

JONAH INTERAGENCY MITIGATION & RECLAMATION OFFICE

1625 West Pine
PO Box 768
Pinedale, Wyoming 82941
Attention: Project Coordinator 307-367-5386

APPLICATION FOR FUNDING

(use additional sheets if necessary)

1. GENERAL PROJECT INFORMATION

Project Name: Water Well Solar Conversion Project.

General Location (distance and direction from nearest city/town, attach map at a scale not less than 1/2" = 1 mile):

The site locations consist of 14 water wells scattered across 3 adjoining BLM grazing allotments; Square Top Common, Fremont Butte Individual and Fremont Butte Common allotments. The allotments are located East of hwy 191 and North of the Big Sandy River within the JIO Focus Area, and have been designated as part of the sage-grouse core habitat area.

Legal Location of Project (attach map at a scale not less than 1" = 2,000').

Township: T various N
Range: R various W
Section(s): various
County: Sublette

Refer to attached Maps

Surface Ownership (check all that apply): Federal State Private

**If project includes a mosaic of land ownerships (e.g., mix of federal, state and/or fee lands), provide a breakdown for each specific owner by acres and percent of total project area.

This project is located exclusively on BLM lands.

Contact Information for Affected Parties or Agencies:

Amber Robbins-BLM

Cotton Bousman-Square Top Cattle Association

Sno Ann Engler-Sublette County Conservation District

2. APPLICANT INFORMATION

Name/Organization: Square Top Cattle Association

Mailing Address: PO Box 125

City: Boulder State: WY Zip Code : 82923

Daytime Phone # 537-5222 360-6142 Fax #

Email Address: ckbousman@wildblue.net

Point of Contact (if different from above)

3. PROJECT DESCRIPTION

General Project Type (check all that apply): Wildlife _____
Land Use/Livestock _____ Land Use/Recreation _____
Cultural _____ Other _____

Describe Project Proposal (e.g., mechanical treatment, water improvement, etc.)

This project is aimed at water enhancements and infrastructure improvements that will benefit both livestock and wildlife by providing more reliable water sources and better control of those sources, as well as enhance sage-grouse habitat. The project consists of the conversion of windmill and generator type pumping systems to solar pumping systems on 14 water wells within the allotments mentioned above. This control will allow for water to continue flowing all summer, where appropriate, creating a pond and green overflow area. The green area can then be fenced from livestock with a wildlife friendly fence. However, the need for the fence, including size and location can't be determined until the green area is established based upon water availability. Additionally, the water quality of each well will be tested to help determine additional uses.

Brood-rearing sage-grouse, pronghorn and other sagebrush-obligate species will all benefit from this, as seen with the previous Lander Trail and Square Top well projects. The project also includes the removal of windmill towers and reconstruction of drinking tanks. Removing these windmill structures may decrease predation of sage-grouse eggs and chicks by territorial breeding pair ravens, which are known to perch and/or nest on such structures in the sagebrush. For more information on this topic, refer to the study *Common Raven Activity in Relation to Land Use in Western Wyoming: Implications for Greater sage-grouse Reproductive Success*, (T.D. Bui, J.M. Marzluff and B. Bedrosian 2010).

Additional resources relating to raven predation on wildlife species indicate that "Breeding and nonbreeding ravens have been associated with increased predation effects in desert ecosystems (*Spatial pattern of risk of common raven predation on desert tortoise*, Kristan and Boarman 2003)" and that "The primary source of sage-grouse nest failure is predation, accounting for an average of 94% of nest loss (*Factors affecting nest survival of greater sage-grouse in northcentral Montana*, Moynahan et al. 2007)".

Also, see *Nest Predation of Greater Sage-Grouse in Relation to Microhabitat Factors and Predators* states (P. Coates, and D. Delehanty, 2010) and *Managing a Subsidized Predator Population: Reducing Common Raven*

Predation on Desert Tortoises, Boarman 2003).

The Sublette County Conservation District will hold these funds which will be managed by the Square Top Cattle Association and used to purchase the solar systems and contract the installation of the drinking facilities.

Total Project Acres (if applicable)

Approximately 60, 298 acres

Acres Indirectly Affected (if applicable, explain)

All acres across the allotments should be indirectly affected if raven predation on sage-grouse is decreased.

4. OBJECTIVES OF PROJECT, AND BENEFITS TO JIO OFF-SITE MITIGATION STRATEGIC GOALS.

The project goal is to remove windmill and generator water sources and replace them with a solar system, thus increasing habitat effectiveness for sage-grouse and big game species by adding a reliable water source and green area from the overflow throughout the summer months and removing nesting structures of ravens that predate on sage-grouse eggs and chicks.

As described the strategic plan, in late June or July, as sagebrush habitats dry and herbaceous plants mature, hens usually move their broods to more moist sites where more succulent vegetation remains available (Gill 1965, Klebenow 1969, Savage 1969, Connelly and Markham 1983, Gates 1983, Connelly et al. 1988, Fischer et al. 1996b). The areas within this project are good opportunities where we can provide moist/'green areas' in the sagebrush landscape. This will prevent the hens from having to move into the private lands corridors too early when chicks are yet small and vulnerable to predation.

5. DIRECT/INDIRECT EFFECTS ON OTHER RESOURCES. (if applicable)

The impact of providing a steady water source in an arid landscape will ultimately enhance brood-rearing of sage-grouse. Furthermore, it will help prevent conflicts with sage-grouse on adjacent private lands where problems occur during dry months when most all wildlife move to private hay meadows. Pronghorn also stand to benefit from an additional water source in this area. Frequently pronghorn move from the area when water sources dry up and livestock leave the area. Pronghorn are forced to move to riparian corridors (i.e. Private lands) creating conflicts and impacts on these riparian type areas. Keeping pronghorn dispersed throughout the BLM allotments through the summer aids in recovery of sagebrush communities that are suffering from poor vigor.

6. POTENTIAL FOR FUTURE EXPANSION OF PROJECT. Explain

Each one of these wells will have a green area created by the overflow. In the future, these mini green spots may require some fencing to prevent livestock from impacting the area. Fencing costs are estimates only as the size and location of the green area won't be determined until the solar systems are in place and operating. At that time, depending upon the availability of water along with water quality sampling, there is potential for pipeline, guzzlers, and drip systems to be added to the well sites.

There is research potential for studying sage grouse nest success based upon the removal of the windmill towers. These structures serve as nests/perches for avian predators, and the removal of the structure can impact nest success.

The concept of providing water in arid landscapes and areas where water is limiting can be expanded to other areas within the Pinedale Field Office boundary. This project in within the JIO focus area and the sage-grouse core area, however, lands adjacent to the JIO Focus area also have opportunities for providing green areas for wildlife.

7. LIST ALL PROJECT PARTNERS/COOPERATORS, THEIR ROLES AND/OR CONTRIBUTIONS

Square Top Cattle Association—Applicant and project manager
Sublette County Conservation District—Funds manager and dispersment
JIO—Overview and wildlife monitoring of project
BLM—Overview of project
PAPO—Potential project financial contributor and partner
Wyo. Game and Fish—WWNRT Potential financial contributor

8. PROJECT MONITORING AND REPORTING (Describe how monitoring and reporting will be done, and how it relates to the objectives)

The JIO will be responsible for monitoring the wildlife component of the project, (i.e. cameras documenting the amount of use of the green area projects by wildlife). There may be some additional monitoring to determine the benefits of removing raven perches and nesting sites to reduce predation on sage-grouse. The JIO will also determine if any, all, or part of the green areas need fenced during the future. The grazing permittees will monitor the pumping systems for proper function.

9. RESEARCH POTENTIAL

There is potential for research of the benefits of providing water in an arid landscape that can benefit all wildlife species.

I would also like to see if there is research to back up the study on ravens and address the predation issue. The opportunity is here to study the potential decrease in raven predation on sage-grouse based upon the elimination of the raven nesting structures. This study could allow for research on both ravens and on sage-grouse.

Additional research can be conducted on whether fencing versus not fencing the green areas is beneficial. This could potentially be done by fencing half of the green areas and not fencing the other half for comparison.

10. PERMITS AND AUTHORIZATIONS REQUIRED PRIOR TO PROJECT IMPLEMENTATION (including but not necessarily limited to the following):

PERMIT OR AUTHORIZATION	REQUIRED		SUBMITTED		APPROVED	
	Yes	No	Yes	No	Yes	No
Cultural Resource Inventory	X					
COE Section 404 Permit						
Cooperative Agreement(s)	X					
NEPA Analysis	X					
Pesticide Application Permit						
Private Landowner Agreement(s)						
Sensitive Species Clearance	X					
Surface/Ground Water Permits	X					
T/E Species Clearance	X					
Other (explain): The clearance will be site specific for each well.						

11. TOTAL PROJECT COST (Attach detailed budget)

Project Planning and Design	\$ _____
Project Implementation	\$ <u>\$548,000</u>
Project Operation and Maintenance	\$ <u>\$5,000</u>
Total Required	\$ <u>\$553,000</u>

12. MATCHING FUNDS ANTICIPATED IN CASH (list source and amount)

WWNRT-- \$5,000, Potential

13. ANTICIPATED "IN KIND" MATCHING FUNDS (list source, valuation, and valuation method)

14. PERCENTAGE OF FUNDING ON HAND OR COMMITTED

15. TOTAL JIO FUNDING REQUESTED: \$ 553,000

16. EXPECTED/ANTICIPATED LIFE OF PROJECT (LOP)

Perpetual X > 50 Years _____ 25-50 Years _____ < 25 Years _____

Explain Basis for Projected LOP: As long as there is livestock grazing these allotments, there will be permittees using these solar pumping systems for water.

17. PROJECT TIMELINE AND ESTIMATED COMPLETION DATE. Explain

This coming winter 2010-2011 should be used for building each solar component and planning for construction and implementation. In the Spring of 2011, the conversion of the wells should be able to begin starting with the highest priority wells (refer to priority of table of wells). The project should be able to be completed by mid summer 2011, depending on availability of contactors and approval of funds.

18. ATTACHMENTS AND SUPPORTING DOCUMENTATION

Project Design _____

Letters of Support _____

Management Plan _____ Long Term _____ Short Term _____ ¹

Monitoring Plan _____ Long Term _____ Short Term _____ ¹

Relevant Past Experience _____ Other _____ Explain: Attached Maps and Table of wells.

¹ Long term is defined as greater than (>) 5 years; short term is less than (<) 5 years.

19. ADDITIONAL INFORMATION FOR JIO CONSIDERATION

This entire project is very similar to the JIO well conversion project (Lander Trail and Square Top) done in 2007 on the Square Top allotment. We are basically expanding that project idea to the rest of the wells on Square Top along with the other two allotments (Fremont Butte Individual and Fremont Butte Common) all within the Sage Grouse core area. The success of the projects done in 2007, convinced us of the need to expand the project to more wells across the landscape.

The attached table prioritizes the wells, starting with the ones that are currently not working. With the current number of wells not working, spring 2011 grazing would be impacted by straining the vegetative resource at the other well locations.

If storage tanks are approved and implemented, nesting/perching deterrents will be installed and monitored to keep ravens from returning to the area. Appropriate deterrents and monitoring protocol will be determined at that time.

20. ACKNOWLEDGEMENT

Signed

Printed Name

Title

Date