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01 DECEMBER 2020
MISSOULA – It’s easy to love a University of Montana Grizzly. But how do people feel about their four-legged, wild counterparts? Researchers from UM’s Human Dimensions Lab in the W.A. Franke College of Forestry and Conservation recently conducted a collaborative study with Montana Fish, Wildlife & Parks to better understand Montanans' perspectives about grizzly bears and their management.

Overall, the researchers found Montanans support having grizzly bears in the state – especially on remote public lands – and generally have positive attitudes toward the animals. However, Montanans were less likely to support grizzly presence closer to agricultural or residential areas.

To complete the survey, UM professors Alex and Libby Metcalf, doctoral student Holly Nesbitt and their FWP collaborators designed a questionnaire mailed to over 5,000 households randomly selected from across Montana. Between November 2019 and January 2020, 1,783 adults responded, generating a +3.5% margin of error.

Survey results show most Montanans view grizzlies positively, with important nuances such as wide support for some form of a hunting season.

For example, an overwhelming majority of Montanans (92%) agree or strongly agree that grizzly bears have a right to exist in the state, and nearly three out of five Montanans (57%) disagree or strongly disagree that grizzly bears limit their recreational opportunities. Still, just over one third of Montanans (35%) agree or strongly agree that grizzly bears do not belong where people live, and over three-quarters of Montanans (83%) would support at least some form of grizzly bear hunting.

FWP says the data will be used to help inform grizzly bear management in the state.

“As grizzly bear populations continue to expand across the state, Montanans will face choices about how to manage the overall population as well as individual animals,” Alex Metcalf said. “So, at this important point in time for both bears and people, we’re excited to help inform these choices with hard numbers on residents' attitudes, beliefs and preferences toward grizzlies and their management.”
The Human Dimensions Lab specializes in using social science to explore connections between people and the environment.

“Many natural resource and wildlife management challenges boil down to how humans think, behave, navigate disagreements and make management decisions,” Alex Metcalf said. “In a variety of different contexts, the lab uses social science theories and methods to promote effective natural resource policies and practices.”

The lab has previously worked with FWP on other projects, such as brucellosis management around Yellowstone National Park, wolf management in Montana, recreational use on the Blackfoot and Bitterroot rivers, and the Montana State Comprehensive Outdoor Recreation Plan (SCORP).

“We have always viewed our collaborations with Montana Fish, Wildlife & Parks as an exceptional opportunity that keeps our science grounded in real-world application,” Libby Metcalf said. “Partnerships with the state allow us to connect our science to practice and to learn about the natural resource issues that impact Montanans.”

While the initial grizzly bear survey is complete, the lab will continue exploring the responses to provide more information for managers and the public. Nesbitt, who helped develop the survey, now is analyzing the data to understand how multiple factors intersect to drive Montanans' beliefs about grizzly bear populations in the state. She’s looking at factors like risk perception, beliefs about the benefits of grizzly bears to the ecosystem, trust in FWP and attitudes toward hunting.

“This project has been really exciting to be a part of because, although there is a lot of research on grizzly bear biology in Montana, this survey was the first attempt to understand how people across the state perceive grizzly bears,” Nesbitt said. “This is important information for managers to have as grizzly bear populations continue to expand.”

A summary of the results and the full survey is available to read online at: https://cfc.umt.edu/research/humandimensions/news/human-dimensions-grizzly-bear.php.

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**Contact:** Alex Metcalf, assistant professor, W.A. Franke College of Forestry and Conservation,
For Young Children, Talking is Teaching

22 December 2020
MISSOULA – During the earliest years, it’s not the number of costly toys or alphabet flashcards a child has that is of utmost importance but rather something that is completely free: talking. Language is central to all strands of a child’s development, including attachment, early literacy, early math and social-emotional development. Of course, words aren’t the only way children communicate. Very young children point, use body language, cry, or make eye contact to give us messages. Recognizing and positively reinforcing these precursors to language is essential for more advanced language to come.

World-renowned pediatrician Dr. T. Berry Brazelton and child psychologist Dr. Joshua Sparrow have researched and written abundantly about the invaluable nature of bonding between parents and their children. The positive relationship formed through quality moments cuddling with a caregiver, laughing or being comforted increases a baby’s brain growth, sense of security and attachment. When language is nurtured out of a secure attachment through loving adult-child exchanges, very young children learn to use early language as a tool to interact with others, practice self-control and explore their surroundings.
The research is clear – talking is teaching. Parental responses to infant babbling can influence a child’s language development. Infants whose caregivers respond to what they think their babies are saying show an increase in advanced language sounds. However, research suggests by the time children are 2 years old, there is already a six-month gap in language understanding between children from higher-income and lower-income families, and by age four, the average child in a lower-income family might have 30 million fewer words of cumulative experience than the average child in a high-income family.

Such disparity remains apparent throughout the school years and is linked with later academic successes. Building from this research, more recent evidence has shown conversational turns to have more brain-building power than adult words alone, and without income as a predictor. Conversational turns are simple back-and-forth exchanges between a child and an adult, like in a game of tennis or ping pong. Children whose caregivers talk with them are more likely to use language with confidence and to grow larger vocabularies at younger ages. Such research provides an encouraging platform to empower parents and caregivers, especially those with limited resources, to realize how much they have the ability to benefit their child’s life by talking, reading and singing to them every day. But how do new realities of social distancing and wearing face masks impact a child’s environment of quality relationships and language-rich interactions?

Very young children learning how to use communication are especially impacted, and even more so are young children with hearing loss. A huge part of language development in infancy through preschool includes what is referred to as social referencing. Children gain a lot of information from a face that is laughing, fearful, angry or smiling. Young children whose caregivers are masked will miss some of these visual cues and possibly even have some trouble sorting out who goes with which voice when in groups. However, there are opportunities for caregivers to be creative and more intentional during their interactions, helping young children take full advantage of the visual information they receive.

An important strategy for all caregivers is to obtain a child’s full attention before starting to talk by saying their name, making eye contact and, if possible, moving down to the child’s level and avoiding talk from far across a room. Caregivers also can intentionally exaggerate gestures, tone of voice and, as much as possible, aim to convey messages with their eyes while speaking. Making explicit comments to draw children’s attention to their feelings by saying things like, “Look how happy my eyes looks, or look how surprised I am, my eyes are so wide!” also will be helpful, as will slowing down speech.
Caregivers who regularly interact with young children outside the home in childcare and classroom settings can consider consistency with their appearance by wearing the same hairstyle, characteristic clothing, personalized masks or even a large badge with a nonmasked photograph. They may also create a playful game of helping children find ways of communicating with their hands and bodies, like charades!

With or without masks, everyday routines offer many novel opportunities to embed quality language-rich interactions. One of the simplest strategies is for caregivers to pretend to be broadcasters by giving play-by-plays. For example, when it’s time for a bath, a caregiver can describe and label what they see and what they are doing: “It’s time to get cleaned up … I’m picking you up … We’re walking to the tub … Let’s count how many steps … I’m starting the water … The water feels warm … Let’s make some bubbles.” They can also describe what children are doing: “You have the red car … You’re driving it slowly around the chair.”

Another fun way of encouraging language is to pretend to be forgetful during everyday familiar routines like getting dressed, cleaning up or while singing songs. Caregivers can be silly and put their socks on before their shoes or exaggerate putting a dirty dish in the clean cabinet as an opportunity for young children to catch and correct the routine. During a familiar song a
For Young Children, Talking is Teaching
caregiver might pause to let the child fill in the words. Outside of the home environment, community settings offer meaningful language opportunities. Grocery stores, car rides, bus stops, libraries, laundromats, waiting rooms and parks are familiar environments for children. Playing a simple game like “I Spy” creates a language-rich opportunity for children to engage by practicing their communication skills. The most powerful types of conversations are those that are playful and anchored in responsive interactions that are emotionally satisfying for a child but also for the adult who loves them.

While these are stressful times for everyone, these early years are a critical period for development, and every moment counts. Learning language should be fun, and everyone has a role to play. Young children develop in an environment of relationships. Family friends, neighbors, pediatricians, grocery store clerks, librarians, bus drivers, bank tellers and faith leaders are valuable assets to a child’s language development. These individuals can promote and reinforce language-rich opportunities for positive engagement throughout community settings frequented by young children and families. These everyday language and learning opportunities are small but meaningful moments of interaction that have a big impact on a child's life. When young children and families thrive, a community thrives.

Note: This article draws on the research of Berry Brazelton, Joshua Sparrow, Julie Gros-Louis, Meredith West, Andrew King, B. Hart, T. Risely, Marchman Fernald, A. Wisleder, D.K. Dickinson, R.M. Golinkoff, K. Hirsh-Pasek, P.O. Tabor, C.E. Snow, M.S. Burns, P. Griffin and others.

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Contact: Haley Eakin, research analyst, UM Center for Children, Families and Workforce Development, haley.eakin@mso.umt.edu.
UM AWARDED TOP HONORS FOR MASTER’S COUNSELING PROGRAM

21 DECEMBER 2020
A UM doctoral student in counselor education uses one of several specially designed rooms in the new addition of the Phyllis J. Washington College of Education. The University's Department of Counseling was awarded top honors for its master's program in counseling by the Association for Counselor Education and Supervision.

MISSOULA – The University of Montana has received prestigious awards in recognition of its distinct graduate program that trains school and clinical mental health counselors, and for having the top publication in counselor education by a faculty member.

The UM Department of Counseling was named the Robert Frank Outstanding Counselor Education Master's Program of 2020. This national honor is presented by the Association for Counselor Education and Supervision, the premier professional organization dedicated to quality education and supervision of counselors.

ACES also recognized UM Counseling Professor Kirsten Murray with the 2020 Publication in Counselor and Supervision Award for her book, “Strong Couples.” Of the 11 national awards given by ACES each year, UM was awarded two.

“Together, these awards mean we are one of the top counseling programs in the country, and our faculty authored the top publication in the discipline,” said Adrea Lawrence, professor and dean of the UM Phyllis J. Washington College of Education. “Our program is truly set apart by our outstanding faculty, students, and facilities. We are immensely proud of this recognition.”

Lawrence said the designation is a testament to UM’s rigorous and innovative program and “tight fusion between clinical and coursework” that trains capable and competent counselors. Most notably, Lawrence said the Department of Counseling’s commitment to trust, relationships, and well-being among students and faculty create “a foundational focus on creating and maintaining caring communities.”

The criteria for the ACES award included having outstanding and industrious faculty, who have a tremendous focus on training counselors. UM was selected for innovative teaching, meaningful service, and continuous growth and improvement in all endeavors, but most notably the program was honored for its meaningful student and faculty relationships.
According to ACES, Murray’s publication was selected for the award for her “experience as a couple and family therapist and as a seasoned instructor in both fundamental counseling and family counseling courses.”

Janya Mumbauer, assistant professor of counseling, joined the UM faculty a year-and-a-half ago from the University of Central Florida. She said she was so inspired by the program she volunteered to process the awards application to ACES on behalf of the department.

“When I joined the department, I was amazed how dedicated the faculty are, how responsive they are to student needs and what a truly unique program this is,” she said.

Murray said the program’s tri-part emphasis on a clinical focus, an academic focus, and personal development, lends itself to innovative teaching techniques.

For example, in a multicultural counseling class that Murray teaches, she asks students to creatively share an experience of privilege or oppression as a way to discuss power structures in the world, using slam poetry or a dramatic performance.

“If students are more attuned and sensitive to the injustices of the world, they can apply that to their training and more sensitively and effectively treat diverse people,” Murray said. “You can’t always tease out that understanding as powerfully in an essay or research paper format.”

The program’s focus on self-reflection is also evident in one of UM’s most popular courses on intimate relationships, where UM students use their own relationships to explore the class’s themes of communication, friendship, sexuality, love, conflict and power. Counseling graduate students provide counseling sessions as an optional lab of the course, and doctoral counseling students generally teach the class.

Department of Counseling Clinical Director Sara Polanchek, who oversees UM doctoral student instructors, was the recipient of the ACES 2019 Outstanding Supervisor Award. The course has prompted new teaching and research on intimate relations, funded and supported by Summerfield and Julie Baldridge.

“There’s a lot of informal mentoring and a sense of community among students, which lays an important groundwork in what can be a more isolating career,” Murray said.
A 2019 expansion of the Phyllis J. Washington College of Education is home to a new counselor education suite, where students can participate in counseling sessions with supervision and observation by way of a glass wall. Faculty can observe the sessions behind the wall and provide real-time coaching and feedback with an ear bud. Students also can record their sessions and review them in a safe and private setting.

The program’s state-of-the-art teaching, learning and collaborative spaces were made possible through philanthropic support from The Dennis and Phyllis Washington Foundation, A. Warren and Betsy Ross Wilcox, Andy Hugos and other donors.

Lawrence credited the programs facilities as a point of attraction for many students.

“Because of our dedicated spaces – designed specifically for this kind of training – we can do things other programs simply cannot,” Lawrence said. “These facilities are going to mark a very solid gain for students’ practice in the field.”

Last year, the counseling program saw record enrollment and only accepts about 20% of applications. The program also has a 100% pass rate on the National Counselor Exam and 100% job placement.

Graduates of the program either work as clinical mental health providers or school counselors. The majority stay in Montana and some go on to serve in rural, underserved areas where mental health services are lacking. For each track, 600 hours of clinical internship is required and most students complete the program in 2 to 2 ½ years.

Murray attributes some of the growth of the program to a growing societal awareness of the importance of mental health, particularly during the pandemic when the isolation of families and individuals can be great. She said the program also serves a critical gap in Montana’s need for mental health as a rural state with one of the highest suicide rates in the country.

“I think about our students leaving the program and being very well prepared to hold significant needs for people and to respond to them,” Murray said. “I’m confident in their level of preparation and their ability to be self-aware, open to feedback, growth oriented and motivated. To be producing those kinds of professionals, most of whom want to stay in Montana, is a really good mental health foundation for a state that desperately needs it.”

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Contact: Adrea Lawrence, professor and dean, UM Phyllis J. Washington College of Education, 406-243-5054, adrea.lawrence@umontana.edu; Kirsten Murray, professor, Department of Counseling, 406-243-2650, Kirsten.murray@mso.umt.edu.
UM Named COVID-19 Vaccine Provider, Distributor

UM Pharmacy Manager Kenneth Chatriand shows the subzero freezers required for the federally approved Pfizer and Moderna COVID-19 vaccines. UM was approved as a vaccine holding and distribution center this week, allowing UM to serve as one of
MISSOULA – Capitalizing on its robust bioscience infrastructure, research facilities and statewide network of student and alumni pharmacists, the University of Montana will provide and distribute the COVID-19 vaccine to Montanans. The State of Montana announced the flagship as an approved vaccine holding and distributor center this week, allowing UM to serve as one of Montana’s most significant vaccine distributors.

Kenneth Chatriand, manager of the UM Pharmacy and coordinator of community advanced student pharmacy practice, said the approval to hold and later distribute the vaccine through UM is a testament to the University’s public health response, thanks to its health and medicine programs and resources for the state.

This year, UM was named one of the nation’s top 10 universities in solving the pandemic – on the same list as Oxford and Harvard, largely due to its vaccine research and ability to respond to the public health crisis.

“Not only do we have the physical resources needed to house the vaccine, but we have top-rated health science programs, including pharmacy, and a statewide presence of student interns and pharmacists trained as immunizers and prepared for direct patient care,” Chatriand said.

UM has not yet received the vaccine, and the timeline for distribution and delivery still is being worked out with state and federal health authorities.

Chatriand said UM health programs, faculty, staff and students will work collaboratively and proactively in administering the vaccine to students and community members and then eventually statewide as dictated by the U.S. Centers for Disease Control vaccine rollout phases.

“We are working on organizing a drive-through vaccine program, where our pharmacy students will be able to actually administer the vaccine to other UM students and eventually community members,” he said. “Later, as more vaccines become available, we’ll be organizing a statewide delivery program to our rural communities, hospitals and pharmacies.”

Working with a network of statewide pharmacies in the Montana Family Pharmacy Group, UM
plans to mobilize its many UM pharmacy alumni and current pharmacy students for vaccine rollout and immunizations.

“One positive note about the pandemic is that it’s allowing us to flex our muscle more in terms of what pharmacists can do for the larger public health of the state, and provide our students real-time experience and training in addressing and being a part of this national response,” Chatriand said.

The UM Pharmacy is owned and operated by the University’s Skaggs School of Pharmacy and is located in UM’s Curry Health Center. Chatriand will work with students staffed at the pharmacy and with UM’s College of Health programs, including nursing students at Missoula College, to organize vaccine distribution.

With existing subzero freezers required to store the Pfizer vaccine, UM earned approval to house and distribute the lifesaving doses from the U.S. Centers for Disease Control and the Montana State Department of Public Health and Human Services.

UM currently has three of the freezers available, and a fourth one will be delivered next month. The University also can make additional subzero freezers available, as they are currently be used for other University research, said Scott Whittenburg, UM vice president of research and creative scholarship.

The Pfizer vaccine must be stored at temperatures of minus 90 F or below and the Moderna vaccine must be stored below 48 F.

Whittenburg said the low temperatures required for vaccine storage have forced those wishing to become storage and distribution sites to scramble to obtain these freezers, which are now in short supply.

“Fortunately, they are relatively common at research universities working in bioscience and biochemistry, like UM,” he said. “We have a number of these freezers we could use, if that becomes necessary. UM researchers understand this a community effort, and access to the required facilities is something UM can provide.”

Whittenburg said UM’s capacity to respond to the pandemic, as well as host and distribute the vaccine, reflects its mission as public research university.
“We see this moment as an opportunity to support the State Department of Public Health and Human Services and provide greater collaboration with county health officials,” he said.

This year, UM broke a record for the largest amount of research expenditures in school history, exceeding $100 million for the first time in University history. A bulk of the grant awards were in UM’s health and bioscience fields and UM’s Center for Translational Medicine. In February, that center was awarded $2.5 million from the National Institutes of Health to produce a COVID-19 vaccine candidate.

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**Contact:** Kenneth Chatriand, pharmacist pharmacy manager, 406-243-5171, kenneth.chatriand@umontana.edu.
UM Bio Station’s Flathead Lake Plays Important Part in Climate Change Lake Study
UM Bio Station’s Flathead Lake Plays Important Part in Climate Change Lake Study

STUDY
17 DECEMBER 2020

UM’s Flathead Lake Biological Station aquatic ecologist Shawn Devlin oversees the Flathead Monitoring Program, which maintains one of the strongest long-term ecological and water quality records in the world.

FLATHEAD LAKE – Over the last few decades, water scientists have noticed a rapid and consistent warming of surface temperatures. Changes beneath the water surface, however, have been subtler, but could still have significant consequences for lake ecosystems.

In a study recently published in Nature’s Scientific Reports, Shawn Devlin, an aquatic ecologist at the University of Montana Flathead Lake Biological Station, and a global team of researchers provide the most comprehensive data set to date of long-term summertime vertical temperature profiles in more than 100 lakes across the world. Led by Rachel Pilla and Craig Williamson of the University of Miami-Ohio, researchers analyzed summer temperature trends, not only in the surface-water

Flathead Lake was one of 102 lakes across the globe that were subjects in a four-decade study of surface and deep-layer water temperatures.
layers of the lakes, but also in deep-water layers and vertical thermal structures.

“One thing that made this study so remarkable is the scope,” said Devlin, who oversees FLBS’s Flathead Monitoring Program, one of the oldest lake monitoring programs in the world. “We were able to track the long-term surface and deep-water temperature trends of each individual lake and insert that information into a much larger picture to uncover patterns that help us understand what’s happening.”

After examining the data, which spanned nearly four decades beginning in 1970, researchers found consistent, significant increases in surface temperatures – an average of nearly 0.4 degrees Celsius per decade – across the lakes studied. Additionally, researchers were able to use lake models to predict the temperature changes in surface layers on a fairly consistent basis.

But when it came to the deep-water layers, a surprising development emerged. While the temperature trends showed little change on average – an increase of 0.06 degrees Celsius per decade – there was high variability across the lakes. The deep-water temperature of one of the lakes increased by nearly 0.7 degrees Celsius per decade, while the deep-water temperature of another lake actually decreased by the same amount.

This variability couldn’t be explained by trends in surface water temperatures or any other external drivers examined in the study. As a result, lake models were only able to predict deep-water temperature trends in 8.4% of the lakes studied.

“It’s a very interesting phenomenon,” Devlin said. “It’s something we see right here at Flathead Lake, which has a unique ability to mask the impacts of climate change. Even though the surface temperatures have increased quite a bit here in the past couple decades, the average temperature has remained essentially the same.”

According to Devlin, Flathead Lake on the whole is able to offset its rise in surface layer temperatures with a large deep-water layer that is bolstered by a steady inflow of snow melt and glacial runoff. As a result, Flathead Lake’s deep-water layer is actually cooling slightly.

While it may at first seem positive that Flathead Lake and others like it aren’t experiencing the dramatic temperature changes in their deep-water layers as they are on the surface, the implications can potentially be quite dire.
Larger temperature differences between the deep-water and surface-water layers make for stronger stratification. The stronger the stratification, the stronger and more robust the thermocline (the transition layer, or barrier, between waters of different temperatures) becomes, which can prevent the movement of materials and organisms between surface and deeper waters. This can greatly impact the ecology of a lake by creating nutrient imbalances, modifying critical oxygen levels throughout the lake and altering fish communities and production.

To fully understand what the future holds for our lake ecosystems, however, additional research will need to be done.

“Flathead Lake is now part of our global understanding of one of the biggest threats to our freshwater ecosystems, which is climate change,” Devlin said. “This is an important first step toward a better scientific understanding, and it wouldn’t be possible without the decades of extensive monitoring and modeling efforts of the Flathead Monitoring Program and those who support our work.”

For Devlin, incorporating Flathead Lake’s extensive data into the global research on lakes and working with lake experts from all over the world makes for more powerful science.

“Flathead Lake is a great template of how lakes could work when not greatly influenced by human impacts. We were able to show that our lake is a treasure trove of scientific merit and study, which makes this an important moment scientifically for the Flathead Monitoring Project, the Bio Station and UM.”

This study was made possible through the support of the Global Lake Ecological Observatory Network, in addition to numerous foundations and grants.

###

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Griz In The Wild: UM Student to Depart for Remote Alaskan Teaching Experience

COLLEGE OF EDUCATION, COLLEGE OF FORESTRY AND CONSERVATION

GRIZ IN THE WILD: UM STUDENT TO DEPART FOR REMOTE ALASKAN TEACHING
UM senior Haley VonGoedert is preparing for a student teaching experience in the remote fishing village of Newhalen, Alaska. At UM, VonGoedert paired an elementary education major with wilderness and civilization studies.

MISSOULA – University of Montana student Haley VonGoedert is busy making lists.

The UM senior from Seattle is cataloguing the food and personal items needed for spending four months in a remote Alaskan fishing village. The goods will be delivered by floatplane the first week of January.

Like a good Grizzly, she knows packing less and light is best, and she'll make do with what’s there after arriving.

On the heels of completing required coursework in UM’s Phyllis J. Washington College of Education, the elementary education major has selected a small school in the mostly Indigenous community of Newhalen, Alaska — home of the Yup’ik people — for her required student teaching experience and final semester of her bachelor’s degree.

Accessible only by seaplane or ocean ferry, the community of 160 people sits in the heart of southwest Alaska’s vast territory at the mouth of the Newhalen River on Iliamna Lake.

On her list is a new phone, as cell coverage is about as scarce as traffic or commercial shopping.

"I understand there actually isn’t really cell phone coverage," she said. The school is the only place in town with Wi-Fi.

Making sure to list a parka and hiking boots, VonGoedert will live “about 20 steps from the school” after “looking really closely on Google maps,” she said.
UM Education students must complete a student teaching practicum for a semester before becoming certified teachers. In Newhalen, VonGoedert will teach elementary students in a school where the entire K-12 population is 80 students.

“It’s not close to home, that’s for sure,” VonGoedert said. “The pandemic has taken so much away, so I’m thrilled to be able to even have this opportunity.”

At UM, the Davidson Honors College student combined her teacher education curriculum with the Wilderness and Civilization Program in UM’s W.A. Franke College of Forestry and Conservation. VonGoedert said training in elementary education and studying the ways people interact with land and wilderness provided her a unique background as she prepares for the role of teacher.

“One of the things UM does so well is offer a lot of tracks that complement the education major,” she said. “I’m really interested in sustainability and the environment and the ways those subjects are presented in the classroom. Having a foot in teacher education, combined with really meaningful wilderness experiences in the College of Forestry, will make me a better teacher and learner – especially in a community like Newhalen.”

VonGoedert credits UM-affiliated backcountry camping experiences and forestry classes for developing her deep appreciation of land ethics. She said her UM education “was probably spent equally indoors as outside.”

As she prepares to join a community where the primary residents are Alaska Natives, she also praises her education classes and faculty for their commitment to emphasize cultural diversity in the classroom.

She said many of her education classes were steeped in the training and tenets of Montana’s Indian Education For All, a state constitutional requirement to learn about the distinct and unique heritage of American Indians in a culturally responsive manner.

“There’s no way you come out of UM’s teacher education program without a commitment to teaching to and being responsive to a culturally diverse curriculum,” she said. “That’s something I’m really proud of, and I think that focus is distinct to UM.”

VonGoedert said she wants to observe the cultural values of the Newhalen community and
“and try to enhance that in beneficial ways in the classroom, which might eventually look like a service-learning project,” she said.

For the inevitable moments on hard days, VonGoedert will be supported and mentored by staff in UM’s Teacher Education Services office.

Maygan Lenz, assistant director of the Office of Field Experiences, a former teacher herself, said she considers every UM student in field placement “like one of her own” children. On any given year, Lenz and staff help place anywhere from 400 to 600 UM students for teacher practicums all over Montana, country and as far as New Zealand.

“We’ve had this partnership with Alaska’s Lake and Peninsula School District for some time,” she said. “But, not every student is interested in an experience like this for their student teaching. Haley, however, is an adventurous person and a terrific fit.”

The last UM student who chose Newhalen for their student teaching experience was in 2018, and is still teaching in Alaska, Lenz said.

Mentoring students and working alongside them to select the best field practicum is what she loves most about her job, Lenz said. Most of the staff in the department is either a former teacher or alumni of UM’s teacher education program, she said, which provides a rich understanding of what future teachers are going through, and their anxieties and hopes.

“Above all, we want each and every student coming through our office to be successful,” Lenz said, “and that starts with helping them select the right student teaching placement and supporting them the entire way through.”

It also includes a pipeline of communication and support from UM’s Education Building, no matter how far a school district is from Missoula.

“Haley will be in a different time zone, but at any moment, we are here for her,” Lenz said. “All of our students know that, and that’s why student teaching is such an important experience, because it helps young teachers understand that to be successful, you must rely on, and engage with, your community.”

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UM Distributes $1 Million for Children’s Services

11 DECEMBER 2020
MISSOULA – The University of Montana’s Center for Children, Families and Workforce Development and Montana Children’s Mental Health Bureau are distributing $1 million in grant funding to support innovative programming in children’s services.

The funding comes at a time when children and families are struggling with mental health and basic services in the midst of the pandemic, coupled with an increased demand on the foster care system.

Montana received the funding from a Title XX block grant to support services that help achieve self-sufficiency, prevent child abuse and neglect, and provide community and home-based care.

“The funding provides timely resources and support as children’s mental health providers manage the COVID-19 pandemic, the implementation of Families First and the Children’s Mental Health Bureau’s renewed focus on family engagement,” said Jeff Folsom, policy director at the center.

Montana has seen an unsettling rise in youth entering foster care due to abuse and neglect over the last decade and now sits at second in the country per capita for the number of children entering care. Additionally, youth age out of Montana Medicaid mental health services at age 18 or 19 – many of whom are in foster care or other out-of-home care settings. Many exit care without a strong support system in place and struggle to find a job, secure housing and navigate applying for the health care coverage needed to continue their mental health services.

Susan Dawson, grant director of the Innovation Grants project at UM, is excited about the fund’s potential to carve new paths for child welfare engagement in Montana.

“We have an incredible team behind this project who are prepared to support our grantees in their exploration of innovative ideas to strengthen our youth and families,” Dawson said, noting that up to 15 Montana organizations will receive funding.
The goal of Innovation Grants is to help create systems that reduce reliance on out-of-home and out-of-state placement of Montana youth for mental health care and treatment. Innovation Grants fund applicants who explore innovative ways to address the comprehensive needs of the family instead of narrowly focusing on the individual services each provider delivers.

All too often, policy and practice are created using a top-down approach, Dawson said. Innovation Grants seeks to change this by taking a ground-up approach that empowers and involves those most adversely affected.

Dawson said Innovation Grants seeks to fund “applicants that see the value of embedding family and youth voice in all aspects of service delivery and organizational management and that are committed to systemic change that will empower youth and families for generations to come.”

The application process for the current grant is underway, and a multidisciplinary team of both center and bureau staff are reviewing proposals.

“As we spend time with potential grantees working through their applications, we are thrilled at their excitement to collaborate,” Dawson said. “We want to create an environment where exploration and collaboration is supported. By giving our grantees the space to explore in this manner, I believe we will have some truly authentic innovative approaches to the challenges we face.”

Learn more at Innovations Grants.

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UM Students Make Fall Semester Dean’s List, 4.0 List
MISSOULA – At the University of Montana, 2,540 undergraduate students made the fall semester 2020 Dean’s List or President’s 4.0 List. To qualify, students must be undergraduates, earn a semester GPA of 3.5 or higher and receive grades of A or B in at least nine credits. Students who receive any grade of C+ or below or no credit (NC/NCR) in a course are not eligible.

The students on the linked lists below made UM’s fall semester 2020 Dean’s List or the President’s 4.0 List. Double asterisks after a name indicate the student earned a 4.0 GPA. A single asterisk indicates a GPA greater than 3.5 but less than 4.0. This information is grouped by hometowns.

View the Dean’s List and President’s 4.0 List for Montana students.

View the Dean’s List and President’s 4.0 List for out-of-state students.

View a full alphabetical list of all students who made the Dean’s List and President’s 4.0 List.

All lists also are available on the UM Dean’s List and Degree Candidates webpage.

The University is prohibited from publishing information about students who signed the Student Request to Restrict Release of Directory Information form through the Registrar’s Office. If students are not listed with a particular city or town, they should check other towns they may have listed as an address. If students are not listed and they believe they should be, email the Registrar’s Office at grading@umontana.edu.

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Contact: UM Registrar’s Office, grading@umontana.edu.
UM Master of Public Health Ranked No. 2 Among Most Affordable Online Programs
Julia Ryder, an emergency room nurse in Bozeman, is enrolled in UM's Master in Public Health online program. The program recently was ranked as the No. 2 most affordable online MPH program in the U.S.

MISSOULA – The University of Montana’s online Master of Public Health degree has been named the No. 2 most affordable program in the country for 2021 by a national ranking organization.

When making its rankings of the 25 Most Affordable Online MPH Programs, MPH Online said it searched exclusively for regionally accredited, Council on Education for Public Health-recognized programs that provide a robust and economical public health program. CEPH is an independent accrediting agency recognized by the U.S. Department of Education.

Tony Ward, chair and professor of UM’s School of Public and Community Health Sciences, said this ranking reflects the growing reputation of UM’s MPH online program, which was launched more than a decade ago and has seen enrollment numbers grow dramatically in the past few years. Today, 90 students are enrolled in the program. Most live in the region, but one is studying from New Zealand.

“This has certainly been an important time to be a health professional because of the pandemic and the need to keep people safe,” Ward said. “The students in our program are genuinely interested in improving the overall health of their communities.”

Ward said MPH students are typically mid-career health care professionals looking to refine and augment their career skills. A number of them apply to the MPH program after completing one of the school’s online certificate programs, such global health and epidemiology. Ward said these programs act as a “feeder” for further studies at UM.

For Julia Ryder, a registered nurse in Bozeman, working toward a certificate in environmental health sciences served as the perfect introduction to the master's program. Ryder eventually wants to work in the area of health and climate change.
“I thought if I can do well in the certificate program while still working, I would apply for the master's,” said Ryder, noting that her studies had to sync well with her busy schedule as a mother, emergency room nurse and community volunteer.

“There are really good people at UM who are responsive to your needs and have a very real awareness about life’s demands,” she said. “My classmates are really interesting, and we have lively discussions.”

Students pursuing the MPH degree on a full-time basis should be able to complete the coursework in two years, with most working professionals needing a minimum of three and a half years, Ward said. Core coursework includes subjects ranging from ethical issues in public health to statistical methods and biostatistics. The curriculum also includes an integrative or practicum capstone project.

Ryder hopes to complete her studies by 2024 and is looking forward to working with low-income communities that often face disproportionately negative health effects from pollution and climate change.

While UM’s lower tuition costs were certainly a factor in her continuing her studies, she said no one should mistake affordable for low quality.

“My experience has been amazing,” she said. “Everyone is accessible when you need help, and there is great interaction with your fellow students. They care about you as whole person, and you can feel that even long distance.”

More information on the MPH program is available at UM’s Master in Public Health.

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Contact: Tony Ward, chair and professor, UM School of Public and Community Health Sciences, 406-243-4092, tony.ward@umontana.edu.
Mixing Maroon and Missoula: Heart of Grizzly Campaign Announced
UM President Seth Bodnar speaks at the Missoula Chamber of Commerce on Friday, Dec. 7. Bodnar and chamber representatives discussed the joint “Heart of a Grizzly” campaign.

Missoula’s gray winter may soon get an infusion of maroon. After all, the color symbolizes strength, confidence, creativity and courage – qualities desperately needed for a regional city and a state University in the midst of a pandemic.

The University of Montana and the Missoula Area Chamber of Commerce announced a joint partnership meant to buoy Missoula’s business community and visibly celebrate the inextricable connection between UM and local businesses.

Called Heart of a Grizzly, the campaign includes apparel, window decals, stickers and other collateral to bolster the town-and-gown relationship between Missoula’s business sector and the flagship institution.

“During good times, there is a joint commitment to see each other thrive,” said UM President Seth Bodnar. “During difficult challenges, like the COVID-19 pandemic, UM and local business leaders have leaned on each other and shared their grit, determination and optimism to pull through toward better days.”

Missoula employers and businesses are encouraged to visit https://missoulaheartofagrizzly.itemorder.com/sale and purchase Heart of a Grizzly collateral for employees. Businesses have exclusive accesses to the affordable shirts with the Heart of a Grizzly logo through Monday, Dec. 14.

Bodnar said he is calling on the entire UM family to shop local this holiday season and “return the favor” by supporting local businesses in Missoula.

“Every time an athlete suits up or a UM student crosses the graduation podium, the Missoula community and business sector are behind us,” he said. “The pandemic has provided an opportunity for us deepen our support for one another and reinvest in community pride as we look to brighter days and a new year. In order for UM to be at its best, we need to visibly show our support for our robust and thriving community.”
Bodnar said Heart of a Grizzly speaks directly to the relationship between Missoula businesses and UM’s focus on career readiness.

“Our local economy and business sector provide our students with meaningful internships, job training, mentoring and employment,” he said. “This campaign reflects that partnership of preparing our next-generation leaders to thrive.”

Steve Clawson, chairman of the Missoula Chamber board of directors and Northwestern Energy community relations manager, said the chamber has long supported UM and its students.

“One of our top priorities this year was to deepen our connection with the University in new and creative ways,” he said. “Heart of a Grizzly is a vision to reignite visible support for each other. We encourage all businesses, even if they are not chamber members, to participate.”

Missoula businesses also are encouraged to display large window stickers that promote this partnership. A limited number of stickers will be distributed by the Missoula chamber and the Missoula Downtown Partnership and made available at the online webstore through Dec.14.

UM also plans to promote this partnership to students, families and the rest of Griz Nation.

The Missoula Chamber is hosting a social media campaign celebrating and documenting local use of the Heart of a Grizzly logo. Additionally, local banners and billboards with the Heart of a Grizzly logo are planned, which will encourage consumers to shop local.

For more information on Heart of a Grizzly, call the Missoula Area Chamber of Commerce at 406-543-6623 or visit https://missoulaheartofagriz.itemorder.com/sale.

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Researchers Model Impacts of Warming Waters on Fish Physiology

01 December 2020
As climate change leads to warming waters, fish may need to cope by migrating toward colder regions or growing smaller to avoid respiratory constraints. (Credit: Ludovic Lhotte)

MISSOULA – Scientists who study the impact of global warming on the health of aquatic populations have long speculated that rising water temperatures could reduce the ability of fish, particularly larger individuals, to breathe. However, it has been difficult to measure that impact on a large scale.

In warming waters, the demand for oxygen of many fish species will increase, progressively approaching the maximum oxygen supply capacity of their respiratory organs. (Credit: Juan G. Rubalcaba)

Now, researchers at the University of Montana, McGill University in Montreal and Radboud University in the Netherlands have developed a new mathematical model that accurately predicts how the metabolic rates of fish change with temperature, oxygen availability and body size. The team’s research was published in the Nov. 30 issue of the Proceedings of the National Academy of Sciences.

“This represents a significant theoretical addition to an important pre-existing body of theory –
Researchers Model Impacts of Warming Waters on Fish Physiology

the metabolic theory of ecology – that focuses primarily on body size and temperature, but does not incorporate oxygen,” said Art Woods, UM professor of biological sciences. “Including oxygen means that the model does a significantly better job of predicting observed patterns of variation in metabolic rate among fishes worldwide.”

Contrary to warm-blooded animals such as mammals and birds, cold-blooded animals like fish increase their metabolic demand for oxygen with temperature increases. Water temperature already is rising worldwide as a consequence of climate change, and many fish species need to cope with this rapid temperature change either by migrating toward colder regions or by adopting different life strategies, such as growing smaller to avoid respiratory constraints.

“So far, our understanding of the mechanisms linking water temperature, respiratory performance, animal behavior and survival are limited,” said lead author Juan Rubalcaba, a Marie Curie Postdoctoral Fellow at McGill. “And these relationships are complex. For example, if warming increases oxygen uptake in fish, the water enveloping their gills will become depleted of oxygen, which in turn impedes oxygen uptake. Fish ventilate their gills, but the efficiency of this ventilation depends on water temperature and body size.”

To gain an improved understanding of how these mechanisms work, the research team developed a model based on physicochemical principles describing oxygen diffusion at the gill surface and oxygen consumption by metabolism. Predictions were compared against data from over 200 fish species, measuring oxygen consumption rates at different water temperatures and across individuals of different body sizes.

“Our model predictions matched our observations that aerobic capacity declines with increasing temperature, especially among larger individuals,” Rubalcaba said.

With this model, scientists will be able to better assess the impacts of global warming on fish metabolism and physiological performance. This will give them a more accurate prediction of the future health of the planet’s water bodies and the population of fish that inhabit them.

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