

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

HPC Project Number:

18-505

PROJECT INFORMATION

Project Title:	Back Pasture Well Solar upgrade		
Game Management Unit:	30A	Region:	5
Local Habitat Partnership Committee (LHPC):		Was the project presented to the LHPC?	
Sierra Vista/Douglas SE Arizona		Yes	
Project Location: (Please provide <u>lat/long</u> in decimal degrees or meters of project area using datum WGS84 or NAD83. If project is larger than one point, please include them all. Provide an accompanying shapefile as an attachment for the project area).			
<p>LATITUDE/NORTHING: 31.58319</p> <p>LONGITUDE/EASTING: 109.165553</p> <p>MULTIPLE LOCATION COORDINATES: Please separate coordinate pairs with names & commas. (ex. Bob's Tank 34.365, -110.663. Clear Spring 34.55, -110.107, etc.):</p> <p>Back Pasture Well: 31.58319 109.165553</p> <p>Existing with water supplied by well: Trough 1: 31.63188 109.21938 (Very important water for mule deer) Trough 2: 31.58757 109.19717 Trough 3: 31.63248 109.17879 Habitat around this trough is one of many critical fawning areas located on the Ranch. (per Mike Richins, GMU 30A Wildlife Manager)</p>			
Project Type:	Water Enhancement		
Water Project Action (if applicable):	Enhance reliability of existing Back Pasture Well by upgrading from pump jack to solar power.		
Habitat Restoration Action (if applicable):			
Other Project Type and Action (if applicable):			
Has this project been submitted in previous years?	No		

PROJECT SUMMARY

Describe the proposed action only. Please use plain English, what action are you proposing? (If applicable, please reference any completed compliance including EAC#).

Brief Project Summary:

The Back Pasture Well is currently pumping water using a pump jack that is nearly 50 years old and requires

constant maintenance and repair. This well is 800 feet deep and supplies 3 troughs, in 3 separate pastures, throughout the Ranch that is necessary to provide yearlong water in an arid environment. The pastures supplied by this well consist of critical pronghorn habitat and is being used as primary fawning grounds on this portion of the Ten X Ranch. This area is also prime habitat for mule deer, throughout the year.

This project would replace the pump jack with a solar pump and panels, thus reducing maintenance and down time, and greatly enhancing the wells reliability. Due to the depth of the well at 800 feet, eighteen (18) solar panels will need to be installed to sufficiently supply water above ground. The well supplies water to a 28,000-gallon steel storage tank which sits on a cement base, approximately 30 feet in diameter. The solar panels will be attached to a pipe rack welded to the side of the existing storage tank, requiring no ground disturbance.

The three (3) troughs supplied by the well sit approximately 1 mile from each other. The Back Pasture dirt tank is located nearby one of the troughs, but is not reliable in providing yearlong water due to the arid environment.

VALUE: Provide reliable and updated water pumping to 28,000-gallon storage tank which supplies 3 yearlong water troughs in prime Pronghorn and Mule Deer habitat and fawning area. Providing reliable yearlong water, preferably within a 1-2-mile radius, enhances wildlife habitat connectivity and distribution.

The Ten X Ranch has been a valuable partner for the enhancement of Pronghorn and Mule Deer on lands owned and leased by the Ranch. The area is checker board, made up of state and private property. Limited access is allowed by the Ranch, but sportsmen have the ability to walk in utilizing state land. Limited permission is granted on a case by case basis.

Primary Big Game Wildlife Species to Benefit:	Pronghorn Antelope (50%), Mule Deer (50%)	
Implementation Schedule (Month/Day/Year)	START DATE: April 1, 2019	COMPLETION DATE: December 31, 2019

PROJECT FUNDING			
Project Funding		Itemized Use of Funds	
*Qualifying Cost Share should be restricted to support (materials, compliance, and or labor) of the proposed action ONLY (same time and place). Please do not include previously purchased supplies or past completed work.		Please email separate quotes if HPC funds are to be used to purchase materials or contracted labor: HPC@azgfd.gov .	
<u>HPC Funds Requested</u>		AAF: \$6,000.00 MDF: \$6,000.00 HPC TOTAL: \$12,000.00 Cost of Solar Powered Pump, solar panels and associated materials	
Amount: \$12,000.00			
<u>Cost Share or Matching Funds</u>			
Amount: \$11,000.00			
<u>Percent Match</u> 50%		Ten X Ranch Cost Share: \$9,400.00 Cost of Solar Powered pump, solar panels and associated materials	
<u>Total Project Cost</u>		\$1,600.00 Labor	
Amount: \$ 23,000.00		COST SHARE TOTAL: \$11,000.00	
ENVIRONMENTAL COMPLIANCE			
Please indicate the status of the Project's compliance. if you are unsure, please reference: HPC Compliance Checklist (https://www.azgfd.com/wildlife/hpc/forms/). If you have questions regarding the requirement of an EAC, contact AGFD's Project Evaluation Program: (https://www.azgfd.com/wildlife/planning/projevalprogram/).			
***Please email supporting compliance documents to HPC@azgfd.gov ***			
AGFD EA Checklist Completed:		Completion Date:	Completed by January 1, 2019
NEPA Completed:	NA	Completion Date:	Will submit CAW to AZGFD for approval by January 1, 2019
State Historic Preservation Office/ Archaeological Clearance:	NA: No ground disturbance. Solar panels affixed to existing steel storage tank	Completion Date:	

CONTACT INFORMATION

Applicant

The project applicant is the responsible party for seeing the work through to completion.

APPLICANT NAME: Ed Ashurst, Ranch Manager

PHONE: H) 520-558-2303
(C) 520-730-9001

ORGANIZATION: Ten X Ranch

ADDRESS: P.O. Box 706 Douglas, AZ 85608

EMAIL: azashurst@gmail.com

AGFD Project Proponent

The Project Proponent is responsible for compliance, implementation, and annual/final reporting requirements.

AGFD CONTACT NAME: Mike Richins, GMU 30A
Wildlife Manager

PHONE: 520-732-8359

Cooperators

COOPERATOR NAME(S), ORGANIZATION, ROLE IN PROJECT:

Ed Ashurst – Ten X Ranch Manager

Mike Richins – GMU 30 A Wildlife Manager

Duane Aubuchon – Field Supervisor, Region 5

SE Arizona HPC

Arizona Antelope Foundation – Glen Dickens, Vice President Funding

Mule Deer Foundation – Korley Sears, Regional Director and Jake Jaeger, Project Coordinator Funding and project approval

PROJECT NEED AND DESCRIPTION

Please use direct language: why is this project important? What problem will be solved? How will you implement it, and how will the habitat be enhanced? Please include # of acres, methods, roles, and any phases. Please be specific and thorough.

NEED STATEMENT – PROBLEM ANALYSIS:

The San Bernardino Valley is a small, 387 square mile basin in the southeastern corner of Arizona flanked by 2 major mountain ranges, the Chiricahua Mountains to the west and the Peloncillo Mountains to the east. The valley is made up primarily of volcanic rock, with Paramore Crater being the largest of the volcanic depressions. The major soil types are characterized by clay and clay-loam resulting in a semi-desert grassland vegetation class with Chihuahuan desert scrub scattered throughout the valley. Overall, the valley averages approximately 12 inches of rainfall per year, with the majority of moisture falling during the summer monsoon period. Currently, water troughs supplied by wells and waterline systems are the only source of reliable water, but these improvements are severely limited, and many are in poor condition and capacity is small.

The Ten X is located to the southeast of Highway 80 and comprises approximately 18,000 acres, with the Mallet lying to the northwest with an additional 37,000 acres. Out of the 55,000 acres, approximately 24,000 acres are deeded, with the remaining 31,000 acres managed under State Trust by the Arizona State Land Department. Both ranches have been managed by Ed Ashurst over the past 20 years and have been cooperators with the NRCS office in Douglas since 2006. Over the past 10 years both ranches have been involved in a variety of NRCS conservation practices which can be seen in the table below. Currently, a Coordinated Resource Management Plan (CRM) for the ranch has been completed.

During 1984 and 1986, a total of 99 pronghorn were captured from west Texas and released into the San Bernardino Valley, which contains approximately 165 square miles of prime pronghorn habitat. The overall population has fluctuated over the past 28 years due to periods of low precipitation. Surveys indicated that the population peaked during 1996-2001, when an average of 163 pronghorn were observed. The population declined slightly and averaged 142 animals during the 2002-2011 survey period. In 2012 survey data indicated that 71 pronghorn were observed for a ratio of 42 bucks:100 does and 6 fawns:100 does, with an extrapolated population estimate of 99 pronghorn.

It is believed that the overall population currently has the potential to reach between 150-200 pronghorn. Contiguous, unfragmented pronghorn habitat along with well managed ranches that practice and employ various conservation tools have resulted in a healthy grassland ecosystem. Due to the amount of private property located throughout the San Bernardino Valley, permit numbers remain low due to controlled access by landowners. Long term harvest on the Ten X approximates 1/3 of the total number of bucks taken throughout the valley. **(Data developed by Mike Richins, AZGFD Wildlife Manager, GMU 30A.)**

In 2014 AGFD initiated a contract with Wildlife Services to conduct 3-years of aerial coyote control throughout the San Bernardino Valley. Over the course of the contract, fawn survival and Pronghorn population continued to increase. The 2016 survey indicated 197 Pronghorn observed for a 24buck:100 doe:32 fawn ratio. Fawn ratio were lower than expected due to the large number of yearling does that entered the population in 2015. The 2018 survey resulted in a total of 176 Pronghorn observed, which shows a slight decrease, primarily due to poor winter/spring moisture and increased coyote numbers. Aerial coyote control will resume from 2019-2021.

The Ten X Ranch, contains most of the quality Pronghorn antelope habitat within the San Bernardino Valley. Pronghorn habitat throughout the Ranch is considered good-excellent, with close to one-quarter of the population inhabiting this area. Stressors that negatively impact the population include unfriendly fencing, brush encroachment, predation, drought related factors, and lack of perennial water. **(Mike Richins, AZGFD Wildlife Manager, GMU 30A.)**

Through the late 70s up to the mid-90s, mule deer populations throughout the San Bernardino Valley were quite high, resulting in excellent harvest of large bucks. Weather conditions throughout this period resulted in excellent habitat conditions. Beginning around 1995, below average rainfall patterns began to adversely affect population dynamics, resulting in a reduction in permit numbers and overall harvest. Mule deer populations have declined due to the same stressors that have affected pronghorn populations. In the last 5 years' population estimates in the Valley have been encouraging. In the early 2000s population estimation for Mule Deer throughout GMU 30A approximated 2,000 individuals, in 2012 however the estimates dropped to 1,200 individuals. Since 2012 however population estimates have steadily climbed to their current levels of approximately 2,500 individuals and continue to hold stable.

Habitat conditions throughout the San Bernardino, as well as on the Ten X, continue to improve due to the variety of habitat improvement projects that have been, or currently being developed through various grant programs (reference NRCS projects above). As mentioned above, mesquite encroachment and water distribution has adversely affected ungulate populations due to below normal precipitation patterns over the past 10-20 years. Development of grassland restoration practices, fence line modification and improvement of yearlong waters in and around mule deer home ranges will greatly enhance the quality and connectivity of habitat types.

PROJECT DESCRIPTION AND STRATEGIES:

Replace the antiquated pump jack system in the Back Pasture well with a solar pump. The solar panels will be secured to the existing storage tank.

This well currently supplies a 28,000-gallon storage tank, which in turn provides yearlong water distribution to 3 troughs. The current pump is antiquated and requires costly maintenance, repairs and continual inspection to keep the storage tank full and water troughs operational. Replacement with a solar system will provide many years of uninterrupted service, providing necessary water availability to wildlife in critical habitat.

LAND OWNERSHIP AT THE PROJECT SITE(S): Private Owner: Gregg Gibbons

PROJECT MONITORING PLAN:

Ten X Ranch will monitor well and troughs on yearly basis, while conducting routine ranch inspections.

AGFD will monitor project improvements in course of district duties.

PROJECT MAINTENANCE:

Ten X Ranch will maintain well and troughs as necessary on yearly basis.

PROJECT COMPLETION REPORT TO BE FILED BY:

John Millican
Arizona Antelope Foundation Project Manager
520-508-4272

SUPPORTING DOCUMENTS LIST:

Have supporting documents been submitted?

Site map

Google map with well and troughs

Back Pasture Well photos

CAW will be submitted to AGFD and attached upon approval



Back Pasture Well



Back Pasture Well and Storage Tank

ARIZONA GAME AND FISH DEPARTMENT
WATER DEVELOPMENT WORKSHEET

PROJECT TITLE: Back Pasture Well Solar upgrade

- 1) **Was a site visit completed (Date and with whom)?**
May 21, 2018
John Millican – AAF Project Manager
Korley Sears – MDF Az Regional Director
Ed Ashurst – Ten X Ranch Manager

- 2) **If this is a dirt tank project, has the site historically held reliable water?**
NO

- 3) **If this is a dirt tank project and soil data is available, what type of soil is at the site?**
NA

- 4) **If this is a water catchment project, please list the Development Branch coordination date:**
NO

- 5) **Is the water development listed as a priority in the most recent “Wildlife Water Development Annual Implementation Schedule?”**
NO

- 6) **If this is a water catchment project, please list the Development Branch personnel coordinated with:**
NO

- 7) **Is there a perennial water source available to big game within four miles of this project?**
Yes, water troughs supplied by the Back Pasture Well.
Dirt tanks in area are not reliable as yearlong perennial water source.