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

Game Branch / HPC Project Number:	13-203

PROJECT INFORMATION

Project Title: Cedar Flat Wildlife Habitat And Watershed Enhancement Project

Region and Game Management Unit: Region II, GMU 6A

Local Habitat Partnership Committee (LHPC):	**Was the project presented to the LHPC?**
• Flagstaff /Williams	**YES**[x] **in 2012 NO**[]

Has this project been submitted in previous years? YES[X] **NO**[] As Beaver-Clear Creek Habitat Restoration Project
If Yes, was it funded? YES[] **NO**[X]→ **Funded HPC Project #(s)**:

Project Type: Mechanical thinning

Brief Project Summary:
Reduce juniper encroachment via the use of hand tools and mechanized equipment in order to improve wildlife habitat in the Cedar Flats area of the Red Rock Ranger District.

Big Game Wildlife Species to Benefit: Pronghorn, elk, white-tail deer, and mule deer, big-horn sheep ?

Implementation Schedule (Month/Day/Year):	**Environmental Compliance**:
Project Start Date: November 1, 2013 Project End Date: November 1, 2015	NEPA Completed: Yes[] No[x] N/A[] Projected Completion Date Oct 2013 State Historic Preservation Office - Archaeological Clearance: Yes[] No[x] N/A[] Projected Completion Date: Nov 1 2013 Arizona Game and Fish Department EA Checklist: N/A[] To be Completed by: Lee Luedeker Projected Completion Date: March 2014

PROJECT FUNDING

Special Big Game License Tag Funds Requested: **Cost Share or Matching Funds**:	**$** 50,000 (By fund source: Elk- $40000 Pronghorn- $3000 Deer- $7000); Forest Service using FY2013 dollars for NEPA and archy clearance - $15,000 U of A contribution – $5,650 Volunteers - $1,000 **$** $21, 650
Total Project Costs:	**$ 71,650**

PARTICIPANT INFORMATION

Applicant (please print): Janie Agyagos	**Address**: **Red Rock Ranger District** **8375 State Route 179** **Sedona, AZ 86351**	**E-mail**: jagyagos@fs.fed.us
Telephone: **928-203-7507**		**Date**: August 19, 2013

AGFD Contact and Phone No. (If applicant is not AGFD personnel): **Lee Luedeker 928-856-0747**

Project has been coordinated with: **Lee Luedeker and Steven Cassady (AZGFD) and Doug Tolleson (UofA)**

NEED STATEMENT – PROBLEM ANALYSIS:

Habitat, specifically cover amount, type and visual obstruction affect rangeland ungulate wildlife population dynamics. Additionally, such habitat attributes as forage quantity and quality interact with cover to determine the overall habitat suitability for these species. Wildlife habitat between the Beaver Creek and Clear Creek watersheds in the Cedar Flat area of the V Bar V Ranch (Walker Basin allotment) on the Coconino National Forest has experienced an increase in juniper since being treated in the late 1960's and having gone without any maintenance. This increase in juniper cover has coincided with a decrease in herbaceous understory and other forage plant species. There is a need to improve habitat quality for ungulate wildlife in the Cedar Flat area. Our objective is to remove variable densities of juniper trees on ~50 year old "pushed" juniper re-growth to improve habitat for elk, mule deer, white-tailed deer, and pronghorn antelope via: (1) immediate reduction of visual obstructions and creation of wider travel/escape lanes, (2) creation of forage refugia around tree removal sites by scattering slash, (3) increase fine fuels so that fire will be an effective tool for maintenance of savannah conditions and to improve the hydrologic function of these soils, and 4) improve habitat permeability by fence remediation.

PROJECT OBJECTIVES:

The project objective for the 2014 cycle is to reduce juniper encroachment into grassland habitat on Cedar Flat. Sites selected for treatment total approximately 400-500 acres. The choice polygon(s) for treatment function as winter season elk range and all-season habitat for pronghorn antelope and deer. Forest Road 214 on the northwest slope of Bald Hill accesses the southeast boundary of the treatment site. The focus area for the 2014 cycle was selected based on suitability for NEPA Categorical Exclusion (Cat-Ex) status and consistency of ungulate habitat use. Red Rock Ranger District has budgeted $15,000 for fiscal year 2013 to complete the NEPA and archy clearances for a range of tool/fire applications appropriate to the terrain and woody stem density of each site. Cat-Ex NEPA clearance ease for low-disturbance hand-crew (saw) treatment complemented the selection of the polygons for this cycle. There will be some acreage where mechanical treatment is permissible; this will be dependent on how much area can be surveyed by Forest Service archeologist in September of 2013. Otherwise, the remaining acreage will be treated by hand crews using hand tools (until additional archy survey can be funded and conducted).

Polygons critical as travelways and linkage corridors have also been selected as targets for inclusion in the Cat-Ex clearance process for fiscal 2014. These polygons generally trend southwest-northeast along the boundary between the V-V allotment and the Bar D allotment. Red Rock Ranger District expects to complete this analysis in September 2013 so that implementation may begin at the beginning of FY 2014.

Specific habitat improvements expected from the proposed action include:

1. Increase in quantity and quality of forage plants for elk, pronghorn antelope and deer.
2. Additional sight lanes for pronghorn antelope travel corridors.
3. Enhance edge effect and thermal cover function.

PROJECT DESCRIPTION AND STRATEGIES:
The scale of the project both in temporal and spatial terms requires that project strategies remain flexible and dynamic. The implementation of Coconino National Forest management policies such as the Four Forest Initiative probably will interface with the objectives of this project, especially in the Mahan habitat block in the future. The application of volunteer projects, particularly fence remediation to improve wildlife permeability, offers an additional element to the vision and success of the outcome.

Specific actions for the 2014 cycle include:

1. Handcrew (saw) removal of invasive junipers on rough-terrain (stony/boulder) sites within the treatment polygons.
2. Agra-axe removal of invasive junipers as Cat-Ex analysis and cost/benefit analysis and rough terrain allows.
3. Maximize use of Forest Service fire crews as available labor force to enhance efficiency.
4. Implement prescribed fire to eliminate seedling-stage junipers as fuel loading/accumulation and grazing rotation allow.
5. Lop and scatter juniper crowns.
6. If prescriptions and fuel loading allow, Coconino National Forest personnel may implement some prescribed and fire use burns.

PROJECT LOCATION:
Central Game Management Unit (GMU) 6A on Cedar Flat in Central Arizona: Map attached as Appendix

LAND OWNERSHIP AT THE PROJECT SITE(S)*:*
(if the project area is <u>private property,</u> please state specifically and provide the landowner's name)

Coconino National Forest
Red Rock Ranger District
Mogollon Rim Ranger District

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:
Cedar Flat Unit: Elevated plains at 5500' to 6000'. Mix of grassland (western wheatgrass, sideoats grama, strong forb component), juniper savanna, and juniper-pinyon woodland. Mechanical treatment of woodland and savanna habitats during the 1960's favored grassland formations, but juniper encroachment has reduced this grassland component and now compromises habitat capability for ungulates.

ITEMIZED USE OF FUNDS:

Special Big Game License Tag Funds
Hand Crews – 250 -350 acres $45,000
Mechanical – 150 acres $5,000

Cost Share or Matching Funds (*for volunteer labor rates please refer to the worksheet below*)
AZ Elk Foundation volunteers - $1,000
University of Arizona –
Forest Service - $15,000 of FY 13 funds to complete NEPA and archy clearance

LIST COOPERATORS AND DESCRIBE POTENTIAL PARTICIPATION:
Arizona Game and Fish Department-Lee Luedeker, Wildlife Manager, project reconnaissance and planning, joint author, and project monitor.
Arizona Game and Fish Department- Steve Cassady, Landowner Incentive Program Manager, project reconnaissance and planning.
Coconino National Forest- Red Rock Ranger District, Amina Sena and Janie Agyagos – lead for FS NEPA requirements on the Red Rock District and project monitors.
Coconino National Forest- Mogollon Rim Ranger District, Jeff Thumm – potential labor contribution of fire crews.
University of Arizona- V-V Ranch- Doug Tolleson- Rangeland Management Specialist, project planning and project monitor. Dave Schafer- V-V Ranch Director, coordination with ranch operations to fit project goals.
M Diamond Ranch- Peggy Ingham livestock permittee (future implementation cycles)
Bar D Ranch- Bruce Johnson livestock permittee (future implementation cycles)
Natural Resource Conservation Service- Iric Burden, project planning
Arizona Elk Society – Jim deVos, project monitor and volunteer coordinator.

Arizona Department of Transportation may also be a potential additional partner due to their involvement in highway planning through the FH-3 corridor for out-year efforts specifically habitat connectivity and linkages.
Salt River Project may also be a potential additional partner due to their linkage with the project area as a watershed that contributes water to their operations.

WOULD IMPLEMENTATION OF THIS PROJECT ASSIST IN PROVIDING, MAINTAINING, OR FACILITATING RECREATIONAL ACCESS?
YES[x] NO[] N/A[]

PROJECT MONITORING PLAN:
Primary monitoring party will be the University of Arizona, but also AGFD and USFS responsibility will depend on the configuration of the labor unit:

(a) V-V Ranch/ University of Arizona – quantitative and qualitative response of herbaceous vegetative to treatment.
(b) Arizona Game and Fish – game surveys.
(b) Coconino National Forest – short term and long term response of soil function to treatment.

PROJECT MAINTENANCE:
Prescribed fire applied on regular rotation can extend the habitat diversity gained through this treatment. Coconino National Forest plans and policies will direct the utilization of the prescribed fire tool.

PROJECT COMPLETION REPORT TO BE FILED BY:
L. W. Luedeker- Arizona Game and Fish Department

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

TREE CLEARING/REMOVAL PROJECTS (*please use the worksheet below***):**
Refer to attached worksheet.

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?"

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:
Name of water source:
Type of water source (catchment, spring, dirt tank):
Ownership of water source:
Distance in miles from 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:_____ Approximate hiking time: _____

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

-- Please describe any restrictions to public access:

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: Cedar Flat Wildlife Habitat And Watershed Enhancement Project

1) What is the estimated acreage of the project?
2014 cycle- 400 to 500 acres (dependent on cost per acre
If economy of available labor force allows, treated acreage will accrue to utilize available funds.
Total implementation- 40k+ acres (includes prescribed burn objective)

2) How are the trees going to be cleared? (agra axe, chain saw, grubbing, push, chaining):
Chain saw, agra axe and mechanical chipper

3) What is the estimated number of trees per acre?
Minimum-10/acre Maximum- 200/acre

4) Describe trees to be cleared (species, estimated diameter, single stem, multi-stem):
Species- juniper, exclusive of alligator bark juniper; pinyon pine (only where occurring on sites targeted for 100% shearing)
Estimated diameter- <12-inch BDH
Most stems to be sheared are single-stem trees, but low branches on some single-stem specimens require shearing near the soil surface to achieve positive results.

5) Describe terrain (slope, soil type, rocks)
Slope- mostly flat to moderate (10%) grade, average grade of 3%, with some volcanic-origin promontories that have steep faces.
Soil type- Haplustalfs (volcanic origin) of loam and clay loam, most sites moderately deep to deep. The treatment polygons coincide with the 466 soil series described as cobbly, very cobbly and very stony. Surface exposure of cobbles and stones favors hand treatment over mechanical treatment.
Rocks- Cobbles and stones are of extrusive volcanic origin (basalt). Some sites feature density and size of stones that preclude reasonable mechanical treatment of trees.

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

7) Please provide the following information about access to the proposed site:
Type of access (mark one): [x]2x4 vehicles [x]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[x]

Is the site relatively accessible for tree removal equipment? YES[x] NO[]

Please describe any restrictions to public access: None as a result of this project.

ARIZONA GAME AND FISH DEPARTMENT
VOLUNTEER HOURLY RATES AND CLASSIFICATIONS WORKSHEET

PROJECT TITLE: _____

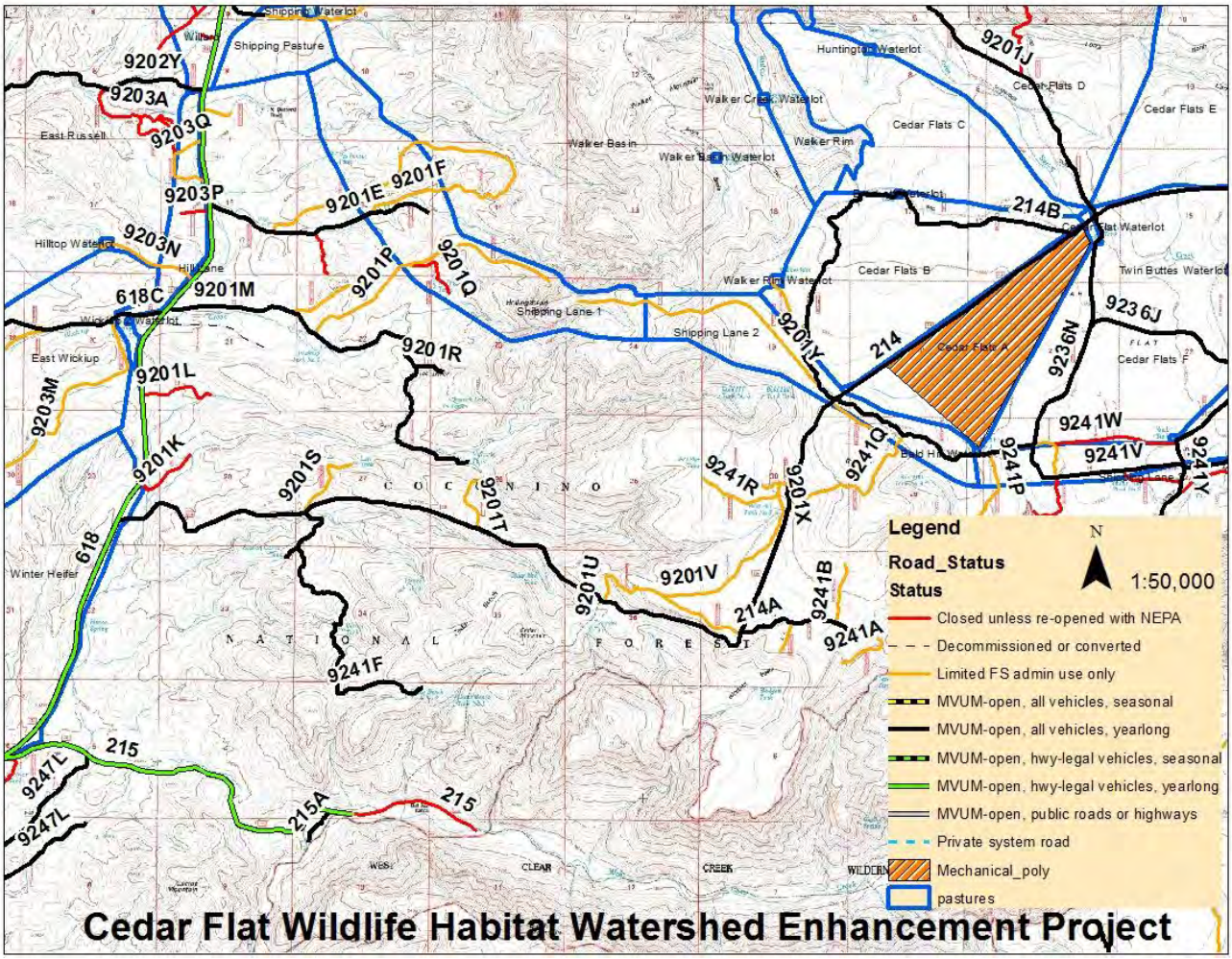
The value of volunteer labor should be calculated at the hourly rate of an employee doing similar work, or using hourly rates from the Arizona Department of Administration's Human Resource web site, plus a standard ERE rate of 35%. http://www.hr.az.gov/HR_Professional/Class_Comp/PDF/alphacovered.pdf

$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				

Project Maps

Map One: FY 2014 Vicinity Map



Map Two: FY 2014 Project Map