

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

Game Branch / HPC Project Number: 12-204

PROJECT INFORMATION

Project Title: Beaver-Clear Creek Habitat Restoration

Region and Game Management Unit: Region 2 / GMU 5B & 6A

Local Habitat Partnership Committee (LHPC):

- Williams- Flagstaff

Was the project presented to the LHPC?

YES **NO**

Has this project been submitted in previous years? YES NO

If Yes, was it funded? YES NO → **Funded HPC Project #(s):**

Project Type: Juniper/pine/shrub reduction by site directed tool/method

Brief Project Summary: The proposal, cumulatively along with other Forest Service projects and over a phased 12 year period will ultimately result in the treatment of approximately 40K acres of habitat by managing the vegetative mosaic to restore grasslands on suitable soils and retain elements of cover generally defined by mature juniper/pine overstory. Treatment methods over the 12 year period will include use of hand tools (chainsaws), mechanical tools and prescribed fire. In addition to the V-V Ranch, adjoining areas of the M-Diamond and Bar D are included (generally described as the area between Wet Beaver Creek Wilderness and West Clear Creek Wilderness). The eastern boundary of the project area is generally delineated by Forest Roads 9363B and 93C east and southeast of Happy Jack.

The project targets include:

1. Linkage of habitat blocks by wildlife travel corridors.
2. Release of grass/forb/shrub layer by juniper and pine removal (inclusive of chipping, agra-axe and handcrew techniques with prescribed fire options as terrain/clearance directs). The juniper removal acreage generally selects those areas treated by chaining/pushing during the 1960's Beaver Creek Watershed Project.
3. Optimal hydrologic function of the project area.
4. Thermal cover function of residual mature juniper and pine in treated areas.

The project visualization anticipates staged treatment of cells over a 10 to 12 year cycle of entries as funding becomes available. For fiscal year 2013 which would be the first phase of the project, it is proposed to treat 250- 500 acres on Cedar Flat west of FR 214, on the Red Rock Ranger District.

Big Game Wildlife Species to Benefit: Elk, pronghorn antelope, mule deer, whitetail deer

Proportional habitat utilization: Elk-60% Pronghorn antelope- 20% Deer- 20%

Implementation Schedule (Month/Day/Year):

Project Start Date: Spring 2013

Project End Date: Spring 2013

Environmental Compliance:

NEPA Completed: Yes No N/A

Projected Completion Date: Staged- Red Rock Ranger District has budgeted \$10K for fiscal 2013 to complete Categorical Exclusion standard for entry by tool/fire treatments on prioritized polygons on the Cedar Flat area to be completed by February 2013. In addition, the Mogollon Rim Ranger District, which encompasses the larger landscape which the current project will expand into, projects completion of NEPA work on the entire Mahan element during 2015.

	State Historic Preservation Office - Archaeological Clearance: Yes[] No[x] N/A[] Projected Completion Date: <u>Early 2013</u>
	Arizona Game and Fish Department EA Checklist: N/A[] To be Completed by: <u>L. Luedeker</u> Projected Completion Date: <u>October, 2012</u>

PROJECT FUNDING

Special Big Game License Tag Funds Requested:	\$ 50,000 for 2013 (By fund source: Elk- \$40,000 Pronghorn- \$3,000 Deer- \$7,000); Project completion at maximum implementation during 12- year cycle-\$500K
Cost Share or Matching Funds:	\$ FY13: \$ 10,000 Red Rock Ranger District (CNF) 2013 budget committed to Cat-Ex clearance on Cedar Flat Outyears: \$150,000 Mogollon Rim Ranger District (CNF) current year budget committed to NEPA on Mahan division (For Outyear Treatments)
Total Project Costs:	\$60,000 (2013) Estimated Total Project Costs Through FY 2025- \$1,000,000

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: September 4, 2012

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

Project has been coordinated with: Lee Luedeker (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 2013 cycle is to reduce juniper encroachment into grassland habitat on Cedar Flat. Sites selected for treatment total approximately 250-500 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 2013 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 \$10,000 for fiscal 2013 to complete the Cat-Ex clearance for a range of tool/fire applications appropriate to the terrain and woody stem density of each site. Cat-Ex clearance ease for low-disturbance hand-crew (saw) treatment complemented the selection of the polygons for this cycle. Pending archaeological survey costs, survey intensity may allow for mechanical and/or fire treatment in addition to hand tools.

Polygons critical as travelways and linkage corridors have also been selected as targets for inclusion in the Cat-Ex clearance process for fiscal 2013. 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 early in FY 2013 so that implementation may also begin in 2013.

Specific habitat improvements expected from the 2013 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 2013 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 and Mahan unit south of Happy Jack in GMU'S 5B and 6A: Map attached as Appendix

LAND OWNERSHIP AT THE PROJECT SITE(S):

(if the project area is private property, 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.

Mahan Unit: Elevated plateaus at 6500' to 7500' with dispersed low volcanic peaks. The overstory consists primarily of ponderosa pine with inclusions of Gambel oak canopy. The Willow Valley area on the southeast quadrant of the Mahan block features limestone-origin soils and potential for linear meadow development along drainage courses. Current ponderosa pine stem density, much in pole age class, retards diversity and optimal habitat function.

ITEMIZED USE OF FUNDS:

Item	Cost
Labor	
Hand Crews	49,000
AZ Elk Foundation Volunteers	1,000
Total	50,000

Special Big Game License Tag Funds Requested

Elk-\$40,000

Deer- \$7000

Pronghorn Antelope- \$3000

Utilization

The projected cost/acre treatment will be variable depending on the stem density of each plot but prior projects indicate \$300/acre is reasonable. The area selected for the 2013 component trends toward the lower stem density scale. We predict the Arizona Elk Society/Arizona Antelope Foundation volunteer coordination role will require \$1000 for support services and that all the rest of the Big Game license Tag Funds will be spent on direct treatment as labor costs and incidental expenses (fuel, lubrication, transportation, equipment maintenance).

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

Current Year (2013) \$ 10,000 Coconino National Forest
Out Years (2013+) \$ 150,000 Coconino National Forest

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.

Potential Future Cooperators :

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[] NO[] N/A[x]

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.

- (c) 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):*

ARIZONA GAME AND FISH DEPARTMENT TREE CLEARING/REMOVAL WORKSHEET

PROJECT TITLE: Beaver- Clear Creek Habitat Restoration

- 1) **What is the estimated acreage of the project?**
2013 cycle- 250 to 500 acres (dependent on cost per acre, estimated to be ~ \$300/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 undifferentiated acreage
- 7) **Please provide the following information about access to the proposed site:**
Type of access (mark one): [70%] 2x4 vehicles [30%] 4x4 only [] Foot only**

**If foot access only: Distance in miles: Approx. hiking time:

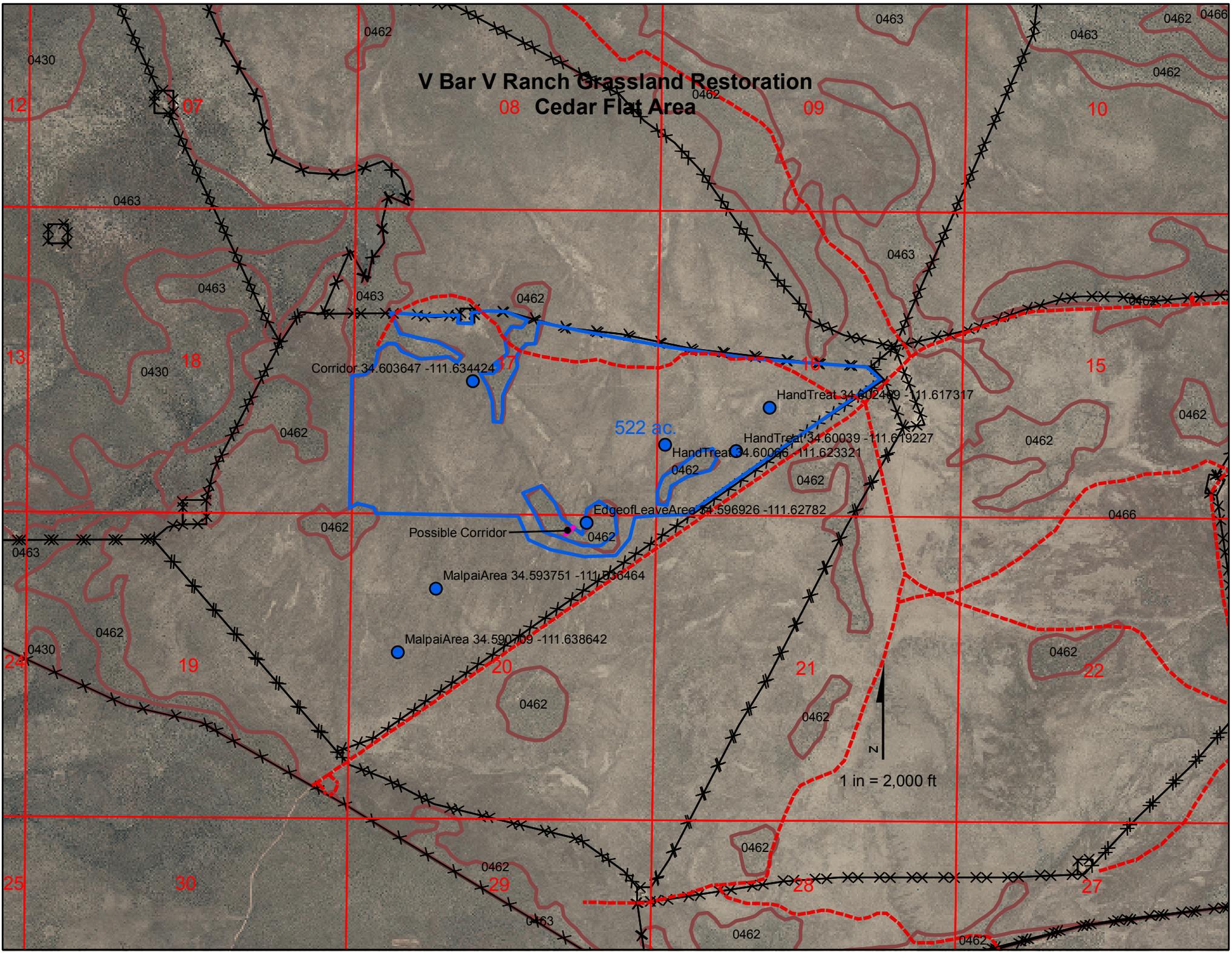
Does access to this site require crossing private or tribal lands? YES[] NO[x]

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

Please describe any restrictions to public access:

N/A

V Bar V Ranch Grassland Restoration 08 Cedar Flat Area



Appendix III

Beaver Creek- Clear Creek Habitat Restoration Project- Permittee consultation

From: Bruce [mailto:Bruce@hwjohnson.com]
Sent: Thursday, August 30, 2012 11:24 AM
To: Agyagos, Janie -FS
Subject: RE: final draft HPC grant for everyone's approval

To whom it may Concern,

The Bar D Ranch is in favor of this program and would like to have it expanded as much as possible.

God Bless America

Bar D Ranch

Bruce Johnson Manager

From: Peggy Ingham [mailto:peggy@usa.net]
Sent: Thursday, August 30, 2012 10:54 AM
To: Agyagos, Janie -FS
Subject: Re: final draft HPC grant for everyone's approval

Hi Janie/Lee,
We concur...and thanks!
Peggy Ingham
M Diamond Ranch