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

Game Branch / HPC Project Number:	11-302
Possible Funding Partners:	

PROJECT INFORMATION

Project Title: Iron Basin Chaparral Treatment Project

Region and Game Management Unit: Region 3/Game Management Unit 15A

Local Habitat Partnership Committee (LHPC):
- Kingman no longer has a local LHPC

Was the project presented to the LHPC?
YES[] **NO**[X]

Has this project been submitted in previous years? **YES**[] **NO**[X]
If Yes, was it funded? **YES**[] **NO**[] → **HPC Project #**:

Project Type: Mechanical Thinning/Vegetative seeding

Brief Project Summary: The purpose of this project is to use mechanical treatment to reduce dense stands of interior chaparral to improve wildlife habitat, minimize the potential for large uncontrolled wild-land fires and create continuous mosaic corridors to promote big game usage. Vegetative seeding will be done to increase the vegetation diversity within the project area, promoting healthy and productive deer habitat.

Big Game Wildlife Species to Benefit: Mule Deer 100%

Implementation Schedule (Month/Day/Year):

Project Start Date: May 01, 2012

Project End Date: November 30, 2014

Environmental Compliance:
NEPA Completed: YES[X] No[] N/A[]
Projected Completion Date: August 2, 2011

State Historic Preservation Office - Archaeological Clearance:
YES[] No[X] N/A[]
Projected Completion Date: February 2012

Arizona Game and Fish Department EA Checklist: N/A[]
To be Completed by: Joseph Currie AZGFD
Projected Completion Date: _____

PROJECT FUNDING

Special Big Game License Tag Funds Requested:	**$** 55,000
Cost Share or Matching Funds:	**$** 26,250
Total Project Costs:	**$ 81,250**

PARTICIPANT INFORMATION

Applicant (please print):	**Address**:	**E-mail**:
Deanna Kephart, AZGFD Trevor Buhr, AZGFD Wade Reaves, BLM	5325 N. Stockton Hill Rd, Kingman 2755 Mission Blvd, Kingman	@azgfd.gov @azgfd.gov _Reaves@blm.gov
Telephone: (928)692-7700 (928) 718-3734		**Date**: August 30, 2011

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

Project has been coordinated with:
AZGFD Region III, Bureau of Land Management/Kingman, Nigel Turner (Iron Basin allotment permittee).

NEED STATEMENT – PROBLEM ANALYSIS:

The interior chaparral communities comprise an important component of mule deer habitat in the Music Mountains. Decades of fire suppression however, has resulted in dense even-aged stands of chaparral, resulting in a decline of plant species diversity and poor quality wildlife habitat. Management ignited fire and mechanical treatment is a common habitat technique used to mimic naturally occurring conditions in chaparral communities. Over the past two years the Bureau of Land Management has initiated management-ignited fires throughout Iron Basin during the months of October through March, (2008-2010). The results varied with burn success occurring on the steep slopes and ridgelines, but dense thickets still remain in the lower interiors of the habitat community. Mechanical means and reseeding is needed to improve habitat quality for mule deer by creating a mosaic of treated and untreated patches, increasing accessibility, improving forage conditions (e.g., quality and diversity), and increasing the potential to detect predators. The treatment is also needed to facilitate better distribution of domestic livestock and wildlife throughout the area, reducing the impact to concentrated areas. Several natural springs provide perennial water to wildlife in the area; the Department also has wildlife water located within one mile of the proposed project area.

Iron Basin 2009 burn, Northwest Corner of Music Mountains.


Music Mountain interior chaparral prescribed burn Iron Basin 2009.

PROJECT OBJECTIVES:

The focus of this project is two-fold; first is to mechanically treat the dense overgrowth of interior chaparral, restoring suitable mule deer habitat within the area, and second is to reseed with native vegetation creating suitable browse for wildlife species.

Mechanical treatment and vegetative reseeding is proposed to:

1) maximize habitat enhancement to benefit wildlife
2) create a mosaic pattern of treated versus untreated habitat to improve the low density mule deer population in the area.
3) reduce the threat of large wildland fires by reducing area fuel loads
4) facilitation of historic climax plant communities.
5) enhance habitat connectivity to benefit mule deer herds

Controlled burns are the least costly and quickest treatment but involve numerous variables that often prohibit their use. Mechanical manipulation is more costly but allows for better planned treatment and defined outcomes. Mechanical manipulation allows for year round treatment whereas controlled burns are only suited for best weather conditions, and can be unpredictable in travel patterns.

PROJECT DESCRIPTION AND STRATEGIES:

The project will restore approximately 5,200 acres of big game habitat, (primarily Mule Deer) to the ecotonal areas in the Music Mountains, Mohave County, Arizona. The treatment will be completed using a Fecon drum grinder attached to a rubber tract steer skid. The Fecon Mulcher chips trees with a diameter at root crown (drc) up to 16 inches, without creating large areas of

soil disturbance. The mulcher will leave fine mulch on the ground facilitating growth of new ground cover and forage availability for wildlife.

Vegetative reseeding will be based on soil properties including depth and composition suitability. Plant species composition and annual production pounds per acre will be based on ecological site assessments completed by the Natural Resources Conservation Service (NRCS).

Soil Types:
Sandy Loam Upland 6-10" p.z. Limy subsurface, gravelly
Limy Upland 10-13" p.z. deep
Basalt Hills 10-13" p.z. Limy

Grasses:
big galleta *Pleuraphis rigida*
bush muhly *Muhlenbergia porteri*,
fluffgrass *Dasyochloa pulchella*,
sand dropseed *Sporobolus cryptandrus*,
mesa dropseed *Sporobolus flexuous*,
Indian ricegrass *Achnatherum hymenoides*,
Aristida *Aristida.*
desert needlegrass *Achnatherum speciosum*

Forbs:
desert globemallow *Sphaeralcea ambigua*
desert marigold *Baileya multiradiata*
desert trumpet buckwheat *Eriogonum inflatu*
Gordon Bladderpod *Lesquerella gordonii*

Shrubs:
white bursage *Ambrosia dumosa*
winterfat *Krascheninnikovia lanata*
range ratany *Krameria erecta*
white ratany *Krameria grayi*
Nevada Mormon tea *Ephedra nevadensis*
Anderson wolfberry *Lycium andersonii*
Opuntia *Opuntia*

PROJECT LOCATION:
The Iron Basin project consists of two treatment units; Iron Basin and Hells Canyon. Both units are located at the northern end of the Music Mountains within Game Management Unit 15A.

Iron Basin Treatment Unit:
Township 28North, Range 16West, Sections 2-5, 7-11, 15-16, 18-21.
Township 28North, Range 17West, Section 18

Hells Canyon Treatment Unit:
Township 28North, Range 15West, Sections 19 and 31
Township 28North, Range 16West, Sections 11, 13-15, 22-26, and 36

LAND OWNERSHIP AT PROJECT SITE (Please state specifically if PRIVATE PROPERTY and provide landowner's name):
Entire project is located on BLM land.

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

YES[] NO[]

HABITAT DESCRIPTION:

Iron Basin and Hells Canyon contain approximately 10,400 acres dominated mainly by interior chaparral. The area is a transitional habitat complex with pinyon-juniper species prevalent on the south and eastern slopes of the basin. Pinyon-juniper occurs along the western slope of the basin as well, but this plant association transitions into Mohave Desert Scrub with blackbush and Joshua trees dominating the northern boundary of the project area. Riparian habitat exists along several very productive springs within the project area. Grasses and forbs are not abundant except in scattered inter-scrub openings, or on rocky outcrops.

Interior chaparral is found in pure stands and mixed with pinion-juniper and desertscrub vegetation. This vegetation community is composed of closely spaced shrubs, most with small evergreen sclerophyllous leaves and deep root systems. Elevation's range from 4650 to 6760 feet, with an annual precipitation of 12 to 15 inches. The land form covers plateau's with hills and interspersed stream terraces, with slopes ranging from 3 to 45 percent.

Historic Climax Plant Community - Music Mountains

Iron Basin Music Mountains April 2011

ITEMIZED USE OF FUNDS:

Special Big Game License Tag Funds

AZGFD Implementation

SBG Fund: Native Seed Mix	**$34,000**	($10-$40 per pound) (3 to 5 pounds per acre)
SBG Fund: Equipment Costs	**$21,000**	($350 per day X 60 days)
Total Implementation Costs	**$55,000**	

Cost Share or Matching Funds

BLM Planning

-Site visits	$750
-Specialist reports and clearances	$2,500
-NEPA documented prep and approval	$2,000
Total Planning Cost	**$5,250**

BLM Implementation

-Personnel (1 Operator, 1 Spotter)		
-Equipment (BLM equipment/Fuel)	**$21,000**	($350 per day X 60 days)
Total Implementation Cost	**$26,250**	

LIST COOPERATORS AND DESCRIBE POTENTIAL PARTICIPATION:
Arizona Game and Fish Department (AGFD) Region III Kingman Office

- Arizona Game and Fish will provide the coordination for the project.
- Arizona Game and Fish will share in the implementation costs for the project.
- Arizona Game and Fish will fund the purchase of native vegetation seed mix for the project.
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Bureau of Land Management (BLM) Kingman Office

- BLM will cost share the implementation costs for the project.
- BLM will cost share the planning funds for NEPA, EA and Archaeological Clearance.
- BLM will provide a Fecon Mulcher with one equipment operator and one spotter for project.
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PROJECT MONITORING PLAN:
Standard protocol for project monitoring will be implemented to determine success in meeting project objectives. Site evaluations will be completed to determine success of reseeding, and regeneration of trees and shrubs. Additionally, annual big game surveys will be a measurement of project effectiveness. With the addition of 5200 acre's of usable habitat, there is an expectation that wildlife species that utilize these habitats will expand into these new areas. The higher quality habitat should increase production and recruitment, resulting in a healthier overall population.

PROJECT MAINTENANCE:
N/A

PROJECT COMPLETION REPORT TO BE FILED BY:
Deanna Kephart, AZGFD

WATER DEVELOPMENT PROJECTS (*see attached worksheet***):**
Non-Applicable

TREE SHEARING (AGRA-AXE, PUSH) PROJECTS (*see attached worksheet***):**
Worksheet attached.

ARIZONA GAME AND FISH DEPARTMENT
WATER DEVELOPMENT WORKSHEET

PROJECT NAME:_____

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 SHEARING WORKSHEET

PROJECT TITLE: Iron Basin Chaparral Treatment Project

1) What is the estimated acreage of the project?
The Iron Basin treatment area is approximately 6250 acres.
The Hells Canyon treatment area is approximately 4150 acres.
Mechanical treatment would facilitate a habitat mosaic with no more than 50-60% coverage.
Total combined acre's = 5,200

2) How are the trees going to be cleared? (agra axe, chain saw, push):
Land Clearing Equipment:
1. Fecon Tree Shear forest mulcher.
2. Slash Buster brush cutter.

3) What is the estimated number of trees per acre?
The number of trees per acre varies widely across the project area, ranging from 0 to over 300. Most areas we are looking to treat have between 10 and 60 trees per acre (greater than 2 inches diameter), with an **average of 30 trees per acre**.

4) Describe trees to be cleared (species, estimated diameter, single stem, multi-stem):
Vegetation within the project area is dominated by interior chaparral. Shrub canopy cover averages 50-70%. Common shrubs include sonoran shrub oak, desert ceanothus, skunkbush sumac, silktassel, pointleaf manzanita, pringle manzanita, and mountain mahogany. Scattered stands of singleleaf pinyon pine and Utah juniper occur throughout the project area.

5) Describe terrain (slope, soil type, rocks)
The land form this project covers is a plateau with hills and interspersed stream terraces. The soil profile depths for these soils range from very shallow to deep. Soil profile textures range from extreme cobble sandy loams to clay. Coarse fragments on the soil surface range from gravel to channer to cobble. The parent material for these soils ranges from limestone to basalt. Total slope range for the area is 3 to 45 percent. Runoff range is medium to very high, and permeability is slow to moderately rapid.

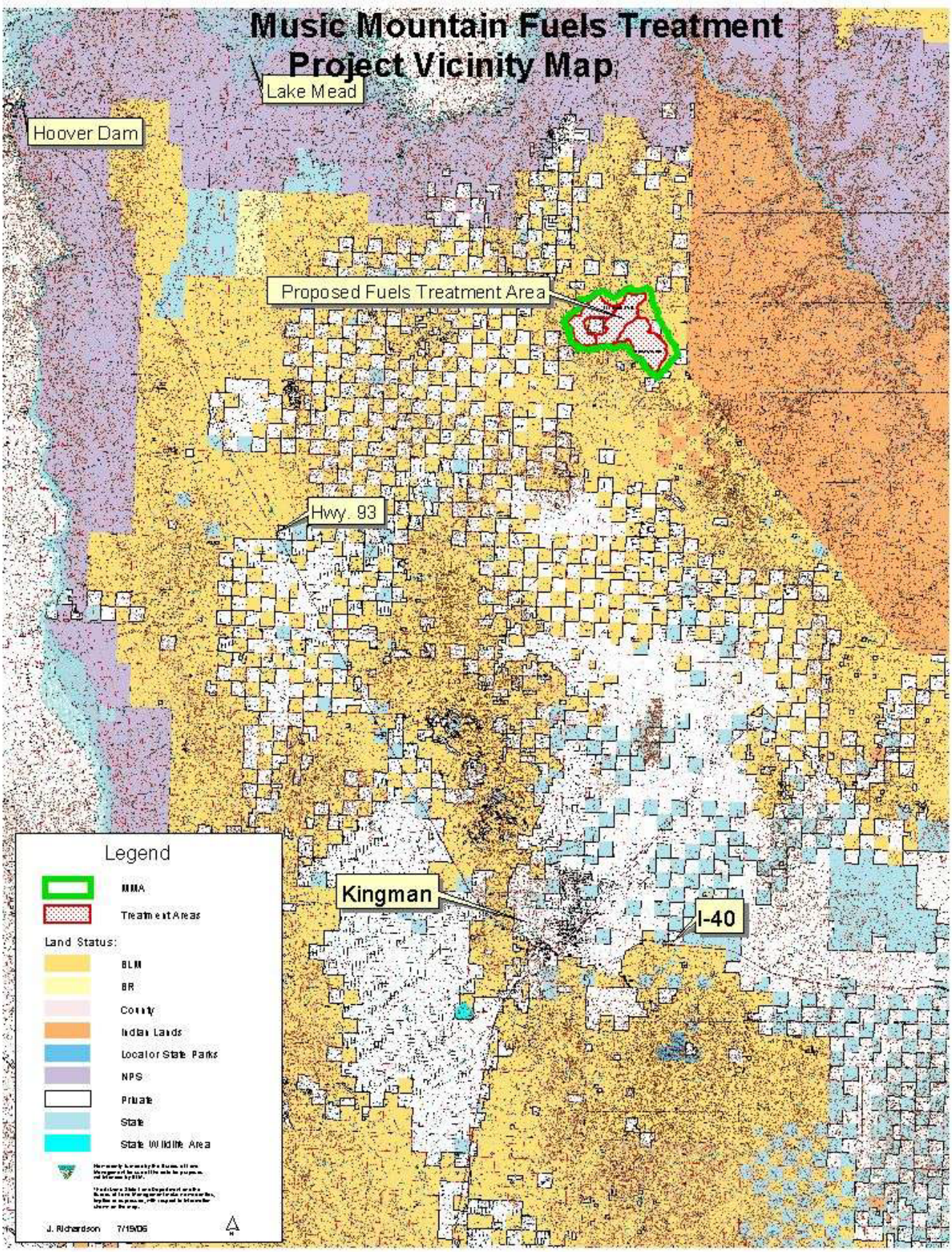
6) Please list any special land management status for the project site (e.g. Wilderness, National Park, National Monument). If private land, list landowner.
Bureau of Land Management

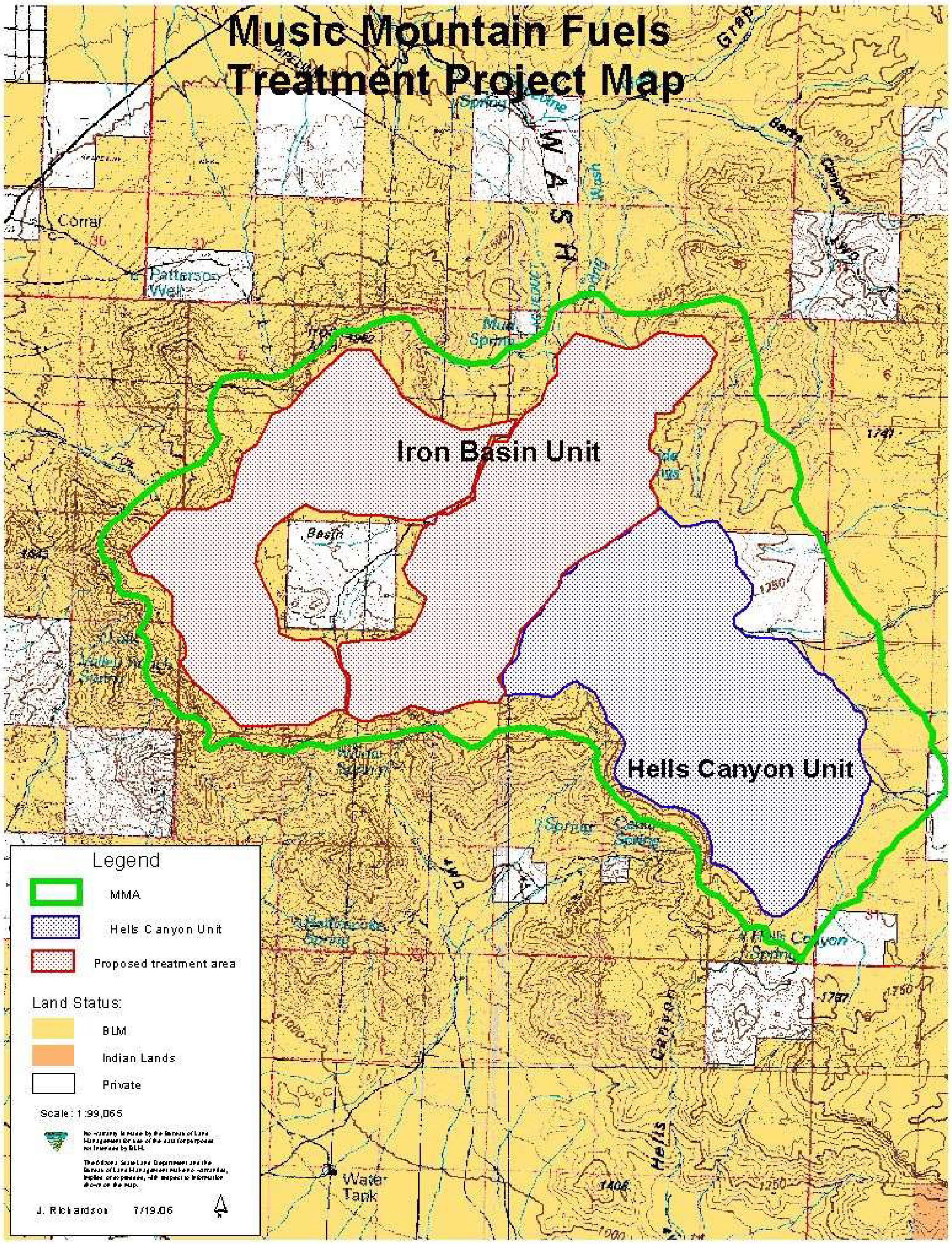
7) Please provide the following information about access to the proposed site:
Type of access (mark one): [X]2x4 vehicles []4x4 only []Foot only**
**If foot access only: Distance in miles: Approx. hiking time:

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

Is the site relatively accessible for tree shearing equipment? YES[X] NO[]

Please describe any restrictions to public access:
No restrictions property is BLM land.


Music Mountain Fuels Treatment
Project Vicinity Map
Lake Mead
Hoover Dam
Proposed Fuels Treatment Area
Hwy. 93
Kingman
I-40
Legend
MMA
Treatment Areas
Land Status:
BLM
BR
County
Indian Lands
Local or State Parks
NPS
Private
State
State Wildlife Area
J. Richardson 7/19/06


Music Mountain Fuels
Treatment Project Map
Iron Basin Unit
Hells Canyon Unit
Legend
MMA
Hells Canyon Unit
Proposed treatment area
Land Status:
BLM
Indian Lands
Private
Scale: 1:99,065
J. Richardson 7/19/06