

**ARIZONA GAME AND FISH DEPARTMENT  
HABITAT PARTNERSHIP PROGRAM  
HABITAT ENHANCEMENT AND WILDLIFE MANAGEMENT PROPOSAL**

**PROJECT INFORMATION**

<b>Project Title:</b> Sierra Blanca Well		<b>Project No.</b> 09-510
<b>Region/GMU:</b> 32	<b>HPC:</b> Safford	
<b>Project Type:</b> Wildlife Water		
<b>Project Description:</b> Install a solar system and submersible pump in an existing well that is currently nonfunctional. The water will be pumped to a nearby storage tank and trough to provide year-long water exclusively for wildlife in the upper Sierra Blanca Canyon area. This area is not grazed by livestock. Abundant water sources are lacking in this area and the nearest permanent water is 1.5 miles away.		
<b>Wildlife Species to Benefit:</b> Mule deer, White-tailed deer, Javelina, possibly Desert Bighorn Sheep and various small game species including Mearn's quail.		
<b>Possible Funding Partners:</b>		
<b>Implementation Schedule:</b> 2010 <b>Beginning:</b> March 2010 <b>Completed:</b> Sept 2011		

**PROJECT FUNDING**

<b>SBG Funds Requested:</b> \$3800.00
<b>Cost Share Funds:</b> \$1200.00
<b>Total Project Costs:</b> \$5000.00

**PARTICIPANT INFORMATION**

<b>Applicant:</b> John Bacorn (AGFD Wildlife Manager)	<b>Address:</b> Arizona Game and Fish Dept 555 N. Greasewood Road Tucson, AZ 85745
<b>Telephone:</b> 520-384-6056	
<b>AGFD Contact and Phone No.</b> (If applicant is not AGFD personnel)	
<b>Coordinated with:</b> Bob Rogers (TNC-Muleshoe Ranch) Amy Humphreys (BLM)	<b>Dates:</b> July -August 2009
<b>Applicant's signature:</b>	<b>Date:</b>

**WAS PROJECT PRESENTED TO THE LOCAL HPC?      YES X      NO**

**HAS PROJECT BEEN SUBMITTED IN PREVIOUS YEARS:      YES         NO X**

**NEED STATEMENT/PROBLEM ANALYSIS:**

The Muleshoe Ranch was acquired by the Nature Conservancy (TNC) in 1982 with the objective to protect and manage its riparian areas and associated aquatic, plant and animal communities. Upon acquisition, livestock grazing was discontinued on the ranch. In 1986, a land exchange allowed BLM to acquire the state lands within the Muleshoe Ranch. An Ecosystem Management Plan for the area was written by TNC, BLM, USFS and AGFD that encompasses approximately 26,500 acres of BLM lands, 22,000 acres of FS lands, 6,000 acres of deeded lands and 3,000 acres of State Trust lands.

The maintenance of range improvements (i.e. windmills and corrals) are not a priority within the Muleshoe Ecosystem Management Plan. The Sierra Blanca Windmill had been in somewhat operation until recently. The ranch manager had kept the windmill operating for wildlife and firefighting purposes for several years till 2007. Since then, the windmill has not been functioning.

Upper Sierra Blanca Canyon and Teran Basin to the south are lacking in permanent water sources. The closest permanent water source is Hot Springs Canyon approximately 1.5 miles to the east. However there are no permanent water sources to the south and west of the Sierra Blanca Windmill. Hackberry and Sierra Blanca springs are approximately 1.75 miles to the west but do not provide reliable water during the summer months.

A similar projected (funded by BLM) was completed in 2007 approximately 8 miles to the north at Swamp Springs Windmill. A nonfunctional windmill was changed to solar to provide a permanent water source for wildlife. This project consisted of dismantling the windmill and installing the solar system and adding a new water storage tank.

**PROJECT OBJECTIVES:**

Provide a permanent water source for wildlife by converting an existing nonfunctional windmill to solar. A submersible solar pump will be installed and solar panels attached to the existing windmill frame. Water will be pumped to the existing 2500 gallon concrete storage tank and trough. The system will be designed to allow the pump to automatically turn on and off, depending on the amount of back pressure from the storage tank. The existing trough will be altered with escape ramps for small animal egress and ingress.

Mule deer, White-tailed deer and javelina are the major big game species in this area. Desert Bighorn Sheep do inhabit areas in close proximity to Sierra Blanca Canyon such as the Wildcat Hills, 4 miles to the north and Teran Basin, 4.5 miles to the south of Sierra Blanca Canyon. With the aggressive prescribed fire planning on the Muleshoe Ranch, Desert Bighorn Sheep are increasingly seen on a regular basis in the Wildcat Hills and it is probable that Bighorn Sheep would use this water on occasion. Mearns quail, although in small numbers, do inhabit the upper portion of Sierra Blanca Canyon and the Wildcat Hill.

**PROJECT STRATEGIES:**

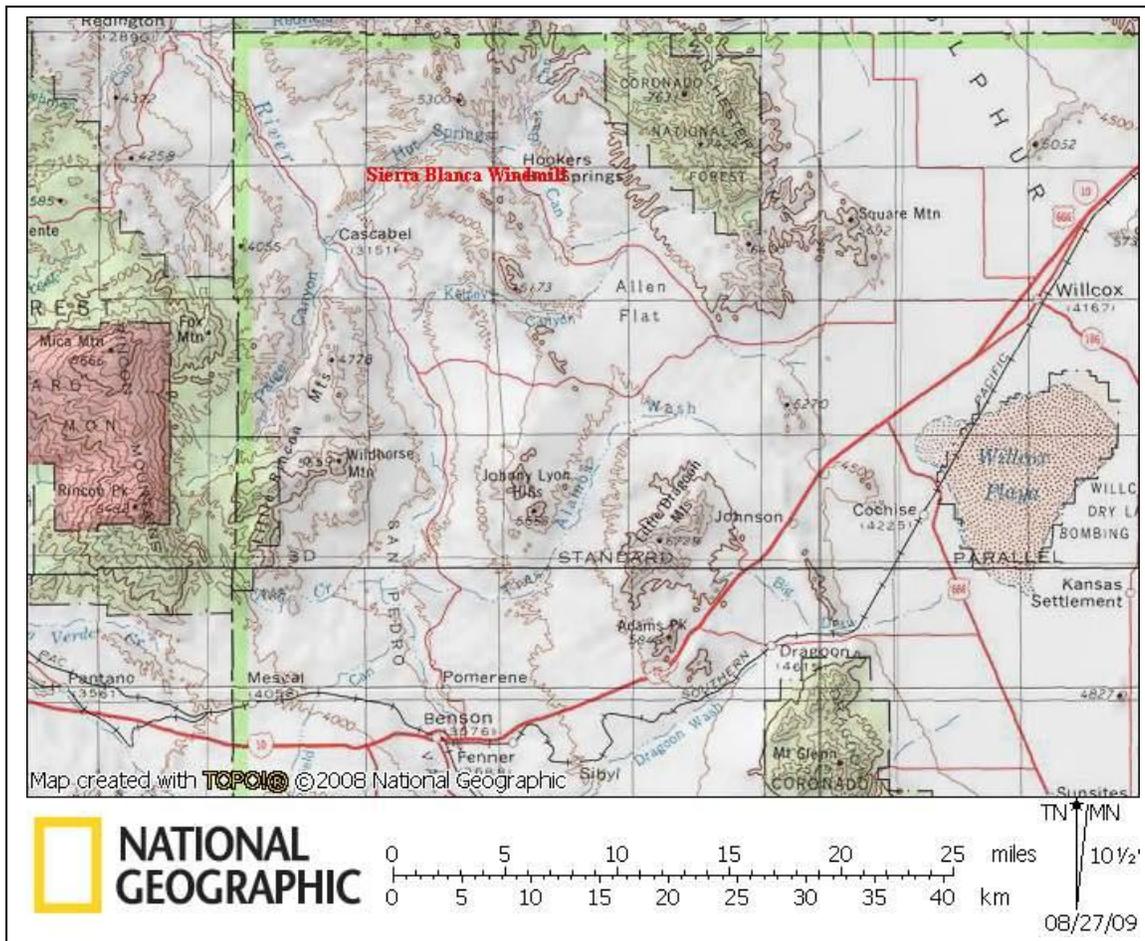
Labor will be performed by Muleshoe Ranch Manager Bob Rogers and local Wildlife Manager John Bacorn.

- 1) Existing sucker rod etc will be removed from the windmill.
- 2) Submersible pump and accessories will be installed.
- 3) Solar panels will be erected upon the existing windmill frame.
- 4) Drinking trough will be modified to allow for egress and ingress of small mammals.
- 5) Piping between storage and trough will be inspected and repaired if needed.

Amy Humphreys (BLM) was consulted regarding NEPA, SHIPO and Archaeological Clearances and was informed since this is an existing improvement (well/windmill), NEPA and Arch clearance will not be required since the project is considered maintenance of an existing improvement.

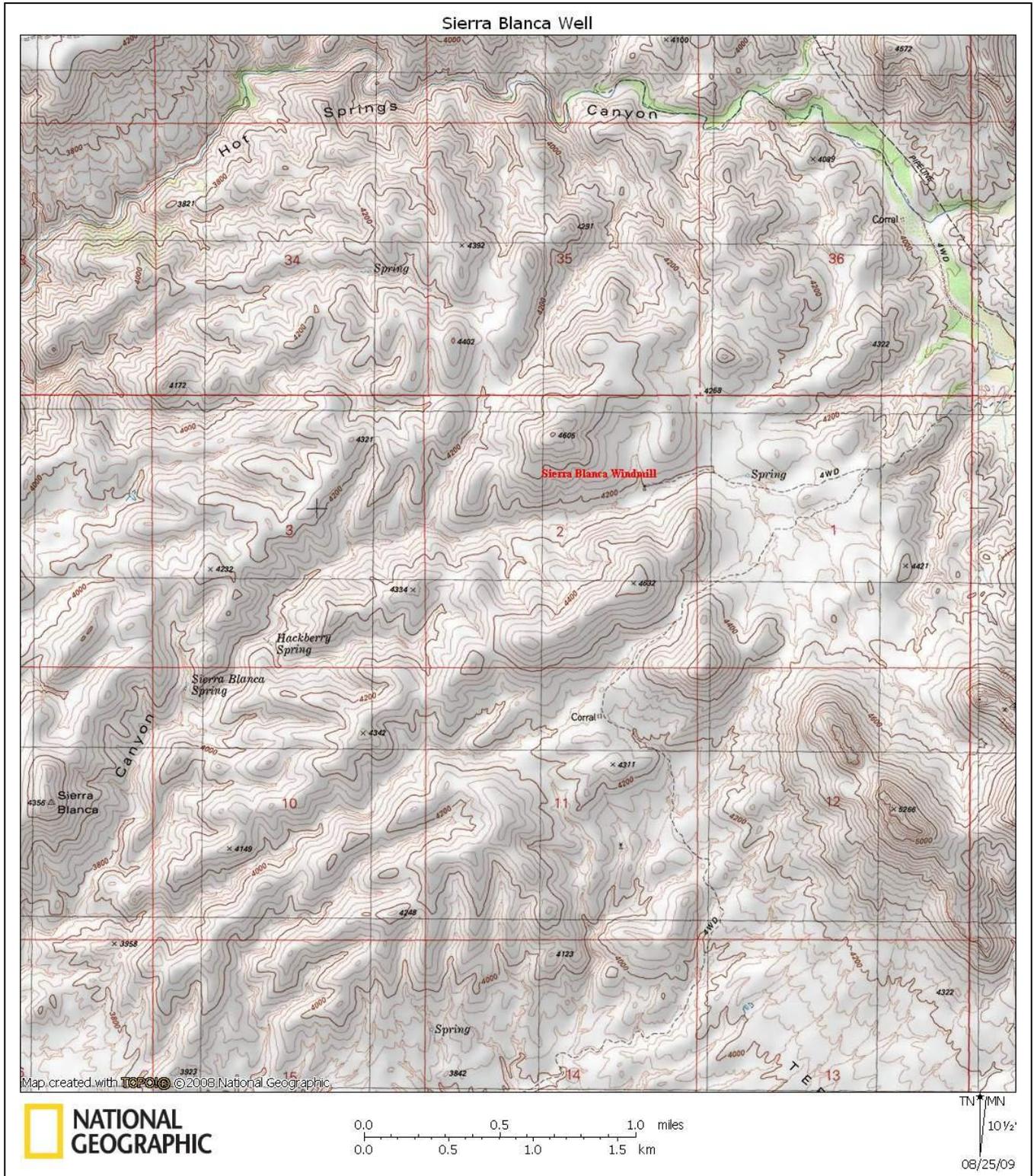
**PROJECT LOCATION:**

The project site is toward the Southwest corner of Game Management Unit 32, located in upper Sierra Blanca Canyon, T13S, R20E, Section 2, at about 4100 feet. Approximately 6.5 miles east of the San Pedro River and 1.5 miles southwest of Hot Springs Canyon. Upper Sierra Blanca is part of a BLM grazing lease owned by the Nature Conservancy on the Muleshoe Ranch.



The spring shown on the map to the east of Sierra Blanca windmill is no longer functional and the two

springs to the west, Hackberry and Sierra Blanca are not reliable water sources.



**LAND OWNERSHIP AT PROJECT SITE: Bureau of Land Management (BLM)**

**(Please state specifically if PRIVATE PROPERTY and provide landowner's name):**

**IF PRIVATE PROPERTY, IS THERE A STEWARDSHIP AGREEMENT BETWEEN THE LANDOWNER AND THE DEPARTMENT?** n/a

**HABITAT DESCRIPTION:**

The well is located in a low basin at about 4200 ft with gradual slopes to the west rising to around 4550 feet and steeper topography to the east and south with peaks rising to 4700- 4800 feet. The basin consists of grassland-shrub habitat and the slopes approaching a higher shrub component.

**ITEMIZED USE OF FUNDS:**

- \* Solar pump and solar panels = \$3300.00
- \* Control box, wiring kit = \$500.00
- \* Labor = \$1200.00

Total = \$5000.00

**LIST COOPERATORS AND DESCRIBE POTENTIAL PARTICIPATION:**

John Bacorn (AGFD), Bob Rogers (TNC) and Amy Humphreys (BLM) worked cooperatively on this proposal and will perform the majority of the labor and construction of the project.

**PROJECT MONITORING PLAN:**

TNC and AGFD employees will monitor the functionality of the well and solar system.

**PROJECT MAINTENANCE:**

AGFD, TNC and BLM will be responsible for any maintenance of the solar system.

**PROJECT COMPLETION REPORT TO BE FILED BY:**

John Bacorn – Wildlife Manager GMU32

**WATER DEVELOPMENT PROJECTS (see attached worksheet):**

**SEND COMPLETED APPLICATIONS TO:**

**Game Branch  
2221 W. Greenway Rd.  
Phoenix, AZ 85023  
[mdisney@azgfd.gov](mailto:mdisney@azgfd.gov)**

ARIZONA GAME AND FISH DEPARTMENT  
**WATER DEVELOPMENT WORKSHEET**

**PROJECT NAME:**

- 1) **Is the water development listed as a priority in the most recent “Wildlife Water Development Annual Implementation Schedule?”** **no**
- 2) **Please list the Development Branch personnel and date coordinated with for this project.** **none**
- 3) **What is the estimated annual inches of precipitation for the area? (mark one)**  
\_\_\_2-4 \_\_\_4-6 \_\_\_6-8 \_\_\_8-10 \_\_\_10-12 **X**12-14 \_\_\_14-16 \_\_\_>16
- 4) **Is there a perennial water source available to big game within four miles of this project?**  
**X**YES (please complete #5 below) \_\_\_NO (skip #5 below)
- 5) **For the accessible, perennial water source nearest this project:**  
Name of water source: **Hot Springs Canyon**  
Ownership of water source: **Deeded/BLM**  
Type of water source (catchment, spring, dirt tank, etc.): **stretches of perennial stream**  
Distance in miles from project: **1.5**
- 6) **Is the target wildlife species a result of transplant efforts?** \_\_\_YES \_\_\_NO
- 7) **Please list any special land management status for the project site (i.e. Wilderness, National Park, National Monument, etc).**
- 8) **Please provide the following information about access to the proposed site:**  
Type of access (mark one): \_\_\_2x4 vehicles **X**4x4 only \_\_\_foot only\*\*  
\*\*If foot access only: Distance in miles: \_\_\_ Approx. hiking time: \_\_\_  
  
-- Does access to this site require crossing private or tribal lands? **X**YES \_\_\_NO  
  
-- Please describe any restrictions to public access: **In general, public vehicle access and hunting is allowed on the ranch. But at this specific project site, only foot access is allowed by the public.**
- 9) **Please list below (or on a separate sheet) the material type and dimensions of each component proposed to be added, modified, or repaired.**
- 10) **Was a site visit completed?** **X** Yes \_\_\_No  
If Yes, please list personnel that attended and date.  
**John Bacorn (AGFD) and Bob Rogers (TNC); site visit was completed during the spring of 2008.**