

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

HPC Project Number:	17-505
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**PROJECT INFORMATION**

<b>Project Title:</b>	Windmill Pasture Herbicide spot treatment		
<b>Game Management Unit:</b>	32	<b>Region:</b>	5
<b>Local Habitat Partnership Committee (LHPC):</b>	<b>Was the project presented to the LHPC?</b>		
Safford	Yes		
<b>Project Location:</b> (Please provide lat/long 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).			
<b>LATITUDE/NORTHING:</b>			
<b>LONGITUDE/EASTING:</b>			
<b>MULTIPLE LOCATION COORDINATES:</b> Please separate coordinate pairs with names & commas. (ex. Bob's Tank 34.365, -110.663. Clear Spring 34.55, -110.107, etc.): Access point – 32.615762, -110.017986 Windmill Pasture (KJ Ranch property) - See attached polygon			
<b>Project Type:</b>	Herbicide Spot treatment		
<b>Water Project Action</b> (if applicable):			
<b>Habitat Restoration Action</b> (if applicable):	Grassland Restoration Maintenance		
<b>Other Project Type and Action</b> (if applicable):			
<b>Has this project been submitted in previous years?</b>	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:**

In 2012, the Windmill pasture (consisting of 480 acres) was cleared of mesquite by mechanical treatment through a NRCS contract. Over the course of 5 years' mesquite regeneration has occurred resulting in an estimated 210 mesquite per acre. This measurement was the result of 4 random tree density transects completed throughout the pasture. At this time, the average height of the plants are 2 ½ feet tall. It is anticipated that in another 3-5 years, depending on annual rainfall and temperatures, the existing mesquite will be at a height of over 4 feet. This height and density level will result in reduced use by pronghorn antelope.

To set back mesquite regeneration, herbicide treatment utilizing Sendero (Remedy/Reclaim) along with a surfactant and dye will be manually sprayed on mesquites during spring or early summer of 2018. This will be at the time of year when grasses are dormant, but mesquite have leafed out, enhancing the observability of mesquite throughout the pasture. Treatment will consist of herbicide application through spraying individual mesquites by applicators operating atv vehicles.



<b>Primary Big Game Wildlife Species to Benefit:</b>	Pronghorn antelope	
<b>Implementation Schedule</b> (Month/Day/Year)	<b>START DATE:</b> March 01, 2018	<b>COMPLETION DATE:</b> July 01, 2018

### PROJECT FUNDING

<b>Project Funding</b>	<b>Itemized Use of Funds</b>
*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: <a href="mailto:HPC@azgfd.gov">HPC@azgfd.gov</a> .
<u>HPC Funds Requested</u>	<b>HPC funds:</b> Antelope
<b>Amount:</b> \$ 7,500.00	Sendero +surfactant+dye @ \$145.00/gallon
	\$7,500.00
<u>Cost Share or Matching Funds</u>	<b>Cost Share:</b>
<b>Amount:</b> \$31,500.00	NFWF Grant:
	\$7,500.00
<u>Percent Match</u> 76%	KJ Ranch
	Herbicide application and labor @ \$50/acre
	\$24,000.00
<u>Total Project Cost</u>	
<b>Amount:</b> \$ 39,000.00	

### 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](mailto:HPC@azgfd.gov) \*\*\*

<b>AGFD EA Checklist Completed:</b>		<b>Completion Date:</b>	Completed by January 1, 2018
<b>NEPA Completed:</b>	NA	<b>Completion Date:</b>	
<b>State Historic Preservation Office/ Archaeological Clearance:</b>	NA	<b>Completion Date:</b>	



## CONTACT INFORMATION

### Applicant

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

**APPLICANT NAME:** John Millican

**ORGANIZATION:** AAF

**ADDRESS:** [REDACTED]  
[REDACTED]

**PHONE:** [REDACTED]

**EMAIL:** [REDACTED]

### AGFD Project Proponent

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

**AGFD CONTACT NAME:** John Bacorn, WM GMU 32

**PHONE:** [REDACTED]

### Cooperators

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

KJ Ranch -	Cooperator
NRCS, Chase Skaarer, Willcox District	Review and tree density transect assistance
AZGFD – Rana Tucker, John Bacorn	Review and tree density transect assistance
Barry Wallace, Vegetation Mgmt, Crop Production Services	Herbicide consultant
John Millican, AAF Field Project Manager	Proponent

## 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 Bonita Grassland Restoration Project began in 2010 through the AZGFD and landowners within the Bonita area. The goal of this project was to restore historical grasslands on a landscape scale by removing mesquites on 20,000 acres. As of July, 2017 approximately 21,000 acres have been restored, with an additional 22,000 planning to be restored.

This improvement in grassland restoration has shown large scale ecosystem improvement through grassland regeneration, reduction in erosion and sedimentation, improved water retention and percolation into the aquifer, and grassland habitat connectivity for pronghorn antelope and mule deer. During 2016 winter Pronghorn surveys, a total of 167 pronghorn were observed, which is nearly 65% increase over the 2012 population.

Even though these efforts have been successful in altering the landscape from mesquite dominated woodlands back to grasslands, it is recognized that mesquite regeneration either through small seedlings that were missed initially, or through seed dispersal is resulting in the need for maintenance, if long-term grassland restoration efforts are to be realized.

Over the course of 5 years' mesquite regeneration has occurred resulting in an estimated 210 mesquite per acre. This density measurement was the result of 4 random tree density transects completed throughout the Windmill pasture. Currently, mesquite heights in many of these early grubbing projects are around 2 to 2 ½ feet tall. The most practical and cost efficient treatment method is through the spot treatment of individual mesquites using herbicide. If treatment is delayed for another 3-5 years, mesquite height will approximate 4-5 feet. At this

point treatment cost and labor will greatly increase, along with the overall plant height reducing habitat use by pronghorn, thus resulting in loss of connectivity.

To preserve the efforts and costs associated with mesquite removal since 2010, maintenance through herbicide spot treatment using sprayers mounted on atv's is preferred due to cost effectiveness, speed of application, and nonintrusive ground disturbance. Herbicide costs will be funded through HPC, while labor and herbicide application will be cost shared through the KJ Ranch.

### **PROJECT DESCRIPTION AND STRATEGIES:**

Mesquite was removed through mechanical treatment in 2012 on the Windmill Pasture, owned and operated by the KJ Ranch, through a NRCS contract. The area is private property and consists of 480 acres and in Graham County.

Over the course of 5 years' mesquite regeneration has occurred resulting in an estimated 210-mesquite per acre. This measurement was the result of 4 random tree density transects completed throughout the pasture. Currently, the average height of the plants is 2 ½ feet tall. It is anticipated that in another 3-5 years, depending on annual rainfall and temperatures, the existing mesquite will be at a height of over 4 feet. This height and density level will result in reduced use by pronghorn antelope.

To set back mesquite regeneration, herbicide treatment utilizing Sendero (Remedy/Reclaim) along with a surfactant and dye will be manually sprayed on mesquites during spring or early summer of 2018. This will be at the time of year when grasses are dormant, but mesquite have leafed out, enhancing the observability of mesquite throughout the pasture. Treatment will consist of herbicide application through spraying individual mesquites by applicators operating atv vehicles.

Maintenance on pastures that have been treated through mechanical methods will require spot treatment of mesquites if long-term grassland restoration outcomes are to continue. The most efficient and cost effective method is the use of herbicide. If maintenance is not performed it is anticipated that within 10-15 years' post mechanical treatment, grassland dominated habitat will once again be invaded by mesquite stands resembling densities that occurred at the time of initial treatment. Mesquite height will also be to the point that habitat will no longer be utilized by pronghorn antelope and treatment will be expensive.

### **LAND OWNERSHIP AT THE PROJECT SITE(S):**

The pasture is privately owned with no vehicle access roads on the property. Foot access has been granted, but due to proximity to houses and vineyards, mainly limited to archery.

### **PROJECT MONITORING PLAN:**

Monitoring will consist of post transects at pre-project plot points to look at kill rate and to conduct follow-up in future years to ascertain herbicide effectiveness, longevity, and recruitment rate.

### **PROJECT MAINTENANCE:**

Maintenance will be performed by KJ Ranch with input and assistance from NRCS, AZGFD, AAF. It is anticipated that future maintenance to remove resprout will be minimal and that routine maintenance may be needed every 10-15 years.

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

John Millican, AAF Field Project Manager

**SUPPORTING DOCUMENTS LIST:**

**Have supporting documents been submitted?**

AGFD EA Checklist to be completed and submitted by January 1, 2018

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

**PROJECT TITLE:** Windmill Pasture Herbicide Spot Treatment

- 1) **Was a site visit completed (Date and with whom)?** August 11, 2017  
AZGFD – Rana Tucker, John Bacorn  
NRCS – Chase Skaarer  
AAF – John Millican  
KJ Ranch – Brent Haas (owner)
- 2) **If this is a dirt tank project, has the site historically held reliable water?**  
NA
- 3) **If this is a dirt tank project and soil data is available, what type of soil is at the site?**
- 4) **If this is a water catchment project, please list the Development Branch coordination date:**
- 5) **Is the water development listed as a priority in the most recent “Wildlife Water Development Annual Implementation Schedule?”**
- 6) **If this is a water catchment project, please list the Development Branch personnel coordinated with:**
- 7) **Is there a perennial water source available to big game within four miles of this project?**



Untitled Map

Windmill Pasture, KJ Ranch

Legend

access point

trough, storage 3 completed

Bonita

Fort C





*Windmill Pasture Brush Treatment Project Location*









