Elk Park Fuels Reduction
Proposed Action
October 2006

Introduction

The Elk Park project area is located approximately 6 miles southeast of Flagstaff, Arizona (see Figure 1) adjacent to and surrounding the entire community of Elk Park Meadows west of Forest Highway 3 (Lake Mary Road). The project area consists of a total of 6,886 acres; 6,731 acres of National Forest System land and 155 acres of private land (Elk Park Meadows). Approximately 6,485 acres are forested (ponderosa pine) and the remaining 246 acres are meadows. The project area is located within all or portions of T19N, R7E Sections 1 and 12-13; T19N, R8E Sections 3-9 and 15-20; T20N, R7E Section 36; and T20N, R8E Sections 31-33.

Elk Park Meadows is an unincorporated community not serviced by any fire district. According to Coconino County property records, the Elk Park Meadows is comprised of approximately 15 developed lots, with a mix of full-time and part-time residents. There are 100 additional undeveloped lots. Vehicle access into Elk Park Meadows is along Forest Service Roads (FSR) 132 and 132D, approximately 7 miles from the junction with Forest Highway 3.

Around the turn of the century, high-grade timber harvesting was conducted within the project area to provide wood for the building of the railroad. Portions of the project area were logged again during the 1960s and 1970s. During the 1970s, approximately half of the project area was pre-commercially thinned. During the 1980s, some open draws and stump fields within the project area were reforested. Fire has been, for the most part, excluded from the project area for over 100 years.

Fire suppression over the past century has resulted in increased tree densities, surface fuel accumulation, changes in species composition, a more even-aged forest structure, and pine encroachment in meadows and drainage bottoms. Most of the project is in Condition Class 31 and a wildfire occurring under existing conditions would result in more severe effects than should occur for the natural fire regime. The community of Elk Park Meadows is currently at risk from a wildfire and was included in the Community Wildfire Protection Plan for Flagstaff and Surrounding Communities (2005).

Purpose and Need

The purpose of this project is to reduce the threat of severe wildfire in and around the Elk Park project area. There is a need to improve forest conditions that support desirable fire behavior and create a forest structure that more closely resembles the structure that existed prior to interruption of the historic fire regime.

The Purpose and Need is focused on two main topics: Wildfire Hazard and Forest Structure. For each of these topics, *Existing Conditions* describe the current ecological and biological conditions. *Desired Conditions* describes the goals and vision for the area. *Need for Change* describes the difference between existing and desired conditions that necessitate the need for changed conditions.

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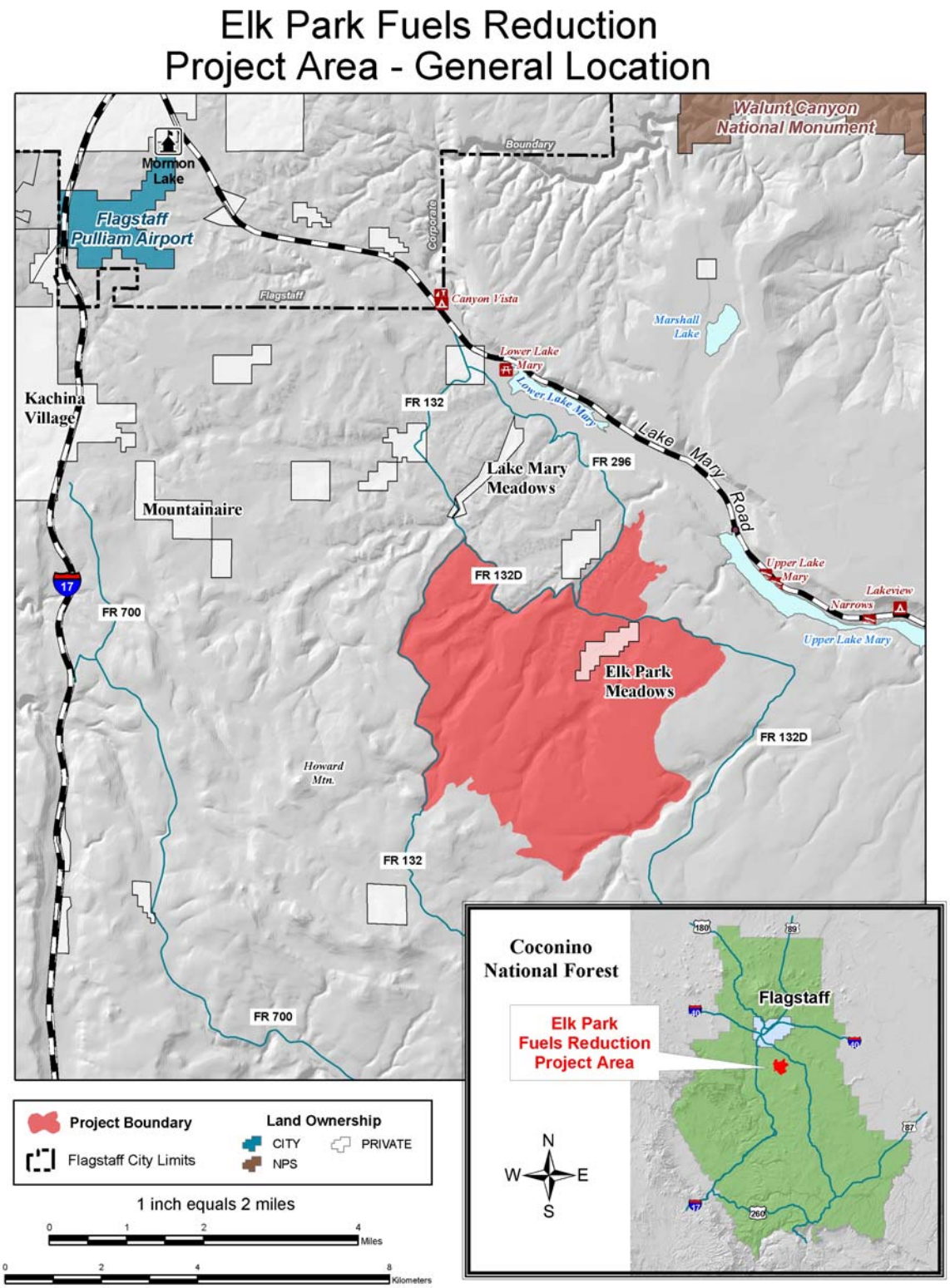
[1] Condition Class I: vegetative structure, composition, and fire effects are within the natural range of variability
Condition Class II: moderate departure from the natural historical regime of vegetation characteristics, fuel composition, and fire effects
Condition Class III: severe departure from the natural historical regime of vegetation characteristics, fuel composition, and fire effects

Figure 1. Location of Elk Park project on the Coconino National Forest



Wildfire Hazard

Existing and Desired Conditions

The area's natural fire regime is Fire Regime I, where a fire recurrence of less than 35 years with a low percentage of overstory replacement would be expected under historical conditions. Most of the project is in Condition Class 3 due to a lack of fire occurrence. High canopy closure values and low crown heights, combined with an increasing number of stems per acre elevate the fire hazard beyond desirable levels for many portions of the project area. The existing fire hazard makes it very difficult for initial attack operations to control a wildfire starting under severe weather conditions that occur in April, May, June, and sometimes during September through October.

Table 1. Wildfire Hazard Existing and Desired Values

Measure	Existing Condition		Desired Condition
Expected flame lengths	2.5 to 6 feet		Less than 4 feet
Fire regime / condition class	1 / 3		1 / 1 or 1 / 2
Fire hazard rating	Extreme	539 acres	Low or moderate
	Very High	380 acres	
	High	2,028 acres	
	Moderate	2,474 acres	
	Low	1,310 acres	

Flame length is a measure of fire intensity and anticipated tree mortality from wildfire. Dead and down fuel loading directly effects flame length and duration. The longer the flame length and duration, the more difficult it is to bring a fire under control. In addition, the longer the flame length and duration, the more likely a fire will transition into a crown fire.

Across the entire project area, the current fuel conditions would likely generate dangerous fire behavior and undesirable fire effects if and when a wildfire occurs. Although it would be difficult to initiate a crown fire within many sites, once a crown fire is initiated or is carried in from a neighboring area, many sites have sufficient crown bulk density coupled with sufficient canopy cover to sustain a crown fire and spread it to other stands. Initial attack forces would have great difficulty in controlling a wildfire occurring in the area under severe weather conditions.

One method to evaluate the risk of wildfire to an area is to determine a fire hazard rating. Fire hazard rating is a relative measure of how virulently a wildfire could burn under the 90th percentile weather conditions that occur from April through July[2]. Fire hazard rating is a relative measure to demonstrate fire resilience between stands and is a good indicator of how effectively and safely fire suppression crews can attack a wildfire and bring it under control.

[2] Fuel moisture and weather characteristics used to model fire effects include:
1-Hour fuel Moisture: 2%
10-Hour fuel Moisture: 3%
100-Hour fuel Moisture: 4%
20-Foot Wind Speed: 20mph
Air Temperature: 85 degrees F

Fire hazard rating criteria include: height to live crown, dead and down fuel, canopy cover, aspect, slope, and stems per acre. Aspect and slope cannot be changed with treatments. Current values for the criteria that can be changed are:

Height to live crown	**4-32 feet**
Dead and down fuel	**2-10 tons per acre**
Canopy cover	**30-90 percent**
Trees per acre (ponderosa pine)	**36-638**

To reach a low fire hazard rating, it is necessary to achieve some combination of height to live crown, dead and down fuel load, percent canopy cover, number of stems per acre, aspect, and percent slope that minimizes the chance of severe fire behavior occurring during the worst fire weather.

Need for Change

There is a need to improve the fire regime condition class at least one level. Fire hazard ratings need to be reduced from high and extreme to low or moderate. Some stands might remain higher after treatment due to lack of access or to accommodate other resource needs such as providing habitat necessary for a variety of wildlife species. However, most areas within a mile of private property would have a low rating, especially those areas in the direction of the prevailing wind.

There is a need to reduce dead and down fuel loading low enough for safe, periodic prescribed burning, but sufficient enough to support habitat needs. There is a need to increase the average height to live crown and decrease expected flame lengths to less than four feet. Crown base heights would be high and the length of flame needed to initiate a crown fire would be above 15 feet in most areas. Harvesting would reduce competition for water among remaining trees. This, in turn, would make trees more resilient to fire effects and resistant to crown fires. Decreased canopy continuity would increase site resistance to crown fires.

Forest Structure

Existing and Desired Conditions

Research conducted by the Ecological Restoration Institute (ERI) at Northern Arizona University shows that prior to Euro-American settlement, ponderosa pine forests in the southwest were uneven-aged (Moore et al. 2004; White 1985). Uneven-aged is defined as an age arrangement in which the trees differ markedly in their ages. An uneven-aged stand, ideally, contains at least three age classes (Nyland 1996). Historically, trees were arranged in 0.05 to 0.7 acre groups of 2-40 trees (White 1985; Fule et al. 1993).

During the railroad logging era and subsequent high-grade timber harvesting, prior to the creation of the Coconino National Forest, much of the older age classes of ponderosa pine were removed. In 1919, an unprecedented regeneration event occurred, resulting in massive amounts of pine seedlings. Seedlings continued to grow in dense stands, forming a closed canopy across much of the landscape and effectively inhibiting further regeneration of shade-intolerant ponderosa pine. As a result of these events, ponderosa pine forests of the southwest are now predominantly even-aged, with few trees less than 5 inches diameter breast height (dbh) or greater than 24 inches dbh. Even-aged is defined as an age arrangement in which the trees have only small differences in their ages (Nyland 1996). Even-aged species, such as lodgepole pine, which does not occur here naturally, are sustained ecologically either through catastrophic events, such as stand-replacing fire, or through management actions that mimic stand-replacing events, such as clear-cutting. The Elk Park project area is a prime example of a now even-aged forest with a species that would naturally be uneven-aged.

Vegetative structural stages (VSS) is a six-class vegetation scheme historically used in the Southwestern Region to describe the developmental stages of a forest ecosystem, from seedlings (VSS 1) to old forest (VSS 6). The forested lands in the Elk Park project area are primarily comprised of young to mid-aged

ponderosa pine (VSS 3 and 4). Seedlings (VSS 1), saplings (VSS 2), mature (VSS 5), and old (VSS 6) pine are lacking in the project area.

Most existing forest structure data has been collected at the stand[3] level. However, to better measure progress towards desired goshawk habitat characteristics, tree diameter, canopy cover, and density ranges will be measured at the group[4] level, as well as the percentage of the landscape in groups, interspaces[5], and openings.

Table 2. Forest Structure Existing and Desired Values

Measure	Existing Condition	Desired Condition
Forest structure	Predominantly even-aged at the stand level: VSS 1= 0 VSS 2= 0 VSS 3= 53% VSS 4= 42% VSS 5= 4% VSS 6= 1%	Uneven-aged at the group level: VSS 1= 10% VSS 2= 10% VSS 3= 20% VSS 4= 20% VSS 5= 20% VSS 6= 20%
Tree arrangement	Pine: limited "groupy' structure, few openings and interspaces Oak in high competition with conifers	Approximately 30% of the landscape in tree groups, 50% as interspaces, and 20% openings for VSS 1 and 2 formation; groups approx. 0.05 to 0.7 acres based on evidences or existing groups of large trees[1] Reduce competition between oaks and conifers by enhancing oak clumps
Tree density (forested areas)	36-638 trees per acre	2-40 trees per group, with an occasional single tree between groups
Canopy cover (forested areas)	30-90% at the stand level	30-70% at the group level
Basal area (forested areas)	51-300 ft^2/acre at the stand level	30-100 ft^2/acre at the group level
Dwarf mistletoe infection	697 acres, light severity	Dwarf mistletoe in isolated groups

1. White 1985; Fule et al. 1993

In the project area, Gambel oak is present, the majority of which consists of small diameter, young thickets with numerous stems. Most oak trees are less than 10 inches diameter at root collar and are being heavily browsed by elk. Forest understory (grasses and shrubs) productivity is low in areas with "closed" and "moderately closed" canopies and few interspaces. Additionally, meadows have been experiencing pine encroachment for over 100 years due to fire suppression.

Habitat within the Clark Mexican spotted owl (MSO) protected activity center (PAC) is primarily ponderosa pine, with some pine/oak occurring mostly within the Clark drainage. Mixed conifer habitats do not occur within the Clark PAC and oak is poorly represented. Stands within the PAC are densely stocked with ponderosa pine, which is out competing Gambel oak where it occurs, resulting in decreased

[3] A stand is a community or group of trees that grow together at a particular place that share unique vegetal characteristics which are distinguishable from adjacent stands, thus forming an individual management or silvicultural unit (Nyland 1996).

[4] Groups are generally clusters of 2-12 trees (possibly up to 40) that have interlocking crowns and are externally-defined by interspaces surrounding them.

[5] Interspaces are non-forested areas of varying sizes which occurred naturally between groups of trees prior to fire suppression.

oak growth, health and vigor, and eventually leading to oak tree mortality. Ponderosa pine within the PAC varies from less than 5 inches to over 24 inches in diameter with the bulk of overstocked trees being 12 to 16 inches in diameter. Nesting owls have not been detected in the Clark PAC.

Need for Change

Ponderosa pine forests in northern Arizona were historically uneven-aged and arranged in a "groupy" pattern across approximately 30 percent of the landscape, with approximately 70 percent of the landscape in grassy openings (Covington et al. 1997). There is a need to create a more variable, groupy tree distribution across the project area, with grassy interspaces between groups and openings in forested areas for natural regeneration, to more closely mimic the historic ponderosa pine forest structure. There is also a need to reduce canopy cover within groups to decrease competition between trees and increase tree vigor, health, and growth. Desired group structures for areas outside of MSO PACs and in northern goshawk (NOGO) post-fledgling family areas (PFA) include: approximately 2-40 trees, less than 100 square feet per acre basal area and 30-70 percent canopy cover at the group level. In order to improve nesting habitat for MSO and to reduce the potential for catastrophic wildfire there is a need to thin densely stocked ponderosa pine within the Clark PAC.

There is a need to create openings of adequate size to promote natural regeneration (VSS 1 and 2 groups), increase age/size class diversity, and promote a more sustainable, uneven-aged forest structure. There is a need to protect natural regeneration during prescribed burning activities.

To restore the forest to a more historic, uneven-aged structure, the project area should be mechanically treated using uneven-aged management and thinning based on pre-settlement evidences (see Literature Cited: Ecological Restoration model research) to determine the desired tree arrangement and density. Uneven-aged management and thinning will be utilized to increase age/size class diversity and create a more open, groupy tree arrangement. Age/size class diversity results in a tree canopy with a more stratified vertical structure, which supports a more diverse biota than an even-aged canopy, resulting in increased biological diversity (Hunter 1990). Because many insects favor trees within a certain age/size range, uneven-aged stands tend to be more resilient to insect attack and mortality due to a diversity of age and size classes.

There is a need to decrease the extent, or isolate the incidence, of dwarf mistletoe infection. Creating a more groupy tree arrangement with interspaces between groups and decreasing tree densities will decrease the spread of dwarf mistletoe infection and decrease susceptibility to disease and successful insect attack and mortality.

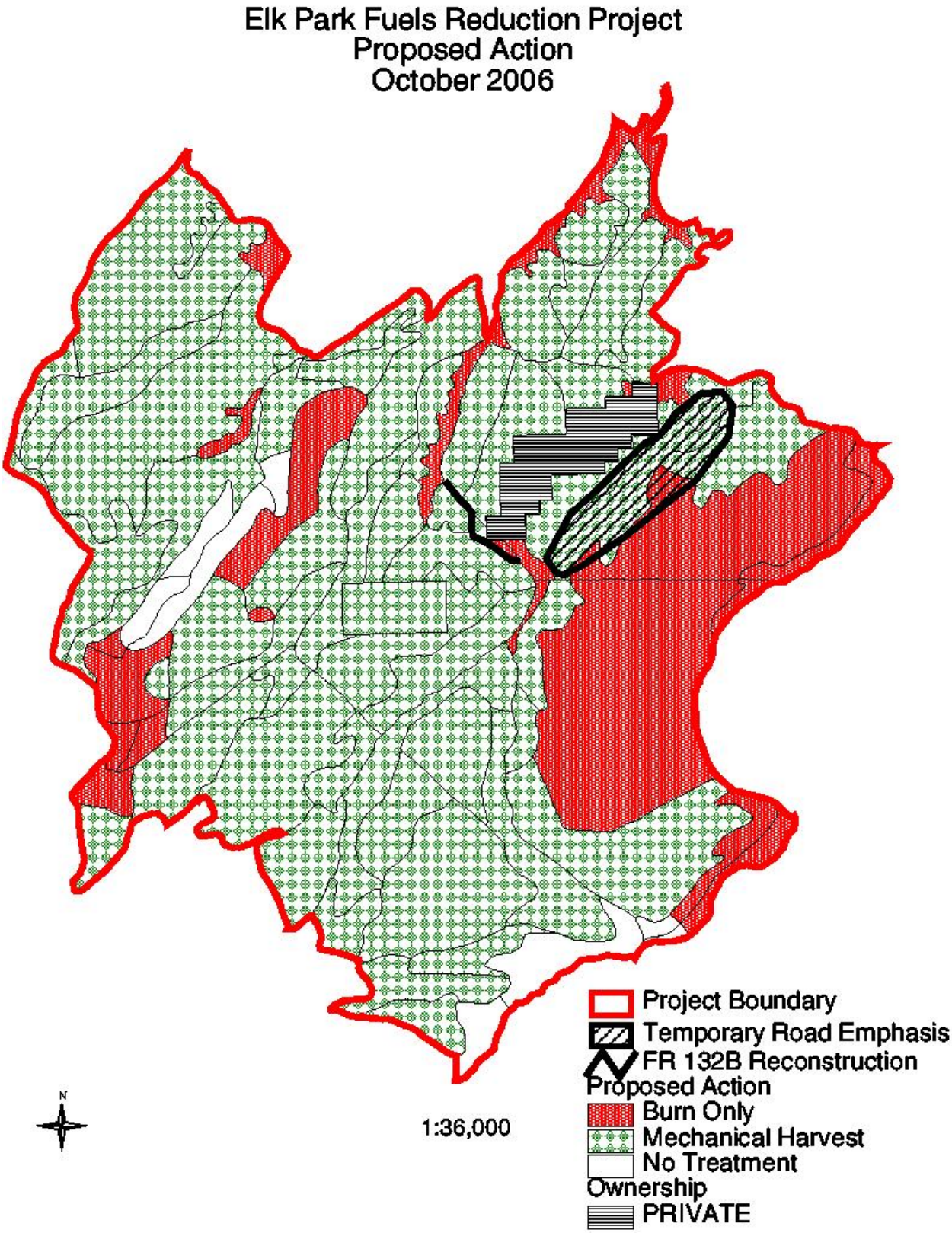
There is a need to protect existing Gambel oak; promote development of larger diameter oaks; decrease pine competition around Gambel oak clumps; and improve health and longevity of large Gambel oak trees. There is a need to increase diversity and abundance of understory species and decrease pine density in areas that were historically meadows.

Proposed Action

To meet the project's purpose and need, the following activities (see Figure 2) are proposed:

- Selection harvesting and thinning on approximately 5,000 acres of ponderosa pine.
- Conduct initial prescribed burns on approximately 6,500 acres to reduce fuel loads and reintroduce low to moderate intensity surface fires. Conduct maintenance burns after initial prescribed burns to maintain historically light fuel loads.
- In association with tree harvesting and hauling of forest products, approximately four miles of temporary roads will be constructed. Forest Service Road (FSR) 132B would be relocated out of Elk Park Meadows and the surface and drainage along 1 mile of FSR 132B south of Elk Park Meadows would be improved.

Figure 2. Proposed activities in the Elk Park project area



Mechanical Treatments

Approximately 5,000 acres of ponderosa pine will be mechanically treated. Because ponderosa pine forests were historically uneven-aged, the Elk Park project area will be treated through uneven-aged harvesting, in addition to thinning. Under uneven-aged management, age and size class diversity will be improved through selection harvesting to create openings for natural regeneration (VSS 1 and 2 groups). A more open, groupy tree arrangement will be achieved through thinning by creating interspaces between groups and thinning within groups.

An Ecosystem Restoration model (*see* Literature Cited) modified to meet northern goshawk foraging habitat guidelines will be used to guide management of treatments within the ponderosa pine. Pre-settlement evidences (e.g. stumps, stump holes, and downed logs) will be used to guide placement or retention of trees groups, interspaces, and openings. Tree groups will consist of 2-40 trees ranging in size from 0.05 to 0.7 acres with interspaces between groups. However, there may be cases where existing groups of large trees with no pre-settlement evidence would be retained because they provide important habitat for wildlife. Canopy cover within groups would vary from 30 to 70 percent. Within northern goshawk PFAs and MSO protected and target/threshold habitat, openings would range in size from one quarter acre to 2 acres. An Ecosystem Restoration approach would create a more open, groupy, uneven-aged forest with interspaces and openings that more closely resembles the structure that existed prior to interruption of the historic fire regime.

Within the Clark PAC, approximately 400 acres of ponderosa pine would be mechanically treated through uneven-age harvesting and thinning. (This acreage is included in the 5,000 total proposed harvesting and thinning acres above.) A 100-acre no-treatment buffer has been established around historic roosts and harvesting will maintain at least 50 percent canopy cover within the PAC and allow trees up to 16 inches dbh to be harvested.

Prescribed Burning

A total of 6,500 acres would receive prescribed burn treatment. All 5,000 acres proposed for mechanical treatment would be burned after harvesting to remove activity-created slash, duff, and needle cast. In addition to areas mechanically harvested, an additional 1,500 acres would receive a burn-only treatment.

After the initial burn, maintenance burns would be conducted periodically (every 3-15 years) to mimic the historic fire interval patterns in southwestern ponderosa pine forests. Maintenance burns aid in reducing fuels loads, raising crown base heights of live trees, and promoting understory growth. Burning would occur when weather and environmental factors such as wind, fuel moistures, and humidity are suitable for burning.

Temporary Roads and Improvements

There is a large network of existing roads within the project area. These existing roads, including Level 1 (closed) roads, will be used to the extent possible for hauling harvested trees. The area immediately southeast of Elk Park Meadows has few existing roads. Approximately four miles of temporary roads will need to be constructed within this area to assist with tree harvesting and hauling (see “temporary road emphasis” area in Figure 2). Temporary roads would be rehabilitated after harvesting has been completed.

In order to eliminate road related impacts to the Hoxworth Spring riparian area and to provide legal access around private land in Elk Park Meadows, a portion of FSR 132B would be improved or relocated. Approximately 0.80 miles of new road would be constructed west of the Elk Park Meadows private land boundary and reconnect south of the community with the existing FSR132B. A 0.75 mile segment of 132B, north of the Elk Park Meadows boundary to FSR 132D would be reconstructed (improve road surface and drainage).

Approximately 1 mile of FSR 132B south of Elk Park Meadows would also be reconstructed in order to facilitate hauling of forest products from the southern project area.

Site-Specific Amendment to the Forest Plan

Proposed activities are consistent with the 1987 Coconino National Forest Land and Resource Management Plan (Forest Plan), as amended with the exception of the diameter of trees harvested within the Clark PAC. Therefore, the Proposed Action includes a site-specific amendment to the Coconino Forest Plan.

1. The Forest Plan guideline for harvesting within Mexican spotted owl PACs states:

> *"Harvest conifers less than 9 inches in diameter only within those protected activity centers treated to abate fire risk as described below.*
>
> --*Use combinations of thinning trees less than 9 inches in diameter, mechanical fuel treatment and prescribed fire to abate fire risk in the remainder of the selected protected activity center outside the 100 acre "no treatment" area"* (p. 65-2).

The majority of overstocked ponderosa pine within the Clark PAC ranges in size from 12 to 16 inches dbh. If the harvesting of trees is limited to 9 inches dbh, an insufficient number of pines would be removed, resulting in no significant improvements to forest health, growth, and vigor, owl habitat, fire regime condition class, or reduction in fire hazard within the PAC.

A Forest Plan amendment would be necessary to allow harvesting of ponderosa pine up to 16 dbh in the Clark PAC, outside of the 100-acre no-treatment buffer. Harvesting trees up to 16 inches dbh will decrease competition between trees for moisture, nutrients, and sunlight, increase overall tree health, growth, and vigor, promote the development of larger diameter trees, improve health and longevity of existing old trees, promote faster development of old growth forest structures, improve forage and nesting habitat and reduce the potential effects of wildfire within the PAC. This amendment would apply only to the Clark PAC and would not affect or set precedent for treatments in other MSO PACs on the forest.

Possible Alternatives

In addition to the Proposed Action, the No Action alternative will be analyzed. No Action will consider the effects of not harvesting any ponderosa pine or reducing dead and down fuels within the Elk Park project area.

Based on comments to the Proposed Action, other alternatives may be developed. The full development and analysis of alternatives will be completed following public response to this scoping effort and published in the draft EA.

Design Features

Applicable Forest Plan standards and guidelines, Best Management Practices, and Forest Service Manual and Handbook direction will be incorporated in project design and implementation. The following features are design elements that further detail management actions, mitigate environmental consequences, and establish priorities for implementation.

Harvesting Operations

- Within restricted habitat, trees greater than 24 inches dbh will not be harvested.
- No old, "yellow" ponderosa pine or Gambel oak will be cut. However, under rare circumstances, an oak or yellow pine may need to be cut for a landing to avoid skidding long distances.

- Old, “yellow” ponderosa pine will have duff raked away from the bases where high litter depth (greater than 10 inches diameter root crown [drc]) may result in girdling and mortality.
- Tree arrangement after thinning and harvesting will mimic historic tree densities and patterns of tree distribution across the landscape. Variation in tree spacing, group sizes, and canopy gaps will provide a mosaic pattern of individual and clustered trees interspersed among interspaces, openings, or meadows.

Broadcast Burning

- Design prescribed burns to cover large areas (approximately 150 acres/day) and be of short duration (2 to 7 days). Burning will occur when weather and prescription criteria are met.
- Minimize loss of snags, logs, and roost trees during broadcast burning activities.
- Minimize residual tree scorch through fire prescriptions.
- Oak mortality will be mitigated for in burn plans by raking duff from the base of large oaks (greater than 10 inches drc) and not placing slash piles near oaks.
- Ponderosa pine seedlings and saplings (VSS 1and 2 groups) will be protected during both initial and maintenance burns. Mortality will be mitigated in burn plans.
- No prescribed burning or preparation within occupied goshawk nest stands during the breeding season.
- No prescribed burning or preparation within the 100 acre MSO nest core at the Clark PAC.

Slash Treatment

- Pile and burn logging slash resulting from harvesting operations.
- Remove slash from within 500 feet of private property.
- Piles shall be located so that burning will minimize damage to standing live trees, snags, down logs, sensitive plants or physical improvements such as fences, poles, signs, and cattle guards.
- Large logs (greater than 12 inches) that exist on the landscape prior to treatment will not be piled during slash treatment.
- Chipping and removal of biomass will be used as an alternative in preference to pile burning, where access allows, if biomass material is desired at the time of implementation.

Sensitive Plant Protection

- Forest Botanist will mark locations to be avoided.
- Avoid piling slash or creating fire control lines within sensitive and rare plant populations.
- Avoid sensitive plant populations when constructing temporary roads.

Non-Native and Invasive Weeds

Best Management Practices as outlined in Appendix B of the “Final Environmental Impact Statement for Integrated Treatment of Noxious or Invasive Weeds” (USDA 2005) will be followed to incorporate weed prevention and control into the project. The following features will be incorporated into project implementation and monitoring:

- Equipment will be cleaned before entering treatment areas (not roadways) to prevent introduction of invasive weeds.
- Soil disturbance should be avoided to the extent practicable.

- Landing and burn pile sites should be located away from the Dalmatian toadflax populations to avoid spread. Isolated sites along the roads and ridges should be treated similarly
- Monitor invasive weed site conditions for the higher priority species following project implementation. Manual control will probably be sufficient for occasional new populations of annuals, biennials or short lived perennials.

Recreation and Social Considerations

- For public safety, camping will be prohibited within active harvesting and burning areas.
- Harvesting activities should be avoided (cutting and hauling) on the following holiday weekends: Memorial Day, Fourth of July, and Labor Day.
- Coordinate the timing of harvesting and burning activities with Forest Service permittees.

Cultural and Historical Resource Protection

- Historic and pre-historic cultural resources will be excluded and protected from burning activities and ground disturbing activities. An archaeologist will flag sites prior to implementation. Sites will be lined and monitored during prescribed burning operations.
- Areas where temporary roads will be constructed will be inventoried prior to implementation.

Wildlife Protection

<u>Mexican Spotted Owl</u>

- MSO restricted habitat will be surveyed in the project area the year of implementation or one year prior to implementation.
- In protected and restricted habitat where treatments are planned, pre- and post-treatment micro-habitat monitoring will occur as specified in the MSO recovery plan.
- Mechanical harvesting and all prescribed fire activities, including lining of snags and logs, line prep, layout and broadcast burning, will not occur within the Clark PAC during the breeding season (March 1 to August 31).
- No mechanical harvesting, hauling, or prescribed burning will occur in any other known PACs within the project area, or within a half mile of nests and roosts during the breeding season.
- No prescribed burning or mechanical harvesting within the 100-acre nest core at the Clark PAC.

<u>Bald Eagle</u>

Note: there are no known eagle nests or roosts within the project area. The closest nest site is approximately one half mile from the project boundary.

- Prescribed burning will not occur within a 2-mile radius of an occupied nest site during the bald eagle breeding season (February through August).
- For log trucks, no jake brakes will be allowed and a 20 mph speed limit will be maintained within 0.25 mile of any occupied nest site.

<u>Northern Goshawk</u>

- Harvesting and hauling within occupied northern goshawk PFAs will not occur during the breeding season (March 1 to September 30).
- No prescribed burning or preparation within occupied nest stands during the breeding season.

- Prescribed burn plans for nest areas within PFAs will minimize smoke impacts to nesting birds and minimize loss of nest trees.

Turkey

- Turkey roost trees will not be harvested and duff and debris will be raked away from the base of roost trees prior to broadcast burning where litter depth layers are greater than 10 inches. (Roost trees have been identified with a metal “Wildlife Tree” tag.)

Wildlife Cover

- Maintain hiding covers at least 200 feet wide around known dependable waters in the area.

Snags and Logs

- Snags and downed logs that are necessary to meet wildlife management objectives for the area are identified and fire lined to protect them.
- Snags greater than18 inches dbh, and at least 3 logs greater than 12 inches in diameter midpoint per acre, will be fire lined before broadcast burning.
- Oak snags that are at least 10 inches drc and 10 feet tall shall be lined or use ignition techniques to minimize their loss.

Soil and Watershed Protection

Best management practices (BMP) are designed to prevent or reduce the amount of water pollution generated by non-point sources to a level compatible with water quality goals. Best management practices will be incorporated into applicable harvesting, burning, and road activities. Authority and guidance to prescribe and implement BMPs is defined in FSM 2501, 2530, FSH 2509.22 and the Forest Plan.

Use of Terrestrial Ecosystem Survey Timber Harvest Limitation Rating (24.11)

1. Objective. To identify severe and moderate erosion hazard areas and other soil limitations in order to adjust treatment measures to prevent downstream water quality degradation.

Limiting the Operating Period of Timber Sale Activities (24.13)

1. Objective. To ensure that the Purchaser conducts operations, including but not limited to erosion control work, road maintenance, and log landing drainage in a timely manner, within the time period specified in the Timber Sale Contract.

The CT6.3 "Plan of Operation" provision is required in all Timber Sale Contracts. This provision states that the Purchaser must submit a general plan of operation which will set forth planned periods for and methods of road construction, timber harvesting, completion of slash disposal, erosion control work, and other contractual requirements. Forest Service written approval of the Plan of Operation is a prerequisite to the commencement of the Purchaser's operation. Provision BT6.6 can be used to suspend operations because of wet or saturated soils in order to protect soil and water resources.

Tractor Skidding Location and Design (24.18)

1. Objective. To minimize erosion and sedimentation by designing skidding patterns to best fit the terrain. Proper skid pattern management involves such things as locating skid trails to avoid stream courses and restriction of skidders to designated trails. The Sale Administrator locates the skid trails with the timber Purchaser or by agreeing to the Purchaser's proposed locations prior to construction

Log Landing Location (24.2)

1. Objective. To locate landings so creation of unsatisfactory watershed conditions which lead to water quality degradation is avoided.

Erosion Prevention and Control Measures During Timber Sale Operations (24.21)

1. Objective. To ensure that the Purchaser's operations shall be conducted reasonably to minimize soil erosion.

Equipment shall not be operated when soil conditions are such that accelerated soil erosion will result. The kinds and intensity of control work required of the Purchaser shall be adjusted to soil and weather conditions and the need for controlling runoff. Erosion control work shall be kept current immediately preceding expected seasonal periods of precipitation or runoff.

Slash Treatment in Sensitive Areas (24.3)

1. Objective. To comply with Federal and state water quality standards by protecting sensitive areas from degradation which would result from using mechanized equipment for slash disposal.

Protected stream courses will be designated on the sale area map. Disturbance from mechanical equipment will be minimal within 50 feet on either side of the protected stream course.

Scenery Management Considerations along Roads and Trails

- Consideration will be given to scenery management when harvesting is done along National Forest System trails and roads. Slash and treatment areas will be treated or rehabilitated promptly for the protection of scenic values.

Level of Environmental Analysis

The Proposed Action for the Elk Park Fuels Reduction project will be analyzed as an environmental assessment (EA) as defined in Forest Service Handbook 1909.15, Chapter 40. The EA will fully describe and evaluate the proposed action and alternatives for meeting the purpose and need.

Decision Framework

Because the proposed action includes a Forest Plan amendment, the Forest Supervisor is the responsible official for deciding whether or not, and in what manner, lands within the Elk Park project area will be treated to reduce wildfire hazard and improve forest structure.

Items in this decision include:

- number of acres treated mechanically
- number of acres treated by hand thinning
- number of acres treated with prescribed fire
- treatments within the Clark PAC
- treatments within northern goshawk foraging habitat
- constructing temporary roads
- changes to Forest Service Road 132B

The decision will be based on a consideration of the environmental effects of implementing the proposed action or alternatives. The Forest Supervisor may select the proposed action, any alternative analyzed in detail, a modified proposed action or alternative, or no action.

Contact Person

For more information on this proposal and the project, contact Skye Sieber, NEPA Coordinator for the Peaks and Mormon Lake Districts at (928) 526-0866, or via e-mail at ssieber@fs.fed.us.

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