

Cover Sheet

Organization Name: Board of Regents, NSHE, obo University of Nevada, Reno	
Organization Type: 501(c)(3) EIN# 88-6000024 Governmental entity? Y/N Yes	
Address: Office of Sponsored Projects, 1664 North Virginia Street, 204 Ross Hall/Mail Stop 325 Reno, NV 89557-0325	
Project Name: Livestock and Wild Horse Grazing Management in Greater Sage-grouse Late Brood Rearing Meadow Habitat	
Amount requested: \$62,894	Website:
Project start date: 02/01/2017	Project completion date: 1/31/2018
This funding will be used to: Complete monitoring of livestock and wild horse management impacts to priority sage-grouse late brood rearing meadows in allotments within herd management areas across Nevada. Information will be used to inform management strategies and policies for sustaining riparian resilience and optimizing sage-grouse habitat.	
Key People:	Director: Charlene Hart, Assistant Vice President, Research Administration 775-784-4040, Fax: 775-784-6680, E-Mail: ospadmin@unr.edu
	Board Chair: The project is under the auspices of the Board of Regents, NSHE, obo University of Nevada, Reno
	Project Contact:
	Name: Sherman Swanson
	Position: Project Leader
	Phone: 775-784-4057
Fax: 775-784-1375	
Email: sswanson@cabnr.unr.edu	
Organization Mission: Teaching, Research, and Extension – “Inspired by its land-grant foundation, the University of Nevada, Reno provides outstanding learning, discovery, and engagement programs that serve the economic, social, environmental, and cultural needs of the citizens of Nevada, the nation, and the world. The University recognizes and embraces the critical importance of diversity in preparing students for global citizenship and is committed to a culture of excellence, inclusion, and accessibility”	
Project is on (check all that apply) <input checked="" type="checkbox"/> Public <input type="checkbox"/> Private land.	
Are government permits or decision documents needed for the project? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If so, are those permits and decision documents already secured? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA If permits and decision documents are needed but not yet secured, in #4 of the Narrative Requirements provide a list of permits and documents needed and a schedule for securing them.	
Has your organization received other grants from the Dream Tags Fund? Yes No <input checked="" type="checkbox"/>	If yes, NA
	Date awarded:
	Project # & title:
	Amount of Award:
	Date awarded:
	Project # & title:
Amount of Award:	

DESCRIPTION OF PROJECT UNDER CONSIDERATION

Indicate the description that best fits the project you are proposing. Mark no more than three categories:

- A. Projects that improve, protect, or restore habitat
- B. Projects that embrace unique opportunities for advancing the mission of wildlife conservation in Nevada
- C. Projects that address emergent needs
- D. Other projects that meet the evaluation criteria

NARRATIVE REQUIREMENTS

Provide answers for all sections below; use the numbers and topics (in **bold**) to label each section in your response. Your application is limited to 5 narrative pages, including the cover sheet. Your budget is page 6. **All projects are required to have measurable outcomes:**

1. Specific **project goals and measurable outcomes**. How do these tie to the project description?
 - A. Document livestock and wild horse use of riparian meadows with trail cameras.
 - B. Examine meadow function and stability variables in relation to sage-grouse habitat indicators.
 - C. Examine grazing use variables in relation to sage-grouse habitat indicators.
 - D. Inform management concepts for management of use by livestock and wild horses in consideration of sage-grouse habitat objectives.

2. **Project location**. Within Priority greater sage-grouse habitat (PHMA) and wild horse herd management areas, random BLM allotments (14) and all available US Forest Service allotments (5) were selected. Within these allotments all lentic (meadow) areas within sage-grouse PHMA habitat were evaluated with remote sensing to categorize or rank areas for study. Top priority sage-grouse habitat areas were not near large trees or dominated by willows, but had riparian herbaceous vegetation near sage brush. Study meadows were randomly chosen from the best rank available in each allotment. These were replaced if not actually used by horses, being managed for livestock grazing, or receiving sage-grouse use. The allotments are: Austin, Bare, Becky Springs, Buffalo Springs, Chin Creek, Lovell Peak, Monitor Winter, Moores Creek C&H, North Steptoe, Porter Canyon, Sampson Creek, Simpson Park, South Shoshone, Spanish Ranch, Squaw Valley, Treasure Hill, Tuledad, Wagon Johnnie, and West Cherry Creek. The locations include eastern, central, northwestern, and northeastern Nevada. See attached map.

3. **Project description**. Include site map and aerial photos if applicable/possible. Maps and photos must fit on 8-1/2" x 11" paper and may be attached at the end of your proposal after the budget.

Many tools and strategies are available for properly managing livestock grazing in riparian areas (Swanson et al. 2015). It less clear if these tools work as well for lentic riparian areas and it is not clear if these tools and strategies are being applied to small scattered riparian meadows so important to sage-grouse late brood rearing (Attamian et al. 2013). Most of these tools and strategies cannot be currently applied for wild horse management. Some evidence suggests that poorly managed horses and/or cattle may be causing considerable damage to critical lentic meadow riparian habitat. Continued damage can destroy riparian functions (Prichard et al. 2003) recognized as essential to sage-grouse (Stiver et al. 2015). Yet grazing may positively or negatively influence forb diversity and abundance depending on

management in relation to local potential (Evans 1986). Because different advocates suggest that damage is caused by others' animals, it is sometimes difficult to accomplish steps needed for proper management. This project will identify the proportion and timing of the kind of animals doing the grazing and inform management decisions at these and thousands of other similar locations. Future management strategies could be altered with due consideration of riparian areas in setting appropriate management level for wild horses or with the use of riparian pastures and rotational grazing to allow riparian recovery (Swanson et al. 2015).

Trail camera data will be collected to determine when, for how long, and to what degree wild horses and livestock are grazing the selected riparian meadows (see project location below). Camera data will be combined with yearly or more frequent on-the-ground monitoring data about riparian conditions and habitat values including: forb species, cover, density, and growth stage; Shrub cover and proximity to the meadow; Meadow plant species, wetland indicator rating, stability rating, height, stubble height, and hiding cover, using methods borrowed from Stiver et al.(2015). Meadow functionality will be evaluated with methods developed for quantitative lentic riparian monitoring by a BLM team participated in by the project leader. These methods will focus on the locations where altered flow paths and erosion are most likely to be causing dehydration or other functionality issues.

References:

Atamian, M. T., Sedinger, J. S., Heaton, J. S., & Blomberg, E. J. (2010). Landscape-level assessment of brood-rearing habitat for Greater Sage-grouse in Nevada. *The Journal of Wildlife Management*, 74(7), 1533-1543.

Evans, C.C., (1986). *The Relationship of cattle grazing to sage-grouse use of meadow habitat on the Sheldon National Wildlife Refuge* (unpublished thesis). University of Nevada, Reno, Nevada.

Prichard, D., Berg, F., Hagenbuck, W., Krapf, R., Leinard, R., Lenord, S., Manning, M., Nobel, C., &Staats, J. (2003). *Riparian area management: A user guide to assessing proper functioning condition and the supporting science for lentic areas*. Bureau of Land Management, National Applied Research Science Center, Technical Reference 1737-16, Denver, Colorado, USA.

Stiver, S.J., E.T. Rinkes, D.E. Naugle, P.D. Makela, D.A. Nance, and J.W. Karl, eds. (2015). *Sage-Grouse Habitat Assessment Framework: A Multiscale Assessment Tool*. Technical Reference 6710-1. Bureau of Land Management and Western Association of Fish and Wildlife Agencies, Denver, Colorado.

Swanson, S. R., Wyman, S., & Evans, C. (2015). *Practical Grazing Management to Meet Riparian Objectives*. *Journal of Rangeland Applications*, 2, 1-28.

4. **Permitting.** NA

5. If **future phases** of the project will be needed, identify anticipated sources of funding. NA

6. **Principals involved** in leading or coordinating the project or activity.

The graduate student will be under the supervision of Dr. Sherman Swanson, work in close collaboration with another graduate student and each will work with an undergraduate student. They will use preliminary data from two former graduate students and their technicians.

7. Number of **staff positions involved** in project: Full-time 2 Part-time 1 ("Fulltime" means

100% of their staff position will be dedicated to this project; “part-time” means only a portion of their staff position will be dedicated to this project)

This project will fund the project leader for 5 overload/non-contract days for one year, one graduate student (1/2 FTE) for one year, and one undergraduate student (full time for 12 weeks).

8. Number of **volunteers involved** in project and an estimated number of volunteer hours. NA
9. **Time Line** of Project. List key dates and include project milestones. *Note:* Be realistic in your estimate of dates and milestones. List any factors that may cause a delay in implementing and/or completing the project.²

This project is ongoing. NDOW support for study plan development was use in 2015. Field sites were located and instrumented in 2015. Vegetation and other one-time or repeated measurements were collected in summers of 2016. Data analysis is ongoing and project reporting is occurring in 2016 and 2017 by the first two MS students. The second two MS students (including the one funded by this project for one year) will collect data in 2017 and 2018. Data analysis by them of all project data will occur in 2018 and 2019 with theses completed in 2019. Additional reports and management recommendations by the project leader will follow. While delays are not anticipated, they are possible due to unforeseen delays in student progress.

10. **Success.** Tell the committee how we will know you succeeded in what you proposed to do.
Ultimate success will be evaluated by the student successfully defending a thesis from this project. The thesis will also be available for review by NDOW, EPA (purchased trail cameras for the project), USFS (provided substantial funding), and BLM (provided considerable information and other support) personnel. Success for this funding will be continued progress with all data collected by the student for one year.
11. **Grant match.** All applicants must provide a match of at least 25 percent for dollars requested. The match may be with funding and/or in-kind services. Complete the Grant Match section of the application.
While none of the other funds used for this project are officially a match, the whole project could not have been accomplished without the much greater support of an ongoing Nevada Agricultural Experiment Station project, a USFS cooperative study grant, prior funding for study planning by NDOW, and cameras purchased by USEPA and Nevada Agriculture Foundation. Of the eight graduate student years needed for this whole project, only one will be funded by Dream Tags.
12. **Project budget** (see Sample Budget Template on page 5 of this RFP). Provide detail on line-item expenditures and show which costs are to be paid for by the Dream Tags Charitable Fund grant, which expenses will be paid by other sources of funding, and which will be paid for with in-kind services.
 Note: Project budget must be on its own on page 6.

Grants from the Dream Tags Charitable Fund are typically paid on a reimbursable basis for actual expenditures only. Craft your budget in such a way that requests for reimbursement correspond to the original budget.

² Funding will not be provided for work performed prior to grant approval.

Grant Match

Description of matching funds/in-kind donations:	While none of the other funds used for this project are officially a match, the whole project could not have been accomplished without the much greater support of an ongoing Nevada Agricultural Experiment Station project, a USFS cooperative study grant, prior funding for study planning by NDOW, and cameras purchased by USEPA and Nevada Agriculture Foundation. Of the eight graduate student years needed for this whole project, only one will be funded by Dream Tags.
---	---

REQUIRED ATTACHMENTS

Submit the following attachments via email. Clearly label each file with your organization’s name.

Nonprofits submit:

- Last audited financial statements if your organization has been audited
- List of Board of Directors
- Copy of agency’s IRS 501(c)(3) Tax Determination Letter
- Copy of the agency’s most recent IRS Form 990

Governmental entities submit:

- Departmental budget in lieu of audited financial statements

Dream Tags Charitable Fund
Open Request for Proposal

Budget Item Description	ORIGINAL PROJECT BUDGET			REIMBURSEMENT		
	DT \$	Other Funding Name	Match \$ *	Total	Expenditures to date DT	Expenditures to date (other sources)
Labor--paid	\$34,565			\$34,565		
Materials	\$1,800			\$1,800		
Other (Travel and tuition)	\$8,314			\$8,314		
Overhead**	\$18,215			\$18,215		
TOTAL	\$62,894			\$62,894		

MATCH *Because the existing funding cannot be tracked by the University as a match, that part of this form is not filled out. Please see 11 above for further discussion of the much larger proportion of funds that have come from other sources.

Budget justification:

Personnel: The University observes an 8 month academic/ 4 month overload structure. The project leader will be funded for 5 of his overload days at a daily rate of \$613.36 for project and personnel supervision.

One graduate research assistant will be funded at ½ FTE for one year at \$1800/month.

One undergraduate research field technician will be funded for 480 hours at \$12/hour.

Fringe benefits are calculated at 18.5% for faculty retirement-eligible overload days, 16% for graduate students, and 2% for undergraduate students.

Materials

Fuel expenses are estimated at \$1,800 (9000 miles /15mpg x \$3.00 per gallon). This estimate is based on 150 miles per day for travel from Reno and among field sites times sixty field days. A University vehicle will be used for project work.

Other

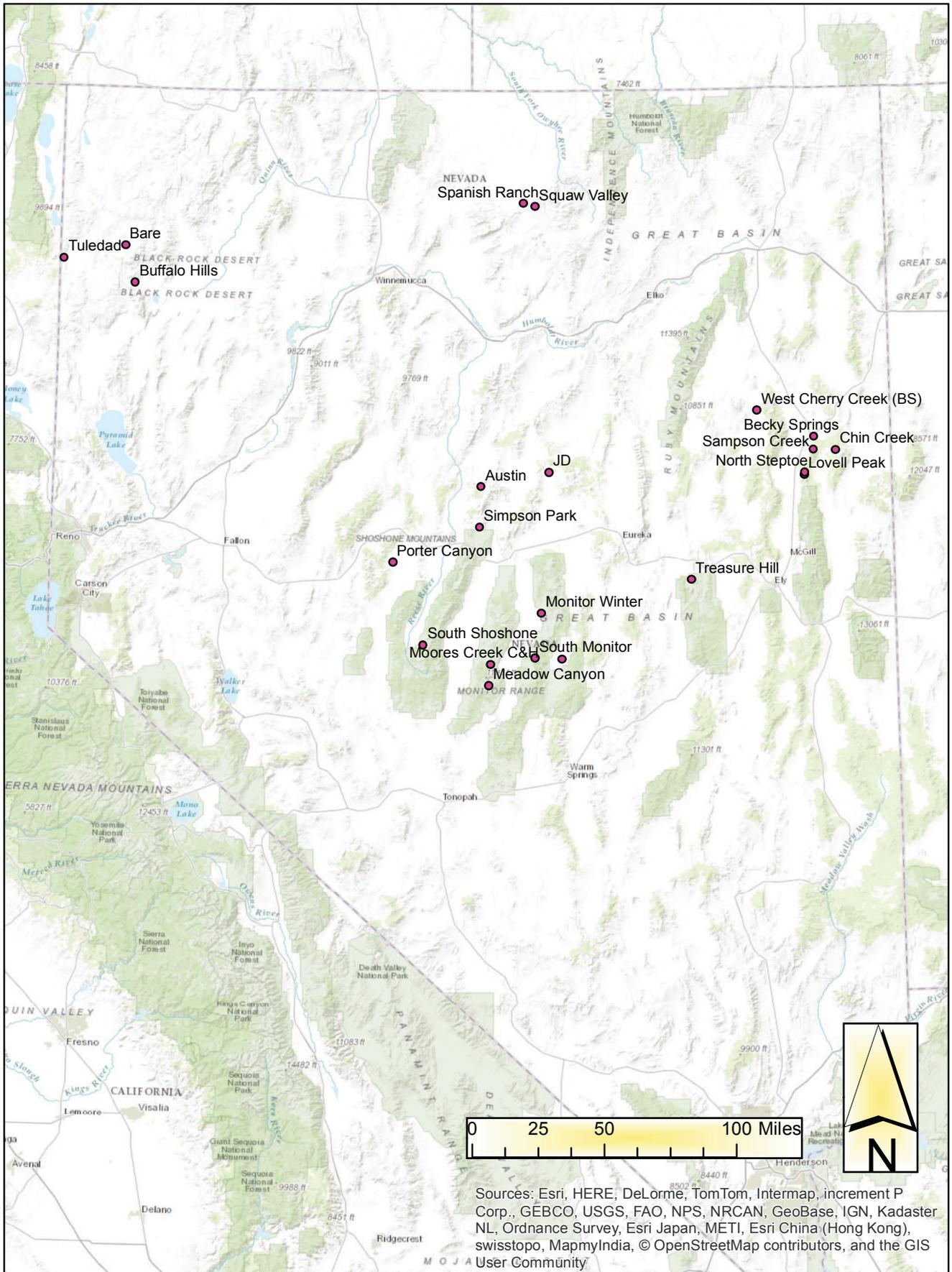
Travel - Personnel will be covered at the lowest federal per diem rate for their time in the field \$51per day times 4.5 days per week times 12 weeks times two people.

Tuition – tuition costs are estimated using the current per credit fee of \$187.04 x 15 credits.

Overhead

** In the absence of a Dream Tag Charitable Fund policy limiting the indirect cost rate, the University of Nevada Reno’s federally (DHHS) negotiated indirect cost rate for on-campus research of 43.5% of the modified total direct cost (MTDC) has been applied. MTDC excludes tuition, equipment, participant support and amounts in excess of \$25,000 of each subcontract. If the Dream Tag Charitable Fund has a policy which limits the maximum allowable overhead, the University will comply with that policy.

SG Late Brood/Grazing Study Sites as of March 2016



Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community