

DRAFT
Ensuring the Future of The Rangelands Partnership:
Providing Information for Innovations in Sustainable Rangeland Stewardship
October 23, 2014

The Rangelands Partnership Initiative will be supported and secured in perpetuity by an Endowment in the School of Natural Resources and the Environment, College of Agriculture and Life Sciences, in affiliation with the University of Arizona Libraries, The University of Arizona, Tucson.

Vision: Through its multiple communications channels, The Rangelands Partnership will continue to provide appropriate online sources of science based information to ensure advances in sustainable rangeland management¹ that directly affect the prosperity and well-being of people everywhere through healthy and productive rangeland ecosystems.

The Rangelands Partnership's Primary Communications Channels include:

- Global Rangelands - <http://globalrangelands.org>
- Rangelands West - <http://globalrangelands.org/rangelandswest>
- Arizona Rangelands (example member state site) - <http://globalrangelands.org/arizona>
- Rangelands West YouTube Channel - <https://www.youtube.com/user/GlobalRangelands>
- Rangelands West Facebook page - <https://www.facebook.com/RangelandsWest>
- Rangelands Partnership Twitter page - <https://twitter.com/RangelandsPartn>
- Rangelands West Scoop.It news service – <http://www.scoop.it/t/rangelands>

Endowment Goal: The proposed Endowment for The Rangelands Partnership Initiative will build on a unique and nearly 20-year collaboration of rangeland specialists, librarians, and information technologists by providing a stable infrastructure from which the Partnership will expand its information and relevance to stakeholders. The Partnership's portals, database, and engagement channels will continue to be the leading online destinations for timely access to crucial information, resources, innovations, dialog, and educational tools that assist stakeholders to sustainably manage rangelands, and inform public debate and decision-making about today's grand challenges of food security, climate adaptation, public health, economic development, and environmental impacts as they relate to rangelands around the world. (For details about the Partnership's collaborators and accomplishments to date, see Appendix).

¹ "The concept of sustainable [rangeland] management encompasses ecological, economic, and social criteria and indicators (C&I) for monitoring and assessing the association between maintaining a healthy rangeland base and sustaining the well-being of communities and economies." Mitchell, John E. (ed.). 2010. Criteria and Indicators of Sustainable Rangeland Management. Laramie, WY: University of Wyoming Extension Publication No. SM-56. 227 p.

Why We Need The Rangelands Partnership

Rangelands are landscapes that dominate the Earth's land surface. They are the grasslands, shrublands, woodlands, and deserts that comprise half of the landmass in the United States and up to 70 percent of the World's land surface (Holcheck 2011)². Rangelands are inherently important to those who manage or inhabit those landscapes, but also to people everywhere who rely on the ecosystem components they provide. The components include vital societal benefits for *clean air/CO₂ compensation, forage and food production, water recharge/riparian life, wildlife habitat, and open space and recreation*. Our ability to quickly synthesize reliable and succinct information on the interactions among these components and rangeland management approaches, as well as the consequences of social and policy-related actions, is limited by constraints on access to and availability of impartial resources. Within these ecosystem components, there are tradeoffs among goods and services that are particularly controversial and contentious. Easy access to trusted and balanced information for informed decision-making is a necessity if we hope to shape the legacy we will leave to the next generation.

Similarly, if sustainable rangeland management is to be achieved, the most current scientific knowledge must be provided to address specific complex issues. In order to meet these multiple challenges, knowledge must be delivered in a timely manner to key stakeholders and in formats that are readily applicable to assessing and adjusting management strategies. Such issues as controlling invasive species, adaptation to drought, promoting economic vitality in rural communities, controlling erosion and improving soil composition, managing fires, monitoring and improving land health, and planning appropriately for large landscape conservation where rural and urban interests intersect – all require specialized and often multidisciplinary information, data, and tools to inform practice and to identify and share innovative solutions to real-life problems. The Rangelands Partnership, through its database, web portals, and communications channels, is the premier world service in meeting these information needs, but there is still more to be accomplished.

Traditional stakeholder groups directly affected by rangeland issues include private and public land managers, Extension professionals, rangeland educators and students, researchers, and policy makers. Resource-based private industries are also reliant on rangeland ecosystem services to remain viable. For instance, range livestock production is a key economic driver in all but two Arizona counties, and the water that supports industries in the two primarily urbanized Arizona counties comes from rangelands. Thus, it is imperative that all stakeholders, as well as the general public, be informed about these key relationships and how they can help influence

² Holecchek, J.L., R.D. Pieper, and C.H. Herbel. 2011. Range management : principles and practices. 6th ed. Boston : Prentice Hall.

future directions to achieve sustainable rangeland management practices and, thus, improve overall human welfare.

The Need for an Endowment

In our fast-paced society, each year we are faced with exponential increases in knowledge generation, a constantly evolving and often dramatically changing technical environment, as well as ever greater expectations from stakeholders to respond accordingly. From this backdrop, information and data service providers are acutely challenged to keep relevant and innovative. There is a continuous need to update and upgrade systems and content, and to provide the most current and reliable information, resources, and user-friendly tools for often information-inundated stakeholders. While myriad Web services are available from the private “for-profit” sector, there is a particular need for freely accessible academic-based information tools to ensure impartiality and equitability for all people. However, almost exactly concurrent with the advent of the Web revolution, traditional financial support for public institutions has significantly declined. This has resulted in the loss of faculty, staff and infrastructure. Particularly hard-hit have been programs providing outreach to local stakeholders and services to local communities.

While the Rangelands Partnership remains strong due to its many committed and talented members, and particularly to a number of successful grant writers, the original group is beginning to near retirement age. Although new young members are becoming increasingly involved, they are often in non-tenure track positions and do not have the college-level support enjoyed by the current senior members. In addition, key leadership positions at the University of Arizona that spearhead technical and content-development efforts are in jeopardy as there is no stable funding to replace retiring members of the critical Arizona Rangelands team. And, out of necessity, university and college programs are moving to a cost-recovery funding model. Resources essential for technical infrastructure support such as Web hosting, design, and development; travel to annual meetings; and start-up costs for innovative new services as well as for negotiating agreements with publishers and other commercial entities are non-existent through traditional academic funding mechanisms. To this end, The Rangelands Partnership requires urgent foundational infrastructure support. The proposed endowment will serve to ensure The Partnership’s ability to continue providing stakeholders in Arizona and throughout the world with access to the most relevant, reliable, and current information on sustainable rangeland stewardship and in formats and applications that facilitate learning and decision-making. The endowment will also guarantee that the new generation of inspiring, engaging, and energetic rangeland and information specialists will have the opportunity to continue The Partnership’s legacy of quality and crucial stakeholder service.

Endowed Chair for The Rangelands Partnership

This faculty endowment will provide the Rangeland Partnership under the leadership of the University of Arizona's College of Agriculture and Life Sciences (CALs) and the University of Arizona's Libraries with the ability to recruit and/or retain an internationally recognized leader to facilitate the ongoing technical and collection development needs of the Partnerships' information outlets serving stakeholder interests. The proposed **Endowed Chair for The Rangelands Partnership** will be appointed by the CALs and Libraries Deans, with input from the members of the Partnership.

The endowed chair will serve to raise the national and international visibility of the Partnership and the ranking of the University of Arizona, CALs, the School of Natural Resources and the Environment, and the University of Arizona Libraries. The chair holder will play a key role in (1) directing the technical team from CALs Communications and Cyber Technologies unit in updates and upgrades to the web portals and database; (2) expanding content development collaborations with complementary organizations, societies, and publishers; (3) pursuing additional funding through competitive grants; (4) overseeing social media communication services; (5) serving on The Rangelands Partnership's rotating Executive Committee; and (6) supporting the CALs/SNRE Rangelands Program's and the UA Libraries' educational and outreach goals.

Investment:

A gift of \$1,500,000 will establish the **Endowed Chair for The Rangelands Partnership**. The chair can be named for the donor or his/her designee. The gift can be payable over a five-year period. It can be fulfilled by cash, marketable securities, or other assets that are readily convertible to cash (or any combination thereof).

The Rangelands Partnership Initiative Endowment

After establishment of the **Endowed Chair for The Rangelands Partnership**, an endowed program at the \$4,000,000 level will allow perpetual funding to (1) support the CALs technical team (including web developers, a designer, videographer and supporting student positions) for maintaining and upgrading The Partnership's portals and underlying database, as well as developing mobile applications, videos, and interactive learning tools; (2) establish a Social Media Coordinator for The Rangelands Partnership to facilitate engagement with stakeholders and increase visibility of information and data products; (3) establish a small grant program for members with innovative ideas to improve and expand content, services, and engagement through new technologies; and (4) establish a travel grant program for members (and especially for potential new members) to attend annual meetings and/or to make keynote presentations and strategic contacts at targeted conferences and meetings that will lead to expanded collaborations, increased database content, and enhanced opportunities to play a key role in national and international open access and open data initiatives. **The Rangelands Partnership Initiative**

Endowment will ensure that critical resources made available through the Partnership's open access portals and engagement channels will continue in perpetuity, and that a new generation of professionals will be prepared to lead the Partnership

The University of Arizona Foundation investment policy conserves the endowment principal, while programs are funded by annual earnings. The University of Arizona will be a full partner with the endowment by providing salary and appointment as an endowed chair, other personnel costs as outlined above, small grants through sub-contracts, and travel and general expenses. An Advisory Board will be established, composed of donors and potential donors to the endowment (or their advisors) to review program direction and progress on an annual basis, and to provide guidance on annual work plans and feedback on new resources and services.

Investment:

A gift of \$4,000,000 will establish **The Rangelands Partnership Initiative**

Endowment. The endowment can be named for the donor or his/her designee. The gift can be payable over a five-year period. It can be fulfilled by cash, marketable securities, or other assets that are readily convertible to cash (or any combination thereof).

Appendix

Partners, Accomplishments, Collaborators, Affiliations, Grants Received, & Technical Infrastructure

The Rangelands Partnership – 19 U.S. Land-Grant Universities and the University of Sonora, Mexico, through their academic and Extension rangelands programs, are the core collaborators in the Partnership. They each maintain a state rangelands website to serve local stakeholder needs. They also contribute to building the “Rangelands West” database collection that includes “best-of-the-best” textual (such as journal articles, reports, proceedings, fact sheets, and position statements) and multimedia (such as videos, customized applications, learning modules, curriculum aids) resources obtained from many sources and web pages located around the world.

- Colorado State University
- Kansas State University
- Montana State University
- North Dakota State University
- New Mexico State University
- Oklahoma State University
- Oregon State University
- South Dakota State University
- Texas A&M University
- University of Alaska Fairbanks
- University of Arizona
 - University of Arizona, College of Agriculture and Life Sciences
 - Arizona Cooperative Extension
 - CALS Communications & Cyber Technologies
 - School of Natural Resources & the Environment – Rangelands Program
 - University of Arizona Libraries
- University of California
- University of Hawaii
- University of Idaho
- University of Nebraska, Lincoln
- University of Nevada, Reno
- University of Sonora, Mexico
- University of Wyoming
- Utah State University
- Washington State University

Accomplishments of The Rangelands Partnership: By leveraging a 1995 small grant from the General Services Administration (GSA) to the University of Arizona, the initial project grew into a regional (2002) and then international initiative (2010). A largely volunteer effort until now, the Partners have successfully gained funding through competitive grants for special content-development projects (see below). These projects and the individual and collective efforts of the Partnerships’ members have led to the development of a database of more than 15,000 journal articles, fact sheets, websites, images, databases, videos, maps, reports, and decision making/educational tools. In addition, Partnering institutional members have created original

descriptive content on general as well as key, trending topics such as wolf reintroduction, wild horses & burros, and sage grouse habitat as well as the initial phase of an interactive tool to explore the world's rangeland ecosystems through summary descriptions, videos, maps, and gigapan technology. An expanded Partnership team also obtained a grant to develop a suite of educational resources to serve students and teacher's needs. "Careers and Education" is a website featuring student research and outreach projects and information about potential careers in areas of rangeland science and practice. "Range Education at a Distance" is a fully-searchable catalog of distance format rangeland courses in the U.S. and Canada. "Rangelands Teaching Clearinghouse" is a database of reusable curriculum materials in a variety of formats for teachers to use to enhance class learnings. Most recently, a two-year USDA/RREA grant was approved to capture local generational knowledge through video interviews and podcasts as well as introductory videos on key topics and a longer video for airing on television.

Current Rangelands Partnership Collaborators/Content Providers for Special Collections

- Altar Valley Conservation Alliance – reports and position papers
- Australian Rangelands Society/CSIRO – proceedings & reports
- Food and Agriculture Organization of the United Nations (FAO) – FAODocs
- Forest and Range.org - learning modules
- Grasslands Society for Southern Africa (GSSA) – collection in development
- Land Portal (international consortia) – in progress
- Range Science Information System (RSIS) - bibliography with extensive summaries
- Society for Range Management - journal articles and meeting presentation abstracts

Affiliations

- Agriculture Network Information Center (AgNIC)
- Allen Press, Inc./Elsevier Publishers
- CIARD: Open Agriculture Knowledge for Development (Coherence for Information in Agricultural Research & Development; international initiative)
- Conservation Effects Assessment Program (CEAP), NRCS
- GODAN (Global Open Data in Agriculture and Nutrition; G8 international initiative)
- Range Science Education Council (RSEC)
- Western Extension and Research Administrative Committee (WERA 1008)

Project Grants Received

- General Services Administration grant (1995)
- USDA Telecommunications grant (1996)
- Cooperative Agreements with Society for Range Management (1996; 2004)
- Western Sustainable Agriculture Research and Education (SARE) grant (2005)
- Multistate Research Project under the Western Extension and Research Administrative Committee (WERA 1008) (2005 and reconfirmed in 2011)
- eXtension Rangelands Stewardship Community of Practice grant (2008)
- USDA International Science and Education (ISE) grant (2010)
- USDA Higher Education Challenge (HEC) grant (2010) – affiliated
- eXtension-Rangelands West Optimization Grant (2012)
- Renewable Resources Extension Act (RREA) Rangelands Stewardship Grant (2014)
 - RREA Arizona grant for development of special resources & tools

Current Technical Infrastructure

- Data is managed using Drupal 6.x content management system, backed by MySQL 5.1 database
- Articles can be stored directly into the repository (file upload) or linked via URL
- Partner repositories are imported or harvested via CSV, RSS, and OAI-PMH
- Search capabilities are powered by Apache Solr/Lucene that provides faceted browsing capabilities
- Drupal Organic Groups is used to separate and establish editing roles amongst the different partners' repositories
- Importing and exporting capabilities via RDF and OAI-PMH are currently in development