



## Russel L. Rustici Rangeland and Cattle Research Endowment



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### ENDOWMENT PURPOSE

The Russell L. Rustici Rangeland and Cattle Research Endowment in the College of Agricultural and Environmental Science at UC Davis was established to support problem solving research by University of California personnel with the expressed intent that the research findings are developed for the benefit of California range cattle producers. The goal of the endowment is to promote collaboration and strengthen the network among research faculty, cooperative extension specialists, county-based cooperative extension advisors and range cattle producers, and to ultimately provide practical answers to critical issues and challenges facing the industry. The endowment annually funds collaborative research and extension education activities via a peer-reviewed, competitive proposal process.

### PROJECTS SUPPORTED

Each year, the Endowment supports a number of competitive grant proposals. In response to the 2017 request for proposals and review process, 7 grants were awarded funding for 2017 and 2018, totaling \$281,888. Principle Investigators receiving funds were a mixture of specialists, advisors, and faculty across the UC Division of Agriculture and Natural Resources – with two early career academics receiving support. Funded projects were:

**Detection of Manganese Deficiency in California Cattle Herds** - Manganese is an important mineral for beef cattle reproduction, which is one of the most important traits in beef cattle management. It is hypothesized that manganese deficiency commonly occurs in California cattle herds. This project is a collaboration with CA cattle ranchers to assess the extent of manganese deficiency throughout the state.

**Measuring Impacts of Controlling Yellow Starthistle in the Sacramento Valley on Watershed Runoff and Groundwater Levels** - The removal of dense stands of high soil water using weeds such as yellow starthistle (YST) may be a key practice to increase water yield from annual rangelands. This project will quantify differences between

control and YST treatment sites to quantify potential water yield benefits of investment in weed control. The project will also estimate the potential saving of watershed-scale YST control on groundwater, runoff, soil moisture, and forage production.

**Educational Videos for Ranch Water Quality Plan Production** - The UCC Cooperative Extension “Ranch Water Quality Planning Curriculum” was developed to support delivery of classroom and field day trainings for the development and implementation of ranch water quality protection plans. Curriculum includes key educational presentations on the science of water quality, management practices, planning, and implementation. This project captures these presentations on video for greater outreach.

**Prescribed Grazing Strategies Management to Enhance Agricultural Production and Meet Riparian Habitat Conservation Objectives** - Riparian areas typically support greater biodiversity and productivity than surrounding uplands, and are critical to sustaining rangeland agroecosystems. Therefore, weed invasion in riparian habitats can have substantial negative ecological impacts. The goal of this study is to develop and extend cost-effective, science-based prescribed grazing practices, which can be included in integrated riparian weed management strategies.

**Remote Data Collection for Adaptive Rangeland Management on Public Lands** - This study will examine long-term response of rangelands to landscape management treatments (i.e., juniper removal methods) and extreme disturbances (i.e., wildfire) by 1) linking field measurements of rangeland health to both drone collected data and high resolution satellite imagery; 2) developing on-line decision-support tools to streamline data interpretation; and 3) implementing the support tool across a chronosequence of case studies to examine landscape responses to juniper removal treatments and wildfire.

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**Beef Cattle Extension Programming through the eBEEF Community of Practice** -

eBEEF is the beef genetics/genomics community of practice within eXtension, an integral part of the U.S. Cooperative Extension System. The goal of this project is to facilitate the design and implementation of an informational webinar series for producers, and support for travel for eBEEF team members to attend events to publicize the eBEEF effort and interact face-to-face with community members and stakeholders.

**Rustici Rangeland Science Symposium: Partnerships for Sustainable Rangeland Science, Policy, and Management** - The Rustici Rangeland and Cattle Research Endowment co-sponsored the 4th Rustici Rangeland Research Symposium held March 23-24, 2017 at the UC Davis Convention Center, with over 200 participants. The Rustici Rangeland Science Symposium was established in 2012 as a signature event to celebrate and extend the collection of rangeland endowments established by Russell L. Rustici. The Symposium is a forum for California's diverse rangeland and ranching community to come together and learn about the most recent science, discuss contemporary policy and management issues, and enhance partnerships.

For more information on this research endowment, including past and currently funded projects, please see the following link: <http://rangelands.ucdavis.edu/rustici/research-endowment/>

### THANKS

The University of California and California's ranchers are very appreciative of this gift and the positive impacts it allows us to make on key livestock and natural resources issues. The UC is extremely fortunate to have these novel resources to address the challenges facing our ranching clientele. This unique gift continues to forge new ventures to conserve California's ranching families and working rangelands.

Best,  
Ken



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