

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

Game Branch / HPC Project Number: 15-201

PROJECT INFORMATION

Project Title: Evaluation of Fence Modifications to Reconnect Pronghorn Populations North of I-40

Region and Game Management Unit: Regions 2: GMUs 7E, 7W, 9

Local Habitat Partnership Committee (LHPC):
• Flagstaff/Williams

Was the project presented to the LHPC?
YES[] NO[x]

Has this project been submitted in previous years? YES[x] NO[]

If Yes, was it funded? YES[x] NO[] → **Funded HPC Project #(s):** 12-203

Project Type: Evaluation of Fence Modifications and Relocations

Brief Project Summary: This project will help in the collaring of pronghorn that will obtain GPS data to evaluate fence modifications, removal or relocation along roadways and within pastures across northern Arizona as well as additional fence modifications. These fence modifications were identified through GPS movement studies. AAF has played a primary role in implementation of the fence projects through volunteer workdays and has provided essential funding opportunities through HPC.

Big Game Wildlife Species to Benefit: Pronghorn

Implementation Schedule (Month/Day/Year):

Project Start Date:
Upon availability of funds

Project End Date:
December 2016

Environmental Compliance:

NEPA Completed: Yes[x] No[] N/A[]

Projected Completion Date: CNF and KNF done, NPS underway

State Historic Preservation Office - Archaeological Clearance:
Yes[] No[] N/A[x]

Projected Completion Date: _____

Arizona Game and Fish Department EA Checklist: N/A[]

To be Completed by: Scott Sprague

Projected Completion Date: Completed

PROJECT FUNDING

Special Big Game License Tag Funds Requested: \$ 10,000

Cost Share or Matching Funds: \$ 700,000 est. throughout project (pre-,post)

Total Project Costs: \$ 750,000 (estimate)

PARTICIPANT INFORMATION

Applicant (please print):
Jeff Gagnon/Scott Sprague

Address:
5000 W. Carefree Highway
Phoenix AZ, 85086

E-mail: JGagnon@azgfd.gov
&
SSprague@azgfd.gov

Telephone: 623.236.7252

Date: 7-30-15

AGFD Contact and Phone No. (If applicant is not AGFD personnel):

Project has been coordinated with:

Arizona Antelope Foundation, Coconino and Kaibab National Forest, ADOT, CO Bar Ranch

NEED STATEMENT – PROBLEM ANALYSIS:

Maintaining wildlife corridors can facilitate population range shifts, colonization of new habitat, escape from avoidance of predators, climatic extremes, maintenance of genetic diversity, and healthy dispersal. In the case of American pronghorn (*Antilocapra americana*), Habitat fragmentation is a leading cause of population decline. In many cases fencing, particularly when combined with roads, can constitute a nearly impermeable barrier (Van Riper and Ockenfels 1998). Pronghorn historically roamed freely in North America, including northern Arizona, but populations declined by as much as 99% by the early 1900's (Yoakum 1968). In Arizona, populations declined from approximately 45,000 (Knipe 1944) to 7,500 by 2002 (Arizona Game and Fish Department, unpublished data). AGFD and other stakeholders have made the conservation and restoration of this flagship grassland species a top priority. The restored ability of this population to move throughout its range will provide an opportunity to adapt and increase its resilience. The ongoing work with AAF and other partners has allowed a landscape level approach to reconnecting pronghorn populations north of I-40. A thorough evaluation of the effectiveness of this work is warranted.

Van Riper, C. and R. Ockenfels. 1998. The influence of transportation corridors on the movement of a pronghorn antelope over a fragmented landscape in northern Arizona. ICOWET 241-244.

Yoakum, J. D. 1968. A review of the distribution and abundance of American pronghorn antelope. Antelope States workshop proc. 3:4-14.

Knipe, T. 1944. The status of antelope herds of northern Arizona. Arizona Game and Fish Department Federal Aid in Wildlife Restoration Project 9-R report, Phoenix. Arizona, USA.

PROJECT OBJECTIVES:

Reconnect pronghorn populations north of I-40 by:

- Removing fence where possible (underway with AAF and others)
- Relocating fences along roads to provide a staging zone (underway with AAF and others)
- Removing or raising/replacing bottom wires to conform with the 16 – 20" smooth wire specification (underway with AAF and others)
- Adding goat bars in key pronghorn movement areas (underway)
- Capture and collar 30+ pronghorn across the treatment area to evaluate effectiveness

PROJECT DESCRIPTION AND STRATEGIES:

This project will use GPS data to compare to pronghorn telemetry studies north of I-40 over the past two decades to identify the success of fence work completed in key areas for fence removal, modification or reorientation over the past 3 years. Specific activities include:

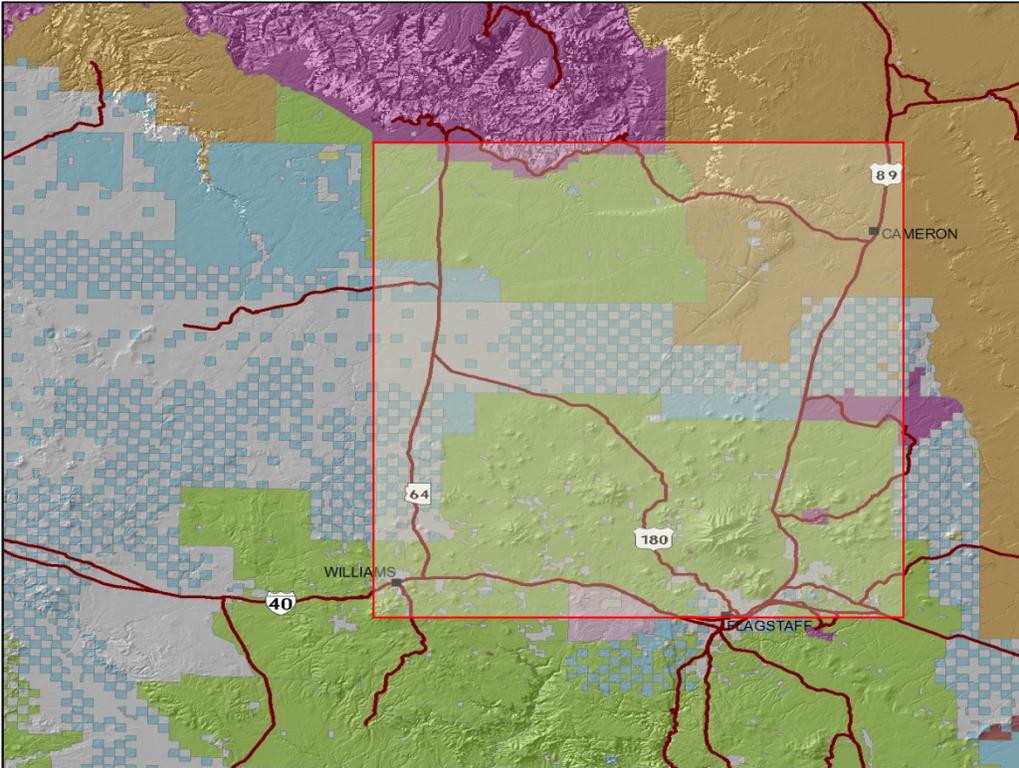
- 1) Capturing 30+ pronghorn with helicopter to combine with the current 60+ (this funding request)
- 2) Evaluate pronghorn movements and compare to pre-treatment
- 3) Identify additional barriers to pronghorn movements for future modifications and habitat improvements

Implementation of our fence projects used a data-driven approach to steer the application of available resources toward maximum efficiency with the greatest opportunity for success. Data of this nature allowed us to target project locations by identifying barriers and corridors. We conducted a successful pilot project by modifying both pasture fences and highway right-of-way fences. Our post-treatment evaluation of the pilot study determined that pronghorn permeability increased dramatically across fences (>100% increase). Post treatment road crossings increased at an even greater rate following fence modification and removal which resulted in occurrences in areas never before documented. Data collected from the pronghorn captured from this funding will allow for a landscape scale evaluation across all pronghorn habitat north of Flagstaff following fence and corridor improvements as well as identify priorities for future restoration.

Timeline - We anticipate collaring pronghorn over multiple captures 2015-2016 once funding is available to supplement current funding sources. Capturing adequate representation of animals in high and low elevation is essential to a thorough evaluation.

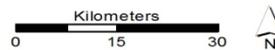
PROJECT LOCATION:

Project will occur generally between areas west of SR 64 to areas east of US 89 and north of I-40.



- | | |
|--------------------|-------------------------|
| Ownership | AZ Game and Fish |
| Private | Military |
| BLM | Natl Parks / Monuments |
| State | Bureau of Reclamation |
| Forest Service | Parks & Recreation |
| Indian Reservation | Other |
| Wildlife Refuge | |

**Proposed Pronghorn
Connectivity Area**



LAND OWNERSHIP AT THE PROJECT SITE(S):

(if the project area is private property, please state specifically and provide the landowner's name)

- Land ownership includes USFS, NPS and Private, private land will include CO Bar Ranches.

IF PRIVATE PROPERTY, IS THERE A COOPERATIVE BIG GAME STEWARDSHIP or LANDOWNER AGREEMENT BETWEEN THE LANDOWNER AND THE DEPARTMENT?

YES[X] NO[] N/A[]

HABITAT DESCRIPTION:

Primary grassland with interspersed pine, juniper and pinion pine.

ITEMIZED USE OF FUNDS:

Special Big Game License Tag Funds

Helicopter capture time - **\$20,000**, to be combined with other funding sources.

Cost Share or Matching Funds (for volunteer labor rates please refer to the worksheet below)

- AAF has committed to 3 years of volunteer field work, assuming two weekends a year of full work days (8 hrs) and anticipating 40+ volunteers at 14.14/hr we can reasonably assume a minimum of **\$30,000.00 for time not including mileage.**
- AAF has contributed **\$25,000** cash.
- AWF has contributed **\$5,000** cash.
- FoNAF miles and hours for fence relocation - **\$5000 in kind**
- National Forest Foundation contributed **\$21,000** for fence modifications
- ADOT has contributed **\$100,000** for collars for post-treatment monitoring
- CNF has contributed **\$30,000** cash for fence inventories and implementation plus several thousand in-kind.
- KNF is contributing **\$6,000** in collars plus several thousand in-kind
- NPS is contributing **\$80,000** cash plus several thousand in-kind for post treatment monitoring.
- Arizona Sportsmen for Wildlife Conservation has provided **\$15,000 cash**
- Friends of Northern Arizona Forests – Volunteer Work and Equipment (Approx- **\$4,000**)
- Big Game Fund has contributing **\$45,000** over three fiscal years
- AGFD Wildlife Contracts Branch will provide project planning and oversight through their Federal Aid Program, we will estimate this at **\$30,000** over 3 years.
- AGFD Development Branch provided a cattle guard and installation (approx. **\$15,000**)
- On 4-20-13, 27 Eagle Scouts along with Troy Christensen completed a weekend project, we estimated approx. **\$5000** in hours (14.14/hr), mileage and supplies.
- USFS will complete required NEPA + Work Days + Auger, CNF complete, KNF cost (**\$20,000 min. est.**)
- Babbitt Ranches will be handling fence projects within their boundaries using CO Bar personnel including relocation of fencing along US 89 and 180, (Est. **\$20,000**)
- National Park Service personnel will be completed fence modifications east of US 89 between Wupatki National Monument and Sunset Crater. **\$10,000.**

LIST COOPERATORS AND DESCRIBE POTENTIAL PARTICIPATION:

Arizona Antelope Foundation – Volunteer work days and funding
Arizona Wildlife Federation – Volunteer work days and funding
USFS – CNF and KNF - Assistance with NEPA and possible funding
Friends of Northern Arizona Forests
Arizona Sportsman for Wildlife Conservation
ADOT – Safety support for work along highways, funding
Eagle Scouts – Volunteer work days
AGFD – Funding and project oversight
CO Bar Ranches – Project completion on their allotments and land
Wupatki NM – Project implementation east of 89 and post-construction funding.
Grand Canyon NP – South boundary fence modifications and post-construction monitoring funding.

WOULD IMPLEMENTATION OF THIS PROJECT ASSIST IN PROVIDING, MAINTAINING, OR FACILITATING RECREATIONAL ACCESS?

YES[] NO[] N/A[x]

PROJECT MONITORING PLAN:

Wildlife Contracts Branch Personnel will oversee project completion. Pronghorn will be collared with these funds and monitoring will resume with external funding from an NPS grant and other sources to

assess the success of the project. Collaring will occur in 2015-2016.

PROJECT MAINTENANCE:

Collars will be checked via aerial telemetry on a 6-week basis to determine mortalities, if any. Data will be downloaded at the end of the project and analyzed to determine success.

PROJECT COMPLETION REPORT TO BE FILED BY:

Jeff Gagnon/Scott Sprague AGFD Wildlife Contracts Branch

ARIZONA GAME AND FISH DEPARTMENT VOLUNTEER HOURLY RATES AND CLASSIFICATIONS WORKSHEET

PROJECT TITLE: _____

The value of volunteer labor should be calculated at the hourly rate of an employee doing similar work, or using hourly rates from the Arizona Department of Administration's Human Resource web site, plus a standard ERE rate of 35%. http://www.hr.az.gov/HR_Professional/Class_Comp/PDF/alphacovered.pdf

\$0.445/mile should be the calculation used for mileage.

Water Development	Volunteer Hours	Volunteer Miles	Hourly Rate	Estimated Value
			\$14.14	
Habitat Restoration and Clean Up	Volunteer Hours	Volunteer Miles	Hourly Rate	Estimated Value
			\$14.14	
Fisheries	Volunteer Hours	Volunteer Miles	Hourly Rate	Estimated Value
			\$14.14	
Nongame Branch Project	Volunteer Hours	Volunteer Miles	Hourly Rate	Estimated Value
			\$14.14	
Misc/office work	Volunteer Hours	Volunteer Miles	Hourly Rate	Estimated Value
			varies	
Community Services	Volunteer Hours	Volunteer Miles	Hourly Rate	Estimated Value
			\$7.44	
Events and Other	Volunteer Hours	Volunteer Miles	Hourly Rate	Estimated Value
			\$14.14	
Research Branch	Volunteer Hours	Volunteer Miles	Hourly Rate	Estimated Value
			\$14.14	
Wildlife Area Hosts	Volunteer Hours	Volunteer Miles	Hourly Rate	Estimated Value
			\$17.44	
Education Programs	Volunteer Hours	Volunteer Miles	Hourly Rate	Estimated Value
			\$16.07	
Totals				