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NRM Newsletter

Department of Natural Resource Management

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Fall 2018

### Department of Natural Resource Management Newsletter

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**DEPARTMENT OF NATURAL RESOURCE MANAGEMENT  
NEWSLETTER  
College of Agriculture, Food & Environmental Sciences**

**Fall/Winter 2018  
ISSUE**

Dear NRM Alumni and Friends,

I hope this newsletter finds you well and already enjoying the winter holiday season! We have once again had a busy semester on all fronts! SDSU's "One Day for State" raised \$750 for the NRM department – so a special Thank You to all those that contributed! In addition to our classes and regular activities we entered for the 3<sup>rd</sup> time an NRM float for homecoming, which is an electrofishing boat that the student clubs decorate! We also celebrated the 30<sup>th</sup> anniversary of Oak Lake Field Station, which has been under the direction of Nels Troelstrup for the last 26 years! Our signature Field Techniques course at Oak Lake was offered to almost 80 students this summer and it was a resounding success! We have successfully filled some important faculty and instructor positions and our strong undergraduate enrollment has been steady while enrollment at the campus level has declined. This is a tribute to our strong commitment to our students and the quality of our undergraduate programs! Our faculty and graduate students continue to conduct important basic and applied research, present at regional and national/international conferences contributing to the long-term successful management of our natural resources across the Great Plains and beyond.

We welcomed a number of new NRM faculty including Krista Ehlert, a Range Specialist who is based in Rapid City, Rob Lonsinger, a Wildlife Ecologist, Don McCrae, a Natural Resource Law Instructor. Don is handling many aspects of the specialized curriculum, advising most of our NRLE students and is helping lead the program. Additionally, we hired a Natural Resources instructor who will begin in May 2019, Bruce Eichhorst. On the other side of the spectrum, we are saying "good bye" to Carol Johnston when she retires in January 2019. Nels Troelstrup has also just announced that he will be retiring and relocating to the west coast to be near his growing family in June 2019. We are also currently searching for a tenure-track faculty member to lead our new undergraduate program in Conservation Planning and Park Management with spatial ecology expertise, so please stay tuned.

SDSU has instituted a new policy on timing of departmental Scholarship and Awards banquets such that they must occur during the academic year in which they are awarded. *Therefore, we will not be having our annual Awards and Scholarship banquet in spring 2018. Students will be chosen this spring as usual, but we cannot have our celebratory banquet until the new academic year is underway.* We will announce a date for the banquet during Fall 2019-Spring 2020 academic year. If you have any questions, please do not hesitate to contact me.

As always, we wish you and your loved ones' health and happiness in the coming year! Please feel free to stop in if you are in the SDSU neighborhood! Go Jacks!

Warmly,  
Michele

## 2018 Natural Resources Camp

This years Natural Resources Camp hosted high school students all across the Midwest. The camp was held at the Oak Lake Field Station near White, SD. Students who participated gained a wide range of hands on experiences in natural resource ecology and management. Some activities included small mammal tracking, orienteering, animal tracking, and vegetation sampling to name a few. Thanks to all who volunteered and worked to make our camp a success!





# Oak Lake Field Station 30th Anniversary Celebration

This year marked the 30<sup>th</sup> Anniversary of our Oak Lake Field Station. In Honor of the 30 years of research and teaching conducted, we opened the station up to the public, an Open Gate for field activities and seminars on campus. On Sunday September 30<sup>th</sup> we invited community members to hike over the station grounds, tour the station labs and classrooms, visit the new field house station and take a trolley tour.

On Friday October 26<sup>th</sup>, Nels Troelstrup, the Oak Lake Field Station director presented the seminar, *“Oak Lake Field station after 30 years: Perspectives of a field station director.”* Thank you to all who joined if you were interested in learning how the field station presented unique challenges and how students, faculty and the public have contributed and benefited from the station.

Lastly the same day we hosted the annual Oak Lake retreat at McCrory Gardens. At the symposium there were presentations from faculty who have conducted years of teaching, research, and service activities using the station along with undergraduate and graduate researchers.



# New Faculty in the NRM Department

## **Katherine Jaeger**

- SDSU Extension Youth Outdoor Education Field Specialist
- Specialties include:
  - Hands-on youth programming
  - Summer camps
  - Environmental Education
  - Adventure Learning

## **Dr. Krista Ehlert**

- Assistant Professor/State Range Specialist
- Interests
  - Developing Extension Programming to engage youth
  - Education and outreach as a means to sustain South Dakota Ranching
- Research
  - Impact of invasive plants in rangeland settings
  - Ecologically based rangeland management

## **Dr. Robert Lonsinger**

- Assistant Professor
- Research
  - Carnivore ecology and predator-prey dynamics
  - Conservation Genetics
  - Wildlife management

## **Don McCrea**

- Has trained search and seizure/ civil liability of force to numerous officers representing city, county, state, and federal agencies
- Nine years as a full-time state law enforcement academy instructor and currently a part-time deputy sheriff
- 30 year career with South Dakota Game, Fish & Parks as a conservation Officer, Conservation Officer Supervisor, Regional Wildlife Manager, and Senior Wildlife Biologist
- Nationally Certified instructor

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Katherine Jaeger



Dr. Krista Ehlert



Dr. Robert Lonsinger



Don McCrea



## NRM Graduate Student Awarded SARE Graduate Student Grant

Graduate Student Grant program is a competitive grant program to fund graduate student projects that address sustainable agriculture issues.

Michael Bredeson, along with Professor Jonathan Lundgren, at Ecdysis Foundation in Brookings, South Dakota was awarded \$11,907 for the project, “Predation, Herbivory, and Farmer Profitability and Sustainability in Response to Interseeded Cover Crops in Standing Corn for Agroecosystem Diversification.”



# Northern Great Plains Native Plant Research

## Start Up Plan

Historically, the landscape in the Northern Great Plains was dense and diverse with native grasses and forbs (wildflowers). Invasive plants and weeds began to emerge as a problem with the earliest European settlers. Initially, management of vegetation entailed invasive plant removal in a background of native plants. Now, however, our grasslands of the Northern Great Plains are so heavily impacted by invasive plants that management can be envisioned as restoring native plants in a background of invasive species. Further, many areas in the Northern Great Plains are degraded due to natural and anthropogenic impacts such as, but not limited to, saline/sodic soils. This new reality requires a much more thorough understanding of native plant restoration and production than currently exists for native plants in the Northern Great Plains.

South Dakota State University is a leader in producing rigorous, innovative, and reliable information for the Northern Great Plains. Local, regional, and global agriculture has benefited tremendously from the information produced by SDSU. We have the expertise, facilities, and reputation to expand and become a leader in native plant production and restoration.

Lead Faculty on this endeavor will be Dr. Lora Perkins, Associate Professor, for the Department of Natural Resource Management.



## Precision Ag and Conservation Pilot Capstone Course

Natural Resource Management Wildlife and Fisheries students Katelin Frerichs and Becky Watkins joined Agriculture and Biosystems Engineering (ABE) Precision Agriculture students Evan Schnitzler and Cole Berkley in a pilot joint capstone course in fall 2018. The students conducted a profitability analysis of a local producer's land holdings and identified marginal acres defined as those acres where the landowner has lost money when utilizing it for standard crop production. The student team visited the landowner's farm, assessed the potential financial impacts of utilizing the marginal acres for alternative practices where incentive programs are in place, such as cover crops, pollinator plots, and native grass reestablishment. The landowner who participated was Brandon Hope who farms near Lake Campbell, SD. The students were advised by Jon Jenks (NRM) and Nic Uilk (ABE). This initiative was funded by a \$50,000 gift from Kathy and Mark Walker of Kansas through Pheasants Forever.

### Thanks to all!

Katelin, Becky, Brandon Hope  
(landowner), Evan & Cole  
(from left to right)



# The Fourth National Climate Change Assessment Report



Fourth National Climate Change Assessment Report ([nca2018.globalchange.gov](https://nca2018.globalchange.gov)) was recently released by the U. S. Government. Included in the Northern Great Plains section is the research on the expected effects of climate change on prairie wetlands and waterfowl by **Dr. Carter Johnson**

(SDSU NRM Emeritus Professor) and his collaborators. Key points reported from their last 25 years of research include:

Climate change is affecting wetlands and the bird species in the Northern Great Plains. Changes in spring precipitation affect wetlands directly because spring snowmelt, runoff, and refill influence wetland hydrology (including the number of days with standing water and water depth) and plant cover. A warmer climate, if not offset by enough additional precipitation, will shrink wetland areas in the Prairie Pothole Region and reduce waterfowl and shorebird habitat. Densities of wetlands are predicted to decline on average by 20% to 25% by mid-century. In a warmer and drier climate, much of the Prairie Pothole Region will be too dry to support historical levels of waterfowl nesting and production.

Mitigation approaches have also been studied by the team that could reduce the negative consequences of climate change on the continental population of water birds.

# Removing ‘Typhoid Marys’ restores health of Custer bighorn sheep herd

Custer State Park has seen an increase in healthy big horned sheep again. In 2004 an outbreak of pneumonia hit the park, killing nearly 80% of its resident heard. Thanks to Chad Lehman and Professor Jonathan Jenks, these sheep are healthy and thriving once more.

Chad Lehman is a South Dakota Game, Fish and Parks Department senior wild-life biologist at Custer State Park. Jonathan Jenks currently works with South Dakota State University Department of Natural Resource Management was part of a multi-institutional research team evaluating whether eliminating the “Typhoid Marys” that persistently shed a pathogen called *Mycoplasma ovipneumoniae* (Movi) could increase lamb survival.

More about this study and the work being done at Custer State Park can be found at this link: <https://www.sdstate.edu/news/2018/06/removing-typhoid-marys-restores-health-custer-bighorn-sheep-herd>



## Mallards: New technology to gather information on duck migration

Through cellphone technology, researchers are tracking the migration of mallards. This two-year project is in collaboration between the South Dakota Game, Fish & Parks department, South Dakota State University and the South Dakota Cooperative Fish and Wildlife Research Unit. Josh Stafford, Rocco Murano and Graduate Student Cindy Anchor are a few who are involved with this study.

What makes this study most unique is the implanted transmitters. Past studies have used external transmitters, which are bulky, likely impacting the birds flight habits due to their weight.

The full article can be found at this site: [The Daily Republic](#)



## Hobo Day 2018 Parade

Another successful Hobo day parade has passed. Thanks to all students and staff for preparing decorations, helping us set up the float, and throwing out candy! Go NRM and Go Jacks!



## Dr. Patricia Johnson 2019

### Director of Society of Range Management

Our Departments very own Dr. Patricia Johnson has been recently selected by her peers as one of the 2019 Directors of SRM!



# Congratulations on your completion!

## Undergraduates Fall 2018

Travis Bechen– NRLE

Cole Beecher– WFS

Joshua Cadwell– WFS

Thomas Cobb– NRLE & WFS

Justin DeSchepper– NRLE & WFS

Rosie Douglas– REM

Katelin Frerichs– WFS

Kevin Frick– WFS

Taylor Greenlun– WFS

Jared Hintz– WFS

Krista Laska– WFS

Corey Lee– WFS

Ryan Lovro– WFS

Wesley Mann– WFS

Lindsey Meiers– EES

Macy Murren– WFS

Wyatt Peschges– WFS

Rebecca Wilson– EES

Garrett Zimmer– NRLE & WFS

Gavin Zimmer– NRLE & WFS

## Graduate students

### Summer 2018

Tyler Garwood (MS- Wildlife)

Stephen Jones (MS- Fisheries)

Tom Kasiga (PhD- Fisheries)

Emily Mitchell (MS- Wildlife)

### Fall 2018

Joshua Harvey (MS- Bios)

Mark Hendrix (MS- Bios)

Travis Rehm (MS- Fisheries)





**YES!** I wish to contribute to the SDSU Department of Natural Resource Management.

Online gifts can be made through: [www.sdstatefoundation.org](http://www.sdstatefoundation.org)

My/our gift will be paid in the following manner:

Check (please make payable to the SDSU Foundation)

Credit Card

Visa  MasterCard  Discover  AmEx

Card Number: \_\_\_\_\_

Expiration Date: \_\_\_\_ / \_\_\_\_

Signature: \_\_\_\_\_

Please accept my/our tax-deductible gift in the amount of:

\$50  \$100  \$500  \$1,000 or Other \$ \_\_\_\_\_

Name(s): \_\_\_\_\_

Address: \_\_\_\_\_

City, State, Zip: \_\_\_\_\_

E-mail: \_\_\_\_\_

Phone: \_\_\_\_\_

Mail the completed form to:  
SDSU Foundation  
Lohr Building  
815 Medary Avenue, Box 525  
Brookings, SD 57007

## Opportunities to support the NRM Department:

### Student Education Enhancements, Scholarships, and Endowments:

**Your impact:** Expanding undergraduate scholarship dollars available to support students enrolled in Conservation Planning and Park Management, Ecology and Environmental Science, Natural Resource Law Enforcement, Rangeland Ecology and Management and Wildlife and Fisheries Sciences. Expanding competitive graduate student research awards.

The Natural Resource Management Department. Funds that enable strategic initiatives in academic and Research programs through implementation of the department strategic plan.

Clifford H. Fiscus Endowment that helps supports our NRM Departmental seminar series. Clifford H. Fiscus (B.S. 1950) was a long-time friend of the department. In 2004, he provided an endowment to the department that is used to bring guest speakers to campus. This is an important aspect of our graduate student training and pursuit of scholarly excellence.

NRM Education Fund. This fund enables talented undergraduate students to present their research at local and national meetings.

Program Targeted Scholarships. Gifts of less than \$1000 can be targeted toward undergraduate scholarships funds in (1) Ecology and Environmental Science, (2) Natural Resource Law Enforcement, (3) Rangeland Ecology and Management, (4) Wildlife and Fisheries Sciences.

*-If you are interested in donating at the \$1000 level or above, we can work with you to develop a named scholarship. A list of our current named scholarships can be found at: <https://www.sdstate.edu/nrm/academics/scholarships/upload/Undergrad-Scholarships.pdf>-*

- **Dave Willis Fisheries Research Award Endowment**  
This Endowment was established to honor Dr. Willis' life work and to sustain his legacy through promoting excellence in fisheries education and research. We encourage and appreciate your support of Dave's legacy through a donation to support the growth of this **endowment**. Gift pledges can be made over multiple years or as single donations. Proceeds will be used to provide competitive research awards to graduate and undergraduate fisheries students who have demonstrated scholarly excellence in fisheries science and best personify Dave's exceptional career and service to our nation's natural resources.
- **Kenneth F. Higgins Waterfowl Legacy Research Endowment**  
This Endowment honors the life and the distinguished career of Dr. Ken Higgins, a former wildlife research biologist with the U.S. Department of the Interior and the South Dakota Cooperative Fish and Wildlife Research Unit, and a professor emeritus in the Department of Wildlife and Fisheries Sciences at South Dakota State University.
- **Clifford H. Fiscus Waterfowl Research Endowment**  
The Fiscus Waterfowl Research Endowment fund honors the life of Mr. Fiscus, who earned a degree in Wildlife Management at South Dakota State College. This endowment provides support for waterfowl research activities which may enhance future management or welfare of waterfowl or other wetland dependent avian species and/or their habitats.
- **Dr. Robert A. Klumb Memorial Endowment**  
This Endowment honors the memory of Dr. Robert "Rob" Klumb (1967-2013) by his family. Rob was project Leader for US Fish & Wildlife Service and adjunct associate Professor at South Dakota State University. This Scholarship is award annually.
- **Kevin Honness Memorial Scholarship Announcement**  
The Honness Scholarship is awarded each year (31 March) to student members of the Great Plains Natural Science Society. Two awards (\$500 each) are currently available, **one for graduate** and one for **undergraduate** researchers; preference will be given to students conducting research in the Great Plains. Applications will be accepted each year from 1 November until 28 February. Interested students can find additional details and application form at <http://www.sdstate.edu/nrm/organizations/gpnss/kevin-honness-memorial-scholarship.cfm>.
- **Curtis M. Twedt Upland Game Research Endowment**  
Curtis M. Twedt, a native of Volga, SD, graduated in Wildlife and Fisheries Sciences in 1959. Dr. Twedt enjoyed a 31-year career with the Nebraska Game and Parks Commission as an upland game and research biologist. The recipient of the Twedt research grant shall be selected by the Department of Natural Resource Management at SDSU. The long-term vision of the Department is to eventually be able to provide a graduate research assistantship from this endowment.
- **Jesse W. West Research Endowment**  
This Endowment is intimately tied to the Pond Boss magazine and forum. It honors the life of Jesse W. West, a Mississippian and professor of geology. While teaching geology "summer camp" in the west, including Colorado, California, and the Black Hills (one of his favorite geologic places), he developed a love of the area and its people, which he shared with his family. His strong belief in helping others along their journey in applied science is the cornerstone of Jesse's endowment.

Off Campus Research Facilities - Oak Lake Field Station or Wildlife and Fisheries Research Unit (existing resources to which you could contribute are identified below).

**Your impact:** Expanding endowed undergraduate research opportunities grants for our Oak Lake Field Station and Wildlife and Fisheries Research Unit; Funding to support construction of off-campus teaching and research facilities and/or purchase large research equipment.

Charles and Marcia McMullen Undergraduate Research Award.

An *Endowment* recently established in honor of Dr. Charles and Marcia McMullen who have been long-time supporters of the Oak Lake Field Station. Chuck served as the first director of the Oak Lake Field Station and was instrumental in working with President Robert Wagner to establish the field station as a resource to students interested in the natural sciences. This endowment provides support for NRM undergraduate students interested in conducting undergraduate research at the station.

Oak Lake John Haertel Memorial Research Award

An *Endowment* established in honor of Dr. Jon Haertel, vertebrate biologist in Biology & Microbiology. Jon's love of vertebrate animals and long-time contributions to the study of vertebrates resulted in establishment of this endowment to support undergraduate research on vertebrates at the Oak Lake Field Station.

Rogen-Trooien Oak Lake Endowment

An *Endowment* established in honor of Alvera Rogen and the Trooien Family who had a long-time family connection and interest in the Oak Lake Field Station. This fund was established to support long-term maintenance and development of facilities at the Oak Lake Field Station toward the education and development of students interested in South Dakota natural resources.

Oak Lake Field Station Fund

A flexible field station account developed using unrestricted gifts to the Oak Lake Field Station and utilized for newsletters, web site, hospitality expenses and meeting attendance in relation to field station operations and programs.

Endowed research faculty positions in Ecology or Environmental Science, Range Ecology or Range Management, Wildlife Biology and Fisheries Biology.

**Your impact:** Faculty endowments provide funding for perpetuity that will allow the Department to recruit exceptional faculty members and provide them with the resources that are essential to their ability to do their critical work.

*(Targeted gifts would also be appreciated to support the purchase of research equipment and enhancement of research lab facilities in each of the areas identified above.)*

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Please return this form or contact our Foundation partners, Mike Barber (605.321.6468) to learn more about how you can make a difference in the Department of NRM.

**CONTACT US with news, comments or questions:**

*PLEASE contact us with Alumni Updates. We get more positive feedback from people who appreciate these updates than anything else in the newsletter!*

*Also, **please** send email address updates, corrections, and share the newsletter with friends and alumni so we can grow that email address list.*

**Thanks** for any help!

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Department of Natural Resource Management  
South Dakota State University  
SNP 138, Box 2140B  
Brookings, SD 57007  
605.688.6121

Web pages:

<http://www.sdstate.edu/nrm>

<https://www.facebook.com/sdstateNaturalResourceManagement>

<https://www.facebook.com/pages/SDSU-Natural-Resource-Job-Announcements/699103456779362?sk=timeline>

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