

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

<b>PROJECT INFORMATION</b>	
<b>Project Title:</b> Carlisle Ranch Grassland Restoration Project	<b>Project No. 09-110</b>
<b>Region/GMU:</b> Region 1 Unit 3A	<b>HPC:</b> Winslow
<b>Project Type:</b> Juniper removal/Grassland Restoration	
<p><b>Project Description:</b> The total project will restore about 1,910 acres of grassland habitat that has been invaded by juniper trees in transitional winter range.</p> <p>This project will focus on: (1) Restoring grasslands that have been invaded by junipers in deep soils. (2) Increasing available forage for wildlife. (3) Improving connective corridors for pronghorn and providing winter habitat for the 3C elk herd</p>	
<b>Wildlife Species to Benefit:</b> Elk, Pronghorn, Deer	
<b>Possible Funding Partners:</b>	
<p><b>Implementation Schedule:</b>  <b>Beginning:</b> Spring 2010  <b>Completed:</b> Spring 2011</p>	
<b>PROJECT FUNDING</b>	
<b>SBG Funds Requested:</b> \$ 44,800	
<b>Cost Share Funds:</b> \$ 74,600 (\$40,000 USFWS Stimulus, \$34,600 LIP)	
<b>Total Project Costs:</b> \$ 119,200	
<b>PARTICIPANT INFORMATION</b>	
<b>Applicants:</b> Al Eiden	<b>Address:</b> Al Eiden
<b>Telephone:</b> 623-236-7624	AZGFD 5000 W Carefree Highway Phoenix, AZ 85086
<b>AGFD Contact and Phone No.</b> (If applicant is not AGFD personnel)	
<b>Coordinated with:</b> Carlisle Ranches / USFWS / AZGFD/ NRCS	
<b>Applicant's signature:</b>	<b>Date:</b>

**SEND COMPLETED APPLICATIONS TO:**  
**Game Branch**  
**5000 W. Carefree Highway**  
**Phoenix, AZ 85086**  
**rthompson@azgfd.gov**

## **NEED STATEMENT/PROBLEM ANALYSIS:**

Juniper encroachment is a major problem with grasslands and meadows in Northern Arizona. Plains and Great Basin Grassland make up a large percentage of Navajo, Apache and Coconino Counties. Encroachment of junipers reduces the productivity of grasslands and can reduce the ability of water to percolate into the water table, increasing run off and sedimentation into local watersheds.

It is also well documented that some grassland and savanna habitats in much of Arizona have been degraded primarily by tree invasion. The Arizona Game & Fish Department has placed grasslands as a high priority for habitat restoration for bird assemblages and pronghorn. Currently the Department is working to maintain grassland habitats and restore these habitats as opportunities arise by partnering with private landowners and other agencies.

The project area is transition winter range north of the forest boundary and west of the city of Snowflake approximately 10 miles along State Route 277, and is used heavily by the 3C elk herd as a wintering area and too lesser extent by mule deer. After the completion of the previous LIP project, pronghorn have moved into this area and established a healthy herd. Corridors need to be created to allow movement of pronghorn from forest service land to open grassland on this ranch.

## **PROJECT OBJECTIVES:**

This project will restore about 1,910 acres of grassland at the southern end of the Plains Great Basin grassland habitat type in Unit 3A on private and state checkerboard that will link 2,470 acres of grassland restored in 2007 on private that surrounds the proposed sections in this application, while maintaining connective corridors for elk and mule deer. The cost of the initial project was \$140,000.

Since grasslands are considered a habitat of concern for the Arizona Game and Fish Department it is important to address juniper encroachment while maintaining connected wooded corridors for elk and deer. The proposed project area is between 6200 and 6500 feet in elevation. At this altitude juniper invasion becomes prevalent, due to precipitation patterns. Grasslands within this precipitation band are more diverse and productive. The end result is higher quality habitat for pronghorn, and elk.

The focus of this project is two fold: (1) Restore grassland habitat for pronghorn and wintering elk from Unit 3C. (2) Provide a continuous mosaic grassland habitat type from the private and to State lands while maintaining movement corridors for elk and deer.

## **PROJECT STRATEGIES:**

Project strategies to address juniper issues have been broken into two areas based on tree density to enable us to use appropriate funding sources to accomplish our overall goal. The USFWS will fund 640 acres of juniper removal on State Trust Land with LIP funding a portion of the 553 acres on private land. We are requesting funding through HPC to provide the needed match for the LIP portion of this project and to fund the grassland restoration treatment on the remaining 717 acres of restoration needed on the State Trust land.

The overall project will restore about 1,910 acres Plains Great Basin Grassland that has been invaded by juniper. The treatment will be completed using a drum grinder attached to rubber tired equipment with less than 4 psi

ground pressure. The drum grinder chips up the trunk of the tree leaving the branches that holds more soil moisture creating a microclimate that is conducive to the production of cool season grasses and forbs. All of the treatment areas are located in deep soils, and classified as historic grassland. Stringers of trees associated with shallow soils will be left to provide thermal cover and travel corridors for mule deer and elk. The objective in historic grassland habitat is to remove a majority of recent juniper trees while retaining large old growth junipers with a diameter of 10 inches or greater 12 inches above root collar.

Cultural resource surveys may need to be completed prior to project implementation, but through cooperation with NRCS and State Lands surveys can be completed within four months of the project being funded.

**PROJECT LOCATION:**

The project area is transition winter range north of the forest boundary and west of the city of Snowflake approximately 10 miles along State Route 277. The specific areas of treatment are in T13N R20E Section 30 and T13N R19E Sections 26, 14. (See attached map)

**LAND OWNERSHIP AT PROJECT SITE (Please state specifically if PRIVATE PROPERTY and provide landowner's name):**

The project will be completed on private, and State Trust Land on the Carlisle Ranch. The Carlisle Ranch is owned and managed by Mark Carlisle.

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

Arizona Game and Fish Department has both Stewardship and Access Agreements in place with Carlisle Ranch. If funding is granted, new agreements will be developed that relate directly to this project.

**HABITAT DESCRIPTION:**

Plains Great Basin Grassland, and Juniper Woodland in shallow soils along drainages and ridges.

**ITEMIZED USE OF FUNDS:**

**MECHANICAL TREATMENT**

<b>Funding Source</b>	<b>Treatment</b>	<b>Land status</b>	<b>Quantity</b>	<b>Price/unit</b>	<b>Cost</b>
**SBG	Grassland Restoration	Private/State	717 acres	\$62.51/acre	\$44,800
*USFWS Stimulus	Grassland Restoration	State Trust	640 acres	\$62.51/ac	*\$40,000
*AZGFD LIP	Grassland Restoration	Private	553 acres	\$62.51/acre	*\$50,400
	<b>Mechanical Treatment</b>	<b>TOTAL</b>	<b>1,910</b>		<b>\$119,200</b>

\* Match

\*\* Requested Big Game Tag Funds

**LIST COOPERATORS AND DESCRIBE POTENTIAL PARTICIPATION:**

- Arizona Game and Fish will provide the coordination and monitoring for project.
- NRCS Allotment Management Plan
- Landowner Contracting
- Arizona State Land Department Technical Assistance

**PROJECT MONITORING PLAN:**

The first method proposed to measure project effectiveness, will be annual big game surveys. These surveys are used to document changes in the population, including recruitment and overall distribution. With higher quality habitat, production and recruitment for ungulate species should be increased, resulting in a healthier overall population. The second method of monitoring will be the establishment of photo point to capture vegetation response to the treatment.

**PROJECT MAINTENANCE:**

Tree will be cut and ground into mulch to less than 18". Resprout on these species is minimal and will not need further treatment.

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

Al Eiden  
 AZGFD Region I

**TREE SHEARING (AGRA-AXE, PUSH) PROJECTS (see attached worksheet):**

**ARIZONA GAME AND FISH DEPARTMENT  
TREE SHEARING WORKSHEET**

PROJECT NAME: **Carlisle Ranch Restoration Project**

1) **What is the estimated acreage of the project?**

1,910 Total acres.

2) **How are the trees to be cleared? (agra axe, chain saw, push):**

Drum Grinder attached to either a rubber trac or tire machine

3) **What is the estimated number of trees per acre?**

10-50 trees per acre @ \$62.51/acre on 1910 acres

4) **Describe trees to be cleared (species, estimated diameter, single stem, multi-stem):**

Utah juniper, under 10" diameter at 12 inches above root collar, single and multi-stemmed

5) **Describe terrain (slope, soil type, rocks, etc.)**

focus of project is in deep soils, mild slopes, some rocky area

6) **Please list any special land management status for the project site (i.e. Wilderness, National Park, National Monument, etc). If private land, list landowner.**

Private and State Trust. Mark Carlisle is the owner.

7) **Please provide the following information about access to the proposed site:**

Type of access (mark one):  2x4 vehicles  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?  YES  NO

Is the site relatively accessible for tree shearing equipment?  YES  NO

Please describe any restrictions to public access:  
NA

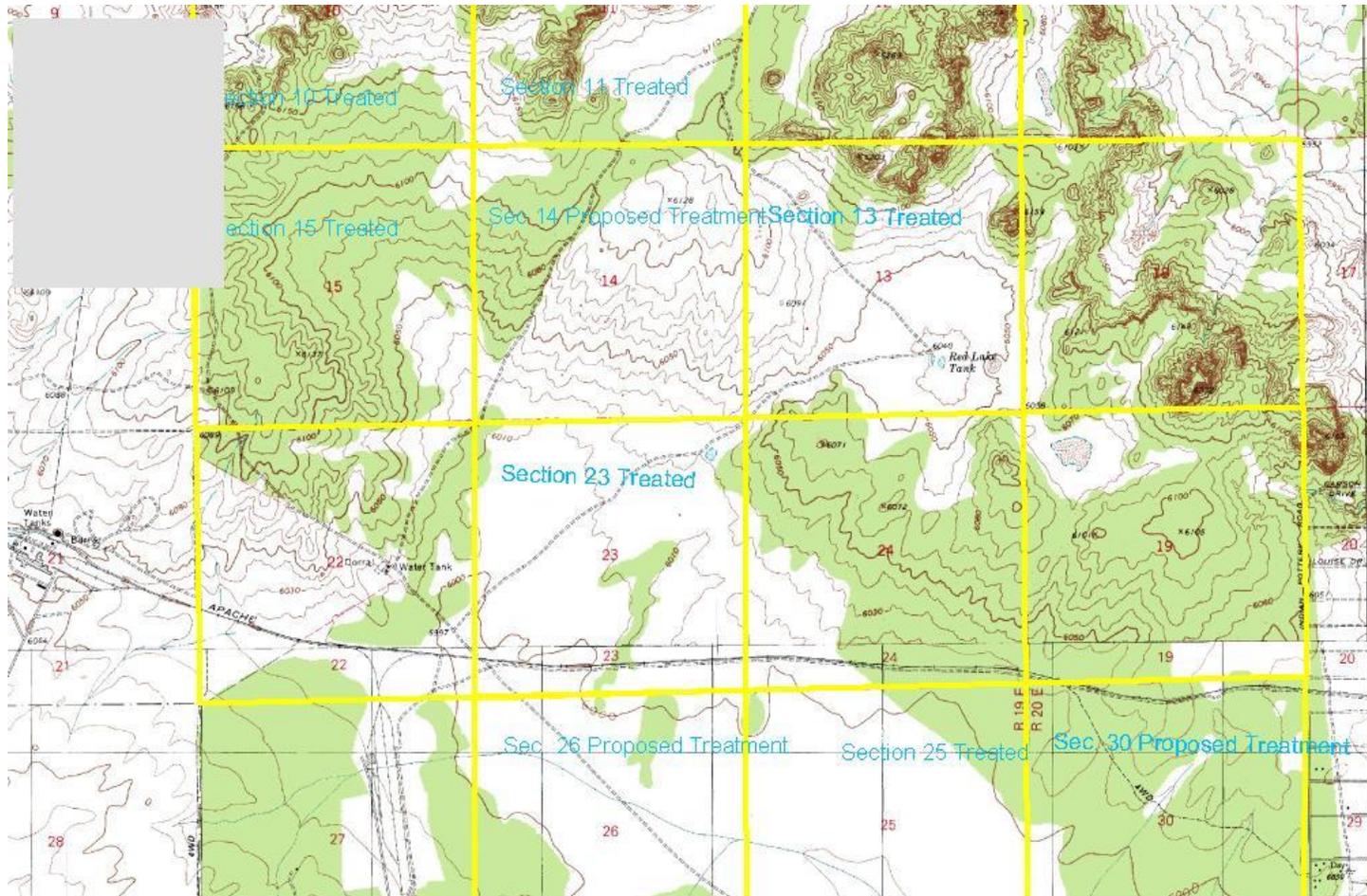


Figure 4. The areas labeled proposed treatment defines the project area. Areas labeled treated were completed through a previous project. Request funding will be used to treat areas labeled proposed. The previous project named “Carlisle Ranch” project was funded by the Landowner Incentive program.