CHAPTER 1: PURPOSE AND NEED

Introduction

The Forest Service has prepared this Environmental Assessment in compliance with the National Environmental Policy Act (NEPA) and other relevant federal and state laws and regulations. This Environmental Assessment discloses the direct, indirect, and cumulative environmental impacts that would result from the proposed action and alternatives. This document is organized into four main parts and additional appendices.

Chapter 1: Purpose and Need: The section includes information on the history and background of the project proposal, the purpose of and need for the project, a description of the existing and desired conditions, needs for change and opportunities to move the project area towards desired conditions, and a brief summary of the agency's proposal for achieving that purpose and need. This section also details how the Forest Service informed the public of the proposal, and how the public responded.

Chapter 2: Comparison of Alternatives, including the Proposed Action: This section provides a more detailed description of how the agency developed the Proposed Action, alternatives considered and those alternatives that were eliminated from detailed analysis. Design features of the Proposed Action are summarized, and mitigation measures and monitoring are described. This section also presents a comparison of alternatives based on how they meet the project's objectives and units of measure described in Chapter 1.

Chapter 3: Affected Environment and Environmental Consequences: This section describes the affected environment and the environmental effects of implementing the Proposed Action and other alternatives. This analysis is organized by environmental component. Within each section, the affected environment is described first, followed by the effects of the No Action Alternative that provides a baseline for evaluation and comparison of the other alternatives that follow.

Chapter 4: Consultation and Coordination: This section provides lists of individuals involved in the environmental assessment, agencies consulted during the development of the environmental assessment, and individuals and groups that responded during public involvement phases of the project.

Chapter 5: Literature Cited

Appendices: The following appendices provide more detailed information to support the analyses presented in the environmental assessment.

Appendix A: Proposed Action Treatment Tables
Appendix B: Noxious or Invasive Weed Best Management Practices, Upper Beaver Creek Watershed Fuel Reduction Project
Appendix C: References Cited
Appendix D: Abbreviations, Acronyms and Glossary

Throughout this document, words, abbreviations or acronyms that are shown in bold face, are defined and described in Appendix D. Additional documentation, including more detailed analyses of project-area resources, may be found in the project planning record

located at the Mogollon Rim Ranger District Office at the Blue Ridge Ranger Station in Happy Jack, Arizona.

Proposed Action

The Upper Beaver Creek Watershed Fuel Reduction Project is located about 12 miles northwest of Clints Well, and about 30 miles south of Flagstaff. The project area encompasses about 48,179[1] acres of US Forest Service lands on the Mogollon Rim and Red Rock Ranger Districts (Figure 1). The Proposed Action consists of a variety of vegetation management, fuel reduction, and prescribed burning actions over the next 20 years. Vegetation treatments are proposed over about 16,000 acres and prescribed burning actions are proposed over about 44,000 acres within the project area. The project would treat forest lands both inside and outside of the **Wildland Urban Interface (WUI)**. The project area includes several developed and undeveloped private lands, Forest Service administrative sites, and special use areas within the WUI including: Stoneman Lake, K-T Ranch, Pratt Park, Double Cabin Park, Mule Park, Lowell Observatory-Discovery Channel Telescope, Casner Park, Goswick, the Western Area Power Administration 345 KV transmission line, Buck Mountain fire lookout, and the Long Valley Ranger Station office at Happy Jack (Figure 2). The designated WUI area encompasses about 17,057 acres (Figure 2).

The project legal location is: T14N, R8E, Sections 1, 2, 11, 12; T14N, R9E, Section 6; T15N, R8E, Sections 1-7, 9-16, 22-26, 35-36; T15 N, R 9 E, Sections 3-10, 16-21, 28-32; T16N, R7E, Sections 1, 12-13, 25; T16 N, R 8E, Sections 1-36; T16N, R9E, Sections 6-7, 18-20, 28-34; T17N, R8E, Sections 25-26, 34-36; T17N, R9E, Sections 27-34, Gila and Salt River Meridian.

The Proposed Action Alternative is described in detail in Chapter 2.

Purpose and Need for Action

The purpose of the Upper Beaver Creek Watershed Fuel Reduction Project is twofold: to reduce the potential of stand-replacement wildfire that threatens people, private property and natural resource values; and to begin restoring fire-adapted ecosystems.

Project Purpose #1: To reduce the potential of stand-replacement wildfire that threatens people, private property and natural resources values

Within the project area, there are 241 parcels (945 acres) within Casner Park, Double Cabin, Goswick, Hollingshead, K.T. Ranch, Mule Park and Stoneman Lake. Of these, 117 are classified as residential (441 acres). The total cash value of all private parcels is more than 22 million dollars (Coconino County Interactive GIS Mapping Site, Parcel and

[1] There are 940 acres of private land for a total of 49,124 acres within the project boundary.

Property Information, 2006). This value does not include other special use sites such as Lowell Observatory-Discovery Channel Telescope, the Western Area Power Authority 345 **KV** transmission line, Buck Mountain Lookout or facilities at the Long Valley Ranger Station offices in Happy Jack. The WUI sites of K-T, Happy Jack, Mule Park and Buck Mountain Lookout have the highest wildfire threat.

Figure 1. Vicinity Map

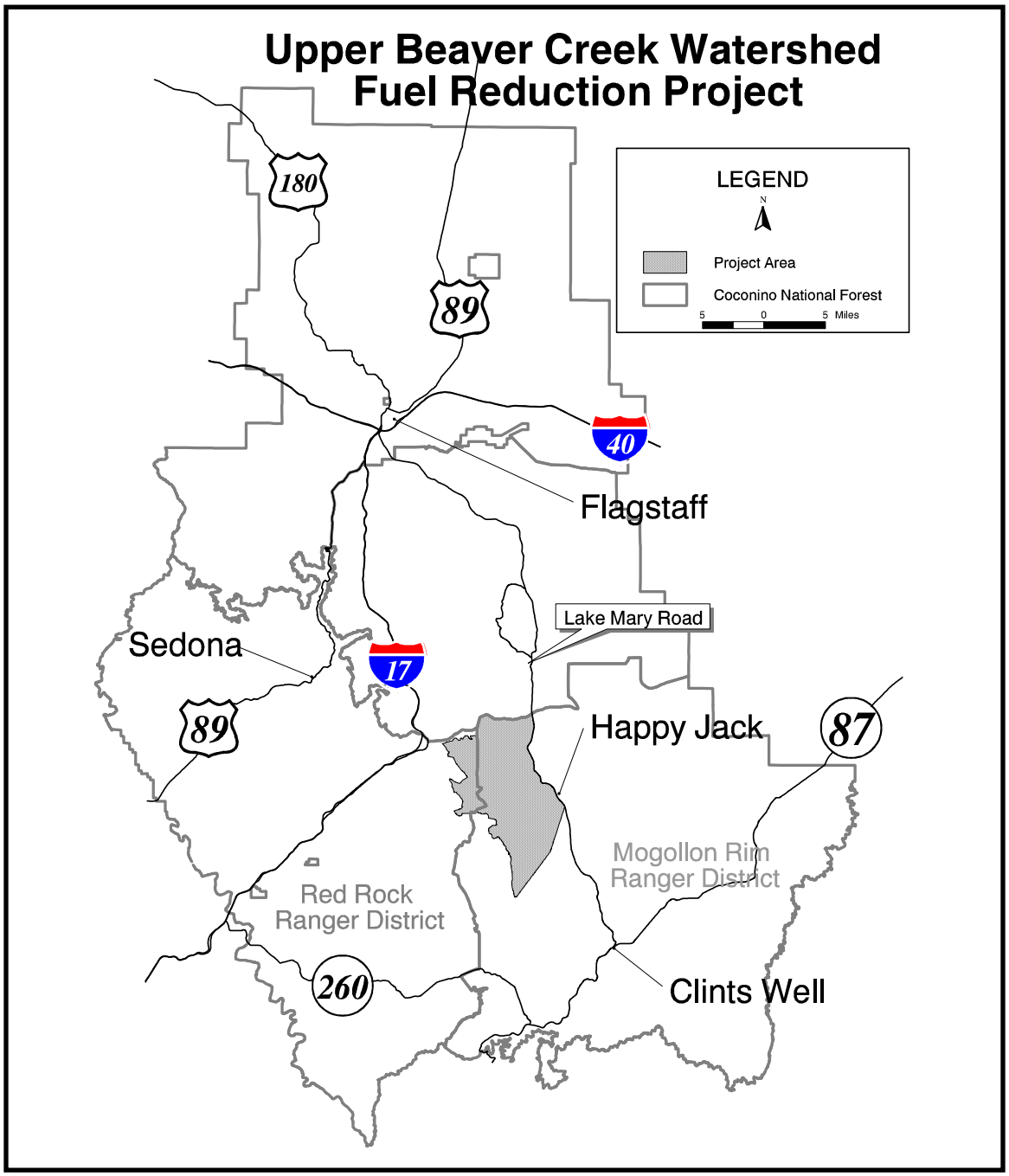
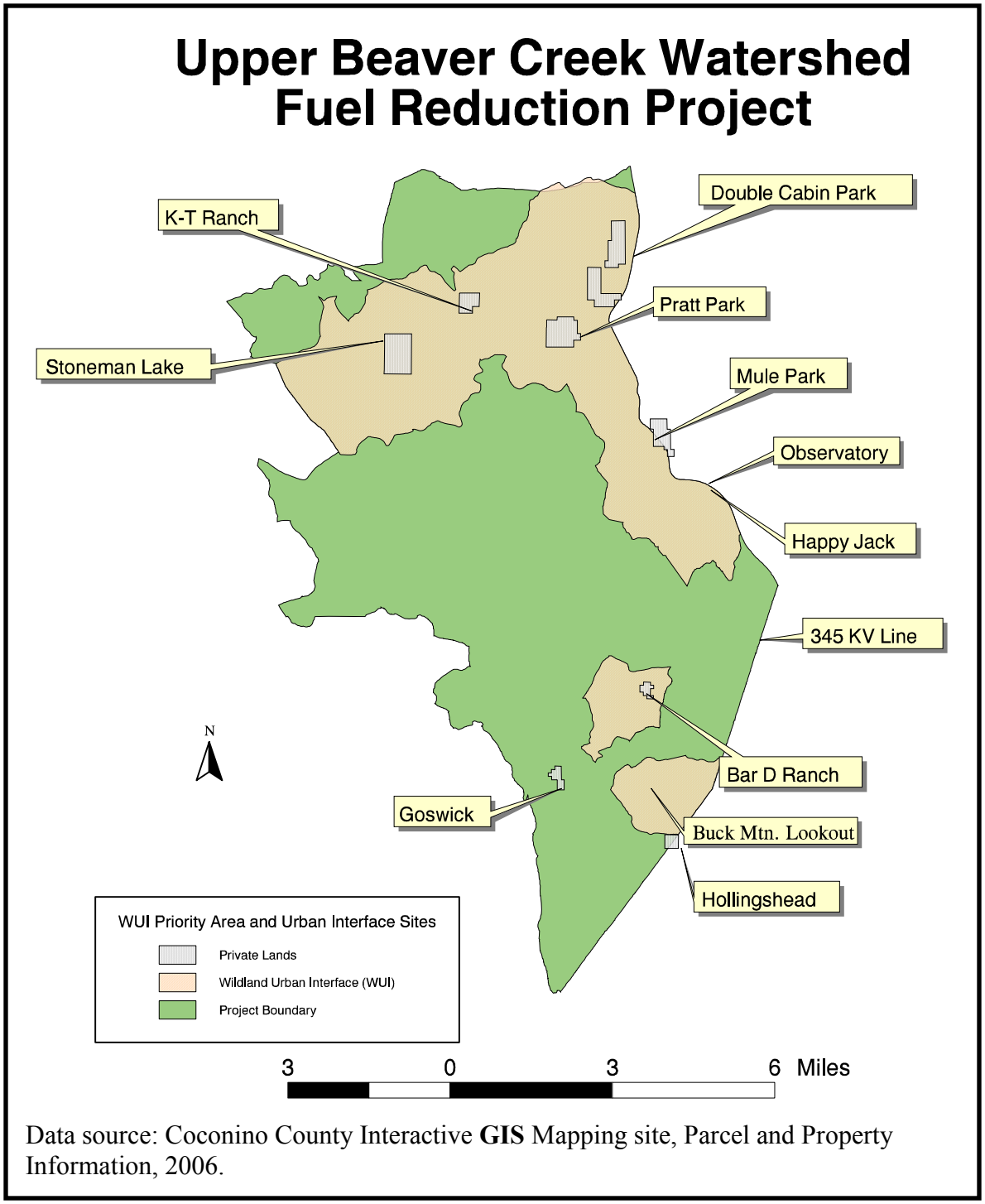


Figure 2. WUI Sites



Data source: Coconino County Interactive **GIS** Mapping site, Parcel and Property Information, 2006.

The WUI contains habitat for several important protected and sensitive wildlife species. All or parts of seven Mexican spotted owl **Protected Activity Centers (PACs)** and parts of the three northern goshawk **Post Fledging Areas (PFAs)** are contained within the

WUI. The WUI contains occupied habitat for one protected and one sensitive leopard frog species.

Overall, within the forested parts of the WUI area about 48% the area is susceptible to some form of crown fire (stand replacing wildfire). More specifically within the WUI, about 3% of the forested area has the potential for **active crown fire** where the entire tree canopy is lost to fire. Another 2% of the forested part of the WUI has the potential for active crown fire but the tree heights limit the potential for a crown fire to enter the tree canopy – this is termed **conditional crown fire**. About 43% of the WUI forested area has the potential for **passive crown fire** in which individual or small groups of trees torch out, but solid flaming in the canopy cannot be maintained except for short periods. The remaining 52% of the forested area has the potential for a **surface fire** only.

There is a need to reduce the areas at risk to stand-replacement wildfire that threatens people, private property and natural resource values within the WUI. The unit of measure to achieve this objective is the change in acres in fire type, from active crown fire to surface fire.

Project Purpose #2: to begin restoring fire-adapted ecosystems

Ponderosa pine forests of the American Southwest have experienced major changes in ecological structure, composition and processes over the past 100 years (Allen, et al. 2002) and the Upper Beaver Creek Watershed Fuels Reduction project area is a prime example of this. **Fire Regime Condition Class (FRCC)** is a methodology that describes the current state of a landscape in relation to its' natural or historic condition, both in terms of vegetative structure and in terms of the landscape fire regime and fire severity (Hahn et al. 2008). The FRCC system uses two sets of factors that, when combined, can be used to diagnose a condition[2] class of a given landscape. The first set of factors measures vegetation composition and structure changes. The second set measures possible changes in fire frequency and severity. The FRCC methodology uses a similarity index with peer reviewed identified reference conditions and calculates a departure from the current conditions with the reference condition for each vegetation type, or biophysical settings within an analysis area. The higher the departure value, the higher the departure from the natural range of variability for the area.

Within the analysis area, there are four identified **Biophysical Settings (BpS),** (Table 1; Figure 3). Biophysical settings (BpS) are the primary environmental descriptors used for determining a landscape's natural fire regimes, vegetation characteristics, and resultant FRCC category. Biophysical settings can often be described according to their respective fire regimes and associated vegetation composition (native overstory species) and structures (major successional stages) based on the best available research describing

[2] Three condtion classes are defined: Condition Class 1: within natural or historical range of variability with vegetation fuel class composition and fire frequency severity characteristic of the natural fire regime and departure values of 0-33; Condition Class 2: moderate departure from natural or historical range of variability and departure values of 34-66; and Condition Class 3: large departure from natural or historical range of variability with a large departure from natural fuel class compostion and fire frequency-severity with departure values of 67-100.

historical ranges of variation (HRV). The current FRCC for the Biophysical Settings[3] within the analysis area is as follows:

Table 1: Current Vegetation/Fuel Condition and Fire Frequency/Fire Severity data (FRCC) for the Project Area

BpS - PPIN5, Ponderosa Pine Colorado Plateau (34,458 acres)[4]	**Departure Value**	**Condition Class**	**Overall BpS Condition Class**
Vegetation-Fuel Condition class	68	3	3
Fire Frequency-Severity Condition Class	47	2	
BpS - PPIN7, Ponderosa Pine Southwest (9,628 acres)	**Departure Value**	**Condition Class**	
Vegetation-Fuel Condition class	76	3	3
Fire Frequency-Severity Condition Class	69	3	
BpS- MGRA2, Mountain Grassland with Trees (3,257 acres)	**Departure Value**	**Condition Class**	
Vegetation-Fuel Condition class	30	1	3
Fire Frequency-Severity Condition Class	92	3	
BPS - JUPI1, Juniper-Pinyon Frequent Fire (729 acres)	**Departure Value**	**Condition Class**	
Vegetation-Fuel Condition class	60	2	3
Fire Frequency-Severity Condition Class	91	3	
Landscape Weighted Average FRCC	**64**	**2**	

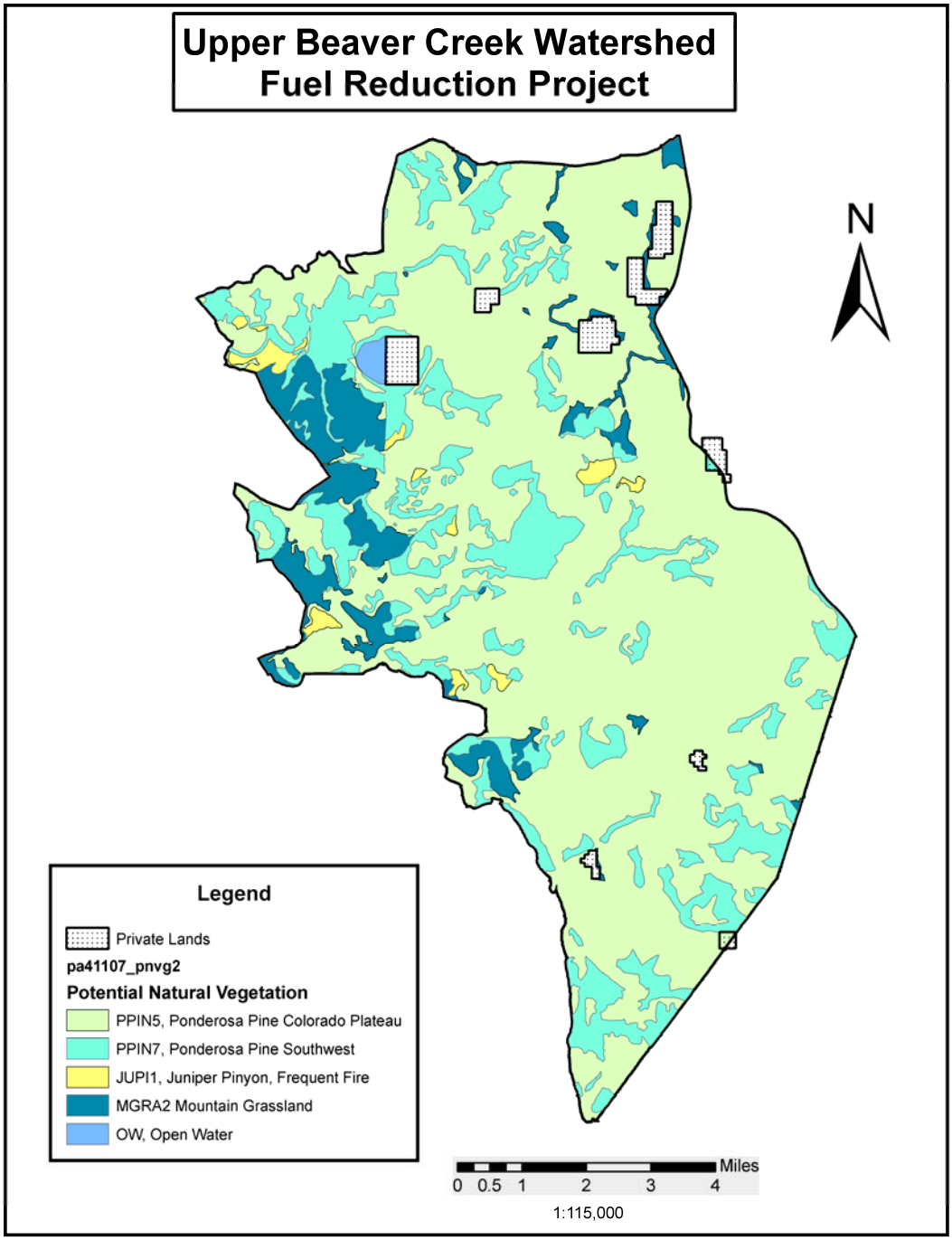
FRCC methodology assigns a class rating for each BpS to the *highest computed value* for each BpS strata. For example, the Colorado Plateau Ponderosa Pine BpS (PPIN5) has a vegetation-fuel condition class rating of 68 and a fire frequency-severity condition class of 47. Fire Regime Condition Class methodology assigns an overall score of 68 and a FRCC rating of 3 for the PPIN5 BpS. Using this methodology, all of the four BpSs have a FRCC score of 3, which equates to a high degree of departure from the natural range of variability for each biophysical regime.

Even though all of the individual strata have an FRCC of 3, the weighted average Fire Regime Condition Class for the entire landscape is a 2 (departure score of 64). This is occurring primarily because the current vegetation fuel departure within the Mountain grassland is very low (30) and the current fire frequency severity class for PPIN5 is also relatively low (47) and these data have skewed the average for all strata combined.

There is a need to begin to return the Upper Beaver Creek Watershed Fuels Reduction Project area closer to the identified reference conditions. Restoring fire-adapted ecosystems will enable the forested stands to act under natural processes (Allen et al. 2002; Falk, 2006). The unit of measure for this will be the change in FRCC departure values and condition class ratings.

[3] FRCC for the Biophysical Settings within the analysis areas are derived from **INFORMS** modeling and are run through the FRCC software analysis process (www.frcc.gov)
[4] The total acres displayed is 48,072 acres. An additional 107 acres exists in Stoneman Lake for a total of 48,179 US Forest Service acres.

Figure 3. Potential Natural Vegetation by Biophysical Setting



Desired Conditions

The desired condition for the Upper Beaver Creek Watershed Fuel Reduction project area is to have a landscape where the fire condition class is moving toward or achieving the condition class and fire regime that is within the historic range of variability for each vegetation type and to reduce the acres of potential active and passive crown fire.

Project Purpose, Need and Unit of Measure

Purpose: to reduce the potential of stand-replacement wildfire that threatens people, private property and natural resource values; and to begin restoring fire-adapted ecosystems.

Need:

- for reducing the acres of potential active, conditional and passive crown fire.
- to have a landscape where the fire condition class is moving toward or achieving the desired condition class and a fire regime for each vegetation type.

Measurement Units:

- change in acres of fire type.
- change in rating of fire regime condition class.

The target values for the units of measure are described in Table 2. The ultimate desired targets for the five measures may not be met immediately following proposed treatments. Values of the units of measure that trend from undesirable existing conditions towards desired future conditions are considered an improvement in overall condition.

Table 2. Existing Condition, Desired Condition, Need for Change & Opportunity for Management by Biophysical Setting

Unit of Measure	Existing Condition[5]	Desired Condition[6]	Need for Change	Opportunity for Management
PONDEROSA PINE COLORADO PLATEAU, PPIN5,(34,456acres) and PONDEROSA PINE SOUTHWEST, PPIN7, (9,634 acres) BIOPHYSICAL SETTINGS				
Fire Type	Crown Fire 18,981 acres Surface Fire 25,110 acres	Crown Fire 2,204 acres Surface Fire 41,885 acres	Reduce the acres of crown fire towards desired condition.	Thinning, prescribed burning.
Fire Regime	Fire regime 3, infrequent fires on 36-100 year frequency, mixed burn severity	Fire regime 1, frequent low severity fires.	Move from a fire regime 3 towards a fire regime 1.	Thinning, prescribed burning.
Condition Class	Condition Class 3	Condition Class 1	Move from a Condition Class 3 towards a Condition Class 1.	Thinning, prescribed burning
JUNIPER-PINYON FREQUENT FIRE, JUPI1 (572 acres), BIOPHYSICAL SETTING				
Fire Type	Crown Fire 0 acres Surface Fire 729 acres	Crown Fire 87 acres Surface Fire 642 acres	Maintain or increase acres of crown fire	Prescribed burning
Fire Regime	Fire regime 3, infrequent fires on 36-100 year frequency, mixed burn severity	Fire regime 3, infrequent fires on 36-100 year frequency, mixed burn severity	Retain current fire regime of 3	Prescribed burning.
Condition Class	Condition Class 2	Condition Class 1	Move from a Condition Class 2 towards a Condition Class 1	Prescribed burning.
MOUNTAIN GRASSLAND WITH TREES, MGRA2, (3,542 acres) BIOPHYSICAL SETTING				
Fire Type	Crown Fire 0 acres Surface Fire 3,257 acres	Crown Fire 1,954 acres Surface Fire 1,302 acres	Increase acres of crown fire (burn in grass)	Prescribed burning, thinning and lop and scatter slash
Fire Regime	Fire regime 3 infrequent fires on 36-100 year frequency, mixed burn severity	Fire regime 2 frequent fires 0-35 years, stand replacement burn severity	Move from a fire regime 3 towards a fire regime 2	Prescribed burning
Condition Class	Condition Class 3	Condition Class 1	Move from a condition class 3 towards a condition class 1	Thinning, prescribed burning.

[5] Crown fire includes active, conditional and passive fire types
[6] Desired acres are from the reference conditions for each biophysical setting as outlined in (www.frcc.gov).

Background

The Upper Beaver Creek Watershed Fuel Reduction Project is proposed in response to the fuel reduction elements of the National Fire Plan, the 10 Year Comprehensive Strategy and Implementation Plan, and the Forest Service Cohesive Strategy for Protecting People and Sustaining Resources in Fire-Adapted Ecosystems. The overall purpose of the project ties directly into one of the Chief of the Forest Service's Four Threats, "Fire and Fuels" and the Southwestern Region of the Forest Service's Central Priority of "Restoration of Fire-Adapted Ecosystems". Actions needed to address this threat and priority include restoring healthy, disturbance-resilient ecosystems on lands at risk from severe fire, improving the condition and function of critically important watersheds, and sustaining critical wildlife habitat for threatened and endangered species. The project is the first phase of fuel reduction and vegetation treatments needed in the landscape. It is designed to take immediate steps to reduce fuel hazards in strategic areas in order to contain and control the spread and intensity of wildfire.

In 2000, in response to a request by President Clinton, the Secretaries of Agriculture and the Interior developed an interagency approach called the National Fire Plan[7] (**NFP**) to respond to severe wildland fires and reduce their impacts on rural communities, and assure sufficient firefighting capacity in the future. The NFP addresses five key points: Firefighting; Rehabilitation and Restoration; Hazardous Fuel Reduction; Community Assistance; and, Accountability. The fuel management and reduction focus is critical to the NFP. It addresses the need to manage overly dense forest vegetation that is the result of decades of fire exclusion from those lands. Fuel management activities incorporate all types of treatments necessary to change stand condition classes (which reflect the level of damage that would result from a wildfire on those lands) from higher risk condition classes to lower risk condition classes, and to maintain those areas in which a desirable condition class has been established. In addition, activities will focus on WUI areas to reduce risk to people and property. The Cohesive Strategy[8] states, the first priority for fuels reduction "will be the millions of acres already roaded and managed landscapes that are in close proximity to communities." The Cohesive Strategy sets four priorities: WUIs, readily accessible municipal watersheds, threatened and endangered species habitat, and maintenance of existing low risk Condition Class 1 areas which are previously treated areas or areas in which the ecosystem is still functioning within its historic range of variability.

Decision To Be Made

The Forest Supervisor of the Coconino National Forest is the Deciding Official for this project. The decision to be made is whether to approve the Proposed Action, another alternative, or develop an alternative design that meets the purpose and need and moves

[7] http://www.fireplan.gov/overview/whatis.html

[8] Protecting People and Sustaining Resources in Fire-Adapted Ecosystems: A Cohesive Strategy, October 2000 (Laverty et al., 2000) (available on http://www.fs.fed.us/publications/2000/cohesive_strategy10132000.pdf

the area towards the desired condition, or to not implement a project at this time. The Deciding official will also approve appropriate mitigation measures and monitoring. (PR # 1, 47, 167, 224)

Forest Plan Consistency

This action responds to the goals and objectives outlined in the Coconino National Forest Land and Resource Management Plan (Forest Plan), as amended, and helps move the project area towards desired conditions described in that plan (Coconino National Forest Plan 1987, as amended). The Forest Plan provides two types of management direction, Forest-wide direction and Management Area **(MA)** direction. The first Forest-wide goal for Protection on page 25 of the Forest Plan applies to this proposal: "Use fire as resource management tool where it can effectively accomplish resource management objectives." The proposal is consistent with two key Forest-wide standards and guidelines under the program component of "Protection" and standards and guidelines for Fuel Treatment. These are described below in Table 3.

Table 3: Applicable Forestwide Standards and Guidelines Under Program Component Protection

Standards and Guidelines	Pages in Forest Plan
Plan fuel treatments on an area basis. Fuel treatment objectives are met on the area as whole and not necessarily on each acre.	p. 95
Plan fuel treatments that have the least impact on the site, meet resource management needs, are cost effective, and meet fuel treatment objectives.	p. 95
Limit the treatment of natural fuels to areas where fuel buildups are a threat to life, property, adjacent to old growth areas, or specifically identified high resource values.	p. 95
Maintain existing fuel breaks and construct additional fuel breaks that are necessary for protecting life and property.	p. 96

The Upper Beaver Creek Watershed Fuel Reduction Project lies within a number of Management Areas (MAs). Approximately 87% of the Upper Beaver Creek Watershed Fuel Reduction project area is in Management Area 3. Nearly all of the proposed thinning treatments are in Management Area 3. The Forest Plan emphasizes sustained yield of timber and fire wood production, wildlife habitat, water quality, and dispersed recreation for this management area. Table 4 outlines the Forest Plan Management Areas within the project area and the respective management emphasis for each as outlined in the Forest Plan. Figure 4 displays the location of these management areas.

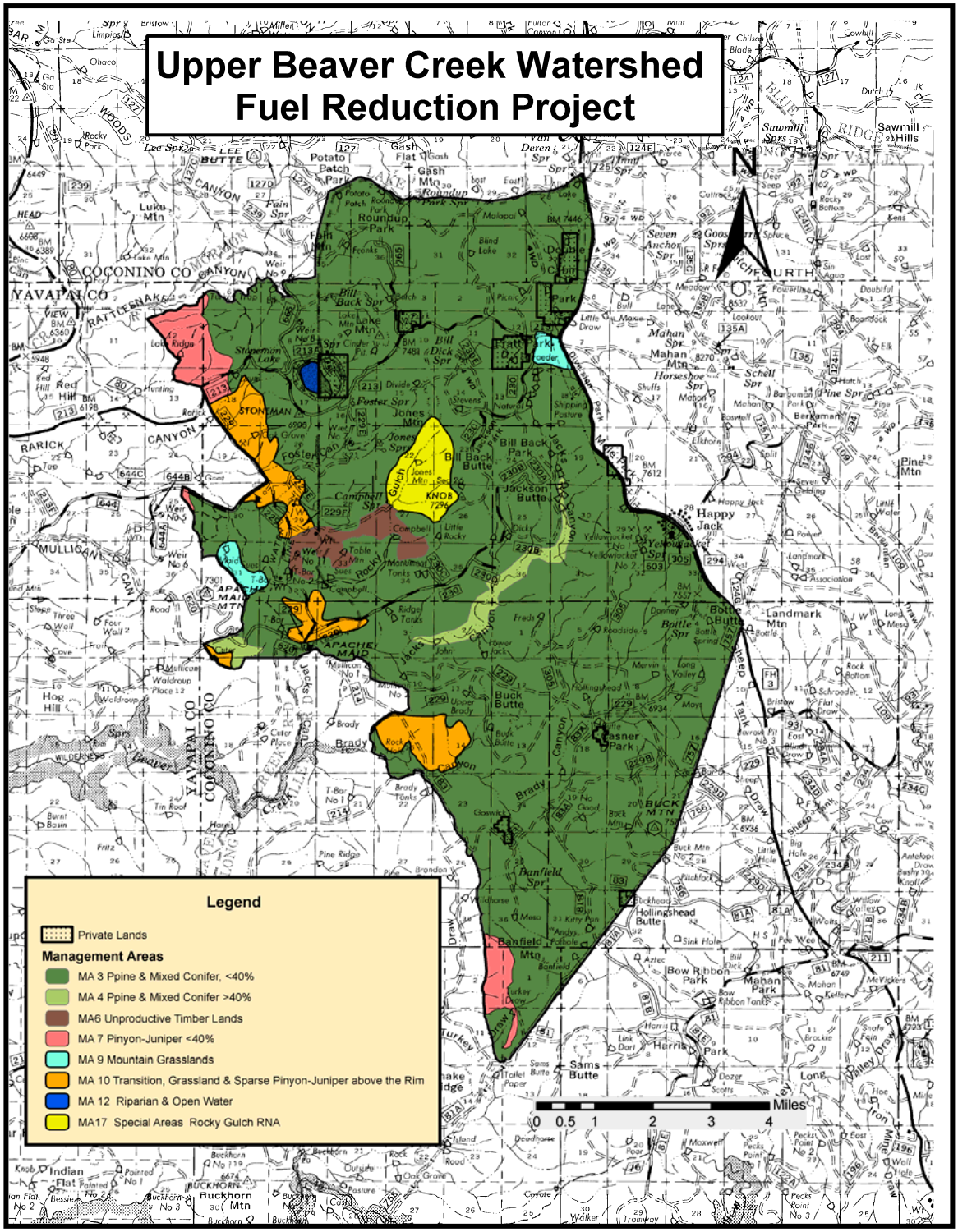
Table 4: Summary of the Management Areas from Coconino National Forest Plan for the Upper Beaver Creek Watershed Fuel Reduction Project area.

Management Area	Acres	Forest Plan Emphasis	Pages in Forest Plan
MA-3: Ponderosa pine or mixed conifer forest less than 40% slope	42,845	Emphasize a combination of multiple-uses including a sustained-yield of timber and firewood production, wildlife habitat, livestock grazing, high quality water, and dispersed recreation.	Amend. 11, p. 117
MA-4: Ponderosa pine or mixed conifer forest greater than 40% slope	805	Emphasize wildlife habitat, watershed condition, and dispersed recreation. Management intensity is low.	Amend. 17, p. 139
MA-6: Unproductive timber land. Includes juniper-pine transition	725	Emphasize a combination of wildlife habitat, watershed condition, and livestock grazing. Other resources are managed in harmony with the emphasized resources.	Amend. 17, p. 145
MA-7: Pinyon-juniper woodlands, less than 40% slope	1,207	Emphasize firewood production, watershed condition, wildlife habitat, and livestock grazing. Other resources are managed in harmony with the emphasized resources.	Amend. 17, p. 148
MA-9: Mountain Grasslands	396	Emphasize livestock grazing, visual quality, and wildlife habitat. Other resources are managed in harmony with emphasized resources. The smaller mountain meadows in remote areas are managed mostly for wildlife habitat, especially for elk summer range.	Amend. 17, p. 158
MA 10: Grassland and Sparse Pinyon-Juniper Above the Rim	2,144	Emphasize range management, watershed condition, and wildlife habitat. Other resources are managed to improve outputs and quality. Emphasis is on prescribed burning to achieve management objectives.	Amend. 17, p. 162
MA-12: Riparian and Open Water	86	Emphasize wildlife habitat, visual quality, fish habitat, and watershed condition on the wetlands, riparian forest, and riparian scrub. Emphasize dispersed recreation, including wildlife and fish recreation, on the open water portion.	Amend. 17, p. 172
MA -17: Special Areas	916	Rocky Gulch Research Natural Area	Amend. 12, p. 193
Total project area*	49,124		

*943 acres of private lands are included in the above Management Areas because of overlap of the GIS coverage of Management Areas.

The Proposed Action Alternative is consistent with the Forest Plan (PR# 205).

Figure 4. Management Area Map for the Upper Beaver Creek Watershed Fuel Reduction Project Area



Public Involvement

The Council on Environmental Quality (CEQ) defines scoping as "...an early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action" (40 CFR 1501.7). The scoping process is used to invite public participation, to help identify public issues, and to obtain public comment at various stages of the environmental analysis process. Although scoping is to begin early, it is really an iterative process that continues until a decision is made.

The Upper Beaver Creek Watershed Fuel Reduction Project has been listed on the Coconino National Forest Schedule of Proposed Actions since October, 2004. On April 25, 2006 a scoping letter providing project information and seeking public comment was mailed to approximately 195 individuals and groups (PR# 74). This included federal and state agencies, businesses, interest groups, and local landowners. In addition, a public notice requesting comments on the Proposed Action was published in the Arizona Daily Sun on April 25, 2006 (PR# 90). The Proposed Action was also posted on the Coconino National Forest public web site at that time.

Responses to the Proposed Action were received from 40 individuals and groups. Of these, 20 individuals made no specific comments and requested to be kept on the mailing list for future information regarding the project. Comments were received from 17 individuals, agencies and groups. The public responses identified issues, expressed opinions or voiced concerns about various aspects of the project. The responses are summarized into the following general categories. Some of the responses fit into more than one category.

- **Informational:** 23 respondents made no specific comments but requested additional information (larger maps) or wanted to remain on the mailing list. Four respondents wanted information on treatments near Stoneman Lake, and about options for private property owners to clean up fuels on their lands.
- **Positive Comments:** 9 respondents expressed general support of the proposed action namely, fuels reduction.
- **Concerns:** 8 respondents presented specific concerns about the project relating to the risks of prescribed burning including fire escape, and control of burns. Other concerns included: smoke impacts and air quality and having adequate fire staffing during prescribed burning. One comment was made relating to how the project considered global warming.
- **Negative Comments:** Five respondents expressed disagreement with all or parts of the proposed action based on opinions regarding the overall fire hazard of the area, the definition of WUI used, impacts to wildlife and the forest, intensity of proposed treatments, and locations of treatments.
- **Out of Scope:** Several comments relating to treatments on private lands, and wildland fire use were regarded as out of scope with the Proposed Action.

Representatives from the Arizona Game and Fish Department, the U.S. Fish and Wildlife Service, and the Rocky Mountain Research Station participated in an office and field meeting for the project on May 4, 2007 (PR #143). Representatives from the Center for Biological Diversity and the

Grand Canyon Wildlands Council were briefed on the project in an office review on February 6, 2008 (PR #190). Representatives from the Arizona Game and Fish were again briefed in an office visit on March 3, 2008 (PR #197).
A subsequent briefing occurred on April 8, 2008 with a representative from the Center for Biological Diversity (PR #208).

Scoping and public involvement activities are used to identify issues about effects of the Proposed Action. After consideration of the public input received, the District Ranger determined that there were no significant issues regarding the Proposed Action (PR #167). The Forest Supervisor concurred with the District Ranger's interpretation. The District Ranger directed the interdisciplinary team to resolve many of the concerns raised by the public either by refining the Proposed Action or by developing specific project design features or mitigation measures. The Forest Supervisor concurred with the District Ranger's direction. No additional alternatives were developed. The following comments from the public are addressed through the Proposed Action, project design features, monitoring, and effects analyses presented in Chapters 2 and 3 and in the project record (PR #159).

- Wildland Urban Interface Definition. *The definition of the WUI as used in the project is overly extensive; and the associated WUI treatments are intensive and will cause adverse impacts.* Fire and Fuels Effects Analysis Summary, Chapter 3.

- Fire hazard reduction within the Community Protection Zone. *The proposed treatments do not reduce canopy cover to less than 35%, and do not remove enough vegetation within ¼ mile of private residences or other structures to reduce the fire hazard.* Fire and Fuels Effects Analysis Summary, Chapter 3.

- Thinning trees up to 16 inches dbh in MSO PACs within the WUI. *This is not consistent with the Coconino Forest Plan or the Recovery Plan for the Mexican Spotted Owl.* Chapter 2 Alternative Development. The Proposed Action was refined during environmental analysis and the PAC Thin 16 Inch Treatment was dropped from the proposed action alternative.

- Logging trees 16-24 inches outside of the WUI. *Removing large trees does not meet the purpose and need of the project as they do not contribute to hazardous fuel loads outside of the WUI.* Chapter 2 Alternative Development. The Proposed Action was refined during environmental analysis and modeling, and project objectives could be met with the upper diameters of 16 – 18". (Appendix A, Table A-2).

- Old Growth. *Project activities may affect existing and developing Old Growth.* Vegetation and Wildlife Effects Analysis Summary, Chapter 3.

- Wildlife Habitat: *Project activities (thinning and prescribed burning) may reduce the quantity and quality of habitat for listed wildlife species, R3 Sensitive species and other wildlife species.* Project Design Features, Chapter 2 and Wildlife Effects Analysis Summary, Chapter 3.

- Ecosystem Functioning. *Project activities may affect ecosystem functioning particularly forest regeneration and maintaining/developing a multi-layered canopy.* Vegetation and Wildlife Effects Analysis Summary, Chapter 3.

- Invasive plant species. *Project activities have the potential to spread invasive weeds.* Project Design Features, Chapter 2; Noxious and Invasive Weeds Effects Analysis Summary, Chapter 3; and Appendix B.

- Water Quantity. *Project activities may adversely affect the water quantity of streams, springs, stock tank and hydrologic stability of the watershed.* Water Effects Analysis Summary, Chapter 3.

- Prescribed burning escape. *Prescribed fires can escape and endanger people and cause property loss.* Project Design Features Chapter 2, and Fire and Fuels Effects Analysis Summary, Chapter 3.

- Public Notification. *Landowners and the public need to be notified of activities such as prescribed burning and logging prior to implementation so they can avoid smoke or other impacts.* Project Design Features, Chapter 2, and Fire and Fuels Effects Analysis Summary, Chapter 3.

- Air quality and smoke impacts. *Smoke from prescribed burning may impact night time research at the Discovery Channel Telescope at Happy Jack and may negatively impact public health.* Alternatives Considered but Eliminated from detailed analysis, Chapter 2; Project design features, Chapter 2*;* Air Quality Analysis Summary, Chapter 3.

- Minimal Basal Areas of 20 BA on transition and savannah maintenance treatments. *Minimum BAs of 20 square feet per acre are too low to maintain a forested component.* The Proposed Action was refined during environmental analysis and the target basal area was increased. Treatment Descriptions, Chapter 2. (PR #200)

Please see Chapter 2, Alternative Development for more details on how the original Proposed Action was refined during environmental analysis.

The *Public Involvement Record* for the Upper Beaver Creek Watershed Fuel Reduction Project contains the scoping letters, mailing lists, and all comments on the project received from the public. It also includes documentation of other public involvement efforts such as legal notices and community newspaper articles. The public comments to scoping and the Forest Service responses to these comments are disclosed in the report *Responses to Comments on the Proposed Action for the Upper Beaver Creek Fuel Reduction Project*, P. Haessig (PR #159).

Issues

Significant Issues

Issues are statements of problems to be solved or problems that may be created by the proposed action. Analysis of public and internal comments for the Upper Beaver Creek Watershed Fuel Reduction Project identified no significant issues. Additional internal scoping during the interdisciplinary team planning process identified a number of concerns that deserved consideration. These concerns and their related project design features and resource protection measures resulted in the refinement of the Proposed Action. The refinements made in the Proposed Action after public scoping resulted from: errors (such as acre calculations); new information from partners such as Rocky Mountain Research Station; new data from modeling or other sources; and consideration of public comments and internal concerns. The District Ranger reviewed the refinements made to the Proposed Action, and made the decision that the changes were not different enough from the Proposed Action to warrant analysis of a new alternative (PR #224). The Forest Supervisor concurred with the District Ranger's interpretation.

Non-significant Issues

The reasons issues are categorized as non-significant include: 1) they are outside the scope of the proposed action; 2) they are already decided by law, regulation, Forest Plan or other higher level decision; 3) they are irrelevant to the decision to be made; or 4) they are conjectural and not supported by scientific or factual evidence. The Council of Environmental Quality (CEQ) regulations for implementing the National Environmental Policy Act (NEPA) explain this delineation in Sec. 1501.7, "…identify and eliminate from detailed study the issues which are not significant or which have been covered by prior environmental review (Sec. 1506.c)…" After consideration of the public input received, the District Ranger determined that there were no significant issues regarding the Proposed Action (PR#167, 224).

Project Record Availability

The planning record for the Upper Beaver Creek Watershed Fuel Reduction Project includes all project-specific information, including records of public involvement, resource reports, IDT meeting notes and records, and results of field investigations. These documents are referenced throughout the EA by title and or project record number and key points are summarized. The planning record is located at the Mogollon Rim District Office located at the Blue Ridge Ranger Station in Happy Jack, Arizona. These records are available for public review.