Newsletter LRES

College of Agriculture

Spring 2014

Congratulations Graduates!

The department extends its sincere congratulations to each of you on your accomplishments and wishes you the very best in all that you pursue. Stay in touch! ~ *Tracy Sterling, Professor & Department Head*

"Education is the most powerful weapon which you can use to change the world."
~Nelson Mandela

LRES Recognition

MSU Employee Recognition Awards

Each year the MSU Employee Recognition Awards Program honors outstanding performance and contributions by Montana State University employees. This year LRES nominated Melody Schimpf for this award to recognize her exceptional performance as well as her vision for cultivating excellence across the department. She brings a deep institutional knowledge, razor-sharp fiscal skills, a methodical and inspiring efficiency, a profound dedication, loyalty, spark-like innovation, as well as a very private but effective ability to engage professionally and amiably with our motley LRES crew. Melody was one of the five chosen for this campus-wide award, receiving a custom-designed pin and $500. Congratulations Melody!

MSU Award for Excellence

LRES celebrated the accomplishments of graduating senior, Ethan Mayes (Environmental Sciences - Environmental Biology), at the 32nd Annual Awards for Excellence which recognized 40 students who had greater than 3.5 grade point average, demonstrated campus leadership and community service, and been nominated by faculty within their department. The award-winning students each selected a mentor who was honored with them at the event. Mayes selected Assistant Research Professor Zach Miller from LRES.

NACTA Award winners for College of Agriculture

The North American College of Teachers of Agriculture (NACTA) Teaching Award of Merit recognizes those individuals whose efforts represent the very best in agricultural higher education and inspire all of us to achieve the highest levels of excellence. The College chose these two awardees and the department recognized each for their meritorious efforts in college teaching at our LRES Graduation Celebration. Congratulations on being recognized for your commitments to student success and instructional excellence! **Pamela Santibañez**, LRES PhD candidate, received the Graduate Student Teaching Award of Merit, for her innovative contributions in laboratory instruction for the ENSC 245 Soils class. She designed and implemented two pedagogic interventions last fall semester, the results of which are now being prepared for publication and presentation at a national conference. **Bob Peterson**, LRES Professor, received the Teaching Award of Merit. Bob has been contributing to student success and instructional excellence at MSU since 2002, from freshman engagement to graduate student mentoring. Over the past two years, he has developed and launched the new, online Master of Science degree in Land Resources and Environmental Sciences, growing the program to over 40 enrolled students from across the globe and guiding curriculum development.

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MONTANA STATE UNIVERSITY

Land Resources and Environmental Sciences
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landresources.montana.edu

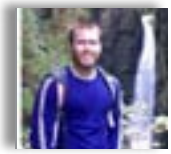
Find us on Facebook!

LRES Recognition (continued)

Alex Michaud narrates and stars in a promotional video for MSU's research in Antarctica that was featured on the front page of the MSU website. Watch the video here: http://www.montana.edu/videos/newfrontiers/

Hally Strevey and **Krista Ehlert** each received the Western Society for Weed Science (WSWS) Outstanding Student Scholarship at the 67th WSWS meeting in Colorado Springs.

Ed Davis was nominated for and received the award for Outstanding Achievement as a professional staff member at the Western Society for Weed Science meeting.



Paul Stoy was featured in a question and answer interview about his research and projects in *Montana Water News.*

LRES alum, **Justin Runyon**, won the highest honor the US government gives to science and engineering professionals: the Presidential Early Career Award for Scientists and Engineers.

Jane Mangold received the Montana Weed Control Association Presidential Award for her innovative work and dedication to invasive plant management efforts in Montana.

Diana Cooksey was awarded the President's Award for Excellence in Service Learning for her E-911 mapping project. More info about the project: http://montanastatenews.org/2014/02/22/student-maps-crucial-for-first-responders/

Kevin O'Neill was awarded the Anna K. Fridley Award for distinguished teaching, recognizing his dedication to student learning, innovation in the classroom and passion for interdisciplinary collaboration.

Bill Inskeep's Microbial Physiology and Metabolism Paper was ranked #8 in the Top 10 Most Viewed Microbiology Research Articles in 2013.

LRES Student Wins Prestigious Udall Scholarship

Two Montana State University students who were already recognized as inspirational leaders have won the prestigious Udall Scholarship from the Morris K. Udall and Stewart L. Udall Foundation. LRES's **Emery Three Irons** from the Crow Indian Reservation was honored in the Tribal Public Policy category. It's the first time an MSU student has been selected in the Tribal Public Policy category.

Three Irons, who is a member of the Apsaalooke Nation, is pursuing a bachelor's degree in geospatial and environmental analysis from Land Resources and Environmental Sciences. He is initiating a project to use geographic information systems, or GIS, mapping technology to chart where on the Crow Indian Reservation tribal members continue to show fluency in their native language. In addition to his language project, which is affiliated with a statewide effort to help Montana tribes preserve their linguistic heritage, **Three Irons** also will be working on assignments to clarify Crow political districts, subdivisions, historic sites and infrastructure.

The Udall Foundation is an independent federal agency that was established by Congress in 1992 to provide federally funded scholarships for college students intending to pursue careers related to the environment, as well as to American Indian students pursuing tribal public policy or health care careers

Excerpts from MSU News Service article by Evelyn Boswell http://www.montana.edu/news/12547/two-msu-students-win-prestigious-udall-scholarship

Promotion and Tenure

Congratulations to **Jane Mangold** and **Geoffrey Poole** for earning tenure and promotion to Associate Professor, and to **David Weaver** for their promotion to Professor. Their achievements were recognized at President Cruzado's Celebratory Dinner on April 29th. Please take a moment to congratulate our accomplished faculty! Also, join us in late **May (time TBD)at Colombo's** where we will continue our tradition of celebrating these milestones together.

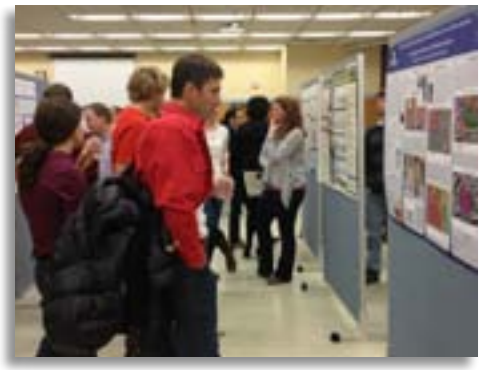
Jane Mangold

Geoff Poole

David Weaver

GSO Activity: 4th annual LRES Research Colloquium

The 4th Annual LRES Research Colloquium was another great success! The theme this year was "Organisms and Ecosystems in a Changing Environment." Thank you to all of the graduate and undergraduate students that presented their research with either a talk or a poster. Presentations ranged from the impact of lodgepole pine invasions on fire regimes in Patagonia and New Zealand to the influence of farming on carabid beetle communities in dry land agroecosystems. Posters highlighted research on using a fungal pathogen to control cheatgrass (Bromus tectorum), the role of plant soil feedbacks on crop-weed interactions in organic and conventional dryland farms, and the use of Zirconium as an indicator of post-fire burn severity. The headline talk, "Moving beyond climate change impacts to adaptation options for natural resource management", was given by Dr. Molly Cross, the Climate Change Adaptation Coordinator for the North American Program of the Wildlife Conservation Society. Her presentation reviewed communicating climate change and impacts on wildlife. In addition she discussed her work on local scenario planning or climate change including impacts to grizzly bears and wolverines. The diversity of work occurring in LRES is truly impressive, and the opportunity for both graduate and undergraduate students to share their research with the rest of the department at the LRES Research Colloquium every year is a great opportunity. *~Hally Strevey*



LRES Restructures Majors

LRES recently completed a two-year, department-wide effort to realign and restructure our majors to improve consistency within the field of environmental science, as well as provide options that meet the needs of students entering the current and future workforce. As a result, starting fall 2014, Land Rehabilitation and Geospatial and Environmental Analysis will become options under Environmental Science (where Environmental Biology and Soil and Water already reside). In addition, we will offer a new major of Environmental Science without a concentration, allowing more flexibility for students who don't fit into our more focused options. Finally, we have set common courses for all our options to cover competencies all environmental scientists should have. We believe that students will significantly benefit from having a common Environmental Sciences degree, with optional concentrations. Environmental Sciences is a well-established degree option nationally and internationally, and it is therefore a known specialty to which prospective students and potential employers can relate. In addition, we also believe that having our graduates receive degrees with a common designation, which relates to the name of the department, is likely to improve relationships with our alumni. Finally, the addition of an Environmental Sciences degree without a concentration will enable us to serve better students that do not readily fit into the current majors and concentrations, but who wish to pursue a career in environmental sciences. *~ Rick Lawrence, Professor*

LRES Outstanding Senior Award

Ethan Mayes

Ethan graduates this semester earning a B.S. in Environmental Science with a concentration in Environmental Biology with Highest Honors. In addition to being an outstanding student, earning a 3.95 GPA, Ethan has worked extensively with Drs. Fabian Menalled and Zach Miller over the past two years on several research projects. These mentors say that "He's one of the best undergraduates that we've worked with anywhere. We have complete trust in his research abilities and work ethic. He's contributed to all aspects of the work, from procuring funds to presenting his findings at two national meetings. He has great promise to contribute in whatever field he chooses". Besides his undergraduate studies and research, he has also been involved in many other pursuits including being a teaching assistant of the LRES Soils course labs, and worked as a Natural Lands Intern over several summers in his native state of Delaware. He is a member of the Alpha Lambda Delta Honor Society, contributing to various service projects to benefit Gallatin County's Local Food Bank and Eagle Mount. He also chaired the Membership Education Committee for the Pi Kappa Alpha Fraternity. Additionally, Ethan has won several awards and scholarships, including the President's List, Dean's List, and winning a grant from the Weed Science Society of America to pursue his research project. All of this recognition throughout Ethan's undergraduate program culminated this year in his receiving the MSU Award for Excellence, a recognition awarded to only 40 MSU Seniors each spring. The Department is very proud to name him "Outstanding LRES Senior".

~Nominator, Advisor Bob Peterson

LRES Students Participate in Pow Wow

The 39th annual Montana State University American Indian Council Pow Wow was held April 11-12 at MSU's Brick Breeden Fieldhouse. Dance and drum competitions with cash prizes are always a key feature of the event.

Leading the Grand Entry was Head woman dancer Christiane Parrish, Crow, from Billings, Montana and Head man dancer **Emery Three Irons**, Crow, from Crow Agency, Montana. The Dance Specials included the Men's Crow Style by the Three Irons family. Emery honored Linda McDonald, our Student Services coordinator, by presenting her with a hand-made Star Quilt. Emery is majoring in Geospatial and Environmental Analysis; his advisor is Rick Lawrence.

Ron LodgePole and **Jason Baldes,** Master's students in the LRES graduate program, are part of the MSU Bobcat Singers drumming and singing group. Ron's advisors are Bob Peterson and Cliff Montagne. Jason's advisors are Rick Lawrence and Cliff Montagne.

Landscape Pedology Class Does Some Digging at the Story Mill Restoration Site

The Landscape Pedology class (ENSC 454) visited the Story Mill site in October 2013, in two lab sections (15 and 14 students). We augered and hand excavated to describe soils in three locations: two in the wetlands undergoing restoration and one in a neighboring aspen stand. Soils were described using standard (abbreviated) NRCS methods and sampled in 15 cm increments for total carbon (C) and nitrogen (N) in the LRES Environmental Analysis Laboratory. Results of the C and N analyses quantified the large organic matter inventories hosted by these wetland soils, despite years of applied fill, and in contrast with other sites visited by the class at Fort Ellis Research Farm and Red Bluff Ranch.

Students prepared for this field exercise through review of the River Design Group wetlands delineation report and via discussion in lecture of prior NRCS mapping and classification of these soils. In lecture, we also discussed fluvial stratigraphy of floodplain deposits associated with meandering rivers, and water level data from monitoring wells. This trip gave the students – generally juniors and seniors in Environmental Sciences and Natural Resource Management majors – an opportunity to observe and characterize wetland soils in the context of local hydrology and a plant community transformed by human management.

Students in the afternoon lab section describe the soil north of the drainage canal at the Story Mill site, compiling data on the large white board at the center of the image.

Faculty Spotlight: Rick Lawrence

Dr. Rick Lawrence is LRES's Professor of Remote Sensing and Director of MSU's Spatial Sciences Center. Rick joined MSU in 1998 and conducts research and teaching related to satellite image processing, geographic information systems, and spatial analysis. This research has taken him into an extremely wide range of applications, often collaborating with other LRES faculty, as well as faculty in Ecology, Engineering, and Earth Sciences. Rick's current research portfolio reflects that wide range of applications. Rick and Dr. Shannon Savage, LRES research scientist and graduate, and member of Rick's lab, are currently working with the U.S. Forest Service to help better delineate endangered Canada lynx habitat in northwest Montana and northern Idaho. This project requires determining information about forest structure and composition from the Landsat satellite at far greater levels of detail than has previously been thought possible. The LRES team has developed new analysis methods that are making this possible.

Over the past decade, Rick has worked extensively on mapping and analyzing the spread and effects of bark beetle infestations in the Rockies. This resulted in him being a co-principal investigator on a new USDA funded project to examine converting beetle-killed trees into biofuels. This $10 million project was the only USDA funded Coordinated Agricultural Project (CAP) grant in 2013. Rick will soon be joined on the project by Dr. John Long. They will be looking at mapping the location, amount, and age of mortality of beetle-killed trees in the region as a biofuel feedstock. Dr. Long recently finished his PhD in Rick's lab, analyzing the spatial patterns of adoption of agricultural practices in northeast Montana. This research found that, while there was evidence of some limited impact of social interactions on early adoption of new practices, environmental constraints were much more important over extended periods.

The diversity of Rick's research is also evident in two projects he is working on related to tribal lands in our region, in each case working with Masters students from the affected reservations. One project working with Lisa Lone Fight from the Fort Berthold Reservation is looking at the cultural impacts of changes in land use on that reservation, which is in the heart of the North Dakota oil boom. The other project, working with Jason Baldes from the Wind River Reservation, is evaluating potential impacts from the proposed reintroduction of bison on the reservation. Roughly half of Rick's appointment is in teaching, and he loves to teach as much as he enjoys using cutting edge satellite imagery for his research. He teaches Remote Sensing and Digital Image Processing (GPHY 426) each fall, which always is at capacity based on available lab space. In addition, he teaches a projects-based course, Applied Remote Sensing (GPHY 429/LRES 525) and, because of his previous career as a lawyer for 15 years, he teaches Natural Resources Law (NRSM 430/LRES 530), which had 45 students this year.

Rick received his BA in Political Science in 1976 from Claremont McKenna College, a JD from Columbia University School of Law in 1979, and an MS in Forest Management in 1995 and PhD in Forest Resources in 1998 from Oregon State University.

Geospatial Job Skills Panel Discussion Inspires Students

What are the most important skills and attributes geospatial professionals are looking for in a potential employee? Last fall semester, job-seeking students had the opportunity to find out. As part of a class assignment, my students in GPHY 457 (Advanced GPS Mapping for GIS) and I organized a geospatial job skills panel discussion with professionals from the public and private sector. Six panel members answered questions about their work, equipment and software, employee skills and attitudes, advice for interviewees, and the outlook for the geospatial industry. Several interesting and informative ideas emerged, and students were inspired by the discussion.

Panelists talked about cutting-edge technologies with which students should be prepared to work, including high accuracy (cm level) GPS mapping, mobile GIS, online GIS, and mapping using unmanned aerial vehicles (UAVs). They discussed the importance of having skills in programming, database design and data management, artistic map design, writing and communication, and project management, in addition to GPS and GIS mapping. They also emphasized attributes such as having a positive attitude, being flexible, having good organizational skills, being a good team member, and a willingness to work hard and learn new things. And, they stressed the importance of cultivating good references, addressing all points in the job announcement, highlighting their skills, and continuing professional development. Interestingly, they suggested getting away from paper resumes, and instead giving prospective employers a URL or USB drive that contains a targeted resume and portfolio.

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After the panel discussion, I had an impromptu brainstorming session with five of the participating students. They were thrilled about the success of the event and what they had learned. They appreciated hearing different perspectives from the panel members and took away several specific ideas that they could implement in their job searching activities. They were particularly excited about the potential for growth in the geospatial field, and encouraged that they had most of the skills desired by prospective employers. They were also relieved when the panel members stressed that they didn't have to come in to a new job with a complete toolbox – the ability to learn quickly and embrace new technologies would take care of any deficiencies in their resumes. Several students saw the event as a great networking opportunity as there was time to interact with the panelists after the discussion. One student commented that "it was nice to get a peek into the real-world of GIS and what is expected." Another student appreciated that the panel members "were honest and open." One student was impressed that "they are as excited about the field as we are!"

Robin Crough from MSU Career Services attended the panel and noted that "it was very valuable having employers speak to the importance of internships. As the panelists mentioned, it is becoming more of a requirement than a recommendation to participate in internships." She also noted that "the emphasis on writing skills is something we in Career Services hear frequently from employers, so it is great that students are being informed while they still have the opportunity to take some additional courses."

We all agreed that having this as an annual event would be of great benefit to the students. In fact, as a result of this first experience, the Department of Earth Sciences (ESCI) scheduled a GIS Panel Discussion entitled "Jobs and Careers in the Geospatial Sciences: The Skills and Habits of Effective GIS Professionals" as part of their annual ESCI Colloquium. The panel, held in late March, included a short presentation by each panelist, followed by questions from the audience. It too was well received and will likely be the venue for delivering geospatial job skills information to students on an annual basis. This will allow students at all levels (not just graduating seniors) to hear this information early in their school careers, and make choices that will better position them for future jobs.

In addition to choosing what classes to take and figuring out how to get real-world experience, students can start developing personal skills that will give them an edge. Crough observed that "having employers speak to students about what it takes beyond simply their GPA and coursework is incredibly valuable, as academics helps get students in the door, but communication and soft skills, as well as enthusiasm and drive, is what will make a student stand out in their job search." *~ Diana Cooksey, GPS Lab Manager and Spatial Sciences Instructor*

Geospatial students send thank you to the ESCI panelists.

Clain Jones, Susan Tallman, and two film students produced a 7 minute youtube video on cover crop cocktails that highlights their pros and cons, and introduces the Miller, Zabinski, Jones, and Tallman USDA WSARE research project on polycultures. Jones plans to produce a second video or add to this one with project results once the project is finished in 2015. http://www.youtube.com/watch?v=JWMT-uXyWZM&feature=youtube

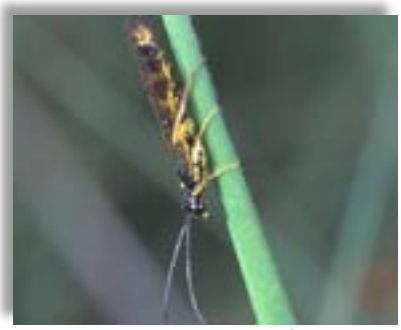
L to R: Yongqin Liu (visiting scientist with the Priscu Lab from the Chinese Academy of Sciences in China), Amy Chiuchiolo (LRES Research Associate), Heather Buelow (graduate student from the University of New Mexico) and Justin Lawrence (undergraduate Research Assistant) hold the flights they used to drill a sampling hole in the ice cover of Lake Fryxell in the McMurdo Dry Valleys, Antarctica during this past field season (Oct 2013 – Dec 2013).

New LRES and College of Agriculture Host Wheat Stem Sawfly Conference

LRES and additional College of Agriculture faculty including entomologist David Weaver, economist Anton Beckerman and a host of faculty wheat geneticists, national scientists, and Montana agribusiness members and producers attended the Sixth International Wheat Stem Sawfly Conference on campus last week.

Said to be the most hated pest in the west, the wheat stem sawfly is responsible for millions of dollars lost each year from Montana's agricultural production economy. The annual conference is slated for international and national scientists, and growers and producers to discuss the latest advancements and challenges in developing resistance measures in combatting the sawfly. Despite research advances to increase resistance to the pest, the sawfly's destruction is increasing in infestation acreage and has developed genetic variation and diversity in Montana.

Additionally, sawflies have not yet been managed using any known insecticides. Because of such, researchers are continually testing new insecticides and investigating other options, including the exploration of newly discovered genetic traits in existing wheat germplasm that provide additional resistance. The creation of new germplasms, and potential genetic resistance findings, is the result of many MSU faculty research projects.



Wheat Stem Sawfly
Photo: Bob Peterson

The conference included a presentation by Department of Agricultural Economics and Economics Assistant Professor Anton Bekkerman, who conducted the first formal economic study of sawfly losses in production for the state of Montana. Other conference speakers gave updates on the southward expansion of wheat stem sawflies and shared their findings about biological control, integrated pest management, host plant resistance, the genetics of both wheat stem sawfly and wheat, population monitoring, and chemical ecology.

The conference has been held in Bozeman three times and has been part of past Pacific Branch-Entomological Society of America and Entomological Society of Canada meetings.

Summarized by Jenny Lavey, more information at http://www.montana.edu/news/12512/wheat-stem-sawfly-devastations-lead-to-another-international-conference-at-msu

Weed Seedling Identification Guide for Montana and the Northern Great Plains

LRES Faculty and Staff release new Weed Seedling Identification Guide

The new Weed Seedling Identification Guide for Montana and the Northern Great Plains is now available from MSU extension. It will help farmers, ranchers, agency personnel, weed coordinators, researchers, and other interested parties who need help identifying weeds at the seedling stage. Authors are faculty and staff of the LRES department and include Hilary Parkinson (Extension Associate), Jane Mangold (Extension Noxious Weed Specialist) and Fabian Menalled (Extension Crop Weed Specialist). The 160 page spiral-bound guide covers 73 species, including 60 broadleaf and 13 grass species. Photos and descriptions of cotyledon leaves, first true leaves, rosettes (where applicable), mature plants, and seeds are included for each species as well as whether the plant is primarily a weed of cropland or rangeland.

Example page from the weed seedling guide.

Cover of the weed seedling guide.

The first 2,500 copies are available at no cost, thanks to grants from the Montana Department of Agriculture's Noxious Weed Trust Fund, Montana Wheat and Barley Commission, Extension Integrated Pest Management and the Western Integrated Pest Management Center. Hard copies of the guide can be ordered from Montana State University Extension Publications at (406) 994-3273, or at http://store.msuextension.org/. Additionally, an electronic version can downloaded from extension publications. Go to http://store.msuextension.org/ and search for EB0215. *~ Jane Mangold*

LRES Researchers at Work on the Judith Basin Nitrogen Project

Engaging Central Montana Farmers to Understand Water and Nitrogen Movement

The Judith Basin Nitrogen Project (JBNP) is a participatory research project, engaging the farming community of central MT to understand how nitrogen and water move around in the Judith watershed. Shallow groundwater with nitrate concentrations above the drinking water standard is an issue for many private wells in the area. The project seeks to understand how nitrogen from soil organic matter and fertilizer are lost from soil and reach groundwater. The research team led by Dr. Stephanie Ewing, with CO-PI's Dr. Clain Jones, Dr. Doug Jackson-Smith and Adam Sigler, is working in partnership with local farmers to explore farming management options that can address nitrate leaching and are also financially/logistically feasible to implement.

Above: Ph.D. student, Adam Sigler, installs a soil moisture sensor in a soil pit in an agricultural field near Moore.

Above: Undergraduates Katie Noland and Simon Fordyce collect data on Louse Creek, which drains groundwater from the Moccasin Terrace where the Central Agricultural Research Center (CARC) is located.

Above: Graduate student Andrew John (left) and Dr. Clain Jones compare wheat plants from two different nitrogen treatments.
Below: Graduate students Aiden Johnson and Liza Harris download data from an meteorological tower installed in a study field near Moore. Advisor Dr. Paul Stoy received support from the MT Wheat and Barley Committee to install this tower to research gas exchange of the wheat crop with the atmosphere.

Above: Project PI Dr. Stephanie Ewing presents nitrogen soil sampling results to the Judith Advisory Committee (AC) and Producer Research Advisory Group (PRAG) during a November 2013 meeting in Lewistown.

LRES' Online Master's Program Graduates its First Three Graduate Students

The Online Masters Program in LRES is poised to have its first three graduates! **Erin Frolli**, **Carla Rickert**, and **Marley Vaughn** will be the first to complete the degree requirements this spring, culminating with on-campus presentations of professional papers in April. All three students completed LRES 510 - Biodiversity Survey and Sampling Methods, a hybrid field-online course with Tim Seipel and Lisa Rew that directly influenced the eventual professional paper topics for Carla and Marley. Below are the professional paper topics (and hometowns) for each of these students:

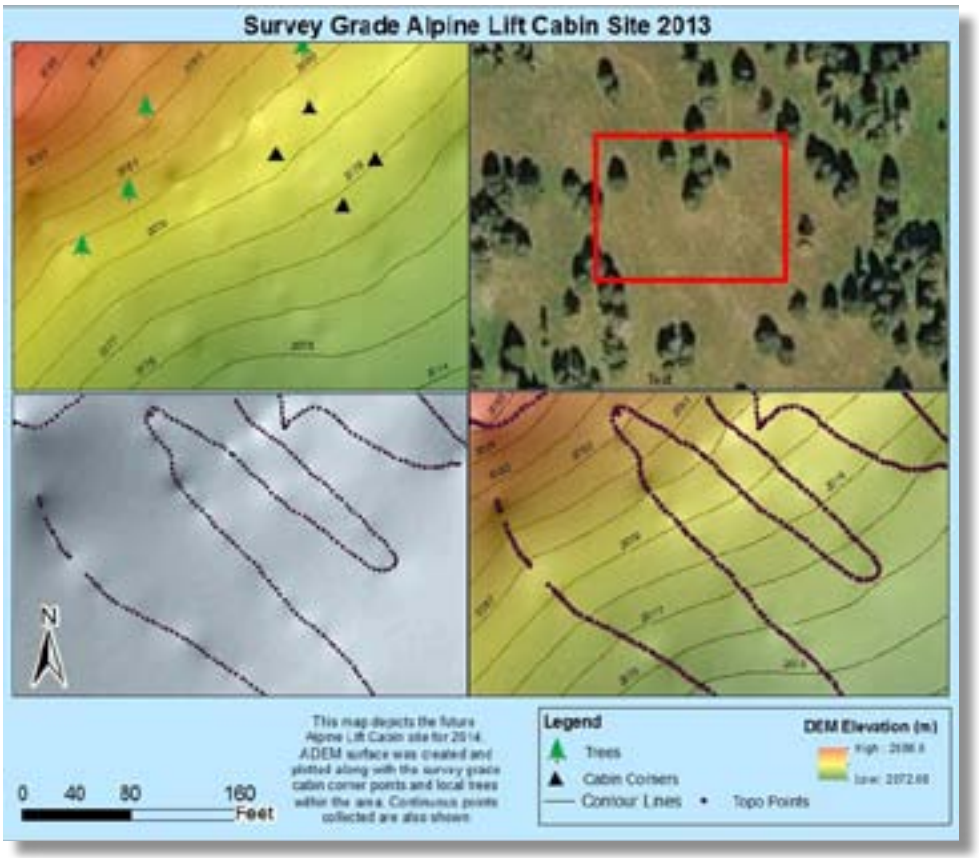
- **Carla Rickert** (Chester, SD): *A new look at an old invader: Assessing environmental and economic risks for established Bromus tectorum in southwestern Montana*
- **Marley Vaughn** (Jackson, WY): *Plant species diversity within cottonwood riparian forests: Comparing a leveed bank system and a natural bank system*
- **Erin Frolli** (Bozeman, MT): *Estimating abundance and distribution of jellies as prey for leatherback turtles off central California*

Above: Carla Rickert conducting an annual conservation easement plant survey in SW Florida as an intern for Charlotte Harbor Environmental Center (CHEC) in Englewood, FL.

Above: Erin Frolli helping release a nest of baby leatherback turtles in Mexico.

Left: Marley Vaughn working as a field research technician measuring the effects of short-term nutrient additions on N_2-fixation, in Grand Teton National Park, Wyoming.

GPHY 457 Creates a Digital Elevation Model for Bridger Bowl



Students in GPHY 457 (Advanced GPS Mapping for GIS) created a digital elevation model (DEM) last Fall for the site of the new lodge at Bridger Bowl Ski Area. Justin Marlen and Evan Schock used high accuracy GPS equipment to record point locations, and created the DEM in ArcGIS software. They also mapped Bridger Bowl infrastructure such as wells, utilities, culverts and roads, continuing with a projected started by students in Fall of 2012. Other students in the class participated in community service projects for MSU Facilities Services, MSU researchers, and local organizations.

LRES Graduating Seniors

Bachelor Degrees 2013/2014

Fall 2013

Keenan Brame
Environmental Sciences – Environmental Biology

Wilder Greene
Environmental Sciences – Environmental Biology

Matthew Richards
Environmental Sciences – Environmental Biology

Elizabeth Zignego
Environmental Sciences – Environmental Biology

Laura Bosacker
Land Rehabilitation

Margaret Franquemont
Land Rehabilitation

Elizabeth Hummelt
Land Rehabilitation

Shane Stoner
Land Rehabilitation

Spring 2014

Alex Herbert
Environmental Sciences – Environmental Biology

Stephanie Kerns
Environmental Sciences – Environmental Biology

Ethan Mayes
Environmental Sciences – Environmental Biology

Ethan Williams
Environmental Sciences – Environmental Biology

Jeff Patriarche
Environmental Sciences – Environmental Biology

Brian Smith
Environmental Sciences – Environmental Biology

Anthony Stewart
Environmental Sciences – Environmental Biology

Darcy Goodson
Land Rehabilitation

Ernest Haglund
Land Rehabilitation

Danielle Kadrmas
Land Rehabilitation

James Osborn
Land Rehabilitation

Alexandra Talbot
Land Rehabilitation

Graduate Degrees 2013/2014

M.S. Land Resources & Environmental Sciences

Summer 2013

Jordan Holsinger

Fall 2013

Ryan Feddema
Carmel Johnston
Christine Miller

Spring 2014

Jason Brown
Badamgarav Dovchin
Evelyn Konigsberg
Susan Tallman

Online M.S. Land Resources & Environmental Sciences

Erin Frolli
Carla Rickert
Marley Vaughn

M.S. Land Rehabilitation

Heidi Clark

Ph.D. Ecology & Environmental Sciences

Eric Becraft
John Long

Ph.D. Land Resources & Environmental Sciences

Lisa Kirk

MONTANA STATE UNIVERSITY

Opportunities to Support LRES

A gift to the Department is a great way to support student and faculty endeavors. Donations can be earmarked for student scholarships or internships, graduate fellowships, undergraduate and graduate student programs, endowed professorships and more. For information about making a donation to the Department please contact: Kevin Brown, MSU Alumni Foundation, College of Agriculture, Director of Development (406) 994-4851. kbrown@montana.edu