

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

HPC Project Number:

19-503

PROJECT INFORMATION

Project Title:	School and 160 Pastures Herbicide spot treatment		
Game Management Unit:	32	Region:	5
Local Habitat Partnership Committee (LHPC):	Was the project presented to the LHPC?		
Safford	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).			
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.): School Pasture 32.572846, -109.981060 160 Pasture 32.597336, -110.038694 School and 160 Pastures (KJ Ranch property) - See attached polygon map			
Project Type:	Herbicide Spot treatment		
Water Project Action (if applicable):			
Habitat Restoration Action (if applicable):	Grassland Restoration Maintenance		
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: Grassland Restoration throughout the Bonita Valley began in 2010 with over 20,000 acres completed to date. Maintenance of mesquite regeneration is necessary if past efforts are to continue. The most cost-effective method of preserving and maintaining grasslands and Pronghorn habitat is through the use of herbicide. To set back mesquite regeneration, herbicide treatment utilizing Velpar L (Hexazinone) along with a dye will be manually sprayed on mesquites during spring or early summer of 2020. 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 on foot.			
Primary Big Game Wildlife Species to Benefit:	Pronghorn antelope		
Implementation Schedule (Month/Day/Year)	START DATE: March 01, 2020	COMPLETION DATE: December 1, 2020	

PROJECT FUNDING

Project Funding	Itemized Use of Funds										
<p>*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.</p>	<p>Please email separate quotes if HPC funds are to be used to purchase materials or contracted labor: HPC@azgfd.gov.</p>										
<p><u>HPC Funds Requested</u></p> <p>Amount: \$ 10,000.00</p>	<p>HPC funds: Antelope Velpar L + dye 104 gallons @ \$90.00/gallon + \$30/gallon dye (10 gallons) + 9.1% tax</p> <p style="text-align: right;">\$10,000.00</p>										
<p><u>Cost Share or Matching Funds</u></p> <p>Amount: \$22,203.21</p> <p><u>Percent Match 55%</u></p>	<p>Cost Share: KJ Ranch Herbicide application and labor @ \$20/acre (800 acres)</p> <p style="text-align: right;">\$16,000.00</p>										
<p><u>Total Project Cost</u></p> <p>Amount: \$32,203.21</p>	<p>Application Sprayers, Guns:</p> <table style="width: 100%; border: none;"> <tr> <td style="padding-left: 20px;">Herbicide Injector guns/case of 12+ tax</td> <td style="text-align: right;">\$314.21</td> </tr> <tr> <td style="padding-left: 20px;">Back Pack Sprayers X 8 X \$50 ea.</td> <td style="text-align: right;">\$450.00</td> </tr> <tr> <td style="padding-left: 20px;">Overhead costs: \$50/day/man</td> <td style="text-align: right;">\$4,900.00</td> </tr> <tr> <td style="padding-left: 20px;">Herbicide uncovered cost:</td> <td style="text-align: right;">\$539.00</td> </tr> <tr> <td style="padding-left: 40px;">TOTAL Cost Share:</td> <td style="text-align: right;">\$22,203.21</td> </tr> </table>	Herbicide Injector guns/case of 12+ tax	\$314.21	Back Pack Sprayers X 8 X \$50 ea.	\$450.00	Overhead costs: \$50/day/man	\$4,900.00	Herbicide uncovered cost:	\$539.00	TOTAL Cost Share:	\$22,203.21
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Herbicide uncovered cost:	\$539.00										
TOTAL Cost Share:	\$22,203.21										

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, 2020
NEPA Completed:	NA	Completion Date:	
State Historic Preservation Office/ Archaeological Clearance:	NA	Completion Date:	

CONTACT INFORMATION

Applicant

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

APPLICANT NAME: John Millican
AAF Field Project Manager

ORGANIZATION: AAF

ADDRESS: [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: 520-521-1485

Cooperators

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

KJ Ranch -	Cooperator
NRCS, Chase Skaarer, Willcox District	Review and tree density transect assistance
AZGFD – Sarah Gandaria	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, 2019 approximately 25,000 acres have been restored, with an additional 20,000 planned in the future.

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, 2019 summer Pronghorn surveys, a total of 156 pronghorn were observed, which is the highest summer survey total since 1995 (John Bacorn survey data, 2019, see attached graph). Aerial coyote control efforts throughout the Bonita Valley were conducted from 2016-18.

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 just over 6 years’ mesquite regeneration has occurred resulting in an estimated 88 mesquite per acre in the School Pasture and 92 per acre in the 160 pasture. This density measurement

was the result of 5 random tree density transects completed throughout the two pastures. Currently, mesquite heights in many of these early grubbing projects are approaching 3 feet tall, with a small percentage in the 4 foot range. 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 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. Re-entry would require Cultural Clearances and mechanical grubbing.

To preserve the efforts and costs associated with mesquite removal since 2012 and 2014, respectively, maintenance through herbicide spot treatment using backpack sprayers is preferred due to cost effectiveness, high mesquite observation rate, and nonintrusive ground disturbance. Herbicide costs will be funded through HPC, while equipment, labor and herbicide application will be cost shared through the KJ Ranch.

Since 2010, the KJ Ranch has completed thousands of acres of mesquite removal either through contract or personal funding. Additionally, yearlong waters have been developed in their numerous pastures, which are available to wildlife, and well over 20 miles of fence lines have been rebuilt or modified, either privately or with assistance of AAF volunteers, greatly improving Pronghorn connectivity and permeability. Access is limited but allowed through prior contact and selection. The KJ Ranch also participated in the aerial coyote control project instituted by the AZGFD from 2016-2018.

PROJECT DESCRIPTION AND STRATEGIES: Mesquite were removed through mechanical treatment in 2012 and 2014 on the School and 160 Pastures, respectively, owned and operated by the KJ Ranch, through NRCS contracts. The two pastures are on private property and consist of a total of 800 acres in Graham County.

In 2012, the School pasture (consisting of 640 acres), and in 2014 the 160 pasture were cleared of mesquite by mechanical treatment through NRCS contracts. Over the course of 6 years' mesquite regeneration has occurred resulting in an estimated average of 90 mesquite per acre. This measurement was the result of 5 random tree density transects completed throughout each pasture. Currently, the average height of the plants are 3 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, and will eventually result in returning to the cycle of grubbing mesquite which will require Cultural Clearance and high cost.

To set back mesquite regeneration, herbicide treatment utilizing Velpar L along with a dye will be manually sprayed on mesquites during spring or early summer of 2020. 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 ground applicators with backpack sprayers.

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): Private

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 mesquite regrowth 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:

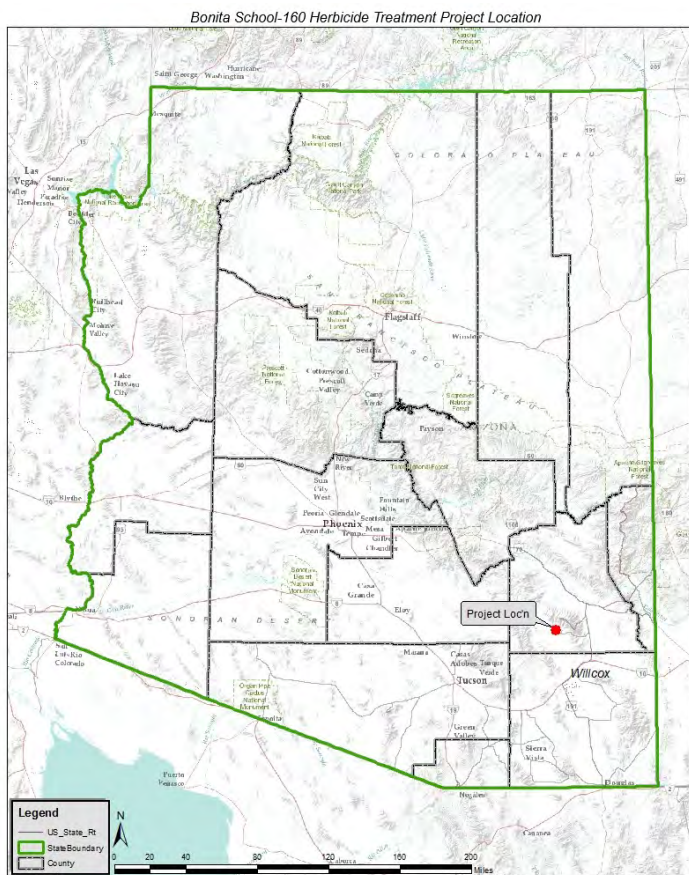
Have supporting documents been submitted?

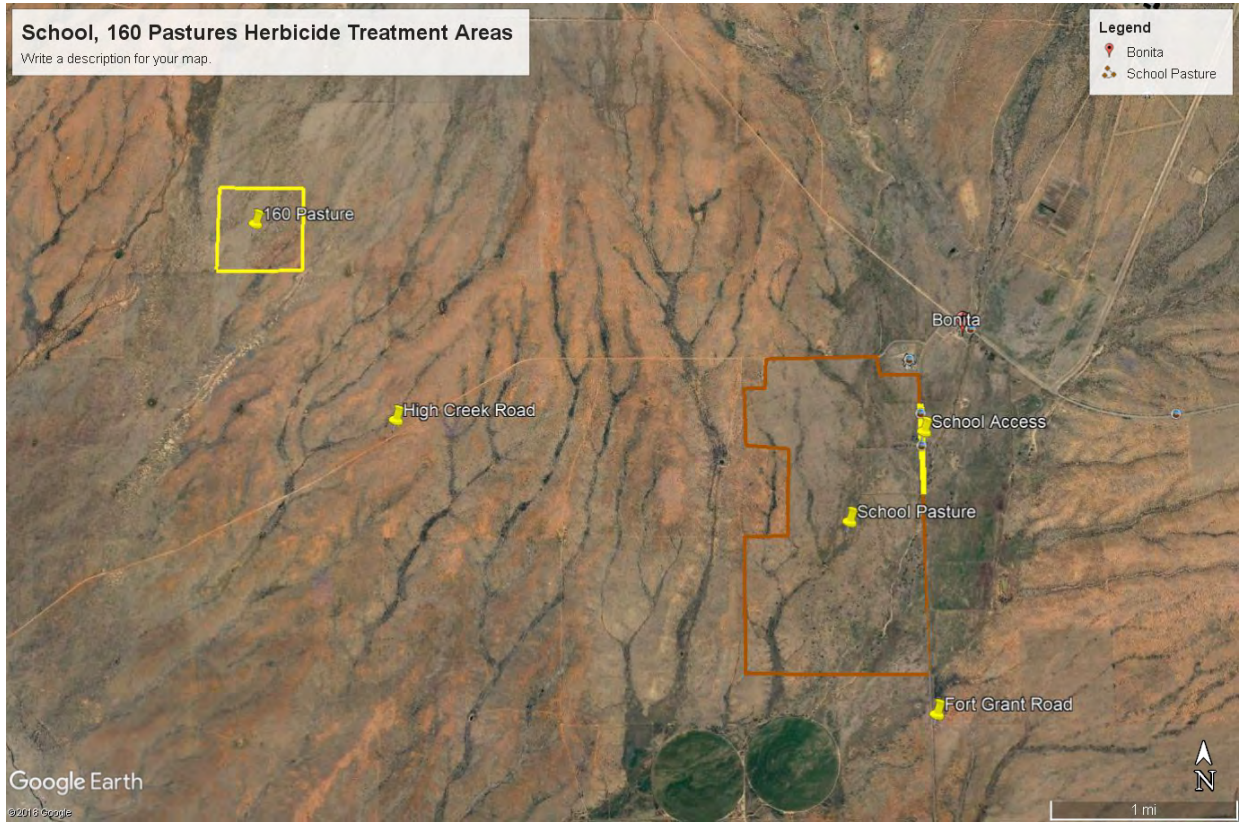
AGFD EA Checklist to be completed and submitted by January 1, 2020

Project Location Map – Attached

Project map/polygon – Attached

Bonita Valley Survey Data, AZGFD – Attached





Pronghorn Aerial Surveys Bonita Area

