In the Rockies, tent caterpillars are particularly vulnerable to climate change.

“They are interesting because siblings hatch out together and, working communally, build a silk tent,” Woods said. “That silk tent provides a central platform for organizing their feeding patterns, and the tents often warm up far above ambient air temperature. The tents act like solar collectors that help the caterpillars warm up and feed and grow faster during cool spring conditions.”

Woods said, however, that higher future temperatures may injure or kill the caterpillars in their tents.

Understanding how species adapt, Woods said, will provide insights on the spread of disease vectors, the health of marine and terrestrial biomes around the world, and whether agriculture and fishing can continue supporting human populations.

“Humans have a long history of developing tools and technologies based on observing how animals solve problems – something called ‘bioinspiration,’” Woods said. “As our climates continue to change, it would be smart to keep an eye out for whether and how animals are solving their local climate problems.

“The vast diversity of animal and plant life on the planet can serve as a kind of evolved knowledge reservoir,” he said, “if only we can study it, and perhaps leverage some of it, before there is too much disruption.”

###

**Contact:** Art Woods, professor, UM Division of Biological Sciences, 406-243-5234, art.woods@mso.umt.edu.
UM Cello Student Awarded Fellowship to Aspen Music Festival and School

07 JULY 2021
David Harmsworth, a UM rising senior and cello performance major, was awarded a prestigious fellowship to the Aspen Music Festival and School, the country’s premier summer training program for young musicians.

MISSOULA – Practicing his cello on a balcony of a dormitory – in what normally houses the Aspen ski patrol – against an emerald green mountain as a new fawn toddles among the wildflowers below, isn’t too bad a gig for summer.

That’s especially true for University of Montana rising senior David Harmsworth, a Missoula native and cello performance major in the School of Music, housed in UM’s College of the Arts and Media. Harmsworth is spending 10 weeks at the Aspen Music Festival and School, having been awarded a full fellowship for tuition and board at the prestigious summer school, where he’ll undergo rigorous preparation playing alongside some of the world’s top players in classical music.

“It’s kind of crazy how international the festival is,” Harmsworth said. “It’s amazing getting to know the orchestra managers and other students from all over the country and the world. It’s challenging me in a lot of different ways, but I’m excited about it all.”

The Aspen Music School is regarded as the country’s premier musical training program for young musicians, having cut its competitive acceptance rate this year for musicians from more than 600 down to about 270 to limit size as a COVID-19 precaution. In order to apply, Harmsworth had to submit a digital recording of two solos and three orchestral and chamber pieces (all in one take) – in addition to a written portion, a performance resume and letters of recommendation.

“I knew they were selecting a smaller cohort this summer, so I wasn’t sure about my chances,” Harmsworth said, who comes from a family of professional musicians, including his older sister and both parents. “I feel great being here, representing UM and making connections for possibly grad school and other professional opportunities.”
During the summer, students are offered a combination of intensive one-on-one instruction and professional performance experience. The festival includes five orchestras, opera, chamber music studies, master classes, lectures and panels.

While in Aspen, Harmsworth will perform for seasoned orchestral musicians, including teachers and principal players from New York, Vienna, Los Angeles, St. Louis, San Francisco, Cleveland, Chicago and Philadelphia. The rigorous weekly schedule of playing and performing is so demanding, that only the most serious, dedicated young musicians from around the world are accepted – a perfect environment for Harmsworth, who is training at UM under Adam Collins, UM’s cello instructor.

Harmsworth credits Collins for “more dimensional musicianship,” having arrived at UM and learned to be a more nuanced player under Collins, who helped him learn to better manage the small muscles required for playing and prepare for a career as a professional cellist.

“David has been really productive during his time at UM, he’s a thrill to teach,” Collins said. “He’s a great student and cellist, and it’s terrific to see him at Aspen this year. For a student like David, being exposed to all that Aspen offers, it’s an incredible opportunity.”

At UM, Collins said students who declare a performance focus in a particular instrument
generally are training for careers as professional players and composers. UM School of Music’s environment lends itself to a deep focus in a particular corner of music, Collins said, like training to an elite level for an orchestral career. The breadth of offerings and low student-to-faculty ratio allow students to flexibly find their niche with great mentorship and instruction from faculty, Collins said.

In addition to teaching the technique of playing the cello, Collins also teaches students how to read and write a contract, how to professionally correspond as a musician, the importance of learning your part, owning appropriate attire, sharing a music stand, following the instructions of a conductor or a principal – all of the soft skills of being an independent musician.

“So much of being a professional musician is responding to emails in a timely manner,” Collins said. “Otherwise, venues move on to the next person on their list and you’ve just lost an income and playing opportunity.”

Collins said upcoming renovations to the Music Building, funded by UM alumni and longtime supporters, will transform two of the building’s largest ensemble rehearsal and practice rooms, which serve hundreds of students each year and prepare them for a wide range of careers in the music industry – from traditional and contemporary performance, to commercial music, recording arts and arts administration.

The School of Music also serves the state of Montana as a hub for music education, with its Music Education Program boasting a 100% graduate job placement rate. Many of these alumni teach in rural Montana communities, providing K-12 vocal and instrumental music instruction statewide.

During the school year, Harmsworth plays with the UM Symphony Orchestra in addition to symphonies in Missoula, Helena and Billings and manages a full course schedule. He’ll return to UM in August for his senior year.

“When you’re in an environment like Aspen, both musically and physically, it makes life easier – you can work harder, ignore the pain and focus on the music,” Harmsworth said. “It will be great to be back at UM in the fall so that I can buckle down, share what I’ve learned and focus on what comes next.”

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UM Students Bring Music Education to Rural Schools
Donor Support Propels UM Music Building Renovations
UM Awarded Grant for Conservation Training from Indigenous Perspective

02 July 2021
MISSOULA – UM recently was awarded a $281,000 grant from the National Science Foundation to implement two intensive field courses in India for Native American graduate students. The courses will offer hands-on, multidisciplinary research and learning opportunities in wildlife management and natural resource conservation sciences.

Under the Advanced Studies Institute International Research Experience for Students program, 10 participants from the U.S. and 10 from India will be selected per year for the 13-day intensive courses.

These courses will create a multicultural, dynamic learning experience designed to train students to conduct multidisciplinary research in an international context, building a network of young professionals who will be at the forefront of world conservation and wildlife management sciences.

“This is an opportunity for a traditionally underrepresented student population to work with fellow Indigenous students in building community and global awareness where their unique perspective is needed to help decolonize conservation practice, not only in the U.S. and in India but worldwide,” said co-principal investigator Professor Keith Bosak.

Courses focus on addressing complex challenges in biodiversity conservation by integrating Indigenous ways of knowing with Western science. Research themes are grounded in social-ecological systems thinking – with dual emphasis on social and biophysical sciences – and include Indigenous and participatory perspectives on conservation, conservation biology, landscape ecology, ecological restoration and wildlife management.

Students will study each of these themes first in the classroom and then through field experiences by leveraging the unique research facilities and field sites available through a partner institution, the Wildlife Institute of India, a global leader in applied research in wildlife management and natural resource conservation sciences.

This program is implemented through a collaboration between UM’s W.A. Franke College of Forestry and Conservation, the College of Humanities and Sciences, the Maureen and Mike Mansfield Center, and the Global Engagement Office. Application information will be announced mid-summer 2021.
Contact: Keith Bosak, professor, W.A. Franke College of Forestry and Conservation, 406-243-6063, keith.bosak@umontana.edu
UM STUDENT, MILITARY VETERAN BRINGS COMPASSION FOR OTHERS TO STUDIES

01 JULY 2021
Jacob Horton, a military veteran and UM student, is putting his health studies to use this summer as an intern at Missoula’s All Nations Health Center.

MISSOULA – Jacob Horton, like many of his fellow University of Montana military veterans, came to campus with a resume of unique lifetime experiences to apply to his academic studies.

A seven-year U.S. Army veteran, he served on deployments to Afghanistan, the Philippines, Thailand and Korea, not to mention several stateside posts. He developed a humility and lasting call to help those around him during his service as a Black Hawk crew chief, describing it as akin to a “flight attendant.”

This spirit to serve others came to the fore during the pandemic when Horton, a senior majoring in cognitive neuroscience, volunteered through UM’s Health & Medicine program to conduct campus COVID-19 checks. The UM Health and Medicine program, which acts as a hub for campus science and health care activities, represents over 60 degrees in health care and biomedical science.

Rebekah Skoog, program manager for UM Health and Medicine, said Horton is one of the most dedicated and reliable students she has worked with in the program.

“One once Jacob decides he wants to do something, he goes for it,” Skoog said.

That included an opportunity for Horton to work as an intern earlier this year at Missoula’s All Nations Health Center, she said. One of 41 Urban Indian Health Programs in the United States, All Nations offers health care services to Missoula’s American Indian and Alaska Native communities.

“I checked on people after their COVID vaccination and signed them up for the CDC’s VSAFE symptom monitoring,” Horton said of his initial work at the center. “Sometimes I was just an ear for people who clearly missed being around others.”

As a member of the Choctaw nation, Horton said he enjoyed the camaraderie talking to members of the Native community.

“Getting to know them has been great,” he said. “Conversation is different in Native
communities. Everyone knows everyone.”

Today, Horton is helping with vaccine data entry at the center and eventually will work with a nurse practitioner, giving him opportunities to learn more about medicine, which he hopes to pursue after he graduates from UM.

“I am a senior and could have graduated in the fall, but I added a psychology minor to my studies specifically for medical school,” he said.

Horton credits UM’s Vets Office, led by Daryl Lee, for making the stressful transition from military to college life “effortless.”

“Many times, I’ve sat in Daryl’s office to figure out how best to use my benefits,” said Horton, who is attending UM on the GI Bill. “The school sets veterans up for success, and I would absolutely recommend UM to vets.”

Ultimately, Horton would like to practice medicine for the V.A. or continue his work in Native communities. He and his wife hope to stay in Missoula with their family, which now includes a 2-year-old son.

Thomas McClure, health promotion specialist at All Nations, has no doubt that Horton will succeed wherever his career ambition takes him.

“Jacob will be an asset wherever he lands,” McClure said. “He’s expressed his commitment to work with All Nations Health Center both short and long term, and this speaks to his passion to help improve the health of at-risk populations. We are incredibly thankful to have him at our organization.”

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