

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

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| HPC Project Number: | 19-610 |
|---------------------|--------|

PROJECT INFORMATION

| | | | |
|--|---|---|---|
| Project Title: | 22N Mastication Habitat Improvement Project | | |
| Game Management Unit: | 22N | Region: | 6 |
| Local Habitat Partnership Committee (LHPC): | | Was the project presented to the LHPC? | |
| Payson Natural Resource Committee | | Yes | |

Project Location: (Please provide lat/long in decimal degrees or meters of project area using datum WGS84 or NAD83. If project is larger than one point, please include them all. Provide an accompanying shapefile as an attachment for the project area).

MULTIPLE LOCATION COORDINATES:
Please separate coordinate pairs with names & commas. (ex. Bob's Tank 34.365, -110.663. Clear Spring 34.55, -110.107, etc.):

See attached maps

| | | | |
|---|---|---|-------|
| Project Type: | Juniper/brush mastication | Number of acres that will be enhanced: | 4,570 |
| Water Project Action (if applicable): | | | |
| Habitat Restoration Action (if applicable): | Remove dense juniper and brush growth to a healthy level. | | |
| Other Project Type and Action (if applicable): | NA | | |
| Has this project been submitted in previous years? | No | | |

PROJECT SUMMARY

Describe the proposed action only. Please use plain English, what action are you proposing? (If applicable, please reference any completed compliance including EAC#).

Brief Project Summary: This is a mastication project located in a Pinyon-Juniper Grassland that is currently overstocked with tree cover and dense brush. This project will create openings in the tree canopy using specialized machinery to grind and scatter targeted trees.

| | | |
|--|--|---------------------------------------|
| Primary Big Game Wildlife Species to Benefit: | elk, mule deer, white tail, rocky mountain bighorn sheep | |
| Implementation Schedule (Month/Day/Year) | START DATE: May 1 2020 | COMPLETION DATE: 12/31/2025 |

PROJECT FUNDING

| Project Funding | Itemized Use of Funds |
|---|--|
| <p>*Qualifying Cost Share should be restricted to support (materials, compliance, and or labor) of the proposed action ONLY (same time and place). Please do not include previously purchased supplies or past completed work.</p> | <p>Please email separate quotes if HPC funds are to be used to purchase materials or contracted labor: HPC@azgfd.gov.</p> |
| <p><u>HPC Funds Requested</u></p> <p>Amount: \$500,000</p> <p><u>Cost Share or Matching Funds</u></p> <p>Amount: \$1,243,063</p> <p><u>Percent Match (of the total project cost)</u> 71%</p> <p><u>Total Project Cost</u></p> <p>Amount: \$ 1,743,063</p> | <p>The cost of the mastication is approximately \$369 per acre. \$500,000 will treat approximately 1,355 acres.</p> |

ENVIRONMENTAL COMPLIANCE

Please indicate the status of the Project's compliance. if you are unsure, please reference:

HPC Compliance Checklist (<https://www.azgfd.com/wildlife/hpc/forms/>).

If you have questions regarding the requirement of an EAC, contact AGFD's Project Evaluation Program: (<https://www.azgfd.com/wildlife/planning/projevalprogram/>).

Please email supporting compliance documents to HPC@azgfd.gov

| | | | |
|--|----------------------------|-------------------------|---------|
| AGFD EA Checklist Completed: | NA | Completion Date: | NA |
| NEPA Completed: | YES | Completion Date: | 11/2005 |
| State Historic Preservation Office/ Archaeological Clearance: | Pending, submitted 2018 | Completion Date: | 2019 |

CONTACT INFORMATION

Applicant

The project applicant is the responsible party for seeing the work through to completion.

APPLICANT NAME: Joe Sayer

PHONE: 928-853-0963

ORGANIZATION: AGFD

EMAIL: jsayer@azgfd.gov

ADDRESS: rg6

AGFD Project Proponent

The Project Proponent is responsible for compliance, implementation, and annual/final reporting requirements.

AGFD CONTACT NAME: Joe Sayer

PHONE: See above

Cooperators

COOPERATOR NAME(S), ORGANIZATION, ROLE IN PROJECT:

Jeff Sturla USFS, William Dudley USFS, Daniel Sturla AGFD, Jake Jaeger AGFD/MDF, Steve Clark AES.

PROJECT NEED AND DESCRIPTION

Please use direct language: why is this project important? What problem will be solved? How will you implement it, and how will the habitat be enhanced? Please include # of acres, methods, roles, and any phases. Please be specific and thorough.

NEED STATEMENT – PROBLEM ANALYSIS: This project will occur in an over stocked pinyon juniper grassland that will open up habitat to increase forage and use while maintaining cover in select areas on the mesas. Full coverage will remain in the drainages in the project areas. Wildlife and forage have responded very well to recently completed projects in adjacent areas. After an initial treatment of over 700 acres last winter on Deadman Mesa the side oat production in the treatment area went from nearly nonexistent to the highest yield on the Tonto National forest for 2019. The project areas are inhabited by a large elk herd, mule deer and white tail deer which will benefit from this project. In addition, a sizeable rocky mountain sheep herd inhabits the steep terrain along Deadman Mesa and have been observed utilizing areas on Deadman Mesa including the dirt tanks. These treatments will also improve three main watersheds: Fossil Creek, Hardscrabble Creek and East Verde River.

PROJECT DESCRIPTION AND STRATEGIES:

The project is to conduct juniper and brush mastication. Work conducted will include masticating, with heavy machinery and burning of 3,178 acres on Deadman Mesa and 1,392 acres on Cedar Mesa. 925 acres have already been treated on Deadman Mesa in 2017/2018. 4097 acres will be the total treatment size of Deadman Mesa. Archaeological surveys were done for Deadman Mesa (estimated approval of January 2020) and are pending for Cedar bench but are expected to be signed in 2020. Deadman Mesa is west of Strawberry off of Forest road 708 and Cedar Mesa is east of Pine, south of the control road on Forest road 322. The purpose is to reduce juniper and brush on the landscape. Funding will be provided to the Forest Service in match to their funding and other partners. This request is for \$500,000 to be used over a period of 5 years. This is in match to the \$1,243,063 to be spent by the Forest Service between mastication and arc surveys. See below for cost share breakdown.

This project will create openings in the tree canopy using specialized machinery to grind and scatter targeted trees. Mastication will be done by using an excavator or skidsteer with grinding head to masticate junipers <16" DRC and all brush species greater than 1ft tall. These open spaces have numerous benefits to the landscape, all of which improve habitat for wildlife. Trees left will be in clumps of 5-8 per acre to provide a mosaic type pattern which wildlife prefer. The treatment will hopefully promote a mix of ecosystem structure (i.e.: canopy cover, under brush, grasses/forbes) this diversity of structure offers feed and cover on a more consistent basis throughout the year. The draws are not to be treated to provide cover and bedding areas for wildlife. Mastication equipment will be used to effectively and efficiently remove juniper. The debris will be spread through the action of the equipment. Broadcast burning of the masticated material will take place in 10 years post treatment and be based on grass response. Maintenance burning and cutting will follow on a 3-15 year rotation. Mastication will not take place in known archeological sites. These sites will be treated by chainsaw and either remove the material or leave in place based on size of material and soil erosion potential.

This is a continuation of multiple juniper grassland treatments that have occurred in the area over the last few years in an attempt to provide landscape scale habitat improvement. In 22N, the Forest Service plans to restore a total of 7,525 acres of juniper grassland. Areas include Buckhead Mesa, Birch Mesa, Huston Mesa, Hardscrabble Mesa, Cedar Mesa, Round Valley and Deadman Mesa. In addition, the district wildlife manager is in the planning process of renovating the five existing catchments along the control road, and an HPC proposal will be submitted for repairing/cleaning ten dirt tanks on Deadman Mesa. It should be noted that Deadman mesa has not been grazed in over 40 years and is currently not grazed or planned to be grazed. The allotment infrastructure is in such a state of disrepair that if the Forest were to open the allotment they would require a potential permittee to fix all the fences before the area could be stocked which is estimated to coast over one million dollars. The Deadman Mesa project has 100% benefit to wildlife. This project is part of a landscape scale planed project to improve wildlife habitat in unit 22N.

The cost per acre while seemingly high is due to the terrain and type of equipment needed. The rocky landscape and thick vegetation is hard on the equipment and in particular, the masticating head. However, through an extensive use of various types of equipment and methods the US Forest Service has selected to use this type of equipment due to its effectiveness and overall high quality end results. Other treatments options result in greater re-sprout of juniper.

- Total cost For Deadman Mesa for mastication and ARC survey is= \$1,123,623.00
- Total cost for Cedar Bench Mastication and Arc Survey is = \$619,440.00
 - Total Project cost = \$1,743,063
- Partner funding is expected to be \$250,000.00 total. This would be RMEF, and Pine Strawberry Fuels Reduction LLC.
- Forest Service portion is \$993,063
 - Cost share is \$1,243,063
- HPC funds request of \$500,000

To put into the bigger picture to complete the entire project on both locations with the previous treatment on the 707 acres at Deadman the total cost is \$2,029,398.00. This restores 5,722 acres of Juniper grassland/ Juniper woodland ecosystem and a cost share of 75%.

LAND OWNERSHIP AT THE PROJECT SITE(S): USDA Forest Service TNF

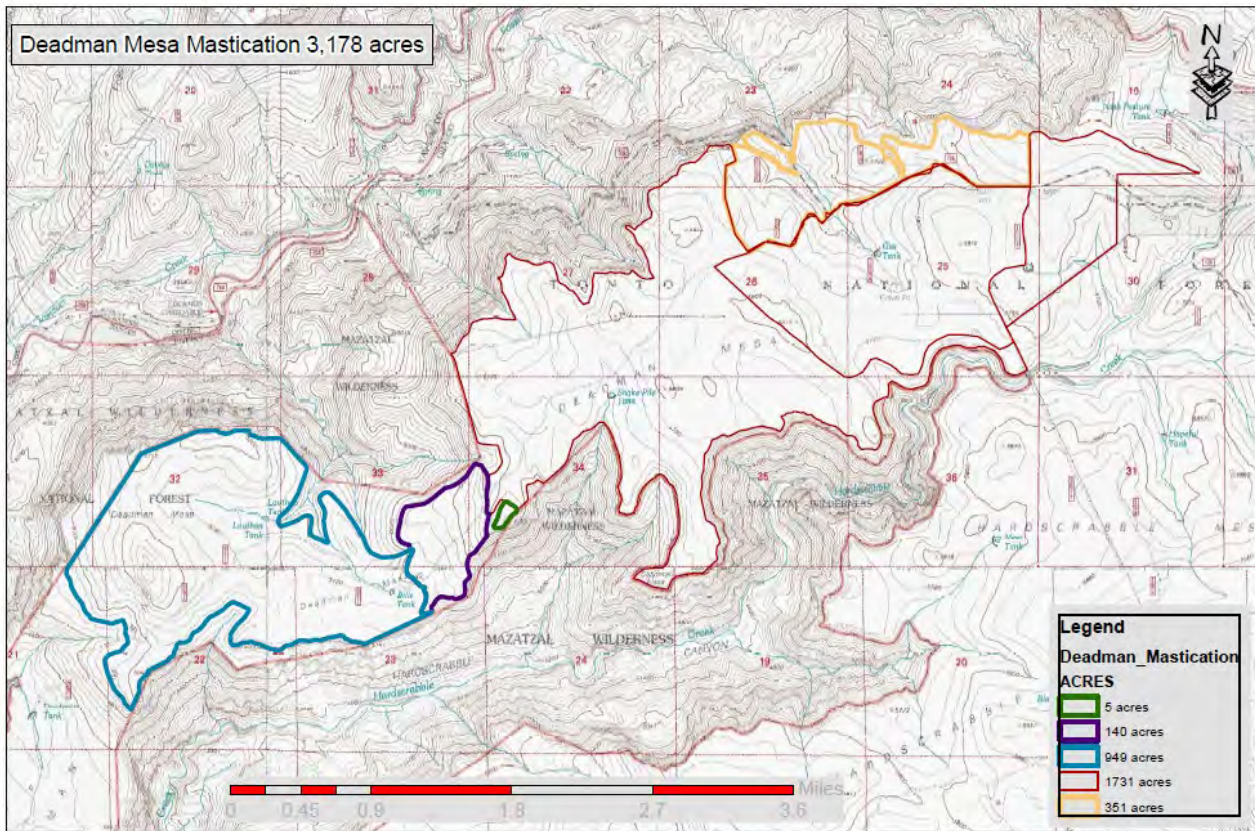
PROJECT MONITORING PLAN: The District WM and Forest Service Staff from the Payson Ranger District will monitor implementation and completion of the project.

PROJECT MAINTENANCE: Tonto National Forest

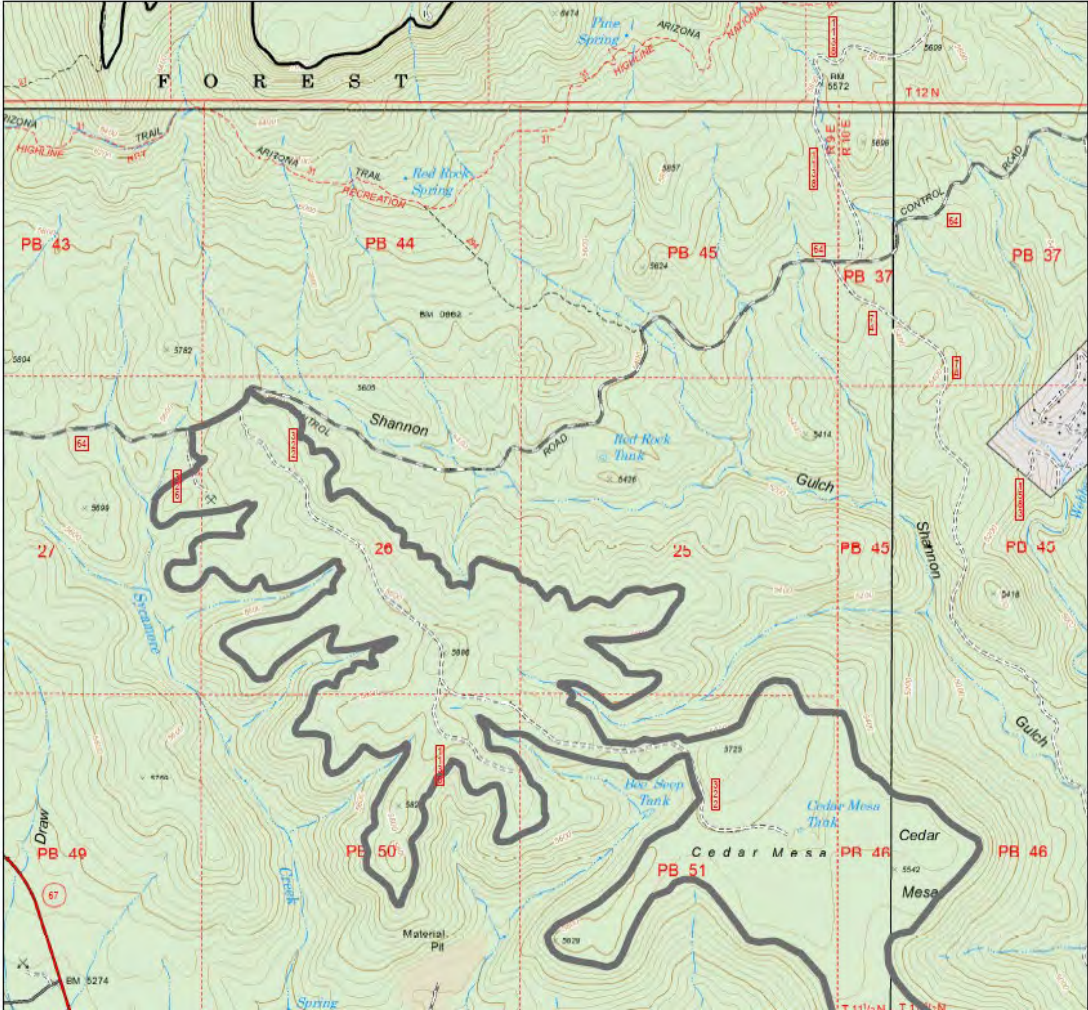
PROJECT COMPLETION REPORT TO BE FILED BY: Arizona Game and Fish Department, Joe Sayer

SUPPORTING DOCUMENTS LIST: see attachments: Maps of project sites, clearance documents.

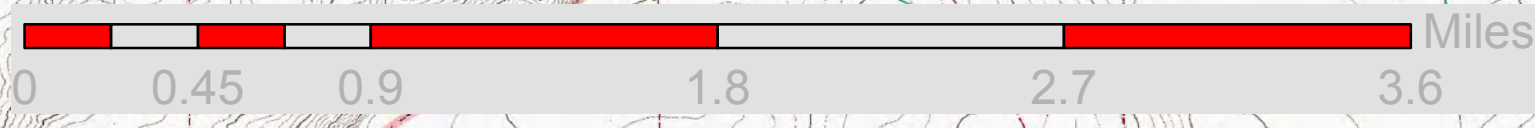
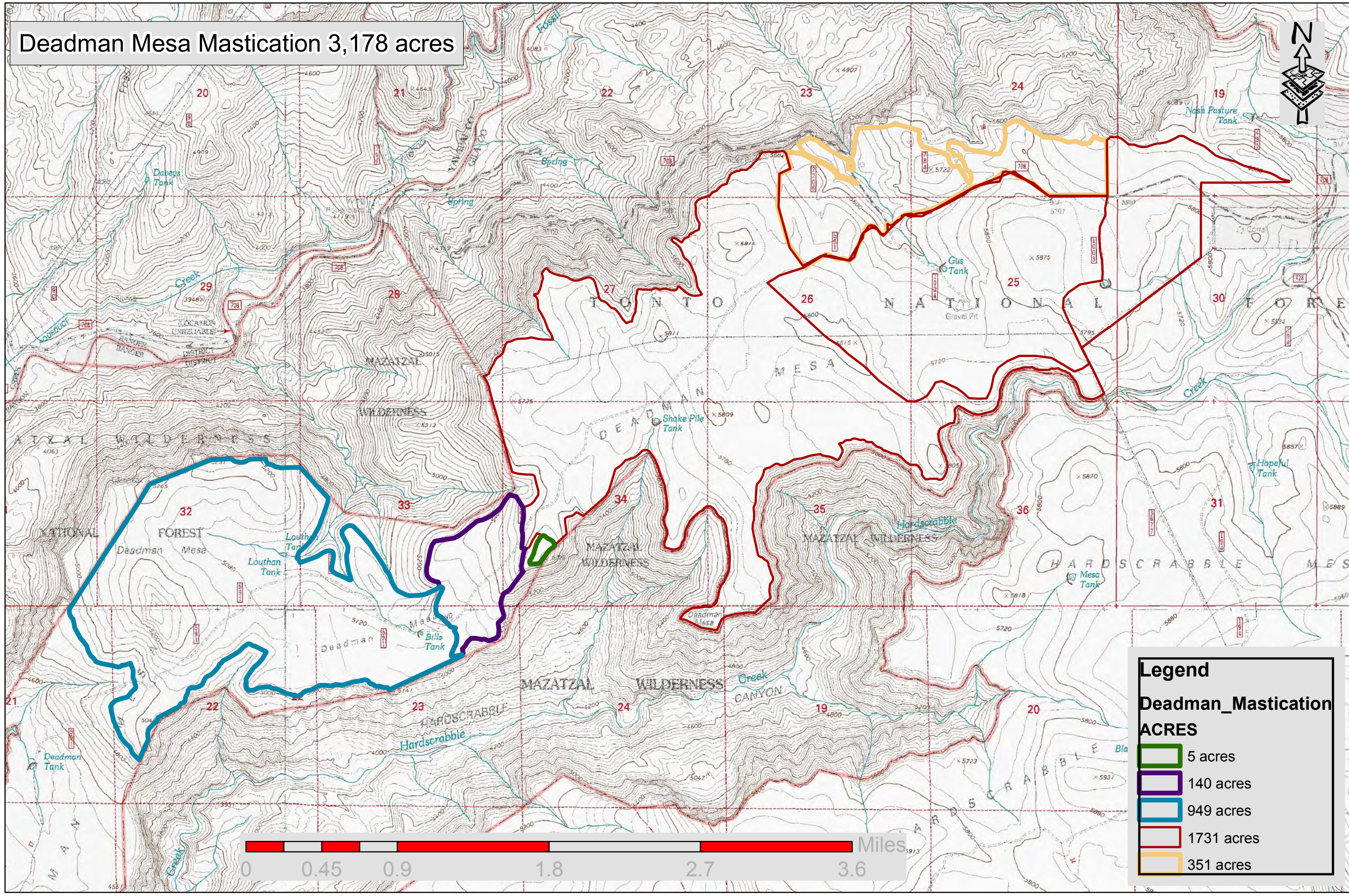
Have supporting documents been submitted? Yes-USDA authorization & site map



Cedar Bench Arc Survey



Deadman Mesa Mastication 3,178 acres



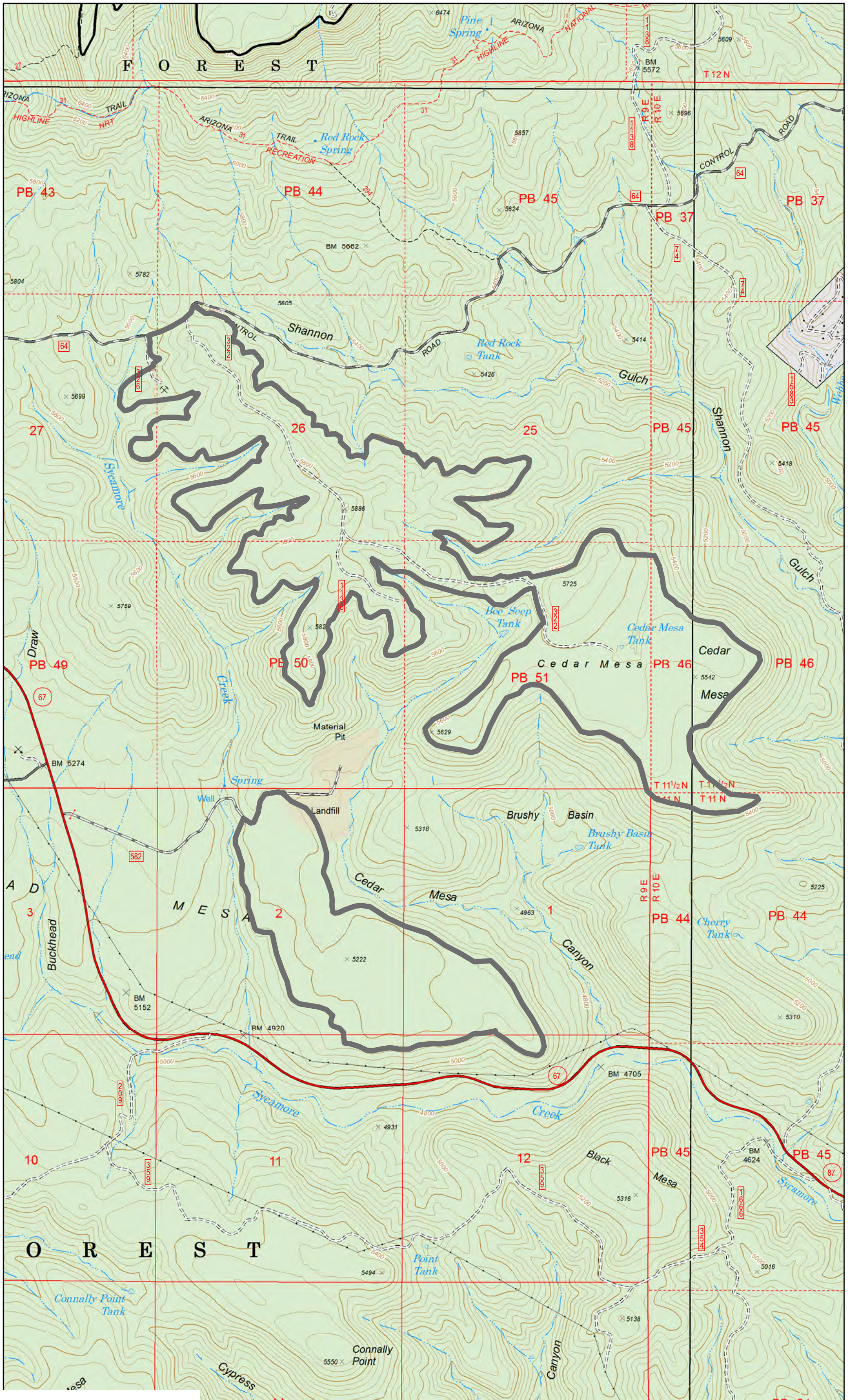
Legend

Deadman_Mastication


ACRES

- 5 acres
- 140 acres
- 949 acres
- 1731 acres
- 351 acres

Cedar Bench Arc Survey



Legend

 pj_savannah_Project

Project Name: Deadman Mesa Mastication Project – FY19

Acres: 3,178

NEPA: Pine-Strawberry EA

Date: 6/03/2019

Location/Site: All or portions of Locations 400088, 400089, 400090, 000102, and 000103.

Existing Condition:

Deadman Mesa consists of a mixture of pinyon juniper woodland along slopes and ridges and juniper grasslands in the plains. Dominant species include Utah juniper and pinyon pine. Other species present include Gambel oak, alligator juniper, one-seed juniper, and shrub live oak. Total basal areas vary greatly and range from approximately 40 to 100 ft² per acre, with an average of approximately 60 ft² per acre. The unit is overstocked with Utah juniper less than 20 inches DRC. Regeneration consists of mainly pinyon pine, and Utah juniper. Dominant ground cover varies throughout the unit. Basalt cobble and rock fields are common throughout the project area. Bare ground is common in areas where tree canopy cover is high. Portions of the unit contain a high canopy cover of manzanita and shrub live oak. Areas with less tree canopy cover contain prickly pear, mountain mahogany, skunk bush, snakeweed, and an abundance of grasses, including blue grama, side oats grama, squirrel tail, and snakeweed. Elevation ranges from 5,200 to 5,800 ft. Aspect is variable. Slopes of approximately 35% noted along some hill slopes and ridges. Numerous cattle tanks are scattered throughout the project area. The Fossil Creek Trailhead and a gravel pit is located in the northeastern part of the project area.

The eastern half of Location 000103 received a fuel break cutting treatment in 2008 creating an evenly spaced single-storied juniper grassland averaging 40 ft² of basal area. The western half of Location 000103 along with portions of Locations 400089 and 400090 consisting of 700 acres surrounding Gus Tank were thinned via mastication in 2017 and are excluded from this prescription.

Desired Future Condition:

The desired future condition is an open pinyon-juniper woodland and juniper grassland, dominated by large diameter juniper, pinyon pine, and native grasses. Stocking of Utah juniper < 20 inches DRC will be reduced to less than 10 trees per acre. The unit will resemble the historic structure of pinyon-juniper woodlands and juniper grassland. The unit will be “low” fire hazard, with conditions conducive to the reintroduction of low to moderate severity fire. Stocking guidelines will be designed to retain large diameter juniper and all pinyon pine. There will be a decrease in shrub cover and an increase in productivity of native grasses.

Treatment Objectives:

1. Create a structure that more closely resembles the structure that existed prior to interruption of the historic fire regime (open juniper woodland/grassland, large diameter junipers, decreased shrub cover, abundance of native grasses).
2. Reduce the risk of catastrophic, stand-replacing wildfire by decreasing tree densities, ladder fuels, and crown continuity. Create conditions conducive to the reintroduction of low to moderate severity fire.
3. Maintain pinyon pine.

Silvicultural Treatment:

Implement a Free Thinning by grinding all juniper greater than 1 foot tall and less than 20 inches Diameter Root Collar (DRC) in a leave tree arrangement in groups of 6 to 8 trees per group with 20 to 30 foot spacing between leave trees and 130 to 150 foot spacing between tree groups.

Tree Designation: Designation by Description

Boundary Designation: Orange Flagging

Implementation Instructions:

1. Grind all juniper greater than 1 foot tall and less than 20 inches Diameter Root Collar (DRC) in a leave tree arrangement in groups of 6 to 8 trees per group with 20 to 30 foot spacing between leave trees and 130 to 150 foot spacing between tree groups.
2. Leave all juniper > 20 inches DRC
3. Leave tree groups may also contain oak and pinyon pine. These tree species will be included in the 6 to 8 trees per group.
4. Leave all riparian tree and shrub species that may be encountered (such as Arizona sycamore, willow, Arizona walnut, alder, maple, and chokecherry).
5. Leave all pinyon pine, regardless of size.
6. Leave any ponderosa pine encountered, regardless of size.
7. Leave all Gambel oak encountered, regardless of size.
8. Leave all live Arizona white oak and Emory oak greater than or equal to 6 inches DRC. All live Arizona white oak and Emory oak less than 6 inches DRC will be masticated.
9. Leave all dead Arizona white oak and Emory oak greater than or equal to 6 inches DRC. All dead Arizona white oak and Emory oak less than 6 inches DRC will be masticated.
10. Leave the best available juniper with the best tree form, health, and vigor, relative to other adjacent trees.
11. Within groups, spacing of juniper may be variable. The distance from one tree to the next tree may range from 20 to 30 feet (measures drip line to drip line).
12. All brush species associated with the chaparral vegetation type will be masticated.

Special Considerations within Unit:

Harvesting Operations

1. Do not masticate juniper if it will cause damage to a leave tree.
2. Protect pinyon pine regeneration and Gambel oak from damage during mastication operations when possible.
3. Portions of the unit contains steep and/or rocky slopes. Mastication will need to be deferred within these areas.

Slash Treatment: All activity slash will be lopped or masticated so that the height of slash material is less than or equal to 2 feet.

Prescribed Burning

1. Minimize loss of snags and logs during prescribed burning activities.
2. Broadcast burning may be conducted after native grasses have become re-established and stocked to a level such that grasses would be the primary carrier of fire.
3. Coordinate with district range personnel when planning and conducting prescribed burns so that range improvements can be identified.
4. The range permittee should be contacted prior to any prescribed burning activity to prevent harm to livestock.

- When possible, coordinate prescribed burning with pasture rotation schedules.

Wildlife

No threatened, endangered, or sensitive species are located within this unit. There will be no timing restrictions for wildlife.

Soils

Follow Best Management Practices to prevent soil compaction and displacement (FSH 2509.24.13). Limit operations to periods when soils are dry.

Non-Native and Invasive Weeds

Use Best Management Practices to prevent the spread of noxious or invasive weeds. Contractors should clean their equipment of all mud and plant debris prior to entering National Forest System Lands. Provide training to Forest Service and contract personnel on identification of weeds and procedures for using equipment in infested areas (e.g. wash equipment thoroughly before moving from one area to another). Consider sowing native grass seed in highly disturbed areas.

Archaeology

Archaeological sites in and near the units are flagged with pink and white flagging and/or painted with white bands. Archaeological sites will not be treated/masticated. Ground disturbing activities are prohibited within archaeological sites. Vehicles and mechanized equipment are not permitted within archaeological sites.

Recreation

For public safety, camping will be prohibited within active mastication and burning areas. Mastication activities should be avoided on the following holiday weekends: Memorial Day, Fourth of July, and Labor Day.

Directions to Unit: The unit is located west of Strawberry, Arizona. From Payson, AZ, travel north on Arizona State Highway 87 to Strawberry. Turn onto Fossil Creek Road. Proceed west approximately 4 miles to Forest Road 708. See map of unit.

Documentation: Recommend using the following program area and activity codes to report integrated performance accomplishments and target attainment:

| Program Area | Activity Code | Activity Description |
|----------------------|---------------|---|
| KP-6 Secondary Fuels | 4580 | Mastication/Mowing |
| Range | 2400 | Tree Encroachment Control |
| Wildlife | 7100 | Pollinator Habitat Improved, Restored or Maintained |

