

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

**PROJECT INFORMATION**

**Project Title:** Bonita Ranch Phase 1 (Bonita Grassland Restoration)

**Project No. 10-504**

**Region/GMU:** Region V/GMU 32

**HPC:** Safford

**Project Type:** Grassland Restoration/mesquite removal

**Project Description:**

This overall project (**Bonita Grasslands Restoration**) is in the First phase of a 20,000 acre landscape scale grassland restoration project in the Bonita area within GMU 31 and 32 which will involve using several grants from the Natural Resources Conservation Service (NRCS), Arizona Department of Agriculture (ADA) and Arizona Game and Fish Department (AGFD). During the initial planning stages of this project, it was foreseen to require up to 10-15 years to complete the entire proposed project area dependant upon available funding sources and cooperating landowners and lessees.

This particular project (**Bonita Ranch Phase 1**) will reclaim 320 acres of historic semi-desert grassland through the use of mechanical grubbing and piling of mesquite, which entails piling carcasses and breaking them down into piles no taller than 4-6 feet and no closer than 200 yards from each other. Depending upon the density of piles per acre, most of the piles will be burned and the remaining piles will remain to decay over time and provide additional habitat for ground nesting birds such as scaled quail and other small mammals and reptiles. The removal of the mesquite carcasses after grubbing is important in relation to pronghorn antelope's "visibility" within their habitat. Ideal pronghorn habitat would consist of open grasslands with a mixture grasses, forbs and low shrubs averaging between 10 and 18 inches in height. Canopy cover and shrubs above 30 inches should be considerably less that 20% of total cover for the area. Leaving mesquite carcasses lay in the project area could seriously jeopardize the visibility level and hinder pronghorn antelope's use of these areas. This is why there is a heavy emphasis on removing the carcasses during the project.

The grubbing work is preferred to be done by means of an excavator as opposed to a bull dozer due to the more efficiency of this machine and its minimal ground disturbance. Piling or removing of the carcasses will be done with a front-end loader or small bull dozer

Following the grubbing operation, the lessee will be required to rest the treated area for a minimum of 2 years to allow for a resprout of grasses and forbs and a follow up CRM (Coordinated Resource Management) Plan is encouraged to be developed for the ranch with the NRCS.

Range planting of 230 acres of the treated area with a seed mixture of 75% grass and 25% forbs is included in the project at a cost of \$120.00/acre.

The removal or significant reduction in mesquites within the treated area, reseeding and improved range management will overall result in improved range conditions. This will go along way toward restoring the grassland ecosystem benefiting all grassland associated wildlife species.

**Wildlife Species to Benefit:**

Pronghorn Antelope, Mule Deer, scaled quail and other various grassland bird and small mammal assemblages.

**Possible Funding Partners:**

AGFD, NRCS, HPC

**Implementation Schedule:**

**Beginning:** January 2011

**Completed:** December 2011

**PROJECT FUNDING**

**SBG Funds Requested: \$23,900.00**

**Cost Share Funds: \$35,660.00 (NRCS \$26,760.00, Rancher \$8,900.00)**

**Total Project Costs \$59,560.00**

Funds allocated last year to grassland restoration projects within the overall Bonita Grasslands Restoration Project Area include:

AGFD: \$189,250.00 (LIP \$121,120.00, Heritage \$68,130.00)

NRCS: \$316,105.00 (WHIP \$190,375.00, EQUIP \$125,730.00)

Total: \$505,355.00

**PARTICIPANT INFORMATION**

**Applicant:** John Bacorn  
 (AGFD Wildlife Manager)

**Telephone:** 520-384-6056

**Address:**  
 Arizona Game and Fish Dept  
 555 N. Greasewood Road  
 Tucson, AZ 85745

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

**Coordinated with:** NRCS  
 Jeff Homack (landowner/lessee)

**Date:** July/August 2010

**Date:** July/August 2010

**Applicant's signature:**

**Date:**

**WAS PROJECT PRESENTED TO THE LOCAL HPC: YES**

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

### **BACKGROUND**

This project (Bonita Grasslands Restoration) is in the First phase of a 20,000 acre landscape scale grassland restoration project in the Bonita area within GMU 31 and 32 which will involve using several grants from the Natural Resources Conservation Service (NRCS), Arizona Department of Agriculture and Arizona Game and Fish Department. During the initial planning stages of this project, it was foreseen to require up to 10-15 years to complete the entire proposed project area dependant upon available funding sources and cooperating landowners and lessees.

This project started with the financial assistance to 3 landowners to assist with the reduction of invading mesquite in historic grasslands to enhance habitat of pronghorn antelope, scaled quail, Botteri's Sparrow, Cassin's Sparrow and all other Chiricahuan grassland bird assemblages. The project will take place on private property and State Trust land properties, and the project will be managed cooperatively by 3 landowners and coordinated by both NRCS and AZGFD staff to ensure habitat benefits are realized. This first phase of the project began in June of 2010 and will total approximately 3,000 acres of treatment over the next 12 months. Both the Natural Resource Conservation Service and the Arizona Game & Fish Department will monitor effectiveness of the project on an annual basis following its completion.

Since the inception of this grasslands project, 2 more landowners have signed up for a total of 5 cooperative landowners/lessees within this project area. As of late August of 2010, 2,963 acres have been funded through AGFD and NRCS and of those acres; approximately 2,220 acres have been completed.

The Bonita Grasslands Restoration Project has been broken down into separate projects depending upon the cooperative landowner/lessee and available funding. Two of the cooperative landowners/lessees have completed phase 1 of their projects and have been pleased with the cooperative agreements and results of their project and want to move on to Phase 2. Of which discussions and planning for Phase 2 of their projects will start near the end of this year (2010).

Other projects that have been completed within the Bonita Grasslands Restoration area include: Fence modification on the Triangle M Ranch, waterline and troughs on the KY Ranch and the Fort Grant Road fence modification completed by volunteers with the Arizona Antelope Foundation and Southeastern Arizona Sportsman's Club.

Discussions with the rancher/landowner of this current project proposal (Bonita Ranch Phase 1) include the development of a new well, waterline and troughs in the near future.

### **PURPOSE AND NEED**

*"The antelope were once very abundant throughout the entire Sulphur Springs Valley, but now inhabit the grassland north of Willcox, east of the Galiuro and Winchester Mountains and west of the Pinalenos. A portion of the population also ranges on Allen Flat to the southwest of the Winchester Mountains. Raymond Wildlife Area-Chavez Pass antelope were released here (22 in 1943, 6 in 1944, 40 in 1945)"* from Region V Pronghorn Antelope Management Plan.

In the early to mid 1990's over 100 antelope were observed during AGFD aerial surveys within the Bonita area. Starting in the year 2000 the number of animals observed decreased to lows of 25 in 2004 and 2005. Also during this time period fawn to doe ratios dipped to lows of 9, 5 and 0 fawns per 100 does. In 2006, 2007 and 2008, AGFD contracted with Wildlife Services to fly aerial coyote control within the Bonita area, observation numbers increased to 49, 84 and 58 animals and fawn ratios were 35, 75 and 21 fawns per 100 does during the three years of aerial coyote control. In the two years since the aerial coyote control, observation numbers have been 63 and 59 and fawn to doe ratios have been 25 and 27 fawns per 100 does.

This particular project area is located along the east side of Fort Grant road just south of Bonita. Fort Grant road is the Game Management Unit boundary between GMU 31 and 32. This area is also the last remaining open antelope corridor between GMU 31 and 32; the grassland link/corridor between the Bonita herd and southern Greasewoods herd.

Land that was historically semi-desert grassland is being encroached upon by mesquite trees. Therefore, the historic grassland blocks are declining in size and connections between them are being lost. Grassland associated wildlife are being impacted by this loss due to habitat degradation and fragmentation. Pronghorn antelope is definitely one of the key species being negatively impacted these changes in grasslands habitat.

Mesquite invasion in grasslands alters the entire grassland ecosystem; it alters the water infiltration, changes the vegetation composition such as grasses, forbs, shrubs and subshrub (browse) species. This change in vegetation results in changes in wildlife species composition normally associated with grasslands.

**PROJECT OBJECTIVES:**

- 1) Improve/restore desert grassland ecosystem.
- 2) Restore pronghorn antelope corridor between Bonita herd and Southern Greasewoods herd.
- 3) Improve range conditions for all grassland associated wildlife species and livestock.

**PROJECT STRATEGIES:**

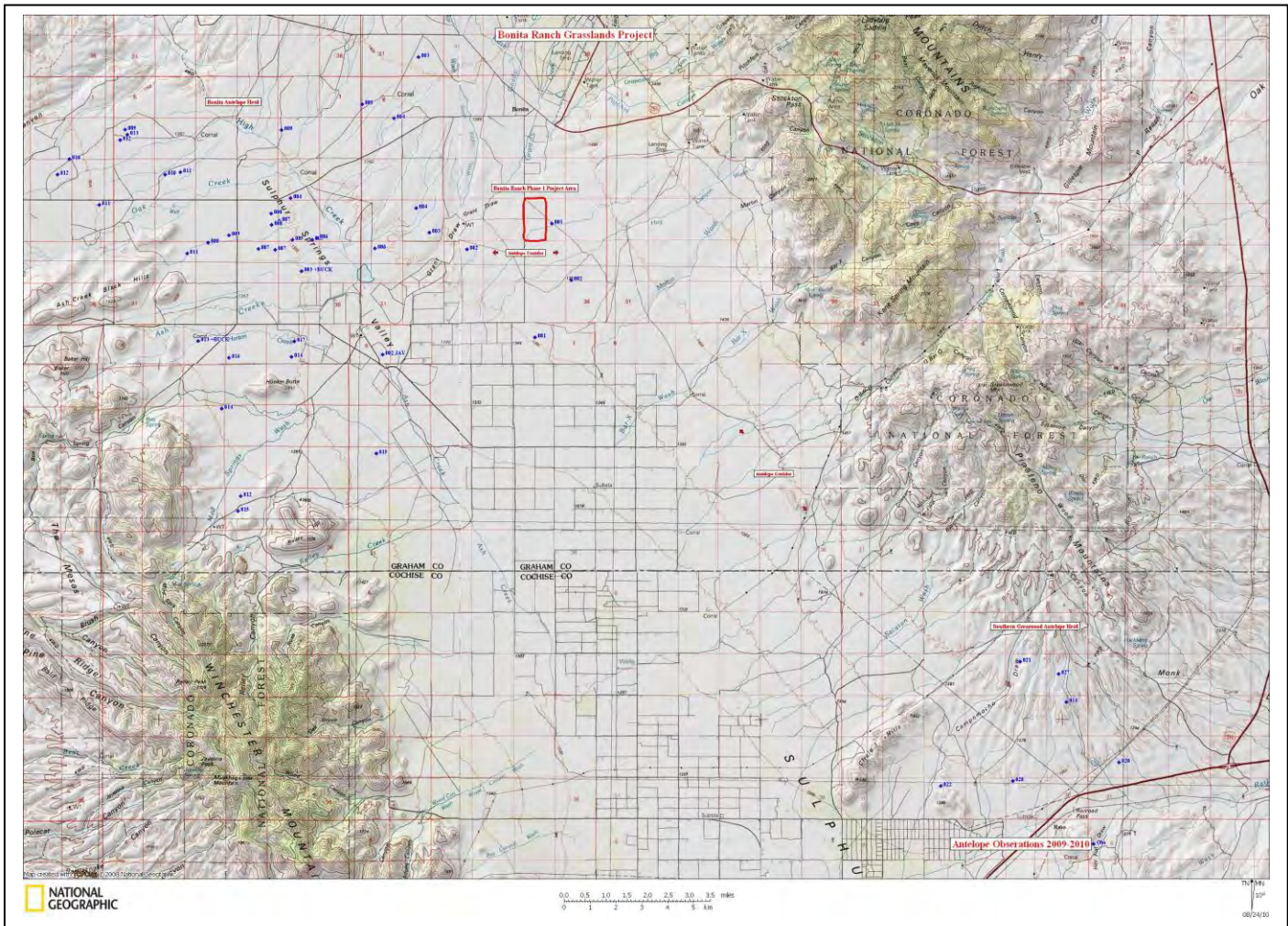
- 1) Remove/reduce mesquite densities within project area.
- 2) Remove mesquite carcasses by piling and burning.
- 3) Reseed rangeland with grass/forbs seed mixture.
- 4) Defer grazing in project area for two years after project completion.
- 5) Implement CRM (Coordinated Resource Management) plan to improve range conditions.

<b>Pronghorn Surveys</b>					
Bonita – Black Hills Area					
Yr	Buck	Doe	Fawn	Total	B:D: F
1994	25	82	19	126	30:23
1995	39	104	24	167	38:23
1996	32	65	6	103	49:09
1997	36	89	22	147	40:25
1998	25	59	6	90	42:10
1999	29	66	2	97	44:03
2000	-	-	-	-	-
2001	10	44	4	58	23:09
2002	3	19	0	22	16:00
2003	5	20	1	27	25:05
2004	3	20	2	25	15:10
2005	6	15	4	25	40:26
2006	7	31	11	49	23:35
2007	12	41	31	84	29:75
2008	24	28	6	58	86:21
2009	14	39	10	63	36:25
2010	12	37	10	59	32:27
<b>Ave 5</b>	<b>14</b>	<b>35</b>	<b>14</b>	<b>63</b>	<b>40:40</b>
<b>Ave 10</b>	<b>19</b>	<b>29</b>	<b>8</b>	<b>47</b>	<b>65:28</b>
(*2006,*2007,*2008 aerial coyote control)					

**PROJECT LOCATION:**

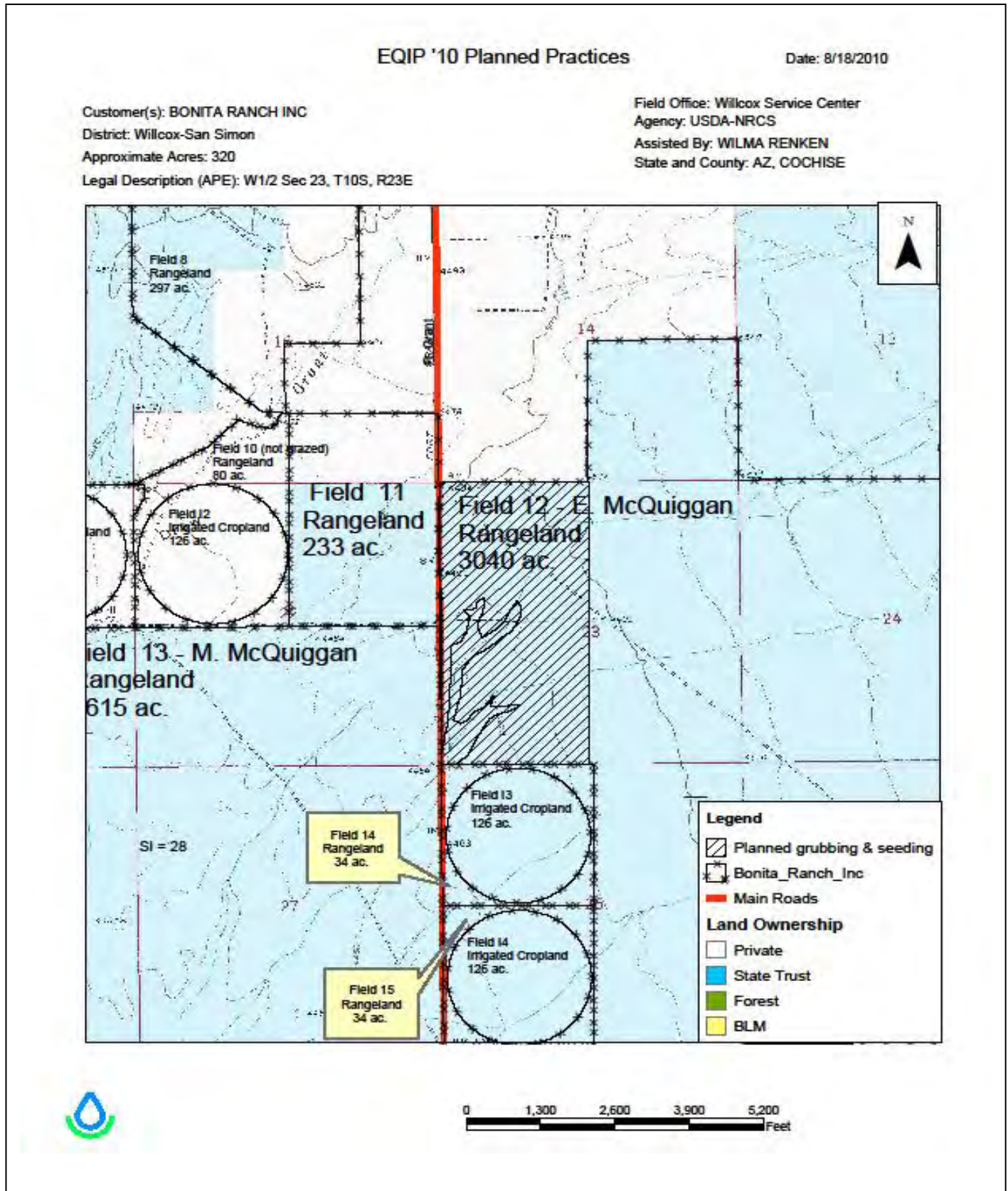
This project is located in AGFD's Region V (Tucson), GMU 31 (on the boundary of 31/32), in Graham County, AZ.

Below is a perspective of the location of the Bonita Ranch Phase 1 Grasslands Restoration project in relation to observed Pronghorn Antelope locations during aerial surveys 2009-2010, the Bonita and Southern Greasewood antelope herds and assumed antelope corridors.



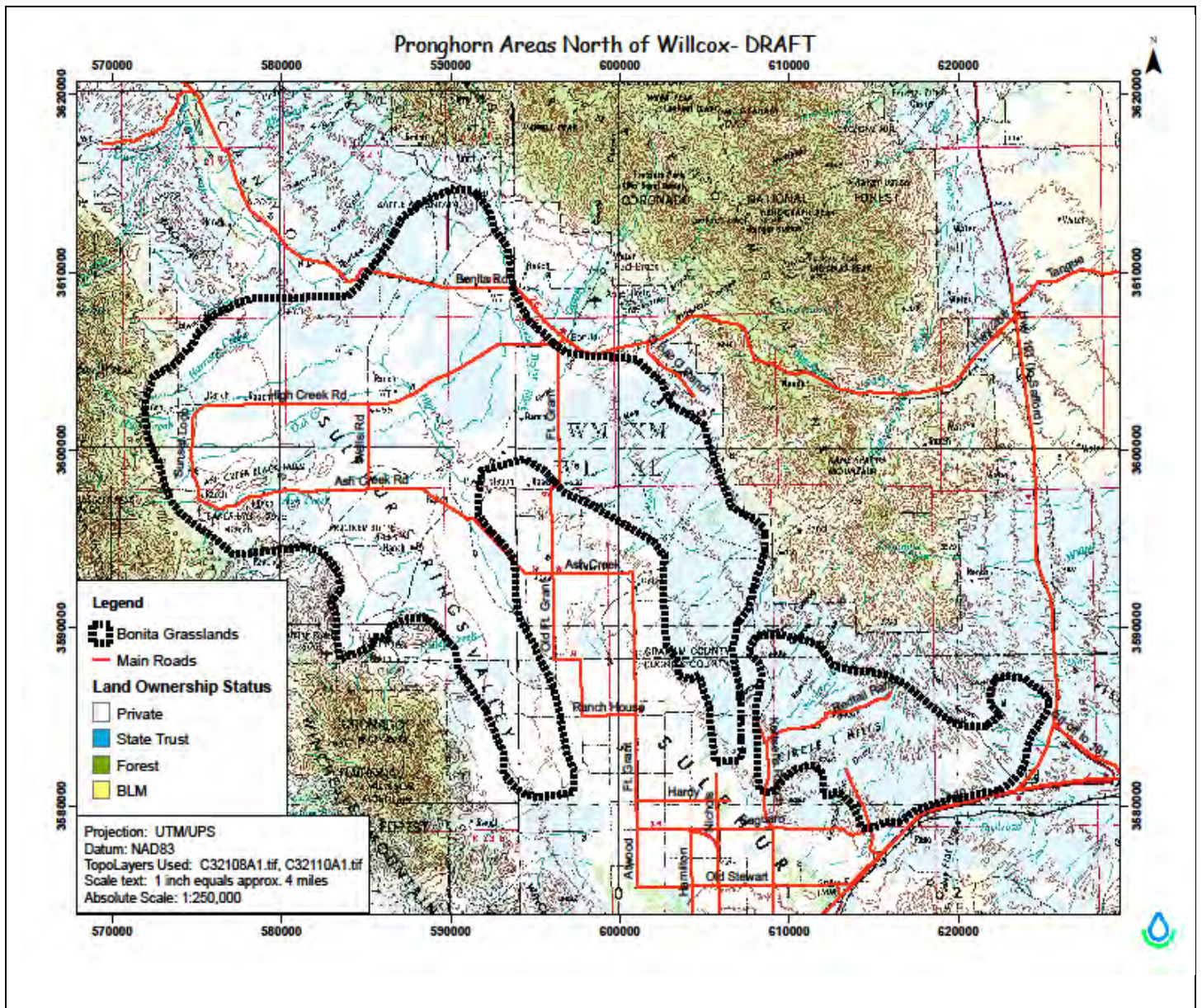


Bonita Ranch Phase 1 Project Area (320 acres) 1/2 section.





Indication of land status within the Bonita Grasslands Restoration Area.





Photos of previously completed projects within the overall Bonita Grasslands Restoration Project Area. The fence line contrasts indicate habitat conditions prior to and after the mesquite removal treatment.

Photo 1



Photo 2





**LAND OWNERSHIP AT PROJECT SITE:** State Trust Land

**(Please state specifically if PRIVATE PROPERTY and provide landowner's name):**

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

**HABITAT DESCRIPTION:**

Remnant semidesert grassland with mesquite shrub dominance at approximately 4500 feet.

**ITEMIZED USE OF FUNDS:**

Source	Item	Unit Price	Quantity	Total Costs
NRCS	Grubbing (heavy density)	\$167/ac	30 acres	\$5,010.00
NRCS	Grubbing (light density)	\$75/ac	290 acres	\$21,750.00
Rancher	Labor (heavy density)	\$55/ac	30 acres	\$1,650.00
Rancher	Labor (light density)	\$25/ac	290 acres	\$7,250.00
HPC	Carcass Removal (heavy density)	\$120/ac	30 acres	\$3,600.00
HPC	Carcass Removal (light density)	\$70/ac	290 acres	\$20,300.00
Total Project Costs				\$59,560.00

**LIST COOPERATORS AND DESCRIBE POTENTIAL PARTICIPATION:**

NRCS (Natural Resource Conservation Service) Willcox Office  
Jeff Homack (landowner/lessee)

**PROJECT MONITORING PLAN:**

The project will be monitored by NRCS and AGFD.

**PROJECT MAINTENANCE:**

The project area/treated sites will be monitored yearly by NRCS, rancher/lessee and/or AGFD. It is anticipated that there will not be 100% mesquite mortality and that there will be some resprouting of mesquite in subsequent years. This has been discussed between all parties involved. The maintenance plan is to return to the project site every few years and apply a spot herbicide treatment. NRCS does not have a maintenance funding source; therefore it will be the responsibility of the Rancher/lessee and AGFD to supply funding for herbicide treatment. It is planned that subsequent grants/HPC/LIP monies will be sought after to fund continued maintenance of the project/treated areas. Funding costs associated with this type of maintenance is unknown at this time, due to this being a new project but it is believed maintenance costs will be considerably less than costs of the original treatment.

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

John Bacorn

**WATER DEVELOPMENT PROJECTS (see attached worksheet):** n/a

**SEND COMPLETED APPLICATIONS TO:**

**Game Branch  
2221 W. Greenway Rd.  
Phoenix, AZ 85023  
[mdisney@azgfd.gov](mailto:mdisney@azgfd.gov)**