

# ANIMAL & RANGE SCIENCES NEWSLETTER

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## Introduction from Bret Olson, Interim Department Head



Welcome to the Department of Animal and Range Sciences!

As I write this, I am in Denver, Colorado attending the International Society for Range Management. Twelve of our undergraduates are also attending this meeting. On February 8, they will compete in a grueling, comprehensive rangeland exam with 150+ other undergraduates from colleges and universities from the U.S., Canada, and Mexico. After the exam is behind them, they will have a chance to attend numerous technical sessions and symposia, meet with professionals and producers, and partake in “on-the-spot” hiring (career positions) with the USDI Bureau of Land Management, USDA Forest Service and the USDA Natural Resources Conservation Service. They have a little fun on the side, too. It is my pleasure as interim department head to help defray some of their travel expenses. Similarly, the department helped defray the expenses of 15+ students in Dr. Paterson’s Beef Cattle Management class to attend the annual Montana Stockgrowers meeting in December, and six of the top students in that class to attend the International Livestock Congress in Denver in January. These latter two trips are highlighted later in this newsletter. With all three of these meetings, the students have the opportunity to interact with peers from across the state, nation, and other countries, learn about “real world” issues facing their discipline, and begin to network. As a range scientist, I can mainly speak to the range meeting, but I am always proud of the number of recent, former graduates who make the effort to attend the meeting and continue their education.

For the major news at the moment, we are in the midst of a national search for a permanent head of the Animal and Range Sciences Department. Two top quality individuals have accepted invitations to interview. Dr. Charles Weems from the University of Hawaii will visit campus February 17-19; Dr. Glenn Duff from the University of Arizona will visit campus March 3-5. Their curriculum vitas (the academic version of a resume) and the interview schedules can be accessed at: <http://ag.montana.edu/info/ARSDeptHeadSearch.htm>. If you happen to be in Bozeman at the time, I encourage you to attend the candidates’ “Social with the Montana Ag Community”. This is an extremely important decision regarding the department’s direction and future.

Also regarding the department’s future, the new Animal Bioscience Building is soon to be a reality. The department is scheduled to move into the building in late July-early August, shortly before fall semester begins. In the last few months, I have had the opportunity to take the College of Agriculture’s Ag Ambassadors (undergraduates who travel the state to promote the college), the Animal and Range Sciences’ graduate students, the Animal and Range Sciences Advisory Committee, and just last week, the Stillwater County Range Committee through the building. All have been very impressed with the design and functionality of the building. With the first two student groups, those graduating this spring joked that they may delay their graduation date.

Enough for this newsletter, if you have any questions or comments about the department, please feel free to contact me (406-994-3721, [bolson@montana.edu](mailto:bolson@montana.edu)). I look forward to hearing from you - we work for you!

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## Gregory Johnson, Professor, Veterinary Entomology: “Six-legged Creatures Attacking Four-legged Critters”



*Stable flies feeding on a pelican.*

Veterinary entomology is the study of insects and other arthropods (ticks and mites) that inflict harm on livestock, wildlife and companion animals. Most of the pests that attack animals share a common trait – they bite and suck blood. The degree of damage these pests cause can range from simply being a nuisance, like black flies swarming around horses, to transmitting a disease and actually killing animals, like mosquitoes and West Nile virus.

For the past eight years my lab and I have been conducting studies on a number of different biting flies that are responsible for causing economic losses to the livestock industry. Since 2002 we have conducted mosquito and virus testing programs to determine the primary vectors of West Nile virus and identify sites in the state where outbreaks are most likely to occur. Virus-positive mosquitoes were captured most years in the major river drainages along the Yellowstone and Milk Rivers. This information was used as an early warning system through popular press releases to alert citizens in areas where virus-positive mosquitoes were detected to protect both themselves and their horses.

My lab also investigated bluetongue transmission by the biting midge, *Culicoides sonorensis*. Based on our work, we concluded that conditions favorable for an outbreak include an extremely hot, dry summer which allows the virus time to infect the midges. When summer temperatures are average or below average, we found that bluetongue transmission is unlikely to occur. Due to the economic impact of the 2007 bluetongue outbreak on the sheep industry in eastern Montana, we extended our bluetongue work into evaluating insecticide treatments (belly sprays, pour-ons, and ear tags) to determine if a particular insecticide might reduce blood feeding by the biting midge.



*Blood soaked wool from lice damage.*



*Rodney Kott, Reid Redden, Brenda Robinson & Marni Rolston examining a sheep for sheep keds after treatment.*

Of the products tested, the Python ear tag at one tag per sheep significantly reduced blood feeding by the midges and essentially acted as a repellent. As a result of our work, the manufacturer, Y-TEX, received a Montana registration for the tag for use on sheep.

In addition to investigating vectors of diseases, we have evaluated different insecticides for controlling horn flies, cattle grubs, and cattle lice on beef cattle and sheep keds and lice on sheep. This is an important aspect of an applied veterinary entomology program because producers should be able to make informed decisions when selecting a product for insect control on livestock. Data generated under Montana conditions provides producers with that information.

If you would like more information you can contact Greg at: 406-994-3875 (office phone) or 406-994-7981 (lab phone). Greg can also be found on the Animal and Range Sciences website at: <http://animalrange.montana.edu/faculty/faculty-johnson.htm>.

## Administrative Team Highlight: Julie Hager

Julie Hager has been an administrative associate in the Department of Animal and Range Sciences for nearly 12 years. While growing up on a small farm in Washington State, Julie developed a large diversified livestock operation and competed in 4-H and FFA. She headed off to Dordt College in Iowa where she received her B.S. in Animal Science, but had dreams of becoming an Ag teacher in Eastern Washington. Julie came to MSU to finish up her schooling with a B.S. in Agricultural Education. In the process, she met a 5<sup>th</sup> generation Bozeman-ite and here she is.



Julie is most well known for her work with the Extension Horse programs put on by (newly retired) Sandy Gagnon, such as the MSU Equine Conference and horse sale, the MSU Youth Horsemanship School, Miller Pavilion reservations, and assisting with the horse judging contest at State 4-H Congress. In addition, students rely on her to assist them with locating internship opportunities and employment following graduation. Julie also provides administrative support for Dr. Bok Sowell, Professor of Range Science; Dr. Dennis Cash, Extension Forage Specialist; and Dr. Jim Berardinelli, Professor of Animal Science.

“I feel my background has been very beneficial to my position. I am able to help professors with revising courses, creating instructional aids, or even proctor exams,” says Julie. “I am also able to work closely with everyone from producers to county extension offices to students to 4-H youth, including horse moms!” Julie feels very lucky to work with a wonderful group of faculty.

Julie’s hobbies include snowmobiling, archery and rifle hunting, fishing, camping, riding four-wheelers, hiking and church activities. She is married to Rob and has two children, ages five and eight.

## Other News



Rachel Frost has been invited to be an instructor for the BLM’s annual training sessions again. She will teach on the principles of using targeted livestock grazing as a vegetation management tool on public and private lands. All BLM employees must undergo training once every three years. Frost will teach sessions in Albuquerque, NM, Boise, ID and Lakewood, CO in 2010.

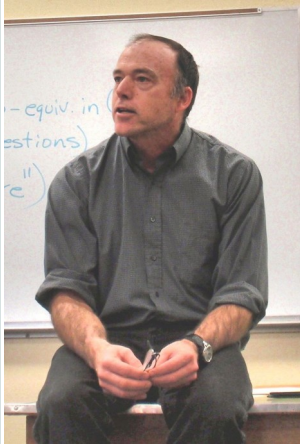


Dr. Shannon Moreaux and the Animal and Range Sciences Equine Program were profiled in the January 2010 issue of Western Horseman magazine. The piece is titled “Horsepower in Bobcat Country” written by Ryan T. Bell. More information can be found on this feature at: <http://www.montana.edu/cpa/news/nwview.php?article=7982>.



Members of the Stillwater Range Committee visited Bozeman on February 1, 2010 for their annual meeting with the Department of Animal and Range Sciences. The committee members were able to listen to presentations from various faculty along with Director of Extension, Dr. Doug Steele and the Dean of Agriculture, Dr. Jeff Jacobsen. There was also a tour of the new Animal Bioscience building that this committee so generously donated money towards.

## ARNR 101: Natural Resource Conservation, Dr. Bok Sowell, Professor, Range Science



*Dr. Bok Sowell*

ARNR 101 – Natural Resource Conservation has served as an introduction to Montana’s Rangeland Ecology and Management. This year, the content of the class was modified to include a wider variety of natural resource issues from around the world. The purpose of these changes was to expose our students to current issues which affect everyone. We also wanted to demonstrate the role agriculture plays in the use of our natural resources.

One of the first changes we made was to show six films from the MSU Library to set the stage for some of these topics. Students watched documentaries on the impact of global trade on natural resources, world water issues, global warming, reintroduction of wolves to the Yellowstone ecosystem, and interactions between ranchers and wildlife interests. Writing assignments were coupled with each film which asked students to prove or disprove statements made in the movie by using outside information sources. Additional assignments asked students to identify biases in the films and the outside sources they used. Many of these films were not very complimentary towards agriculture, which surprised most of our students.

Many students attacked the ideas presented in the films. They were graded on how well they supported their ideas and not on the position they took. The purpose of these assignments was to help students present a rational opinion which was supported by facts, even when discussing controversial topics or issues in natural resource management.

The other major change we initiated was to use a commercial text book (to broaden the scope of information in the course). In the past, students purchased a course book compiled by Dr. Bok Sowell and Julie Hager. After searching for a text book that included high quality information, we chose Natural Resource Conservation by Chiras and Reginold, which covers a much wider variety of subjects than we had done in the past. We required three times as much reading as previous years. Chapters dealt with human population trends, economics and ethics, soils, water, agriculture, rangelands and wildlife. Throughout each chapter, the authors kept asking if our current use of our resources was sustainable. The book also pointed out a number of areas where agricultural practices have depleted resources to the point that they are impacting production. Students were required to answer questions at the end of each chapter to help synthesize the information they read as well as form their own thoughts concerning the topics presented in that chapter.

The purpose of using a broader based textbook was to expand the perspective of our students from looking solely at rangeland ecology and management to ecology and management of all natural resources.

We hope these changes will prepare our students to examine ideas, investigate the facts and communicate their findings to others. It is apparent to us that people in agriculture must get involved in these issues.

More information on Dr. Sowell (including contact information) can be found on the Animal and Range Sciences website faculty listing at: <http://animalrange.montana.edu/faculty/faculty-sowell.htm>.



*Dr. Sowell teaching one of his classes.*

### Student Quotes:

“The content was very useful. It presented different view points that aren’t always looked at. The content was very enriching! ! It has taught me a lot about the environment and the world we live in.”

“I thought it was a great intro level class to natural resources, conservation and range science.”

“In my honest opinion a great teacher not only inspires their students to know more than just the answer to a question, but also ignites the spark that fuels their desire to seek more knowledge. I now look at the environment in a different way and am eager to gain more information about plants and range conditions and soils.”

## Student News:

The students in Dr. Jane Ann Boles Meat Processing class hosted the first annual Sausagefest in December of 2009. New products developed in class were shared with faculty and students along with some more traditional sausage products manufactured in class.

The Collegiate Cattlewomen collected the most pounds of food of any campus club for the "Can the Griz" food drive helping stock Bozeman's Food Bank. Thanks to Rachel Spangelo for her work on getting the boxes placed in Linfield and the faculty and staff that donated food.

Six students from the ARNR 434 Beef Cattle Management class attended the 2010 International Livestock Congress in Denver, CO, January 10-14. Highlights of the trip included a tour of the JBS/Swift packing plant in Greeley, CO, the National Western Stock Show, and a round-table discussion at the Canadian Consulate with young ranchers from Australia, Canada, American Simmental Assoc., and the U.S. The trip was sponsored by the Montana Beef Council, American Simmental Assoc., MSU Dept. of Animal & Range Sciences (Bret Olson, Interim Dept. Head) and the College of Agriculture (Jeff Jacobsen, Dean).



The MSU Livestock Judging team participated in the Arizona National Livestock Collegiate Judging contest in Phoenix, AZ, December 31, 2009. They placed third in the overall contest, second in beef, third in sheep, second in swine, and third in oral reasons. Colton Kinsey was the sixth place individual and Rocky Forseth was the seventh place individual. The designated team was Colton Kinsey, Rocky Forseth, Brittany Coomler, Kaitlyn Spence and Kari Gillespie. Audra Cornwell, Prairie Rosaaen and Kevin Green served as alternates.

The MSU Livestock Judging Team also competed at the National Western Livestock Show in Denver, CO. The team was

fifth in placing and 11th overall. The team at Denver was Colton Kinsey, Rocky Forseth, Kaitlyn Spence, Kari Gillespie and Prairie Rosaaen. The alternates were Audra Cornwell, Kevin Green and Chaney Bowen.

Aaron DeVries recently won the 2009 MSU Forage Legacy Scholarship. The award is presented annually to students enrolled in the PSPP 342 Forages course, and is based on students' performance in preparing a comprehensive whole-ranch forage plan. Aaron is a junior majoring in Animal Science at MSU, where he has been involved in FFA, Alpha Zeta, and youth activities with his church. Aaron grew up on the family operation near Malta, and is the son of Allan and Rhonda DeVries.



ARNR 434—Beef Management. Dr. John Paterson's 18 students enrolled in ARNR 434 had the opportunity to participate in two field trips during the fall semester. The class visited Jake Callentine's Timberline Angus ranch near the Flathead Pass in Gallatin County. Jake spent the afternoon explaining his operation and answering students questions on feedstuffs, irrigation, where to spend and where to save and a variety of other questions on operating a beef cattle herd. The class was then invited to be a part of the MSGA Annual Convention held in Billings, MT. On a cold blustery Saturday, the students, accompanied by John's graduate students, Ty McDonald, Bryan Nichols, and Tess Norvell, went to the Metra to take part in the Cattlemen's College sponsored by Pfizer. Students attended a clinic on Effective Stockmanship by Curt Pate in the morning and then selected two classes to take part in the afternoon. They had a wide variety of classes from "Getting to know your estate--before you die", to "Animal Husbandry, Science and Health in Beef Production" to "Benefits of and Tips to Achieve a Short Calving Season". Students were exposed to a variety of speakers from throughout the nation as well as afforded the opportunity on interface with MT ranchers.

## Upcoming Dates

January 4 - March 19	Winter 2010 Horseshoeing School
February 15	President's Day Holiday
March 15-19	Spring Break
March 13-15	Shearing School (Beginner Course)
March 16-18	Shearing School (Advanced Course)
March 19 - 21	Horseshoeing Short Course: Barefoot Trimming ( <a href="http://animalrange.montana.edu/horseshoe.htm">http://animalrange.montana.edu/horseshoe.htm</a> )
March 29 - June 11	Spring 2010 Horseshoeing School ( <a href="http://animalrange.montana.edu/horseshoe.htm">http://animalrange.montana.edu/horseshoe.htm</a> )
May 1	The Top of the West Horse Sale (Copper Spring Ranch, Bozeman, MT)
April 6-7	Montana Nutrition Conference (MSU—Bozeman)
April 16	Scholarship Banquet (GranTree Inn—Bozeman)
April 30	Classes end for Spring Semester
May 8	Commencement (MSU—Bozeman)

## Undaunted Stewardship®



*IX Ranch  
Southeast of Big Sandy, MT*

Undaunted Stewardship® is a voluntary program providing a balance between land productivity, preservation and recreational use. The program was launched in 2001 as a partnership between the Bureau of Land Management, Montana State University and Montana Stockgrowers Association and was quickly joined by a consortium of agricultural, governmental, and conservation groups.



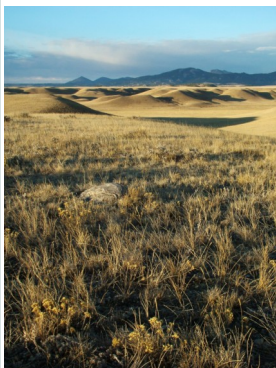
*Schipf-Swan Ranch  
Northeast of Highway, MT*

It is the only program of its kind in the nation, in which farms and ranches voluntarily work with experienced staff to become certified as Undaunted Land Stewards. The rigorous process requires landowners to work with range management specialists to develop and follow grazing management plans that maintain or improve the quality of their herds and their land while also taking into account conservation values such as open space, clean water, fish and wildlife habitat, and historical preservation.

Undaunted Stewardship® aims 1) to demonstrate that sustainable agricultural and environmental principles can be compatible and 2) to inform landowners, policy makers, urban citizens and others about the ways in which voluntary, incentive-based approaches can be used to sustain and enhance the environmental, social, historical and economical principles of agricultural landscapes.

Undaunted Stewardship® has 11 historical sites located along the Lewis and Clark Trail in Montana, which are located on private lands with agreements to allow limited public access.

Undaunted Stewardship® has certified 66 ranches in 24 counties totalling 1,161,686 acres of publicly and privately owned rangeland, farmland and pastureland in Montana to date.

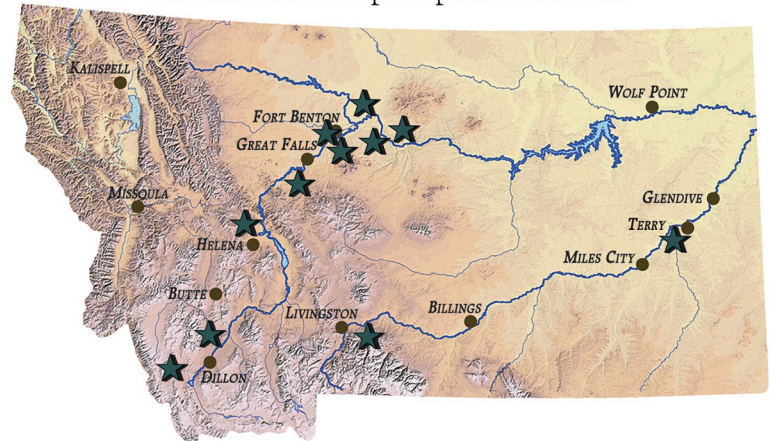


*Matador Ranch  
South of Malta, MT*



*Jenni Ranch  
Northwest of Lewistown, MT*

Undaunted Stewardship Interpretive Exhibit Sites



Undaunted Stewardship® has also published The Range Science Research Bibliography which contains over 1,300 abstracts from refereed journals between 1985-2007, summarizing the effects of herbivory (grazing and browsing effects like defoliation, trampling, pollution or any other relevant effect of animals) on North American pastures and rangelands. You can search it on the web at <http://arc.lib.montana.edu/range-science/>.

## Awards, Publications & Presentations

**Rodney Kott** and **Lisa Surber** were both invited speakers at the January American Sheep Industry meeting in Nashville, TN. Rodney's talk was titled "Residual Feed Intake" and Lisa's talk was titled "Effects of Long-Term Targeted Grazing on Large-Scale Leafy Spurge Infestations."

**Hayes Goosey** is the Principal Investigator (PI) on a recently funded grant titled "Five State Ruminant Consortium" awarded by the USDA/CREES. There are several Co-PI's, from the Animal and Range Sciences department, on this grant including **Lisa Surber, Dennis Cash, Rodney Kott** and **Pat Hatfield**.

**Rachel Frost** and John Walker, Texas A&M University, have organized an all day session at the International Society for Range Management annual meeting in Denver, CO in February 2010. The organized oral discussion entitled "Targeted Grazing: Applying the Research to the Land," will focus on the practical application of targeted grazing as a vegetation management tool. A summary of the talks will be published by Frost and Walker as an article in the journal "Rangelands."

On November 25, 2009 the Government of Mongolia awarded **Dr. Mike Frisina** (adjunct instructor in the Animal & Range Sciences Dept.) with the designation



Most Distinguished Mongolian Conservationist. In a ceremony at the Ministry of Nature, Environment and Tourism, Ulaanbaatar, Frisina received his credential and lapel badge designating him a Workers' Hero. In presenting the honors on behalf of Minister L. Gansukh, State Secretary Nantsag Batsuuri cited Frisina's many years of volunteer effort to promote the conservation of the world's largest mountain sheep and Mongolian ico, the argali, through sustainable use.

The 2009 Stockman Bank Ag Advocate of the Year award was presented to **Clint Peck**. Clint is the Director of the MT Beef Quality Assurance (BQA) program and a member of the Montana Beef Network (MBN). The award was presented to Clint during the Billings Chamber of Commerce agriculture appreciation banquet, January 7 at the Shrine Auditorium. Clint has been a member of the Animal and Range department for the past three years.



## Help Support Animal & Range Sciences

A gift to the Department is a great way to support student and faculty endeavors. Donations can be earmarked for student scholarship funds, faculty research, the new Animal Bioscience Building, and more.

For more information about making a donation to the Department contact:

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*Newsletter edited and compiled by Susan Cooper*

*With special thanks to the entire A&RS Administrative Team*



Construction of the new Animal Bioscience Building

