

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

Game Branch / HPC Project Number:	14-601
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PROJECT INFORMATION

Project Title: Unit 21 Coyote Removal	
Region and Game Management Unit: Region VI, GMU 21	
Local Habitat Partnership Committee (LHPC): •	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): Unit 21 Coyote Control/Aerial gunning	
Project Type: Predation Management	
Brief Project Summary: This project is intended to increase pronghorn and mule deer fawn survival through the hunting of coyotes prior-to and during peak fawning periods in the spring.	
Big Game Wildlife Species to Benefit: Pronghorn and Mule Deer	
Implementation Schedule (Month/Day/Year): <u>Project Start Date:</u> March 2015 <u>Project End Date:</u> May 2018	Environmental Compliance: NEPA Completed: Yes[X] No[] N/A[] Projected Completion Date: _____ 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: <u>M. White, C. Boucher</u> Projected Completion Date: <u>December 2014</u>

PROJECT FUNDING

Special Big Game License Tag Funds Requested:	\$ 15,000 Per Year x 3 Years
Cost Share or Matching Funds:	\$
Total Project Costs:	\$ 45,000

PARTICIPANT INFORMATION

Applicant (please print): Micah White	Address: 7200 E. University Mesa, AZ 85207	E-mail: mwhite@azgfd.gov
Telephone: 928-821-6057	Date: December 15, 2015	

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

Project has been coordinated with:
Arizona Antelope Foundation and Mule Deer Foundation

NEED STATEMENT – PROBLEM ANALYSIS:

In 2015, the Department, in coordination with the AAF and MDF, initiated aerial gunning of coyotes in Unit 21 to remove predators that may prey on vulnerable pronghorn and mule deer fawns. This predation management effort was conducted in collaboration with habitat improvement projects including grassland restoration and the installation of water catchments to improve conditions for mule deer and pronghorn. The habitat improvement projects were funded using P.R. funds from the Wildlife Habitat Enhancement Initiative and Central Arizona Grassland Strategy. Unit 21 contains approximately 220 square miles of semi-desert grassland habitat which supports approximately 280 pronghorn and 720 mule deer. Although mule deer can be found in every inch of Unit 21, the largest concentrations of mule deer are found on these semi-desert grasslands.

The grassland habitat in Unit 21 has been dramatically improved over the last ten years without a meaningful corresponding increase in the pronghorn and mule deer populations. Although fawn survival has been relatively good for both species compared to other units, mortality remains high on pronghorn in Unit 21, as evidenced by the need for a supplemental transplant of pronghorn from Colorado in 2008. Perry Mesa, which has the largest subpopulation of pronghorn in the unit, had more than a 7 year rest from grazing, and the habitat quality is currently excellent. Sycamore Mesa has had more than 3,000 acres of encroaching juniper removed, thus greatly improving the habitat for mule deer and pronghorn, especially through their movement corridors. Additional mesas will be treated over the next three years, which will also greatly improve habitat for mule deer and pronghorn.

Because coyote predation has been documented on both pronghorn and mule deer in Unit 21 and to maximize on the WHEI opportunity, the Department would like to continue predation management in Unit 21 to provide the most benefit to mule deer and pronghorn.

PROJECT OBJECTIVES:

- 1) Increase the pronghorn fawn to doe ratio to 50:100 for the last two years of the project.
- 2) Increase the pronghorn population to 350 adults.
- 3) Increase the mule deer population in the semi-desert grassland habitat types.
- 4) Reduce the coyote population in the grassland areas.

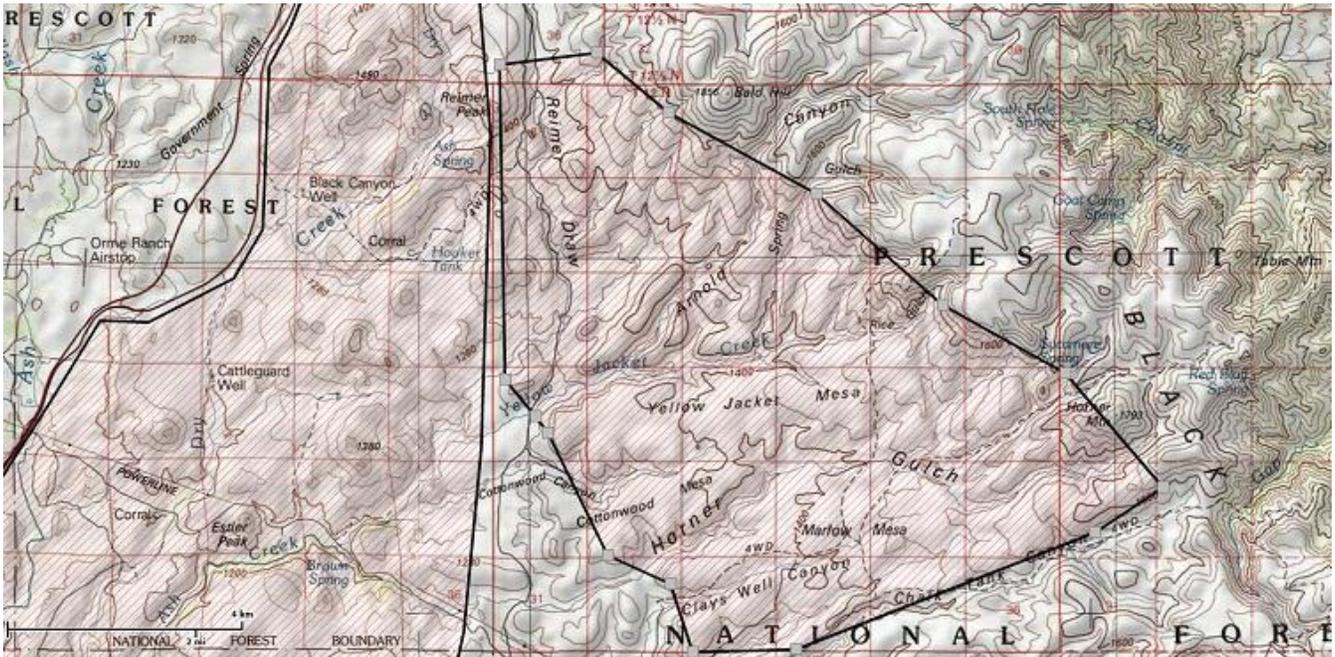
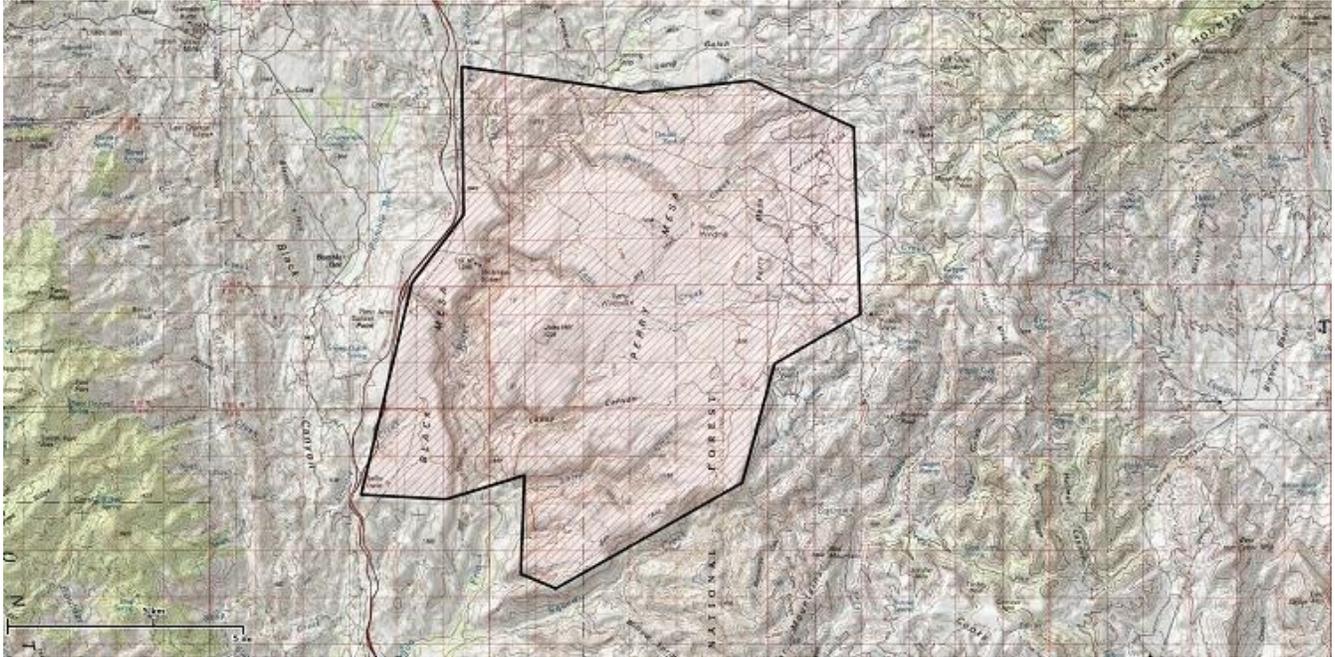
PROJECT DESCRIPTION AND STRATEGIES:

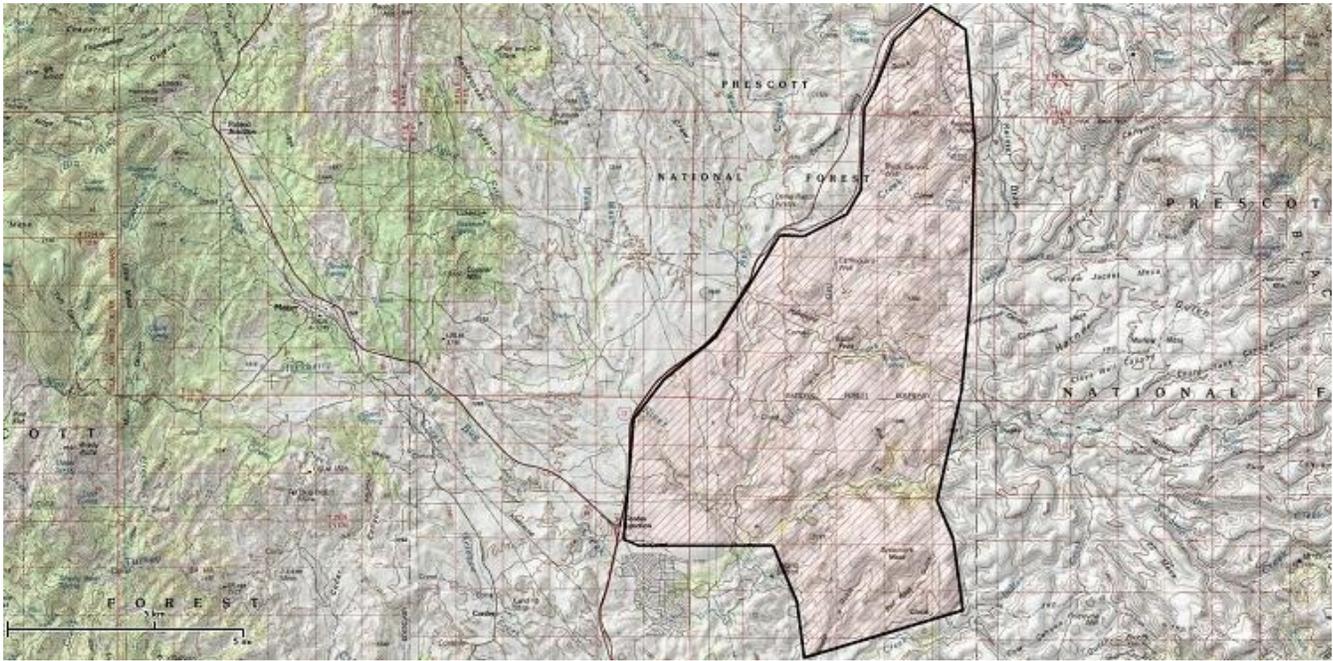
Although aerial gunning is very effective under the right circumstances and the Department has used this method successfully, in 2015 we only removed 14 coyotes in Unit 21. In units where aerial gunning has been successful we typically removed between 40-75 coyotes/unit/year. It is not clear what factors contributed to the futility of our efforts. Flying conditions were good but we only observed approximately 20 coyotes in 5 days of gunning. We can't be certain that the increase in pronghorn fawn:doe ratio is related to the coyote removal but we did observe an increase from 26:100 to 49:100. We do not yet have mule deer surveys results. Due to its ineffectiveness in Unit 21, rather than contracting with Wildlife Services to conduct aerial gunning of coyotes in 2016 the Department will hire a coyote hunter to remove coyotes on the grasslands that may prey on pronghorn and mule deer fawns.

PROJECT LOCATION:

Perry Mesa (BLM, TNF), Black Mesa (BLM), Sycamore Mesa (PNF), Cordes Junction (State Trust, BLM), Reimer Draw – Hooker Basin (PNF), Marlow and Yellow Jacket Mesas (PNF).

See attached maps.





LAND OWNERSHIP AT THE PROJECT SITE(S):

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

Perry Mesa (BLM, TNF), Black Mesa (BLM), Sycamore Mesa (PNF), Cordes Junction (State Trust, BLM), Reimer Draw – Hooker Basin (PNF), Marlow and Yellow Jacket Mesas (PNF).

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

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

HABITAT DESCRIPTION:

Black Mesa, Perry Mesa, Marlow Mesa and Yellow Jacket Mesa area all relatively flat, open, semi-desert grasslands with large canyons. Sycamore Mesa and the Reimer Draw area are made up of rocky, broken hills, with grassy depressions and valleys.

ITEMIZED USE OF FUNDS:

Special Big Game License Tag Funds

Coyote removal - This effort will be conducted using approximately \$15,000 annually from Department HPC funds.

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

N/A

LIST COOPERATORS AND DESCRIBE POTENTIAL PARTICIPATION:

Terry Herndon, Jim Lawrence, North Valley Chapter of the Mule Deer Foundation, Arizona Antelope Foundation.

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

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

PROJECT MONITORING PLAN:

Standard summer pronghorn survey flights will be conducted to determine fawn to doe ratios, as well as the numbers to calculate the double count population estimate. Winter helicopter, fixed-wing and ground surveys will be conducted to determine fawn to doe ratios for mule deer.

Unit 21 is the only pronghorn unit in Region 6, and due to elevation and habitat type cannot be compared to unit 19A, which is the closest unit containing pronghorn. Therefore no control can be used when measuring success.

We will reevaluate the need to remove coyotes from Unit 21 after the removal efforts in 2016 have been completed.

PROJECT MAINTENANCE:

N/A

PROJECT COMPLETION REPORT TO BE FILED BY:

AZGFD Wildlife Manager Micah White

WATER DEVELOPMENT PROJECTS (*please use the worksheet below*):

N/A

TREE CLEARING/REMOVAL PROJECTS (*please use the worksheet below*):

N/A

ARIZONA GAME AND FISH DEPARTMENT WATER DEVELOPMENT WORKSHEET

PROJECT TITLE: _____

- 1) **Is the water development listed as a priority in the most recent “Wildlife Water Development Annual Implementation Schedule?”** No
- 2) **Please list the Development Branch personnel and date coordinated with for this project.**
- 3) **What is the estimated annual inches of precipitation for the area? (mark one)**
2-4 4-6 6-8 8-10 10-12 12-14 14-16 >16
- 4) **Is there a perennial water source available to big game within four miles of this project?**

YES (please complete #5 below) NO (skip #5 below)
- 5) **For the accessible, perennial water source nearest this project:**
- 6) **Is the target wildlife species a result of transplant efforts?** YES NO
- 7) **Please list any special land management status for the project site (i.e. Wilderness, National Park, National Monument). If private land, list landowner.**
- 8) **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: >¼ mile Approximate hiking time: >5 min

-- Does access to this site require crossing private or tribal lands? YES NO

-- Please describe any restrictions to public access: Groups over 20 require a recreation permit from the forest. A large volunteer project may require a permit unless sponsored by the forest.
- 9) **Please list below (or on a separate sheet) the material type and dimensions of each component proposed to be added, modified, or repaired.**
- 10) **Was a site visit completed?** Yes No
If Yes, please list personnel that attended and date.

ARIZONA GAME AND FISH DEPARTMENT **TREE CLEARING/REMOVAL WORKSHEET**

PROJECT TITLE: _____

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

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

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

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

- 5) **Describe terrain (slope, soil type, rocks)**

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

- 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 removal equipment? YES[] NO[]

Please describe any restrictions to public access:

ARIZONA GAME AND FISH DEPARTMENT

VOLUNTEER HOURLY RATES AND CLASSIFICATIONS WORKSHEET

PROJECT TITLE: Larry Creek Trick Tank

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				

