Apache County

Coconino County

Navajo County

Town of Pinetop-Lakeside

City of Show Low

Community Wildfire Protection Plan

for At-Risk Communities of the Sitgreaves National Forest in Apache, Coconino, and Navajo Counties

May 2004

Pinetop Fire District

Lakeside Fire District

Show Low Fire District

Linden Fire District

Clay Springs-Pinedale Volunteer Fire District

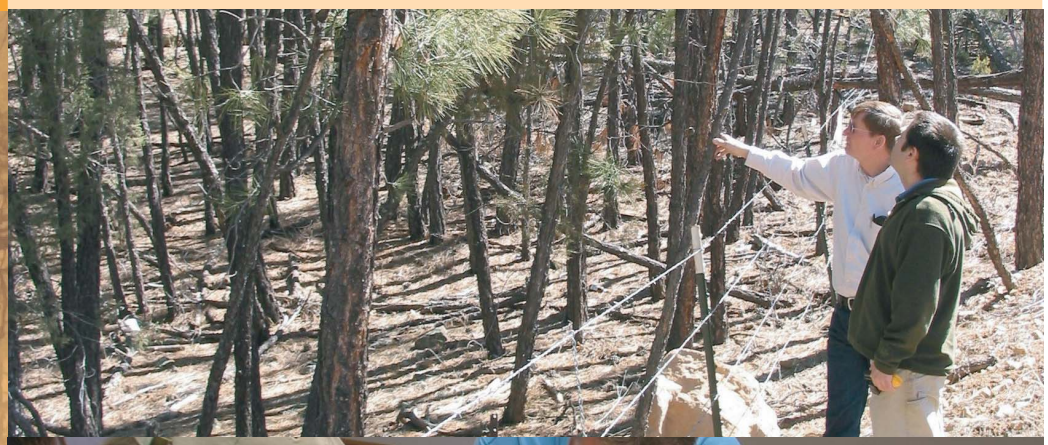
Heber-Overgaard Fire District

Forest Lakes Volunteer Fire District

White Mountain Apache Tribe, Fire and Rescue

Apache-Sitgreaves National Forests

Arizona State Land Department, Deputy State Forester, Fire Management Division



White Mountain-Apache Tribe

Bureau of Indian Affairs, Fort Apache Agency

Aripine ◆ Clay Springs ◆ Forest Lakes
Heber-Overgaard ◆ Hon Dah ◆ Linden ◆ McNary
Pinedale ◆ Pinetop-Lakeside ◆ Show Low ◆ Vernon

Community Wildfire Protection Plan

for At-Risk Communities of the
Sitgreaves National Forest in
Apache, Coconino, and Navajo Counties

May 2004

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Acronyms and Abbreviations

AIGG	Arizona Interagency Coordinating Group
A-S NFs	Apache-Sitgreaves National Forests
BA	basal area
BIA	Bureau of Indian Affairs
CAGs	Community Action Groups
CWPP	Community Wildfire Protection Plan
EAS	Emergency Alert System
dbh	diameter at breast height
drc	diameter at root collar
FAIR	Fort Apache Indian Reservation
FS	Forest Service
GIS	geographic information system
HFRA	Healthy Forests Restoration Act of 2003
IGA	Intergovernmental Agreement
ISO	International Organization for Standardization
NFP	National Fire Plan
NPC	Northland Pioneer College
NRWG	White Mountains Natural Resource Working Group
RFA	Rural Fire Assistance
RT	recommended treatment
PAC	spotted owl protected activity center
PFA	goshawk postfledgling family area
PP	ponderosa pine
SCWPP	Sitgreaves Communities' Wildfire Protection Plan
SFA	State Fire Assistance
SR	State Route
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
VFA	Volunteer Fire Assistance
WMS	White Mountain 10-Year Stewardship Project
WUI	Wildland-Urban Interface

I. INTRODUCTION

The Sitgreaves Communities' Wildfire Protection Plan (SCWPP–a fold-out schematic of the process used to develop the SCWPP introduces this and each of the subsequent report sections) for the "at-risk" communities located in the Sitgreaves National Forest (SNF) managed within the US Department of Agriculture (USDA) Apache-Sitgreaves National Forests (A-S NFs) within Apache, Coconino, and Navajo Counties was developed in response to the Healthy Forests Restoration Act of 2003 (HFRA). This recent legislation established unprecedented incentives for communities to develop comprehensive wildfire protection plans in a collaborative, inclusive process. Furthermore, this legislation gives direction to the Departments of Interior and Agriculture to address local community priorities in fuel reduction treatments, even on non-federal lands.

The HFRA represents the legislative component of the Healthy Forests Initiative, introduced by President Bush in January 2003. Congress passed the HFRA in November 2003 and the President signed it into law that December. When certain conditions are met, Title I of the HFRA authorizes the Secretaries of Agriculture and Interior to expedite the development and implementation of hazardous fuel reduction projects on lands managed by the USDA Forest Service or the Bureau of Land Management.

The HFRA emphasizes the need for federal agencies to collaborate with communities in developing hazardous fuel reduction projects and places priority on treatment areas identified by communities themselves through development of a Community Wildfire Protection Plan (CWPP). Priority areas include the wildland-urban interface (WUI), municipal watersheds, areas impacted by wind throw or insect or disease epidemics, and critical wildlife habitat that would be negatively impacted by a catastrophic wildfire.

In compliance with Title 1 of HFRA, the CWPP requires agreement among local government, local fire departments, and the state agency responsible for forest management (in Arizona, the Arizona State Land Department [State Forester]). The CWPP must also be developed in consultation with interested parties and the applicable federal agency managing the land surrounding the at-risk communities.

The SCWPP is developed to assist local government, fire districts, and residents in the identification of lands—including federal lands—at risk from severe wildfire threat and to identify strategies for reducing fuels on wildlands while improving forest health, supporting local industry and local economies, and improving fire-fighting response capabilities.

Guidance for development of the SCWPP is based on *Preparing a Community Wildfire Protection Plan: A Handbook for Wildland-Urban Interface Communities* (Communities Committee, Society of American Foresters, National Association of Counties, National Association of State Foresters 2004). The SCWPP was collaboratively developed through consultation with the A-S NFs, using *The Healthy Forests Initiative and Healthy Forests Restoration Act Interim Field Guide* (USDA Forest Service and Bureau of Land Management 2004). As additional guidance documents become available, any changes or amendments will be incorporated into the SCWPP.

Encompassed by the SNF, the majority of at-risk communities of the SCWPP are located in the southern portion of Navajo County (see Figure 1.1). Two additional communities are adjacently located in small portions of Apache and Coconino Counties. The following sections detail the background and need for the SCWPP within these communities, identify current policies, and provide overviews of the process and goals of the SCWPP.

Fuel Break in Pinetop-Lakeside
Source: Logan Simpson Design Inc.

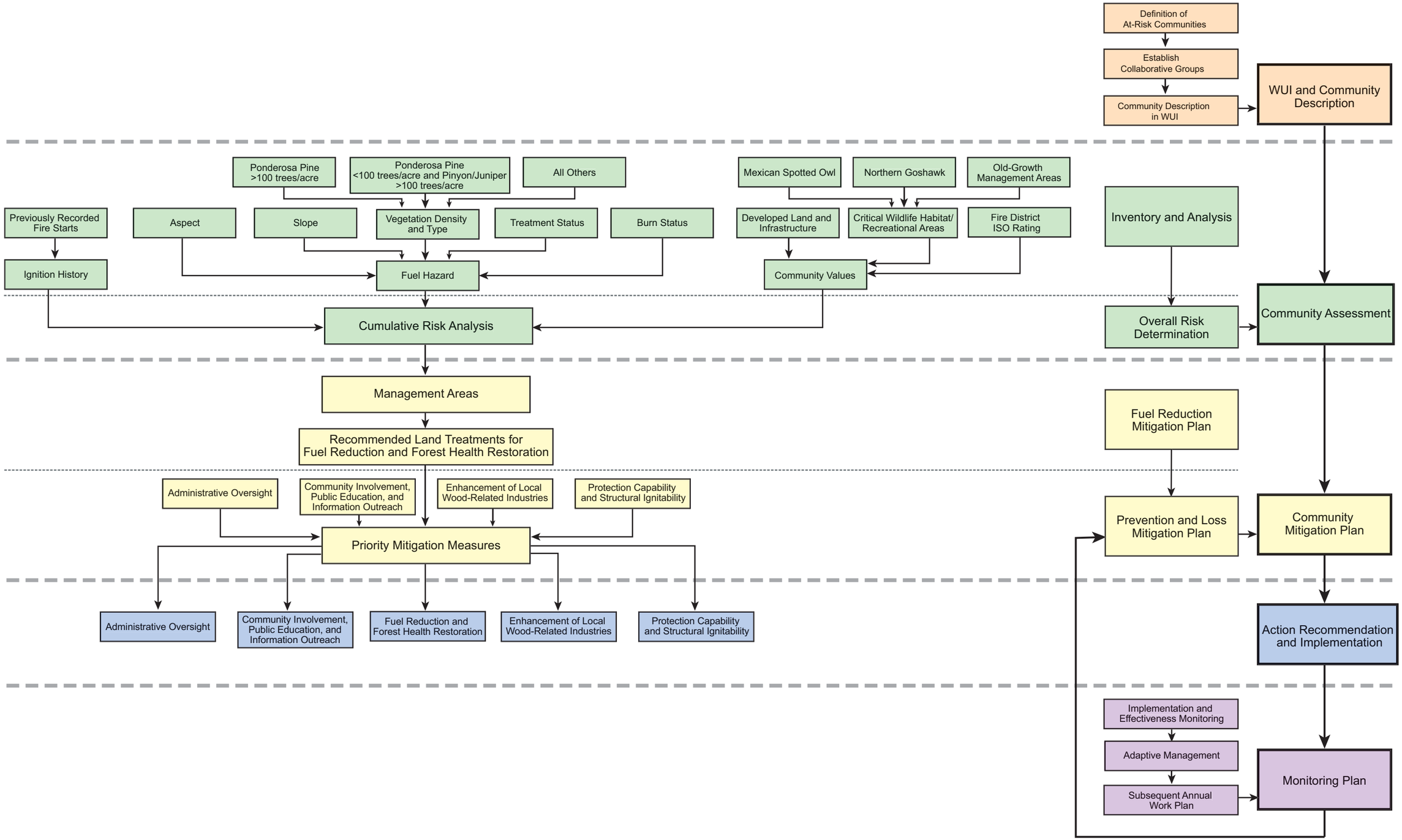

Definition of At-Risk Communities
Establish Collaborative Groups
Community Description in WUI
WUI and Community Description
Ponderosa Pine >100 trees/acre
Ponderosa Pine <100 trees/acre and Pinyon/Juniper >100 trees/acre
All Others
Mexican Spotted Owl
Northern Goshawk
Old-Growth Management Areas
Previously Recorded Fire Starts
Aspect
Slope
Vegetation Density and Type
Treatment Status
Burn Status
Developed Land and Infrastructure
Critical Wildlife Habitat/ Recreational Areas
Fire District ISO Rating
Inventory and Analysis
Ignition History
Fuel Hazard
Community Values
Cumulative Risk Analysis
Overall Risk Determination
Community Assessment
Management Areas
Recommended Land Treatments for Fuel Reduction and Forest Health Restoration
Fuel Reduction Mitigation Plan
Administrative Oversight
Community Involvement, Public Education, and Information Outreach
Enhancement of Local Wood-Related Industries
Protection Capability and Structural Ignitability
Prevention and Loss Mitigation Plan
Community Mitigation Plan
Priority Mitigation Measures
Administrative Oversight
Community Involvement, Public Education, and Information Outreach
Fuel Reduction and Forest Health Restoration
Enhancement of Local Wood-Related Industries
Protection Capability and Structural Ignitability
Action Recommendation and Implementation
Implementation and Effectiveness Monitoring
Adaptive Management
Subsequent Annual Work Plan
Monitoring Plan

Figure 1.1 Planning area

A. Background

Since the mid-1990s, six significant wildfires have occurred within or close to the SCWPP planning area; these include the Rodeo-Chediski Fire, the largest in Arizona's modern history (see Section III.C.). These large-scale fires occurred in addition to the several hundred natural and human fire starts that are suppressed and contained each year. These wildland fire events typify the region's calamitous wildfire history. Because of the region's wildfire history, local citizens and their governments began aggressive education and land treatment efforts (see Section I.D.3 Local Policies) to recognize and act on those current conditions that result in the accumulation of unacceptable levels and types of natural fuels that significantly threaten the communities with a catastrophic wildfire.

The collaborative process for developing the SCWPP has its roots in the White Mountains Natural Resource Working Group (NRWG). The 1997 Cooperative Agreement formalizing this working group was signed by the Apache-Sitgreaves, Coronado, and Tonto National Forests; the Southwest Regional Director of the US Fish and Wildlife Service; the Arizona Game and Fish Department; Apache, Gila, Graham, Greenlee, and Navajo Counties; Governor Jane Hull; and the University of Arizona. The purpose of the Cooperative Agreement is "to allow for innovative approaches to achieving vegetative management strategies through the use of prescribed fire and through mechanical treatments while providing for improved water quality and quantity, accelerating riparian restoration, mitigating impacts of catastrophic fire associated with forest and rangeland ecosystem health for biodiversity, and promoting quality effective partnerships" (NRWG Mission Statement 1997). The NRWG has long recognized the importance of managing the WUI as well as of developing and implementing landscape treatments within the interior forest to reduce fuel loads and restore natural forest ecosystems.

Shortly after the 2003 Kinishba Fire, an NRWG subgroup met to review the threat to the communities of Hon Dah, McNary, Pinetop-Lakeside, and Show Low. This subgroup was formed through encouragement of the A-S NFs Supervisor and officials from the Bureau of Indian Affairs and the White Mountain Apache Tribe. The subgroup was formed to analyze the current condition of the WUI within the "Rim Road," an area beginning at Hon Dah and extending along the Mogollon Rim area through Pinetop-Lakeside to Highway 60 within the city of Show Low. The Rim Road area could become important in resource distribution and as an evacuation route during a catastrophic wildfire event. It was during this time that the U.S. Congress was debating the HFRA. Subsequent to Congressional approval and to take advantage of the provisions of the HFRA, the subgroup focused on developing a CWPP to secure funding for community wildfire protection. During a series of meetings with community leaders and local government officials and in consultation with the A-S NFs Supervisor and the Arizona State Forester, the decision was made to produce a single CWPP for all at-risk communities of the SNF.

Evacuation from the Rodeo-Chediski Fire, 2002
Source: City of Show Low

To create a single SCWPP that captured local interest and advanced understanding regarding the critical issues, two Community Action Groups (CAGs) were established—one in the eastern end of the planning area and one in the west. The first CAG was to focus on the at-risk communities of Vernon, McNary, Hon Dah, Pinetop-Lakeside, Show Low, Linden, and Clay Springs-Pinedale. A second CAG was established to focus on the at-risk communities of Aripine, Heber-Overgaard, and Forest Lakes. CAG leaders asked that community leaders and those with the relevant

expertise participate in these CAGs. The intent was to share information on existing wildfire risk conditions, fire history, and current efforts to mitigate high wildfire risk and then to help recommend strategies needed to provide for total community wildfire protection and preparedness.

These two local CAGs meet all criteria of the collaborative guidance established by the Wildland Fire Leadership Council and have been the core of the public involvement process for the SCWPP. In their deliberations, the CAGs discussed contributions from the CAG technical experts and reviewed many references and guidance documents.

East CAG
Source: Logan Simpson Design Inc.

B. Wildland-Urban Interface

The WUI is commonly described as the zone where structures and other features of human development meet and intermingle with undeveloped wildland or vegetative fuels. Communities within the WUI face substantial risk to life, property, and infrastructure. Wildland fire within the WUI is one of the most dangerous and complicated situations firefighters face. Both the *National Fire Plan* (NFP), a response to catastrophic wildfires, and *A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment, 10 Year Comprehensive Strategy*, an implementation plan for reducing wildland fire risk, place a priority on working collaboratively with communities in the WUI to reduce their risk from large-scale wildfire. The HFRA builds on existing efforts to restore healthy forest conditions in the WUI by empowering local communities and by authorizing expedited environmental assessment, administrative appeal, and legal review for qualifying projects on federal land.

The majority of land surrounding these communities is defined in the HFRA as either “Federal Land”—in this SCWPP managed under the jurisdiction of A-S NFs—or as “Indian Tribe”—in this SCWPP managed by the White Mountain Apache Tribe on the Fort Mountain Apache Indian Reservation (FAIR). Pinetop-Lakeside and Show Low are the only incorporated communities located in the planning area. All other communities are under the jurisdiction of the counties or of the White Mountain Apache Tribe. Because of this federal or tribal administration, private ownership of land is mainly restricted to areas within the communities, although there are small private in-holdings throughout the SNF.

The WUI described in the SCWPP encompasses approximately 71,523 acres of private, county, and state lands; 179,603 acres of federal lands; and 56,457 acres of FAIR lands, a total of 307,583 acres. Additional information on the process involved in delineating the WUI boundaries and a description of those communities involved are in Section 2.

West CAG
Source: Logan Simpson Design Inc.

C. Fire Regime and Condition Class

In compliance with the HFRA, federal lands within the WUI were evaluated for Fire Regime and current Condition Class. A natural fire regime is a general classification of the role a fire would play across a landscape in the absence of human intervention. The Forest Service has created five categories of natural (historic) fire regimes based on the number of years between fires (fire frequency) combined with the severity of fire on dominant overstory vegetation (Development of Coarse Scale Spatial Data for Wildland Fire and fuel Management; RMRS-87 2002). The majority of the SCWPP's WUI lands are composed of Natural Fire Regime 1, which is described as forested lands where wildland fires have occurred at a 0–35-year frequency with low severity of burn.

A Condition Class is the Forest Service's classification of the extent of departure from the natural fire regime. For example, a forest in Condition Class 1 is a forest system within its natural fire range and at low risk for losing ecosystems components from wildland fire. A Condition Class 2 forest has moderately departed from its historic fire occurrence range and has a moderate risk of losing habitat components. Condition Class 3 forests have significantly departed from their historic fire regime ranges, and their risk of losing key habitat components is high. The majority of lands within the WUI are in Condition Class 2 or 3.

D. Future Desired Condition and Relevant Fire Policies

The desired future condition of federal land is a return to Condition Class I. Federal lands within this Condition Class can carry wildfire without modifications to forest components. Once in this condition class, natural processes such as fire can be incorporated into long-term management practices to sustain forest health. The desired future condition of nonfederal lands within the WUI is to have private land owners comply with current fire-safe standards recommended by local fire departments and adopted by local communities. Residential and other structures that

Desired Future Conditions of Ponderosa Pine Forest
Source: Logan Simpson Design Inc.

comply with these standards significantly reduce the risk of fire igniting in the community and spreading to the surrounding forest. Additionally, structures that comply with these fire-safe recommendations are much more likely to survive wildland fires that spread into the community.

Local governments, NRWG, the Arizona Sustainable Forests Partnership, the White Mountain Conservation League, and many others have collaborated with A-S NFs to develop innovative and active forest management initiatives such as the National Forest County Partnership Restoration Program and the White Mountain Stewardship Program. Aggressive public education and private property treatment projects within the communities, coupled with current efforts of local fire department programs, are creating safer, better informed forestland communities which are increasingly willing to comply with the intent and spirit of such programs.

1. Federal Policies

Several existing federal wildfire protection policies have been developed within recent years, the most prominent being the NFP. The NFP incorporates *A Collaborative Approach for Reducing Wildland Fire Risk to Communities and the Environment, 10-Year Comprehensive Strategy* (2001), whose primary goals are to:

- improve prevention and suppression,
- reduce hazardous fuels,
- restore fire-adapted ecosystems, and
- promote community assistance.

Federal wildfire reduction policy is planned and administrated locally through the A-S NFs, which is the governing agency for the federal lands associated with the SCWPP planning area. The *Apache-Sitgreaves National Forests Plan* (amended in 1996) includes wildfire management guidelines for these federal lands. A-S NFs' fire management activities include wildland fire suppression, prescribed burns, and wildland fire use in six general fire management zones. The majority of the area's WUI is located in Zone I, which includes three primary vegetation types: 1) ponderosa pine/Gamble oak, 2) mixed conifer, and 3) spruce-fir. Some areas in the WUI are designated Zone II, which includes grasslands and pinyon-juniper vegetation types. Within these zones, specific management standards and guidelines are analyzed with regard to wildfire suppression.

Firewise™ is a national program that helps communities reduce the risk of wildfires and provides them with information about organizing to protect themselves against catastrophic wildfires and mitigating losses from such fires.

2. State Policies

Arizona has been proactive in assessing wildfire risk on a regional level. *The Arizona Wildland Urban Interface Assessment* (2004) is a statewide strategic report using aerial imagery and geographic information system (GIS) technology to identify and map wildfire risk. Using the categories of topography, wildfire risk, fire hazard, and structural density, the report addresses wildfire risk to residential areas in the WUI. In relation to the SCWPP, the communities of Forest Lakes, Pinetop-Lakeside, McNary, Show Low, Hon Dah, and Vernon are all rated "high" for potential wildfire impact. Additionally, *Arizona Firewise Communities*, is published by the Arizona Interagency Coordinating Group (AICG, a partnership of federal and state organizations in Arizona), in affiliation with the national Firewise™ Communities/USA program.

Rodeo-Chedeski Fire near Timberland Acres
Source: A-S NFs

Recognizing the significant effects of catastrophic wildfire on the biological, cultural, and economic values of Arizona's ponderosa pine forests, Governor Janet Napolitano convened the "Governors' Conference on Forest Health and Safety" in March 2003. This conference resulted in the creation of the science-based Forest Health Advisory Council, which provided recommendations to the governor on actions that can be taken now and in the future for improving the health of Arizona's forests. The Forest Health Advisory Council developed six major principles for restoring forest health. These were published in September 2003 and were reviewed by the CAGs to ensure they were embedded in the goals of this SCWPP. The principles focused on issues of integration, sustainable communities and economies, ecological integrity, land use and planning, funding and compliance, and practices that are effective and efficient with low environmental and socioeconomic impact.

3. Local Policies

The SCWPP communities are aware that traditional approaches to forest management, wildland fire management, and community growth within the WUI have produced extensive areas of high risk for catastrophic wildfire. These communities aspire to a restored, self-sustaining, biologically diverse forest, which contributes to a quality of life demanded by local citizens and expected by visitors. Current forest conditions and treatment prescriptions that can result in an acceptable mix of managed natural and mechanized processes that will lead to the restoration of natural ecosystems must be developed, accepted by the community, and rigorously implemented. The communities that have developed the SCWPP recognize that "stand-replacing" fires must be converted to "stand-enhancing fires."

As a step in this direction, local governments have developed policies for preventing catastrophic wildfires and for treating lands in surrounding populated areas. The Town of Pinetop-Lakeside has developed guidelines and policies that focus on property owners' incorporation of fire-safe development into their properties. The guidelines include access requirements for larger subdivisions, which require Fire District approval for development, and town codes that implement fire-safe standards.

The City of Show Low encourages private landowners and subdivisions to reduce forest fuels on their property and within critical interface areas with the SNF. The City has obtained several grants to plan, implement, and evaluate fuel breaks, fuel reduction, and thinning projects within the community. The City has also developed an ordinance requiring private property owners to remove dead, diseased, and dangerous trees. Additionally, the City Council passed a tree policy resolution—recommended by the White Mountain Community Forest Task Force—that encourages Show Low, Pinetop-Lakeside, and Navajo County to develop integrated and consistent urban forest guidelines and best management practices for residential and commercial property to meet forest health and fuel reduction objectives. The City Council also endorsed amendments to the property maintenance ordinance to require landowners to remove dead or infected trees. Other communities within the SCWPP area, such as Heber-Overgaard, have recognized the importance of improving fire preparedness and maintenance on private property as well as of enhancing federal (forest) lands for recreational and quality-of-life experiences.

Pinetop-Lakeside, Show Low, and Navajo County have also developed policies, codes, or resolutions for the protection of the natural environment and the community(-ies). This includes protecting the health, safety, and welfare of citizens with regard to fire safety as well as promoting the health of the urban forest. Pinetop-Lakeside has allocated $158,000 of its 2002 Community Development Block Grant to housing rehabilitation and wildfire mitigation to the benefit of low- and moderate-income residents. These funds are available to bring qualified properties into compliance with the Town's forest health and fire protection ordinance. These policies and codes apply to all publicly and privately owned lands located within the Town's jurisdiction. Pinetop-Lakeside and Show Low support the previously mentioned *Firewise Communities Program*, a national program for communities to learn about the risk of wildland fire and how to incorporate treatment techniques around their homes and communities.

Private Property Eligible for Local Grants for Fire Save Treatments
Source: Logan Simpson Design Inc.

County policy recognizes the multiple fire issues associated with the WUI and supports cooperative solutions for managing threats to community forest health and the threats posed by catastrophic wildfire. All the SCWPP-area counties have a goal of reducing the danger of fire and the threat of catastrophic wildfires for all residents living in a WUI or near the A-S NFs boundary. As an example, Navajo County has acquired an "Emergency Alert System." This early warning system functions through the telephone company and can send a recorded message to 240 homes per minute. Additionally, the counties have, or are developing, policies and resolutions that focus on property owners' incorporating fire-safe development of their property and buildings. The counties also provide guidelines for larger subdivision development with respect to access requirements, the need for Fire District approval, and wildfire prevention codes.

Navajo County manages the primary evacuation plan for communities within the planning area. This evacuation plan is outlined in *A Citizen's Guide To Evacuations Procedures for Navajo County* (2004). The Guide provides emergency procedures in case of evacuation, including alert procedures, essential items to take when evacuating, transportation planning, home security, family communication, and animal and pet evacuation suggestions. Forest Lakes has also developed an evacuation plan under the management of the Coconino County Sheriff's Department. It incorporates evacuation measures specific to the Forest Lakes area.

The appearance and health of the forests within and surrounding the SCWPP communities provide not only an economic base (recreation, forest products harvesting and processing) for the communities, but also provide a quality of life that citizens appreciate and expect. The communities recognize the need to inform and educate local citizens and visitors about needed restoration treatments on private properties and to work with the SNF in determining community-based and accepted land management practices that restore and enhance today's forest, while providing protection from wildland fire threats and from fire starts from within these communities.

E. Grants/Current Projects

Financial commitments required to reduce the risk of catastrophic wildfire can be extensive for the National Forests and for the small rural communities surrounded by forests. In 2001, the NFP created a funding process through which Congress provided grant monies to help reduce the vulnerability of WUI communities and to help fire departments improve their fire protection services for wildland fire suppression. According to the Fire Management Division of the Arizona State Land Department, grants awarded for the 2002/03 fiscal year totaled approximately $10.4 million.

The Arizona State Land Department administers annual grants such as the Volunteer Fire Assistance (VFA) Grant Program, Department of Interior Rural Fire Assistance (RFA) Grant Program, and State Fire Assistance (SFA) Grants. Distribution of those grant monies has been on a competitive basis, with AICG evaluating submitted applications. Table 1.1 displays grants allocated within the SCWPP planning area.

Table 1.1 Grants allocated within the SCWPP planning area

Grant recipient	Project/ Treatment	Description	Acres treated
Pinetop Fire Department	thinning	Pineridge Homeowners Association: 70 lots to be treated by October 15, 2004	47
Pinetop Fire Department	information & education (I&E) mapping	GIS mapping	None
City of Show Low	thinning/chipping	treatments located from the northwest city limits to SR 260 (3 miles, on 45º angle)	500
White Mountain Apache Tribe	public education/I&E	12 presentations	None
Nature Conservancy – Alpine	fuel reduction to Firewise™ standards	land and five structures to be treated on Nature Conservancy land	5
Heber-Overgaard Fire Department	fuel reduction to Firewise™ standards	over 100 properties to be treated throughout the community	N/A
Linden Fire Relief Team	thinning/fuelbreak	over 20 properties to be treated (Timberland Acres)	N/A
Forest Lakes Fire Department	education/thinning	not applicable (N/A)	N/A

Source: Fire Management Division of the Arizona State Land Department

Table 1.2 City of Show Low Interface Forest Health Project

Area[a]	Treatment	Description	Acres treated
1	thinning	Undeveloped properties extending approximately 0.25 mile across the southern boundary of Show Low from the Pine Oaks subdivision to the western limit of private property.	461
2	thinning	Predominantly undeveloped properties adjacent to US 60 on the west and undeveloped properties east of the Sierra Pines subdivision and south of the Central Avenue Extension, with an eastern limit the same as in project area #1[a].	432
3	thinning and fuelbreak	Developed and undeveloped properties south and east of US 60 to just east of Central Avenue extending to the same final line on the east as project areas #1 and #2. This area is of mixed density and open vegetation types, with roughly 70 percent requiring fuel mitigation treatment. (This project includes 93 acres south of the Pine Oaks subdivision between the Forest Service boundary and State Route 260 that will provide a break where Fire Department personnel can seal off a fire from the west and protect significant areas of the eastern part of Show Low.)	476
4	planning and thinning	Developed property in the Sierra Pines subdivision that will be addressed by the overall project as an outgrowth of the previous treatments. Either a follow-up grant or local funding will be required to fully develop and complete work in this area. This project is included for planning and education purposes, and any additional funds will be focused on the 140 acres of undeveloped properties to the east of areas #1 and #2 and north of the Pine Oak subdivision. The total acres of interest are 400, but additional acres have lower priority because of location and treatments types.	260
5	fuelbreak	This fuel break crosses the entire city and connects into the work areas of a previous project. It will connect completed treatments to create a fuel break separating the east and west portions of Show Low.	500

Source: City of Show Low, *City of Show Low Interface Forest Health Project,* 2003.
[a] Show Low has five separate areas that are to be treated, each having its own numeric description

The Eastern Arizona Counties Resources Advisory Committee recently approved a grant for approximately 100 acres of forest thinning and chipping near Show Low in the WUI. The Committee has also approved a grant for the thinning and debris clean-up on 80 acres in the Morgan Flat area on the A-S NFs Lakeside Ranger District, adjacent to private land. Additional grants awarded by the Eastern Arizona Counties Resources Advisory Committee include the Woodland Lake Fuels Reduction Project on 83 acres in Pinetop-Lakeside, Black Canyon watershed Project on 220 acres in Navajo County, and the Clay Springs Watershed Grant for 1000 acres in the vicinity of Clay Springs.

The *City of Show Low Interface Forest Health Project* includes grant monies allocated through A-S NFs, monies allocated by private property owners, and monies set aside by the City for the planning and treatment (e.g., thinning, fire breaks) of 2,270 acres of land in the south and central areas of Show Low. The project objective is to reduce tree densities to 50 to 100 trees per acre, depending on forest type and age, across the treatment area. Table 1.2 shows the areas to be treated under this project.

The SCWPP communities have been involved with and supportive of programs designed to stimulate local forest products-related industries and that significantly reduce forest fuels within the WUI. The communities have supported local wood-product operators as they modernize equipment for the harvest of small-diameter trees and for the use of small-diameter trees as biomass. Grants to the wood-product industry have totaled over $4 million over the last 4 years through the stewardship of the Four Corners Sustainable Forest Partnership.

Another significant program supported by the local communities is the White Mountain 10-Year Stewardship Project (WMS). Stewardship contracts for forest treatments are not new to the A-S NFs, and have been used in the treatment of 3,000 acres to date. The U.S. Congress recently enacted legislation

Table 1.3 A-S NFs treatment areas

Project/ Area location	Treatment	Description	Acres treated
Rodeo-Chediski Fire	logging salvage/ fell and chip/lop and crush slash	Planned treatment of dead trees in the 0.5-mile buffer of WUI communities affected by the Rodeo-Chediski Fire.	19,376
Show Low South Fuel Reduction	thinning	WUI re-analysis of A-S NFs lands not burned by the Rodeo-Chediski Fire to determine appropriate fuel treatment and tree thinning on areas initially deferred from activities.	5,500
Whitcom WUI	thinning	Planned additional WUI analysis of A-S NFs area north of Country Club area in Pinetop to determine appropriate fuel treatment on areas deferred from activities in previous analysis.	N/A
County Club Escape Route	thinning	WUI analysis will determine appropriate fuel treatments and tree thinning along 2-mile evacuation road east of Country Club area in Pinetop.	725
Camp Tatiyee/ Camp Grace Fuel Reduction	thinning	WUI analysis to determine appropriate fuel treatment and tree thinning on estimated 340 acres in and around two organization camps in Lakeside. Issues: fire protection/WUI, forest thinning, fuel treatments and aesthetic impacts.	N/A
White Mountain 10-Year Stewardship Program (WMS)	thinning	Fuel reduction programs that encourage local economic and local forest-related industry growth	5,000 to 25,000 per year
Heber-Overgaard	chip/lop and broadcast burn	Fuel reduction treatments of WMS	N/A
Artists Draw	broadcast burn and chip	Fuel reduction treatments of WMS	N/A

Source: A-S NFs

Recent Fuel Reduction Treatment of Private Property
Source: City of Show Low

expanding stewardship contracting authority, allowing for long-term contracts (up to 10 years) for firms participating in programs that meet land management objectives. The White Mountain 10-Year Stewardship contract to treat an estimated 5,000 to 25,000 acres per year for the next 10 years is currently being offered by A-S NFs. Communities located within the WUI endorse the WMS and support fuel reduction programs that encourage local economic and local forest-related industry growth through productive use of the wildland treatment byproducts. Table 1.3 identifies treatment areas within the A-S NFs.

F. Need for the Community Wildfire Protection Plan

As the SCWPP communities continue to expand into the adjacent wildlands, more citizens and property will become at-risk from wildland fire. The WUI is not static; it will continue to grow. Therefore, for community wildfire protection planning and implementation to succeed, the rates of forest resource extraction and production need to reach a balance. There may be exigent or special ecological circumstances that warrant management practices other than projected ecological balance. These special areas and/or circumstances, however, must be individually analyzed and evaluated.

The HFRA provides for community-based decision making and empowers local governments to determine the boundaries of the WUI that surrounds their community(-ies). The communities within the SCWPP have been forced to recognize the costs of restoration treatments as weighed against the costs of suppressing catastrophic wildfire, with the accompanying direct property and income losses as compared to the indirect losses from evacuation and other disruptions.

G. Goals

The CAGs have agreed on six primary goals of the SCWPP:

- improve fire prevention and suppression
- reduce hazardous forest fuels
- restore forest health
- promote community involvement
- recommend measures to reduce structural ignitability within the SCWPP area
- encourage economic development within the community

The SCWPP meets all criteria of the HFRA. It has been collaboratively developed and agreed to by the applicable local governments, fire departments, and state agency responsible for forest management, along with other interested parties and the A-S NFs, the primary, relevant federal entity. The SCWPP establishes a coordinated and collaborative, performance-based framework of recommendations to meet its outlined goals.

H. Planning Process

Several county and municipal planning documents in addition to several A-S NFs planning documents and studies have incorporated wildfire management guidelines and standards for forests within the SCWPP planning area. The goals, policies, and guidelines outlined in these documents, in addition to the above-mentioned public involvement process were all critical inputs into the development of the SCWPP. The studies, plans, and documents reviewed include:

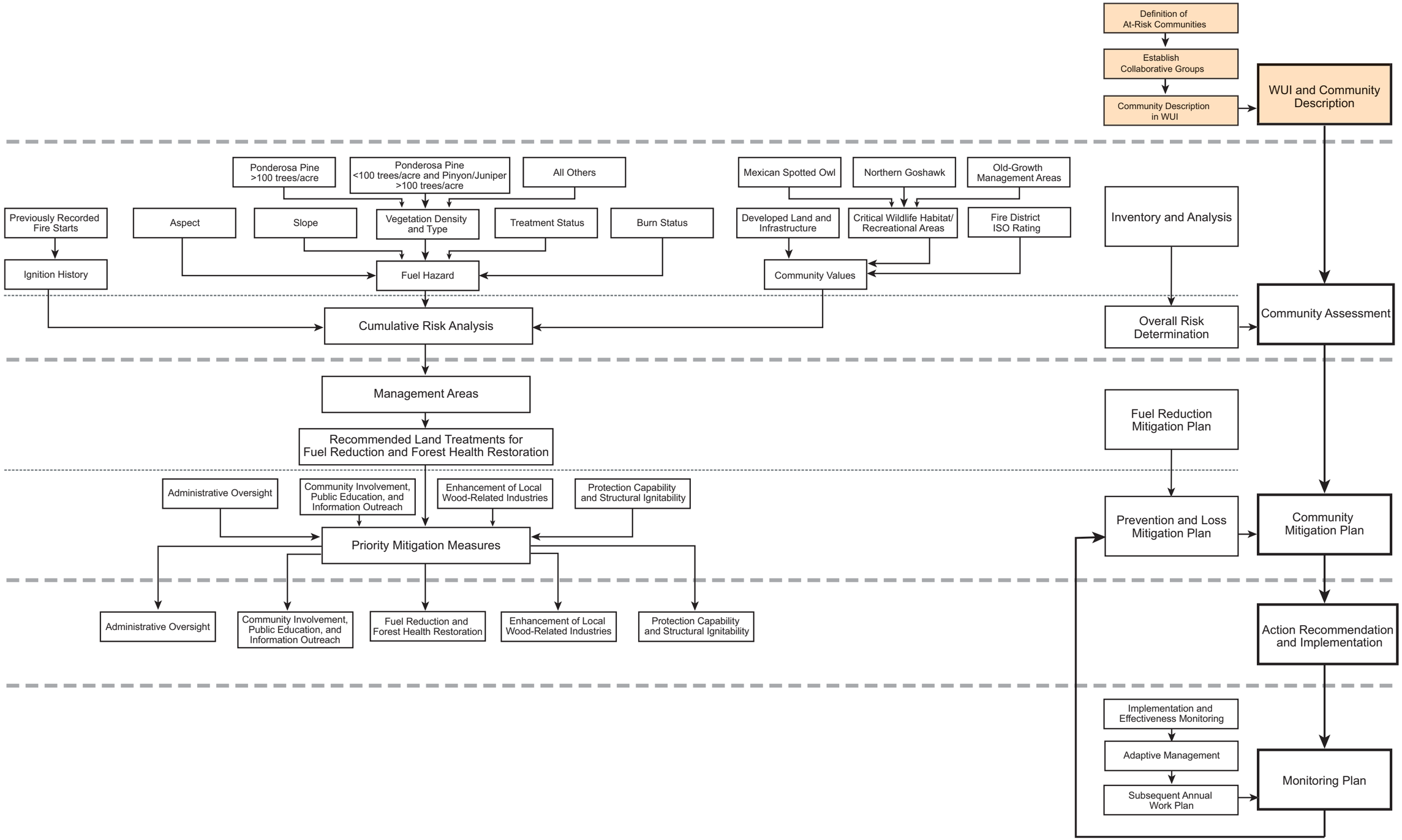
- *Apache County Comprehensive Plan* (2004)
- *Navajo County's Comprehensive Plan* (Public Hearing draft 2004)
- *Navajo County Forest Health Strategic Planning Document* (draft, 2003)
- *Navajo County Land Use and Resource Policy Plan* (1995)
- *Coconino County Comprehensive Plan* (2003)
- *Pinetop-Lakeside and Navajo County Regional Plan* (2001)
- *City of Show Low Interface Forest Health Project*
- *City of Show Low General Plan*
- *Apache-Sitgreaves National Forests Land and Resource Management Plan* (amended 1996)
- *Apache-Sitgreaves National Forests Land and Resource Management Plan, Revised Standards and Guides for Management Ignited Prescribed Fire/Wildland Fire Use* (draft 2004)
- *Heber/Overgaard General Plan* (1997)

Successful implementation of the SCWPP will require a collaborative effort among multiple layers of government and a broad range of special interest groups. The CAGs must develop processes and systems that ensure recommended treatments and actions of the SCWPP comply with the HFRA, the National Environmental Policy Act, the Endangered Species Act, the National Historic Preservation Act, and other applicable federal, state, and local environmental regulations.

Upon approval of this SCWPP by the communities of Pinetop-Lakeside and Show Low; Apache, Coconino, and Navajo Counties; the local fire departments; the Arizona State Land Department, Fire Management Division; and the White Mountain Apache Tribe, and after acceptance by the A-S NFs Forest Supervisor, it will be forwarded to the State Forester and A-S NFs Supervisor for implementation funding of the priority action recommendations.

These communities' and governments' commitment to the successful implementation of the SCWPP is an assurance that they will cooperate in developing any formal agreements that are necessary to ensure the plan's timely execution, monitoring, and reporting. It is the intent of the various local governments to enter into an Intergovernmental Agreement that will designate a single organization to be responsible and accountable for the implementation of this SCWPP, i.e., one agent to coordinate with interested parties and industry, accept grants, implement priority projects, and monitor and update the SCWPP as necessary.

Aftermath of Rodeo-Chedeski Fire near Linden, AZ
Source: Logan Simpson Design Inc.


Definition of At-Risk Communities
Establish Collaborative Groups
Community Description in WUI
WUI and Community Description
Ponderosa Pine >100 trees/acre
Ponderosa Pine <100 trees/acre and Pinyon/Juniper >100 trees/acre
All Others
Mexican Spotted Owl
Northern Goshawk
Old-Growth Management Areas
Previously Recorded Fire Starts
Aspect
Slope
Vegetation Density and Type
Treatment Status
Burn Status
Developed Land and Infrastructure
Critical Wildlife Habitat/ Recreational Areas
Fire District ISO Rating
Inventory and Analysis
Ignition History
Fuel Hazard
Community Values
Cumulative Risk Analysis
Overall Risk Determination
Community Assessment
Management Areas
Recommended Land Treatments for Fuel Reduction and Forest Health Restoration
Fuel Reduction Mitigation Plan
Administrative Oversight
Community Involvement, Public Education, and Information Outreach
Enhancement of Local Wood-Related Industries
Protection Capability and Structural Ignitability
Prevention and Loss Mitigation Plan
Community Mitigation Plan
Priority Mitigation Measures
Administrative Oversight
Community Involvement, Public Education, and Information Outreach
Fuel Reduction and Forest Health Restoration
Enhancement of Local Wood-Related Industries
Protection Capability and Structural Ignitability
Action Recommendation and Implementation
Implementation and Effectiveness Monitoring
Adaptive Management
Subsequent Annual Work Plan
Monitoring Plan

II. WILDLAND-URBAN INTERFACE AND COMMUNITY DESCRIPTION

A. Wildland-Urban Interface Delineation Process

The SCWPP defines the WUI of the at-risk communities of Vernon, McNary, Hon Dah, Pinetop-Lakeside, Show Low, Linden, Clay Springs-Pinedale, Aripine, Heber-Overgaard, and Forest Lakes (Figure 2.1). These communities are in Apache, Coconino, and Navajo Counties and are also within the SNF and/or adjacent to forested habitats of the FAIR. Using HFRA criteria and guidance published in the Federal Register, these communities are all considered at-risk with the exception of Aripine, Vernon, and Clay Springs.[1] These communities are within or adjacent to the SNF. The current surrounding land conditions are conducive to a large-scale wildland fire, and such a wildfire in their vicinity could threaten human life and property.

The SCWPP process of delineating WUI boundaries involved a collaboration between local fire districts and CAGs, which represent the public interest through participating government officials, planners, and natural resource specialists. Additionally, resource specialists from the A-S assisted the CAGs in the boundary-delineation process.[2]

Within the planning area, the CAGs delineated WUI boundaries around each community. The East CAG held several meetings based out of Pinetop-Lakeside and included the communities of Pinetop-Lakeside, Show Low, Vernon, McNary, Hon Dah, Clay Springs-Pinedale, and Linden. These communities developed a WUI that encompasses over 262,900 acres of both private and public lands. The West CAG included the communities of Heber-Overgaard, Aripine, and Forest Lakes. These communities developed three WUI subareas that encompass both private and public lands in the communities of Heber-Overgaard (30,700 acres), Aripine (5,900 acres), and Forest Lakes (8,000 acres).

Heber-Overgaard Fire Department
Source: Logan Simpson Design Inc.

In Pinetop, Lakeside, Linden, Clay Springs/Pinedale, Heber-Overgaard, Forest Lakes, and the A-S NFs' Black Mesa and Lakeside Districts, along with fire management representatives from the Bureau of Indian Affairs (BIA) for the White Mountain Apache Tribe also participated in several WUI delineation meetings. General elements used in creating the WUI for the communities included:

- fuel hazards, consideration of local topography, fire history, vegetative fuels, natural fire breaks
- historical fire occurrence
- community development characteristics
- local fire-fighting preparedness

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[1] These latter three communities were added to the CWPP because they comply with § 101.1.A.*ii.*, B and C of the HFRA and the *Field Guidance Identifying and Prioritizing Communities at Risk,* prepared by National Association of State Foresters June 27, 2003.

[2] For additional guidance on the WUI definition, refer to *Federal Register,* vol. 66, no. 3, p. 753 (January 4, 2001).

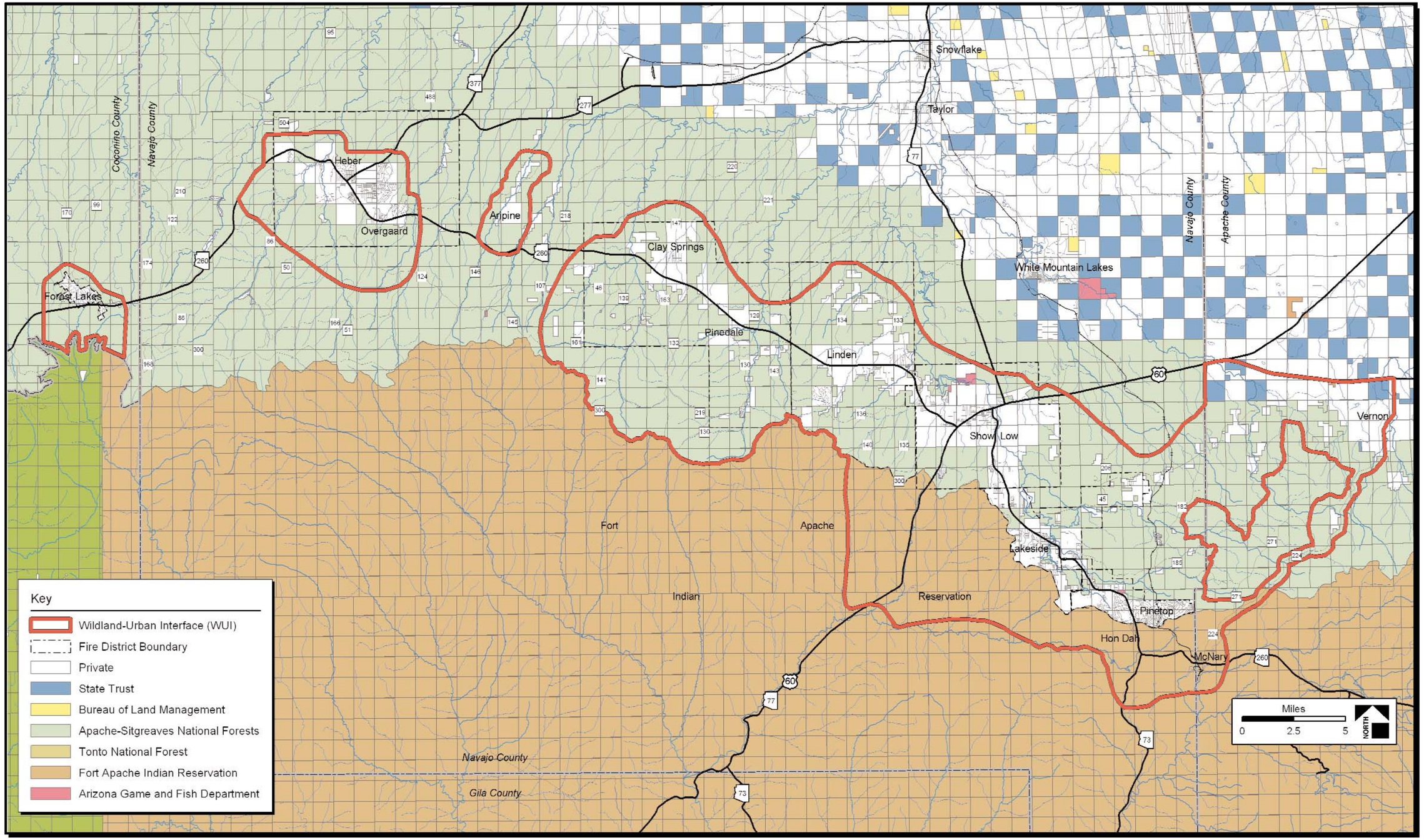


Figure 2.1. Wildland-Urban Interface (WUI)

B. Community Description

The rationales for the WUI delineations described below are those of the communities of Pinetop-Lakeside, Show Low, Linden, Clay Springs/Pinedale, Vernon, McNary, Hon Dah, Heber-Overgaard, Aripine, and Forest Lakes. General descriptions of the communities include land ownership, jurisdiction, development trends, population, infrastructure (roads, utilities, communication, schools, hospitals, public buildings), and existing emergency services; fire insurance ratings are also provided.

1. Pinetop-Lakeside

Located in the eastern portion of the SNF, this c ommunity is the second largest populated area within the SCWPP and includes the Town of Pinetop-Lakeside, southeast of Show Low, in Navajo County. To delineate a WUI around this community, the CAG identified the threat of wildfire from the vast forest-lands located to the south and west. This can be seen in the extensive WUI buffer that crosses several miles into the FAIR. This area, south of Pinetop-Lakeside, has several canyons that run north-south, potential expressways for wildfires to reach the populated areas of the community. The WUI north of the community is delineated by a buffer around private property and by the transition area from ponderosa pine to pinyon/juniper vegetation.

The majority of land in the town is privately owned, with a few public parcels scattered through the community. The majority of lands surrounding the community are federally owned. Current trends in commercial and residential development are outlined in the 2001 *Pinetop-Lakeside and Navajo County Regional Plan*, which has identified growth areas within the WUI. Planning for these growth areas includes infill in existing neighborhoods, specifically within the downtown area. Projected growth is also identified along major transportation corridors, in commercial and industrial districts, and in master-planned developments. Recreation/open space and low-density residential are the primary land uses in these rural communities; however, there are planned higher-density residential and commercial developments located generally near the town center.

With an estimated year-round population of 3,600, this town experiences a dramatic influx of seasonal population growth associated with the recreational opportunities located in the region. The greater community population of Pinetop-Lakeside can grow to an estimated 30,000 during the summer months. Town commercial districts are centered along the SR 260 corridor. Existing and continuing development of paved roads, utilities, communication centers, schools, hospitals, and public buildings adds to the community's infrastructure. Properties within the town have a fire insurance rating of 5.

2. Show Low

Also located in Navajo County, in the eastern portion of the SNF, the Show Low community is the largest populated area in the WUI. The CAG considered the threat of wildfire from the forestlands located to the south and west in delineating the southern WUI. This WUI subarea extends several miles south of the city center, into the FAIR. This southern area has several canyons that run north-south, providing direct wildfire access to the city of Show Low. To the north, the WUI is delineated by a 1-mile buffer from private property and also has a characteristic change in vegetation type from ponderosa pine to pinyon/juniper.

The bulk of land ownership in Show Low is private. The majority of lands surrounding the community are federally owned. Current trends in commercial and residential development are outlined in the 1999 *City of Show Low General Plan*, which identified growth areas within the WUI. Components of these growth areas include infill in existing neighborhoods, specifically within the downtown area. Projected growth is also identified along major transportations corridors, in commercial and industrial districts, and in master-planned developments. Recreation/open space and low-density residential are the primary land uses within this rural community; however, there are higher-density residential and commercial developments located and planned generally near the downtown area.

With an estimated year-round population of 9,000, this city experiences a dramatic seasonal population influx associated with the region's recreational opportunities. The city's several commercial districts provide the regional economic development base.

Existing and continuing development of paved roads, utilities, communication centers, schools, hospitals, and public buildings adds to the community's infrastructure. The Show Low Fire District provides protection for over 18,000 people during the summer months. Properties in the city have a fire insurance rating of 4, the lowest among the surrounding communities.

3. Linden

Located northeast of Show Low and in the central portion of the SNF in Navajo County, this WUI subarea reflects the potential threat of severe wildfire approaching from the south. This is made notable by the extensive buffer that crosses into burned areas from the Rodeo-Chediski Fire, which defines the WUI to the southwest. In the north, a buffer extends the WUI 0.5 mile from private property.

Linden Fire Department
Source: Logan Simpson Design Inc.

The majority of land ownership in this unincorporated community is private, with federally owned lands surrounding. Current trends in commercial and residential development are less pronounced than in Show Low. Projected growth is identified along major transportation corridors. The estimated year-round population of 1,200 experiences a dramatic seasonal population influx associated with the region's recreational opportunities. Existing and continuing development of paved roads, utilities, communication centers, schools, and public buildings adds to the community's infrastructure. The Linden Fire District provides protection for over 3,500 people, and properties in the community have fire insurance ratings of 8 and 9.

4. Clay Springs and Pinedale

Located in a rural area of Navajo County and in the central portion of the SNF, the WUI surrounding Clay Springs and Pinedale is delineated by SR 260, with the potential wildfire threat being from the south. Previously burned areas influenced Pinedale's delineation of its southern WUI boundary. To the north, the WUI is delineated by a 1-mile buffer from private property and also by a characteristic change in vegetation type from ponderosa pine to pinyon/juniper.

The majority of land ownership in Clay Springs is private, with federally owned lands surrounding. The estimated year-round population of Clay Springs is 550 and Pinedale's estimated year-round population is 550; both communities experience an increase in population in the summer months. The volunteer Clay Springs-Pinedale Fire District provides protection for over 1,500 people, and the communities' properties have a fire insurance rating of 8. The Fire District includes three additional subdivisions, two of which (Victory Heights and Ricochet Ranch) have only single access points. The Fire District also provides fire protection to two summer recreational vehicle parks that also have only single access points (Oddfellows and FSR 139A). The Rodeo-Chediski Fire left an unburned area in its mosaic pattern that forms a general bearing of more than 30 degrees, running from the SNF to a series of residences approximately 0.5 mile to the west of Pinedale.

5. Vernon

Located in the most eastern portion of the SCWPP, and in Apache County, the Vernon WUI subarea reflects the potential threat from wildfires from the south. To the north, the WUI is delineated by US 60 and by a change in vegetation type from ponderosa pine to pinyon/juniper. Projected growth is identified along major transportation corridors. The year-round population experiences a dramatic seasonal population influx associated with the region's recreational opportunities. Consisting of over a dozen subdivisions, the Vernon area is continuing to develop roads and

utilities. The Vernon community does not have a recognized fire district; properties in this community reflect this, with their fire insurance rating of 10.

6. McNary and Hon Dah

Located on the FAIR, the communities of McNary and Hon Dah are in the most southeastern area of the SCWPP. The WUI includes a buffer around these communities, which are tribal properties managed by the White Mountain Apache Tribe. McNary has an estimated year-round population of 349. Both of these communities experience a seasonal population influx. The communities' fire protection is also under the jurisdiction of the White Mountain Apache Tribe.

7. Heber-Overgaard

The WUI around this community encompasses the private lands of Heber-Overgaard, in Navajo County. A 3-mile buffer was delineated to the south and southwest of the communities for protection from wildfires coming from southern forestlands. A 0.5-mile buffer was delineated around the community's west, north, and east edges, which also experience a change from ponderosa pine to pinyon/juniper vegetation.

The majority of land ownership within this unincorporated community is private, with a surrounding influence of federally owned lands. This community has increasing commercial and residential development. Projected growth is identified along major transportation corridors and the community center. The estimated year-round population of 2,722 experiences a dramatic seasonal population influx associated with the region's recreational opportunities. Existing and continuing development of paved roads, utilities, communication centers, schools, and public buildings adds to the community's infrastructure. The Heber-Overgaard Fire District provides protection for over 4,000 people and their properties. Heber-Overgaard properties have fire insurance ratings ranging from 7 to 9.

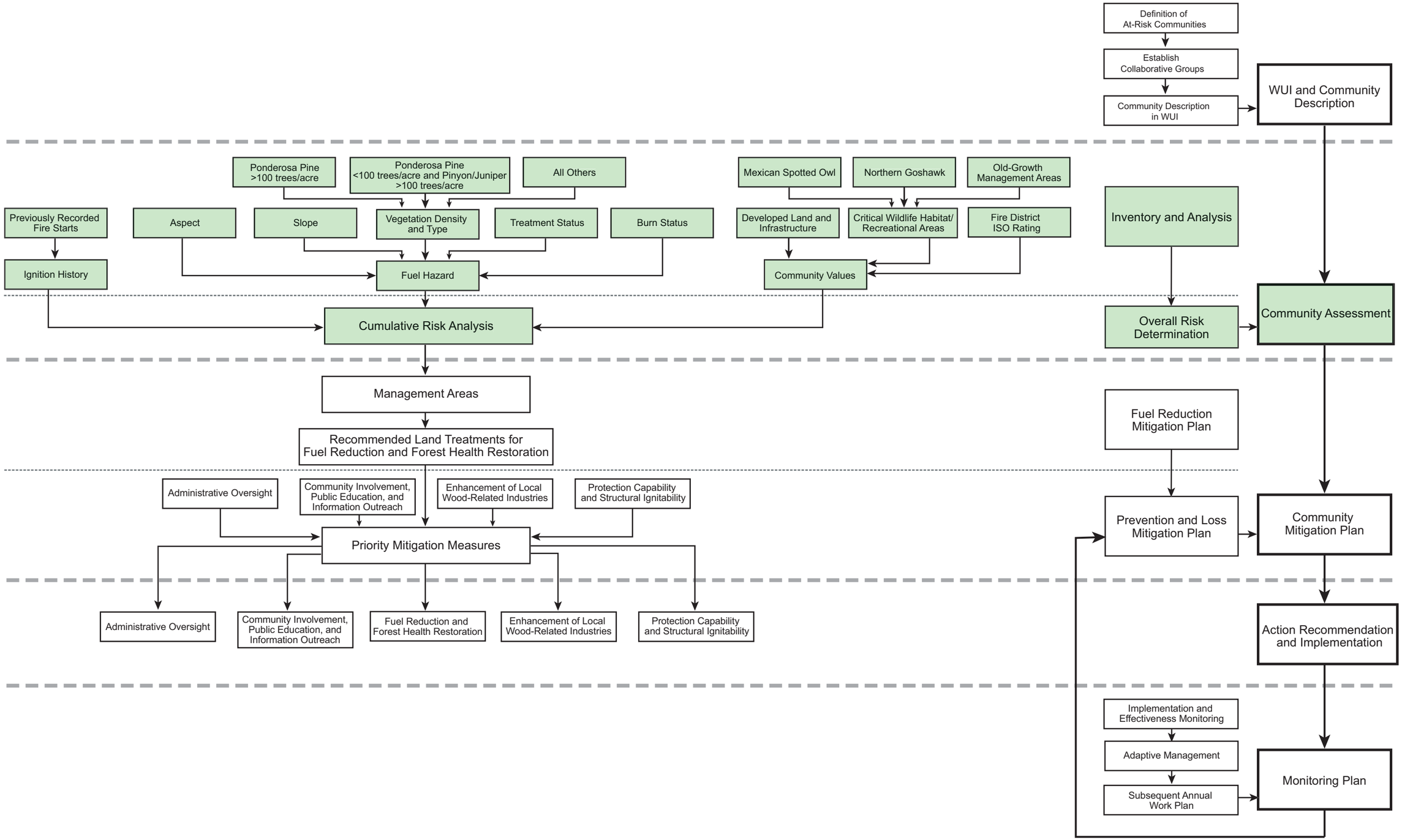
8. Aripine

Located east of Heber-Overgaard and in Navajo County, this is the most isolated community within the SCWPP. The WUI around Aripine is delineated by a 0.5-mile buffer to the north, east, and west and extends south to SR 260. This small community has a population of 70, which increases during the summer months.

9. Forest Lakes

Located in the southeastern portion of Coconino County and in the western portion of the A-S NFs, the WUI includes the community of Forest Lakes. The WUI extends 3 miles to the south and west (or to the rim escarpment) because of the potential threat of fire from the south, from the Mogollon Rim. An additional 0.5-mile buffer was delineated around private property to the north and east. The Forest Lakes Fire District provides protection services for over 8,000 people during the dramatic seasonal population influx associated with the region's recreational opportunities.

Community of Aripine
Source: Logan Simpson Design Inc.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Community Description in WUI
WUI and Community Description
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Ponderosa Pine <100 trees/acre and Pinyon/Juniper >100 trees/acre
All Others
Mexican Spotted Owl
Northern Goshawk
Old-Growth Management Areas
Previously Recorded Fire Starts
Aspect
Slope
Vegetation Density and Type
Treatment Status
Burn Status
Developed Land and Infrastructure
Critical Wildlife Habitat/ Recreational Areas
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III. COMMUNITY ASSESSMENT

The community assessment is an analysis of the risk of catastrophic wildfire to SCWPP communities. This risk analysis incorporates the Current Condition Class, wildfire fuel hazards, risk of ignition, fire occurrence, and the at-risk community values. Local preparedness and protection capabilities are also factors that contribute to delineation of areas of concern. The areas of concern for fuel hazards, risk of ignition and wildfire occurrence, and community values are evaluated and mapped, and then each given relative and qualitative ratings of "high," "moderate," or "low." A composite of these ratings, cumulative risk from wildfires for the communities, was then mapped. The flow chart at the beginning of this section outlines this entire process.

A. Fire Regime and Condition Class

The majority of the WUI lands are composed of natural Fire Regime 1, as described in *Development of Coarse-Scale Spatial Data for Wildland Fire and Fuel Management* (Schmidt ed al. 2002). These are forested lands where wildland fires have occurred at a 0–35-year frequency with low severity. The ponderosa pine forests within the SCWPP have a historic fire cycle of every 3–7 years, consistent with natural Fire Regime 1.

The Condition Class of wildland habitats within a fire regime describes the degree to which the current fire regime has been altered from its historic range, the risk of losing key ecosystem components, and the vegetative attribute changes from historical conditions.

The majority of lands within the WUI are designated as currently being within Condition Class 2 or 3 (see Table 3.1). The lands include Ponderosa Pine Cover Type, ranging from 33 to 66 percent in density, creating a departure index of 1, with a Condition Class rating of 2; or Ponderosa Pine Cover Type, ranging in density from 67 to 100 percent, with a departure index of 2 with a Condition Class rating of 3. These ratings are developed from Potential Natural Vegetation (such as Ponderosa Pine Cover Type) as the primary historical natural vegetation type, and from the historical fire regime.

Current Condition Class 2 wildland areas are assumed to have been moderately impacted by historic wildfire regimes, to be at moderate risk to loss of key ecosystem components, and to be at risk from wildfires of varying size, frequency, intensity, and severity. Current Condition Class 3 lands are assumed to have been significantly altered from historic fire regimes, to be at significant risk of loss to key ecosystem components, and to be at risk from wildfires that may vary dramatically in their size, frequency, intensity, or severity. The following table describes the percentage of each Condition Class in the SCWPP WUI:

The desired future condition of federal land is a return to Condition Class I as described in *Fire Regime and Condition Class (FC) Field Procedures—Standard & Scorecard Methods* (USDA Forest Service 2003):

> Open park-like savanna grassland, or mosaic forest, woodland, or shrub structures maintained by frequent surface or mixed severity fires. [S]urface fires typically burn through a forest understory removing fire-intolerant species and small-size classes and removing <25 percent of the upper layer, thus maintaining an open single-layer overstory of relatively large trees. [M]osaic fires create a mosaic of different-age, postfire savannah forest, woodlands, or open shrub patches by leaving >25 percent of the upper layer (generally <40 hectares [100 acres]). Interval[s] can range up to 50 [years] in systems with high temporal variability.

B. Fuel Hazards

The arrangement of fuel, relative flammability, and fire potential of vegetation varies greatly within each WUI island landscape. Fuel hazards depend on composition, type, arrangement, and/or condition of vegetation such that, if the fuel were ignited, could threaten an at-risk community or its community infrastructure.

Table 3.1 Condition Class by percentage area covered

SCWPP communities	Condition Class I (%)	Condition Class II (%)	Condition Class III (%)
Vernon, McNary, Hondah, Pinetop/Lakeside, Show Low, Linden, Pinedale, and Clay Springs	9	52	39
Heber-Overgaard, Forest Lakes, and Aripine	2	61	37
Total WUI	6	55	39

Source: "Development of Coarse Scale Spatial Data for Wildland Fire and Fuel Management" (Schmidt et al. 2002)

Additionally, the existing topography within an area can create natural fire breaks, which help reduce the fuel hazard within communities.

Evaluation of the vegetative fuels on federal and non-federal land within the WUI was conducted through spatial analysis using geographic information system (GIS) technology in a series of overlays that helps the CAGs identify high, moderate, and low fuel-hazard risk areas. For each of the WUI areas, the fuel and vegetation density, type, and distribution as well as slope, elevation, and aspect analyses were conducted to assist in the categorization of WUI Current Condition Classes. The following table identifies the total amount of land within the untreated areas of the WUI:

Several fuel hazards components, including slopes, aspect, vegetation type, vegetation density, burned areas, and treated areas, were analyzed (Figure 3.1). Table 3.3 identifies the different values given to these various fuel hazards components. The influence the components carry were compiled to create areas of high, moderate, and low fuel hazards (Figure 3.2). Areas with dense ponderosa pine growth (greater than 100 trees per acre) are shown on the map as having a high fuel hazard. Areas with 30° slopes or greater and in an unburned area also have high fuel hazard. All other areas are moderate, with the exception of treated areas, which have a low fuel hazard.

Table 3.2 Fuel hazards

SCWPP communities	Total land area (acres)	Burned within last 10 years (acres)	Treated and untreated lands (acres)	Ponderosa pine[a, b] >100 trees/ acre[a] (untreated acreage)	Slopes >30 percent (untreated acreage)	Southwest-facing slopes (untreated acreage)
Vernon, McNary, Hon Dah, Pinetop-Lakeside, Show Low, Linden, Pinedale and Clay Springs	262,917	*burned:* 64,882 *unburned:* 198,035	*treated:* 40,911 *untreated:* 164,210 *proposed:* 57,796	83,940	12	4,497
Heber-Overgaard, Forest Lakes, and Aripine	44,664	*burned:* 19,755 *unburned:* 24,909	*treated:* 913 *untreated:* 29,944 *proposed:* 13,807	18,458	9	745

Source: Logan Simpson Design Inc. and A-S NFs database (2004)

[a] Gaps in A-S NFs' data have been closed by using data from USGS Arizona Gap Analysis Project. Where the density information is unavailable, a density of >100 trees per acre is assumed.

[b] Ponderosa pine biotic community

Table 3.3 Fuel hazards components

Fuel hazards components		Influence
Vegetation type and density	Ponderosa pine >100/acre	H
	Pinyon/juniper >100/acre	M
	All other vegetation	ML
Unburned areas		MH
Slopes >than 30°		MH
Aspect (southwest-facing slopes)		ML
Treated areas		L

Source: Logan Simpson Design Inc. and A-S NFs database (2004)

Considerable wildfire suppressions efforts, coupled with the uninterrupted growth of small-diameter trees, created forest vegetative components that could not support traditional natural wildfire regimes. Subsequent wildfires became more frequent and severe than ever before in the region's modern history. Vegetated areas with tree densities greater than 100 trees per acre create a greater risk for the spread of wildfire because of the potential crown-fire effect and fuel ladder-fire scenario. Areas of ponderosa pine and mixed-conifer vegetation were also differentiated from areas of pinyon/juniper associations and meadow-lands/flatlands because of the greater associated fire risks with the former.

Slopes greater than 30° and areas with south-, south-west-, or west-facing slopes were also identified as having greater risks because of the fuel ladder-fire effect associated with steep terrain and decreased humidity associated with the microclimates created by exposed aspects. Areas of the WUI adjacent to the Mogollon Rim are steep and heavily dissected, with many areas having slopes exceeding 30°. Areas with none of these fuel hazard characteristics and areas that have been treated or are proposed to be treated are identified as having less risk. See Section E for a fuel hazards summary for each community.

C. Risk of Ignition and Wildfire Occurrence

The past regional catastrophic wildfire events are surmounted by the current potential for wildfire destruction. Because of the combination of current drought conditions, inability to sufficiently reduce the density of small-diameter trees, and regional history of forest fires, the question is not "if" but "when" there will be a wildfire that threatens the WUI. Fire history for this region has come to the forefront because of the six significant wildfires that occurred within or close to the SCWPP area since 1996:

Cottonwood Fire
- near Pinedale
- summer, 1996
- 1,400 acres burned

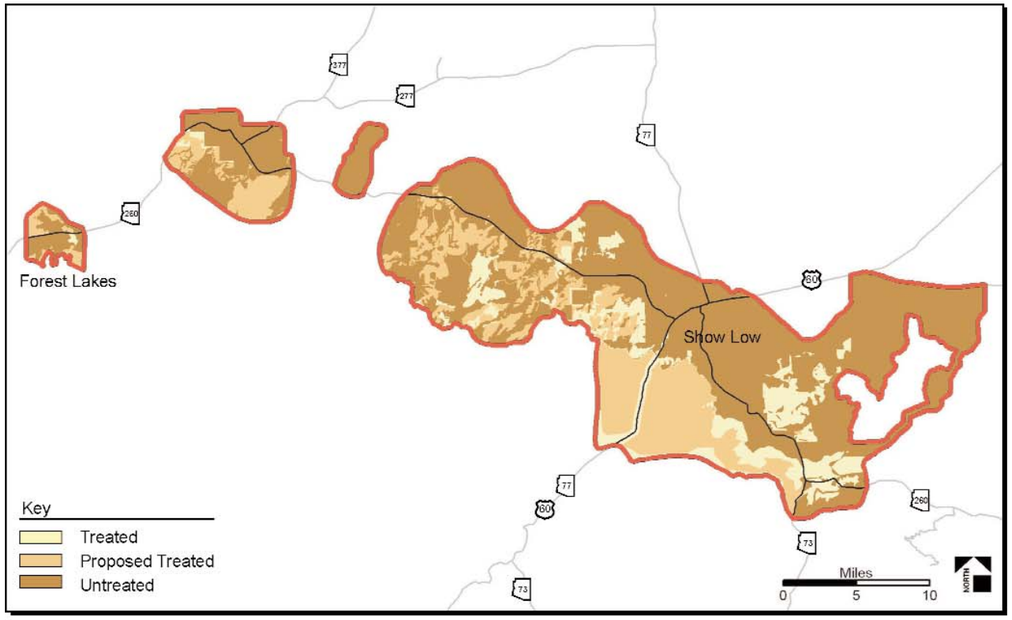
Rainbow Fire
- near Whiteriver
- spring, 1999
- approximately 5,000 acres burned

McNary Fire
- near McNary
- spring, 2000
- 100 acres burned

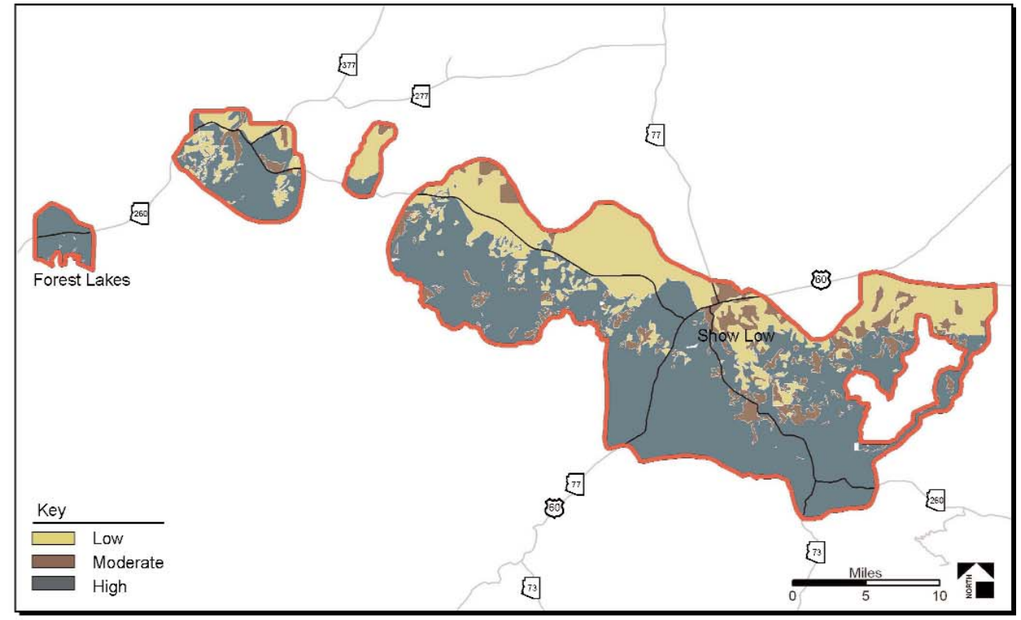
Ridge Fire
- near Cibeque
- summer, 2000
- approximately 9,000 acres burned

Rodeo-Chediski Fire (largest wildfire in Arizona history)
- near Pinedale, Clay Springs, Linden, Show Low, and Pinetop-Lakeside, Forest Lakes, Heber-Overgaard, Aripine
- 2002
- over 460,000 acres burned

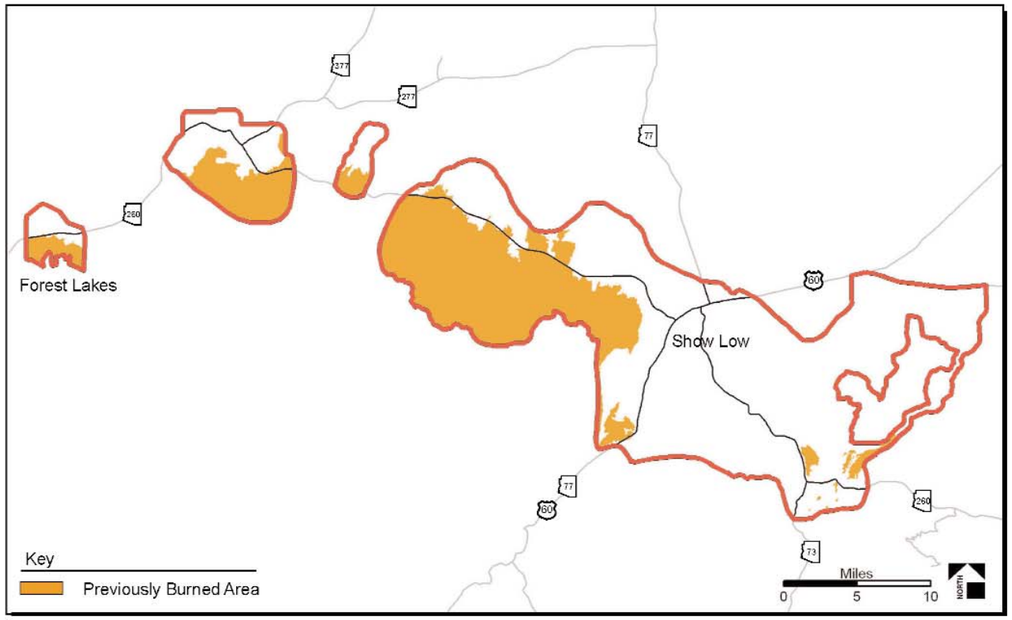
Kinishba Fire
- near Whiteriver
- 2003
- 30,000 acres burned



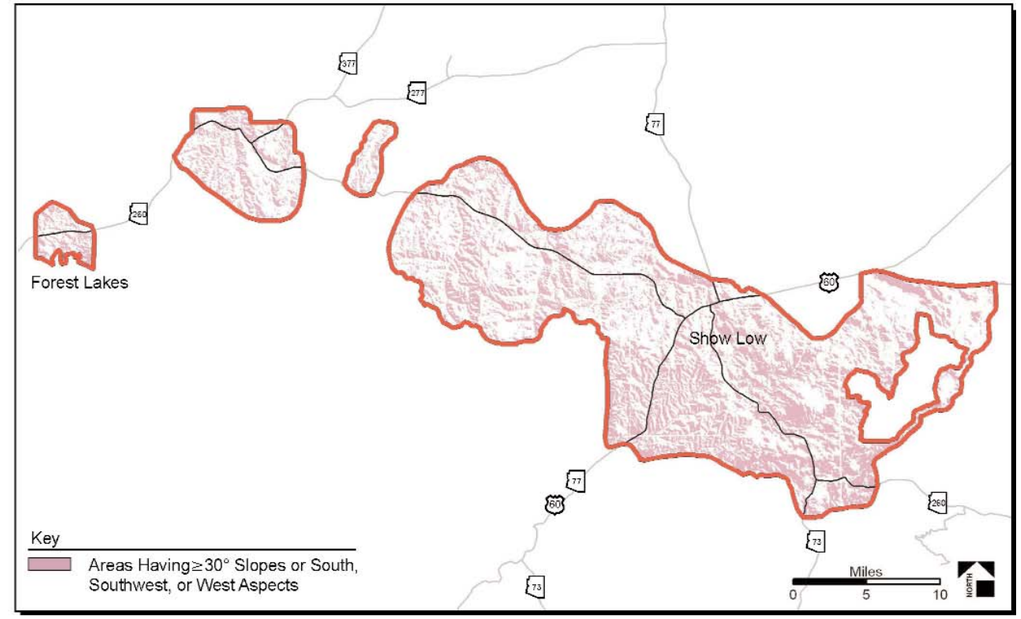
Treated, Proposed Treated, and Untreated Areas



Vegetation Type and Density (see Table 3.3)



Burned Area (last 10 years only)



Aspect and Slope

Figure 3.1. Fuel hazards components

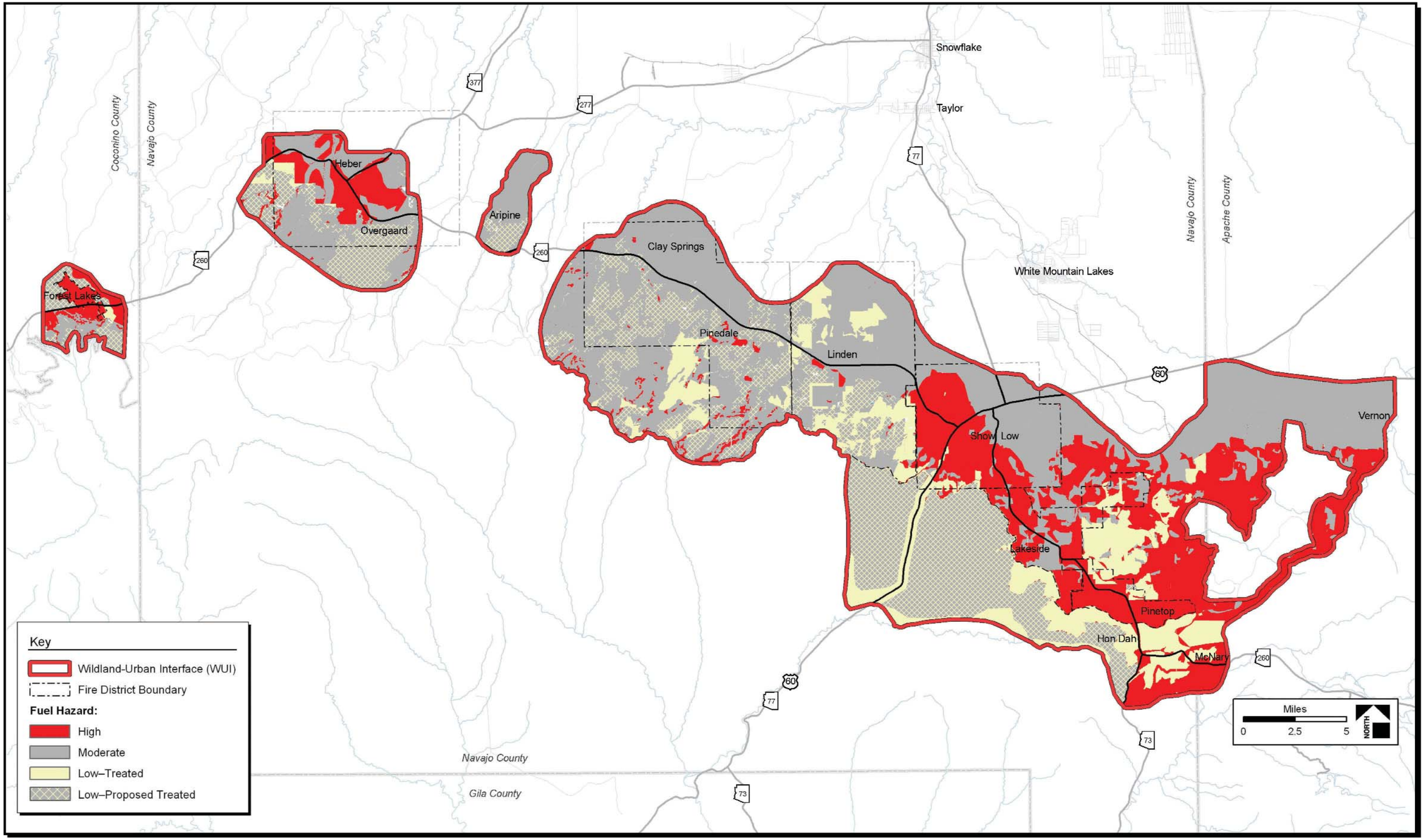


Figure 3.2 Fuel hazards

Only the Kinishba and Ridge Fires were lightning-caused; all others were human-caused. However, the common denominators for the region include severe fire weather, tree density, and drought as wildfire facilitators. The lightning-fire season begins for this region in spring and can continue until fall. The late summer monsoon storms typically raise the humidity, reducing the risk of fire ignition.

Over time, ponderosa pine forests have adapted to survive frequent low- to moderate-severity surface fires. Mature trees have thick bark, insulated buds, and a high capacity to recover from crown scorch, all of which confer resistance to surface fires. These trees are self-pruning, which protects the crowns from surface fire. Ponderosa pine seedlings become established within burned areas from seeds that survived the heat or are in areas that fire skipped over. Because of past management policies, many of today's ponderosa pine forests are unnaturally dense with excessive understory growth and an accumulation of large quantities of forest litter at the expense of grassy groundcover. Fire exclusion/suppression has led to the build-up of fuels and to severe crown fires in Southwestern ponderosa pine and mixed-conifer forests. These forests contain an understory of young Southwestern ponderosa pine, Rocky Mountain Douglas fir, Southwestern white pine, and Gambel oak—species that are less fire-resistant and more shade-tolerant than Southwestern ponderosa pines. The fire regime has changed from frequent surface fires to large, infrequent, stand-destroying crown fires (Howard 2004).

Table 3.4 Ignition history and wildfire occurrence

Ignition history and wildfire occurrence components	Value
11–27 Fire starts/1,000 acres	H
3–10 Fire starts/1,000 acres	M
0–2 Fire starts/1,000 acres	L

Source: Logan Simpson Design Inc. and A-S NFs database (2004)

Figure 3.3 identifies past wildfire occurrence and natural and human ignition incidence in the WUI. The maps in this figure detail burned areas and fire start locations that have occurred within the past 10 years. Table 3.4 details the high, moderate, and low values assigned to fire start incidents. Figure 3.4 corresponds to this table and shows areas with higher frequencies of ignition points, i.e., areas of greater concern. These include concentrated areas of lightning strikes overlaid with high public-use areas. High-risk areas have the greatest number of fire starts per 1,000 acres. See Section E for a summary discussion of ignition risk and wildfire occurrence within each community.

D. Community Values at Risk

Valued, at-risk community resources include community structures (e.g., schools, hospitals, nursing homes, daycare), economic centers, recreation areas, cultural/historic areas, sensitive wildlife habitat, watersheds, natural resources, and air quality. All can be threatened by wildfire.

Table 3.5 Community values

Community value components	Value
Housing and businesses structures and infrastructure	H
Recreation areas	M
Wildlife habitat	M
All other areas	L

Source: Logan Simpson Design Inc. and A-S NFs database (2004)

Community values identified in Table 3.5 and mapped in Figure 3.5 include housing and businesses structures, essential infrastructure, recreation areas, and wildlife habitat. Local preparedness and protection capabilities were also mapped. Developed land and infrastructure were given the highest value in the community. Campgrounds, parks and trail systems, and wildlife habitat were given a moderate value. These components were compiled into a single map (Figure 3.6), which identifies high, moderate, and low areas with respect to valued community elements. The following section further describes the community values within the SCWPP. Section III.E. summarizes community values for each community.

1. Housing, Businesses, and Essential Infrastructure

The participating fire districts and CAGs have identified high-risk areas including the economic corridor that lines SR 260 and has been the focus of past community development. Structures associated with housing and commercial development located in subdivisions and in more dispersed areas of the county are also at high risk.

2. Recreation Areas/Old-Growth Management Areas/Wildlife Habitat

Recreational features including campgrounds, lakes, reservoirs, rivers, and park and trail systems are located on federal, municipal, and private lands. These features are environmental, economic, and aesthetic resources for the surrounding communities. Old-growth stands are analyzed as a community value because of the ecological benefit that mature tree stands provide to the environment. Old-growth stands or future old-growth stands are managed by A-S NFs. Old-growth areas were evaluated using 1996 data, which defined old-growth management areas. A single designated Old-Growth Management Area is in the WUI near the community of Forest Lakes. Any fuel reduction treatments within this area will be designed to enhance old-growth forest conditions and will be compliant with guidelines established within the *Apache-Sitgreaves National Forests Plan* (1996).

Wildlife habitat for sensitive species evaluated as part of this analysis includes those of the Northern goshawk and Mexican spotted owl. The management areas for these species' habitats are identified within the analysis as having moderate risk because of their association with community values. Additionally, any treatments within these management areas will require further analysis in accordance with the *Apache-Sitgreaves National Forests Land and Resource Management Plan.*

- Northern goshawk (*Accipiter gentilis*) – The goshawk is a forest generalist, and in Arizona typically occupies the same habitat type regardless of season. Its habitat commonly includes ponderosa pine, mixed-conifer, and spruce-fir forests with high canopy cover along the Mogollon Rim, Kaibab Plateau, and the southeastern mountains above 6,000 feet. The winter range of Northern goshawks is generally the same as the breeding range, but may include some travel into lower elevations, a trait especially characteristic of immature birds.

- Breeding usually begins in late March, and young generally fledge by mid-July. The Goshawk generally preys on birds up to and including grouse size and on mammals up to and including jackrabbit size. It prefers stands of intermediate canopy cover for nesting, while more open areas are used for foraging. In general, the foraging area of the Northern goshawk is approximately 5,400 acres. Most forested (ponderosa pine and mixed-conifer) habitat above the Mogollon Rim is considered to be suitable Northern goshawk habitat. This species does not receive protection under the Endangered Species Act, but is listed as a USDA Forest Service Sensitive Species. Concerns for this species arise from documented declines, probably attributable to widespread cutting of old-growth forest.

- Mexican spotted owl (*Strix occidentalis*) – Mexican spotted owls are found throughout much of Arizona (except for the arid southwestern portions of the state), primarily in forested mountains and canyons at elevations ranging from 4,500 to 10,000 feet above mean sea level. North of the Mogollon Rim, occupancy is generally restricted to forested habitats in the White Mountains, along the Mogollon Rim, the peaks around Flagstaff, the Grand Canyon, and forested areas on the Navajo Indian Reservation.

- These owls are typically found in habitat that includes mixed-conifer and pine-oak forests, riparian madrean woodland, and sandstone canyonlands. Characteristics of suitable habitat include high canopy closure, high basal area, and the presence of snags and downed logs. These forests are also usually complex, with uneven-aged, multilayered canopies containing an overstory of old trees.

- Mexican spotted owls breed sporadically and will not nest annually. They do not build nests, but rather occupy preexisting ones, which may

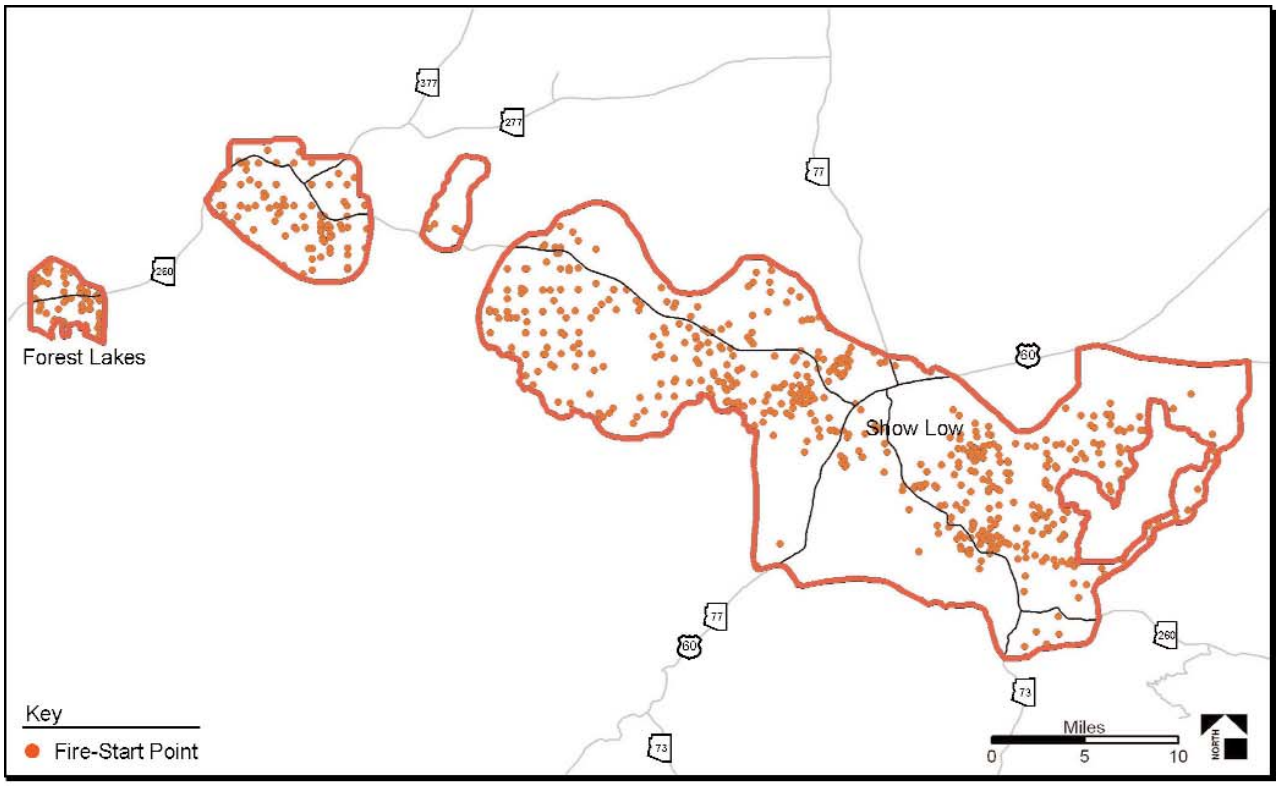
include potholes and ledges on cliffs; cavities; and debris platforms in trees, or abandoned hawk or raven nests. Eggs are normally laid in April, and the young typically fledge in early to mid-June, but stay with their parents within the territory until late August. Young generally disperse by September and are extremely vulnerable to predation during this period. It is not known whether young birds return to their place of birth for the following breeding season. Mexican spotted owls are active at night, preying on small mammals, birds, reptiles, and insects. In Arizona, their prey is primarily woodrats, pocket gophers, rabbits, voles, and white-footed mice.

- In 1993, the Mexican spotted owl was listed as threatened by the US Fish and Wildlife Service (USFWS), and a Recovery Plan was published in December 1995. On February 1, 2001, USFWS finalized the designation of 4.5 million acres of critical habitat for the owl. Primary threats cited for the owl include large-scale catastrophic wildfires and timber harvests.

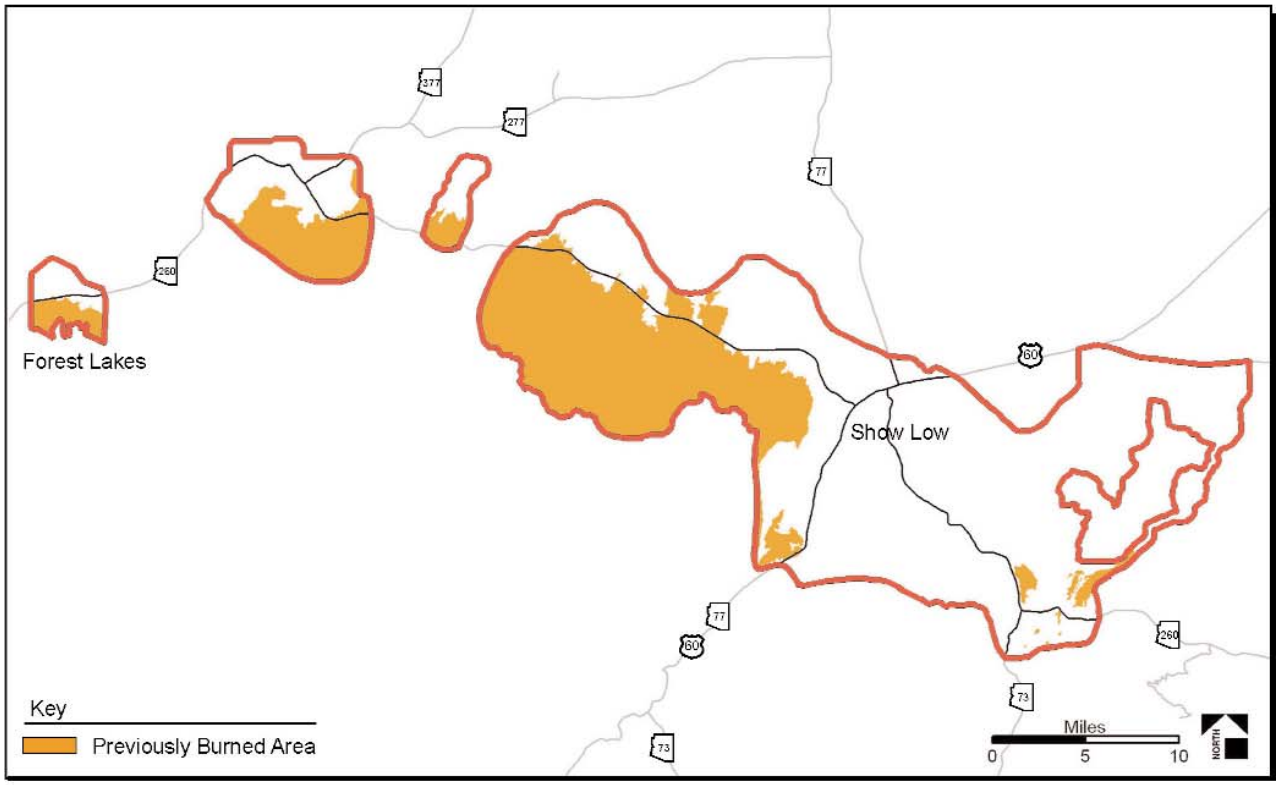
3. Local Preparedness and Protection Capability

Navajo County has developed an evacuation plan that is in place for the majority of the communities within the SCWPP. *A Citizen's Guide to Evacuation Procedures for Navajo County* (2004) details that three warning and alert systems are in place for notifying the public—including local radio and television. These systems are enacted by government officials, emergency services, or through the "Emergency Alert System" (EAS). The National Weather Service announces all emergency weather warnings and alerts, and law enforcement or other emergency officers can make announcements by sounding their vehicles' sirens and providing information over public address loud speakers, as well by making door-to-door contacts. Additional information is given within the 2004 county plan with regard to evacuation procedures, essential items needed in an emergency, the need to report to designated registration/reception centers, notification of evacuation routes, and transportation needs. Home security and pet animal care planning are also addressed. Located in Coconino County, Forest Lakes has also developed an evacuation plan with similar alert systems specific to its community. Several community subdivisions within the WUI do not have adequate emergency vehicle access. These developments have only one access point, creating greater risks because of the potential for residents' being trapped during a fire.

The following fire districts provide fire protection for the communities within the SCWPP area: Show Low, Lakeside, Pinetop, Pinedale/Clay Springs, Linden, Heber-Overgaard, Forest Lakes, and White Mountain Apache Tribe Fire and Rescue. The fire districts are trained and certified fire departments that are composed of both professional and volunteer fire fighters. Figures 3.5 and 3.6 display local preparedness and protection capabilities and identify the district boundaries and the International Organization for Standardization (ISO) rating for each fire district within the SCWPP.



Natural and Human Fire Starts since1996



Wildfire Occurrence History (last 10 years only)

Figure 3.3 Ignition history and wildfire occurrence components

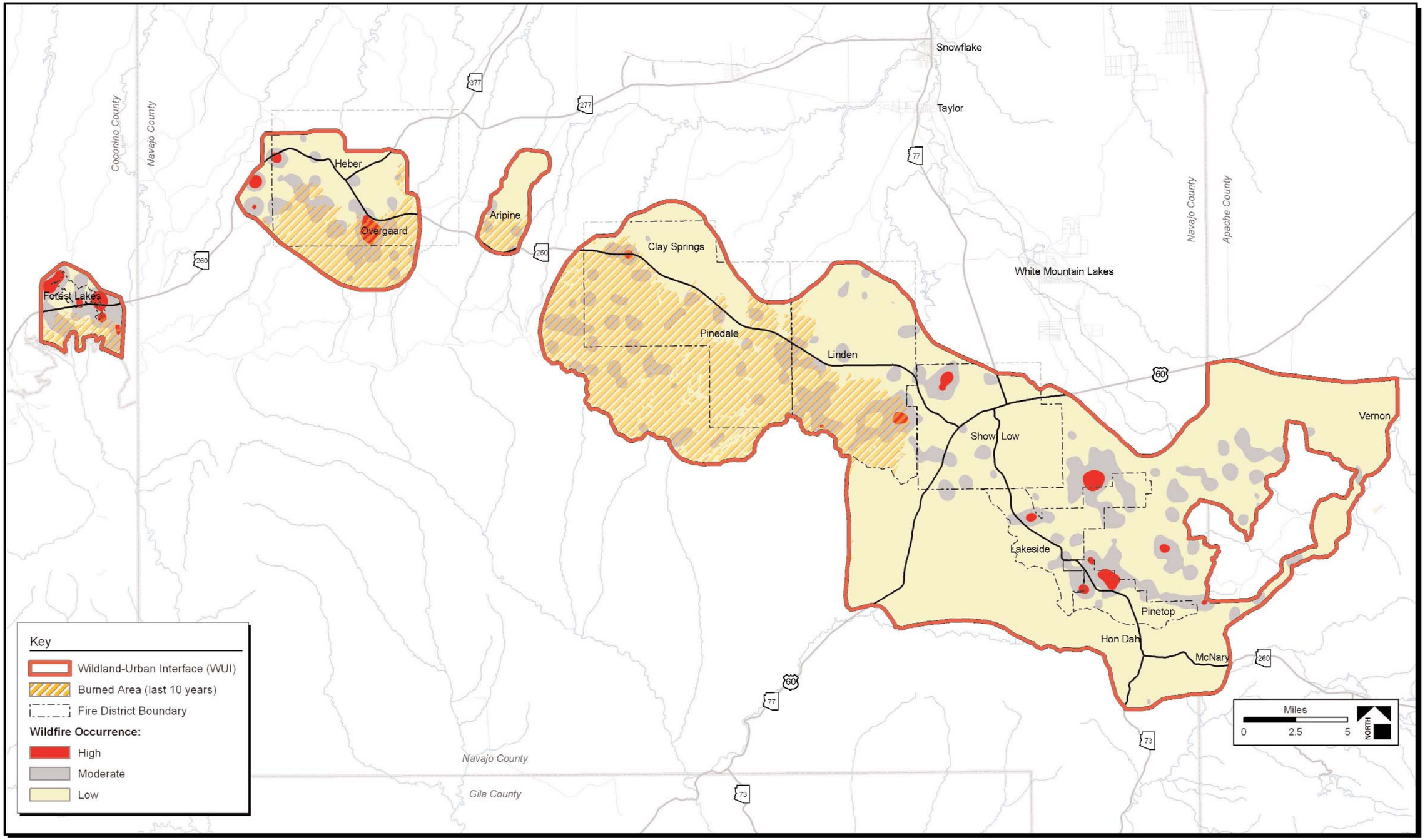
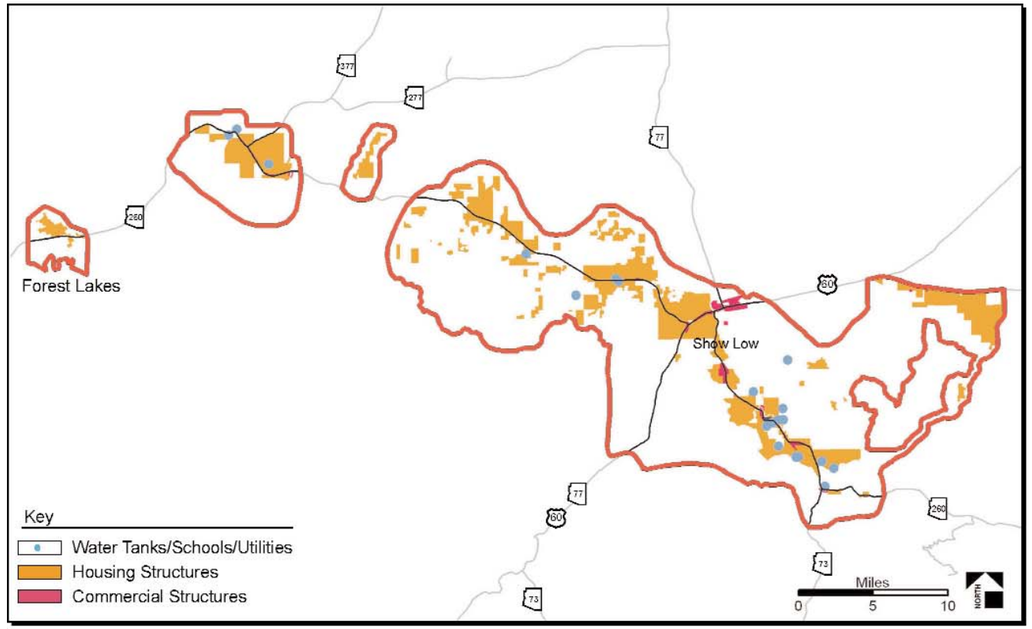
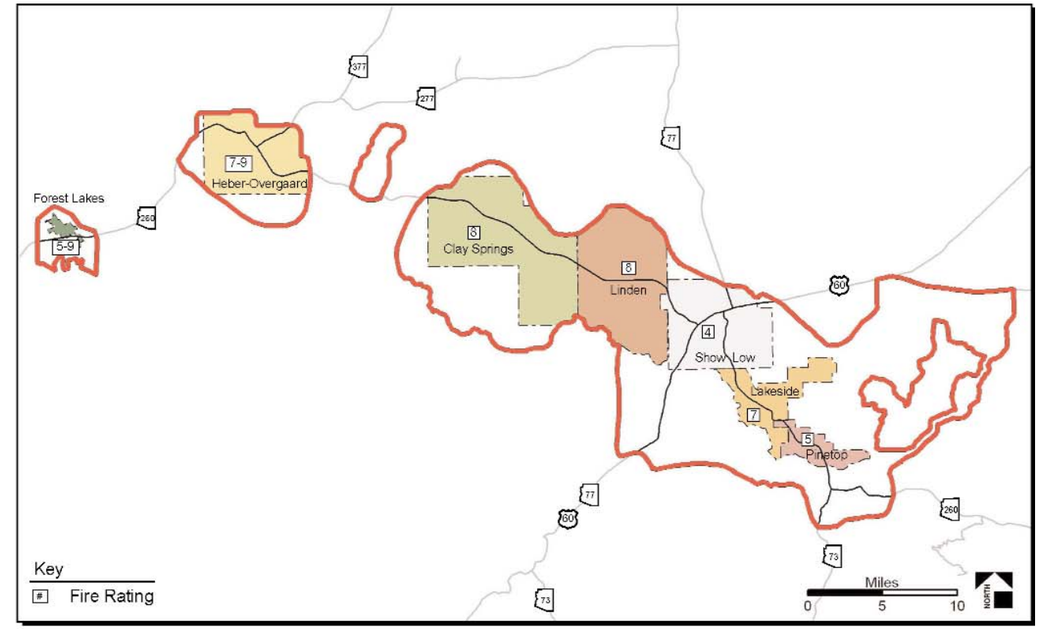


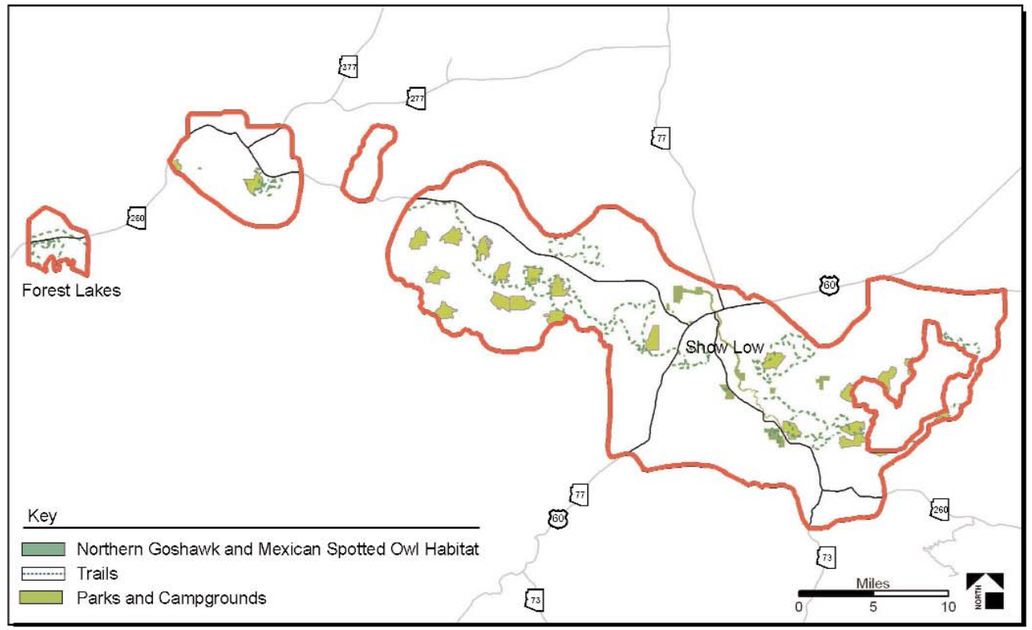
Figure 3.4 Ignition history and wildfire occurrence



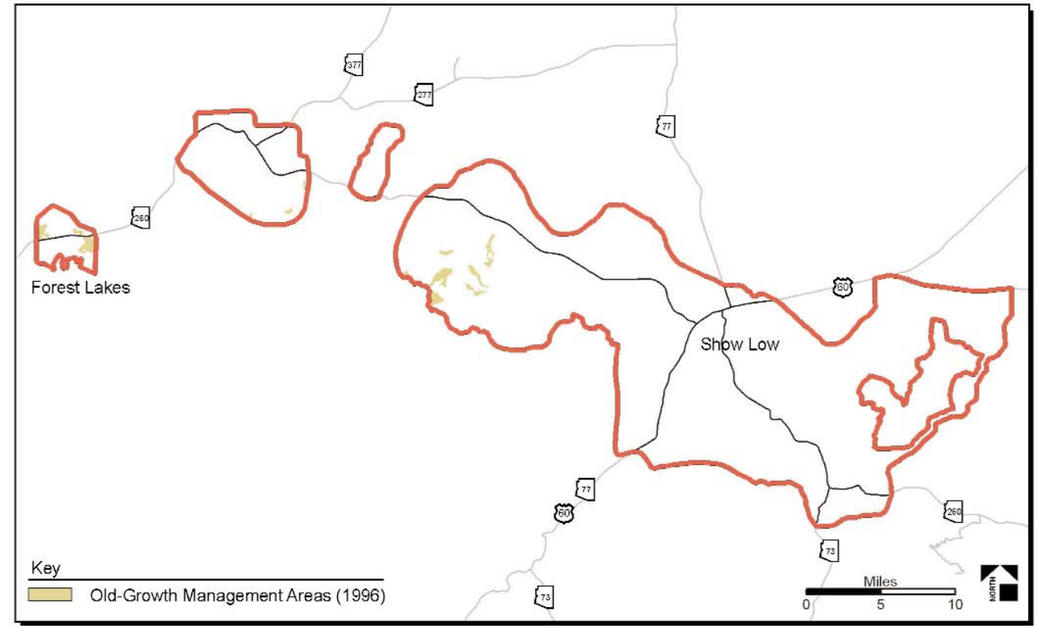
Developed Land and Infrastructure



Fire District Ratings



Recreational Areas and Wildlife Habitat



Old-Growth Management Areas

Figure 3.5 Community values components

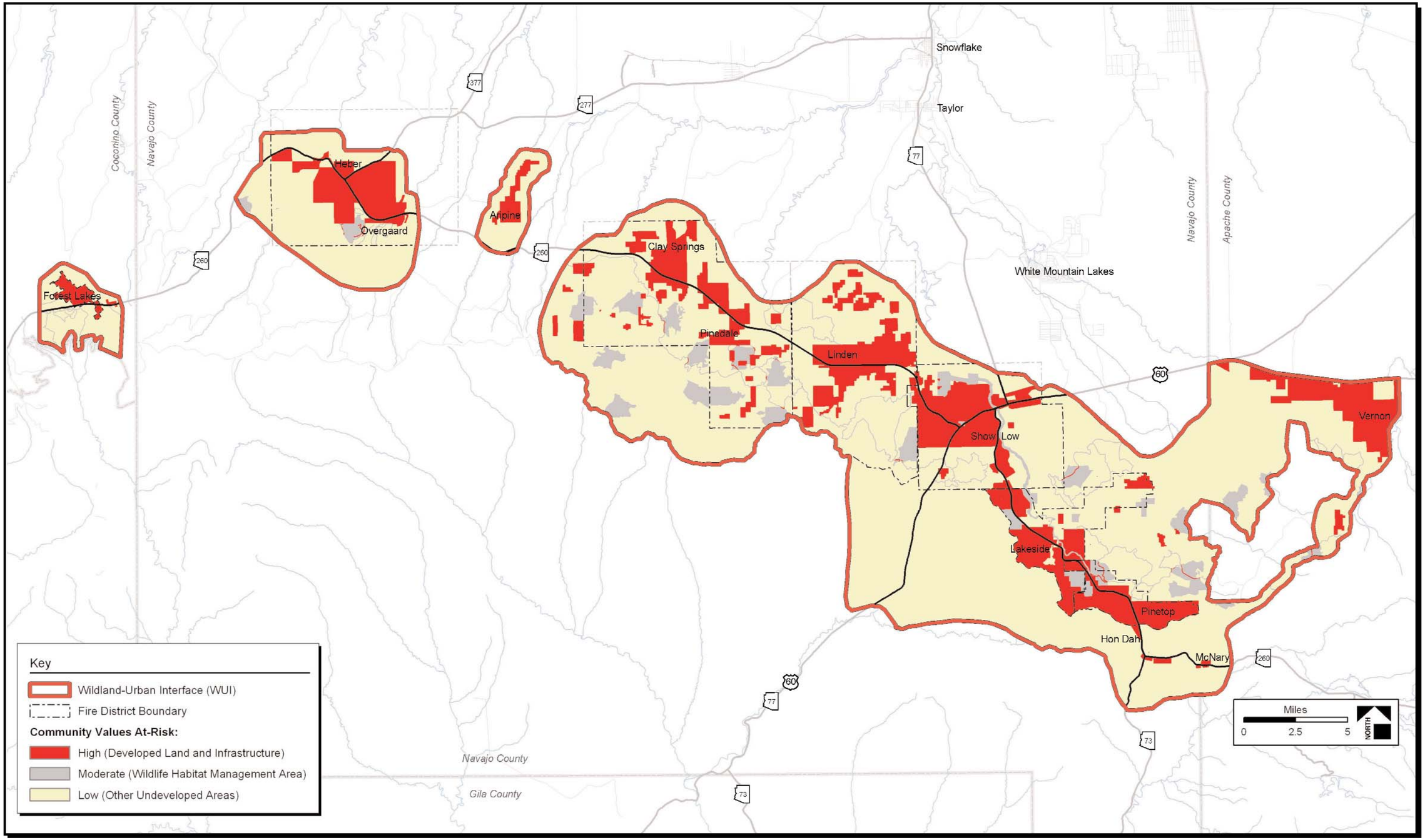


Figure 3.6 Community values

E. Cumulative Risk Analysis and Summary of Community Assessment

Figures 3.7 and Table 3.6 display the results of the cumulative risk analyses and translate these results into the relative percentages of WUI areas of high, moderate, and low risk. The maps are composites based on inputs from assessments of the fuel hazards, ignition risks and wildfire occurrence, and from the community values summaries. A summary of the community assessment as it relates the each of the described communities WUI is described below:

1. Pinetop-Lakeside

Lands within and around the town of Pinetop-Lakeside are classified as Condition Classes 2 and 3. Fuel hazards for this community include thick stands of untreated ponderosa pine on private, federal, and adjacent FAIR lands. Dry Valley, Pinetop Mountain, and canyons to the south have slopes greater than 30°. Forestlands to the northwest, FAIR lands to the south, and some private land have proposed treatments. A large percentage of private lands within the community have high fuel loads. These high fuel loads, along with thick forest stands, create higher risks of wildfire ignition in high-use area. Fire starts from the south and within the community pose the greatest risk to the community because of the south-west prevailing winds and vast amount of adjacent forestland. Pinedale Estates, Porter Mountain, Blue Spruce Estates, and other residential developments that surround the community will benefit from wildfire protection within the community. SR 260 serves as the main economic corridor for this community.

Other valuable community resources include recreation areas associated with Porter Mountain, Rainbow Lake, Scotts Reservoir, and Woodland Lake. Valuable wildlife habitat includes the Jacques Marsh Wildlife Area, located north of Rainbow Lake. Areas of historic, concentrated, human and natural fire starts are located north of the community. The Lakeside and Pinetop Fire Districts provide fire protection services for the towns of Pinetop-Lakeside. In emergencies situations, the towns use the current *Navajo County Evacuation Plan*.

2. Show Low

The city of Show Low is generally within current Condition Classes 2 and 3, with a small portion located within Condition Class 1. The main fuel hazards for the city include thick stands of untreated, small-diameter ponderosa pine stands on private, federal, and adjacent FAIR lands south of the city. Forest Dale Canyon and canyons further east of it have slopes greater than 30° and are a wildfire threat to the city. Areas to the east, FAIR lands to the south, and some private land within the city limits have been treated or have proposed treatment prescriptions. A large percentage of lands within the community have high fuel loads. These high fuel loads along with thick forest stands create higher risks of wildfire ignition in high-use area. Lightning- and human-caused fire starts from the south, southwest, and from within the community pose the greatest risk to Show Low because of the prevailing southwest winds and the vast amount of adjacent forestland.

The SR 260 transportation corridor complements the downtown center as an economic focus. Navapache Hospital and is located within the SR 260 corridor. Other valuable resources for the community include recreation areas associated with Show Low Lake, Show Low Creek, Fool Hollow Lake, and parks located

Table 3.6 Cumulative risk levels, by percentage of WUI area

SCWPP Communities	High risk (%)	Moderate risk (%)	Low risk (%)
Vernon, McNary, Hon Dah, Pinetop/Lakeside, Show Low, Linden, Pinedale and Clay Springs	38	46	16
Heber-Overgaard, Forest Lakes, and Aripine	38	60	2
Total WUI	38	53	9

Source: Logan Simpson Design Inc.

through the community. Valuable wildlife habitat for the community includes the Allen Severson Wildlife Area located north of Fool Hollow Lake. Areas of concentrated human and natural fire starts are located north, east (Porter Mountain), and southeast of the community. The Show Low Fire District provides fire protection services for the city and some of the surrounding county lands. The city also uses the current *Navajo County Evacuation Plan* in emergency situations.

3. Linden

Linden is within current Condition Classes 2 and 3. The main fuel hazards for this community include thick stands of untreated, small-diameter ponderosa pine stands on private, federal, and adjacent FAIR lands. The Rodeo-Chediski Fire, however, burned large tracks of southern forestlands. If left untreated, these areas will become high risk because of existing dead fuel loads. Land southwest of Linden has slopes greater than 30° that are a community concern. Treatments are proposed for the burned lands to the south. Within the community, Timberland Acres has 35 percent of its lots treated, Chaparral has 8 percent, Cheney Ranch has 16 percent, and Fools Hollow Ranch has 15 percent of its lots treated. To the south, adjacent SNF lands are currently untreated. High fuel loads coupled with untreated portions of the community create a high risk for wildfire ignition. Previous treatments of both federal and nonfederal lands have not been sufficiently extensive to moderate potential fire intensity. Areas of concentrated human and natural fire starts are located south and east of the community. Lightning- and human-caused fire starts from the south, southwest, and from within the community pose the greatest risk of wildfires because of the prevailing southwest winds and the vast amount of adjacent forestland. Residential developments that surround the community will greatly benefit from wildfire protection within the community. The valuable transportation corridor of SR 260 serves as the focus of the community's economic activity. The Linden Fire District provides fire protection services for the community and some of the surrounding county lands. The community also uses the current *Navajo County Evacuation Plan* in emergency situations.

4. Pinedale

The community of Pinedale is within current Condition Classes 2 and 3. The main fuel hazards for this community include thick stands of untreated, small-diameter ponderosa pine on private, federal, and adjacent FAIR lands. The Rodeo-Chediski Fire, however, burned large tracts surrounding Pinedale. If left untreated, these areas will become high risk because of existing dead fuel loads. Land southwest of Pinedale has slopes greater than 30° that are of concern to the community. (Treatments are proposed for burned lands to the south.) Previous treatments of both federal and nonfederal lands have not been sufficiently extensive to moderate potential fire intensity. Lands within the community and adjacent SNF lands to the south are largely untreated; high fuel loads within the community, however, create higher risks of wildfire ignition. Lightning- and human-caused fire starts from the south, southwest, and within the community pose the greatest risk to the community because of the prevailing southwest winds and vast amount of adjacent forestland. Residential developments that surround the community will greatly benefit from wildfire protection within the community. The valuable transportation corridor of SR 260 serves as the community's economic center. Located southeast of Pinedale, the Lewis Canyon Group Campground is a recreational community value, as is the White Mountain Trail System Connector Trail #640. The local school, recently registered in the National Register of Historic Places, and the church, post office, and public buildings are of important community value. Areas of concentrated human and natural fire starts are located east and west of the community. The Clay Springs/Pinedale Fire District provides fire protection services for the community, several subdivisions, recreation vehicle parks and some of the surrounding county lands. The community also uses the current *Navajo County Evacuation Plan* in emergency situations.

5. Clay Springs

Clay Springs is within current Condition Classes 1, 2, and 3. The main fuel hazards for this community include thick stands of untreated, small-diameter ponderosa pine on private and federal lands. Pinyon/juniper vegetation reduces wildfire risk in northern areas. The Rodeo-Chediski Fire has left large areas of scarred landscape south of SR 260.

If left untreated, these areas will become high risk because of existing dead fuel loads. Treatments are proposed for the burned lands to the south. Previous treatments of both federal and nonfederal lands have not been sufficiently extensive to moderate potential fire intensity. Lands within the community and adjacent SNF lands to the south are largely untreated. High fuel loads within the community create higher risks of wildfire ignition. Areas of concentrated ignitions are located southwest of the community. Lightning- and human-caused fire starts from the south, southwest, and within the community pose the greatest risk to the to the community because of the prevailing southwest winds and the vast amount of adjacent forest land. Residential developments will greatly benefit from wildfire protection within the community. The school, post office, and public buildings as well as commercial buildings are important community values. The SR 260 transportation corridor serves as the economic center and as a natural firebreak for the community. Several residential developments within Clay Springs have only one access point, creating risk during evacuation and delivery of fire protection services. The Clay Springs/Pinedale Fire District provides fire protection services for the community and some of the surrounding county lands. The community also uses the current *Navajo County Evacuation Plan* in emergency situations.

6. Vernon

Within and around the community of Vernon, the current Condition Classes are 1, 2, and 3. Fuel hazards for this community include thick stands of untreated ponderosa pine on private, state, and federal lands primarily to the south. Pinyon/juniper vegetation reduces wildfire risk in northern areas. Slopes greater than 30° are associated with Ecks and Marshall Mountain, located southwest of the community. A large percentage of the private lands within the community have high fuel loads. These fuels, along with thick stands of ponderosa pine and pinyon/juniper forest, create higher risks of wildfire ignition in high-public use areas. Lightning- and human-caused fire starts from the south pose the greatest risk to the community because of the prevailing southwest winds and vast amount of adjacent forestland. Residential developments scattered throughout the community will benefit from wildfire protection within the community. The FS Road 224 and US 60 transportation corridors serve as community economic centers. Currently no fire district serves the Vernon community.

7. McNary and Hon Dah

These communities are classified as current Condition Classes 2 and 3. The main fuel hazards for these communities include stands of small-diameter ponderosa pine on FAIR lands. Recent treatments on FAIR lands adjacent to and within the community have, however, reduced fuel loads and returned the WUI primarily to Condition Class I. Fuel break treatments are in progress for the areas along US 60 and near Blue Spruce Estates in Pinetop-Lakeside (Table 4.2 Treatment 3). Fuel reduction treatments are being planned for the high-risk areas adjacent to Pinetop-Lakeside, Show Low, and Linden. Fuel reduction treatments will consist of thinning and prescribed burning in drainage bottoms and landscapes of less than 40 percent slopes (Table 4.2 Treatment 5). High fuel loads within the community create higher risks of wildfire ignition. Lightning- and human-caused fires starts from the south, southwest, and from within the community pose the greatest risk to the community because of the prevailing southwest winds and vast amount of adjacent forestland. Commercial and residential developments will greatly benefit from wildfire protection within the community. The valuable transportation corridors of SR 260 and SR 73 are the centers of economic activity, including a casino. Located south of Hon Dah, Bootleg and Cooley Lakes provide valued recreational areas. Valuable wildlife habitat for the community includes the Williams Creek National Fish Hatchery, located to the south. Areas of concentrated human and natural fire starts are located north of the community. White Mountain Apache Tribe Fire and Rescue provides fire protection services for the community.

8. Heber-Overgaard

The community of Heber-Overgaard is in current Condition Classes 2 and 3. The main fuel hazards for this community include thick stands of untreated, small-diameter ponderosa pine on private and federal lands. The Rodeo-Chediski Fire, however, burned large areas of forestlands to the south. If left untreated, these areas will become high risk for potential wildfires because of existing dead fuel loads. Lands within the community and adjacent SNF lands are largely

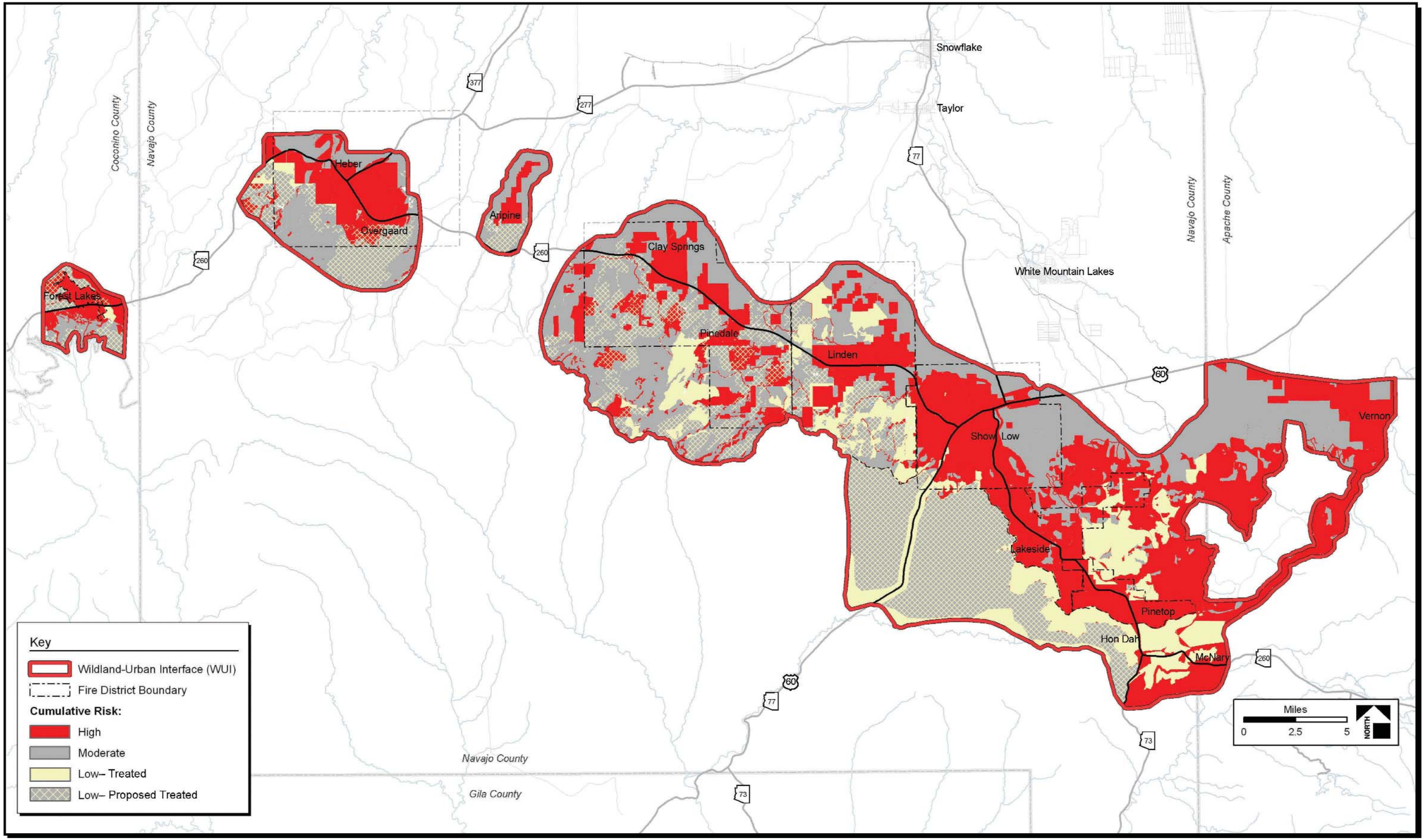


Figure 3.7 Cumulative risk analysis

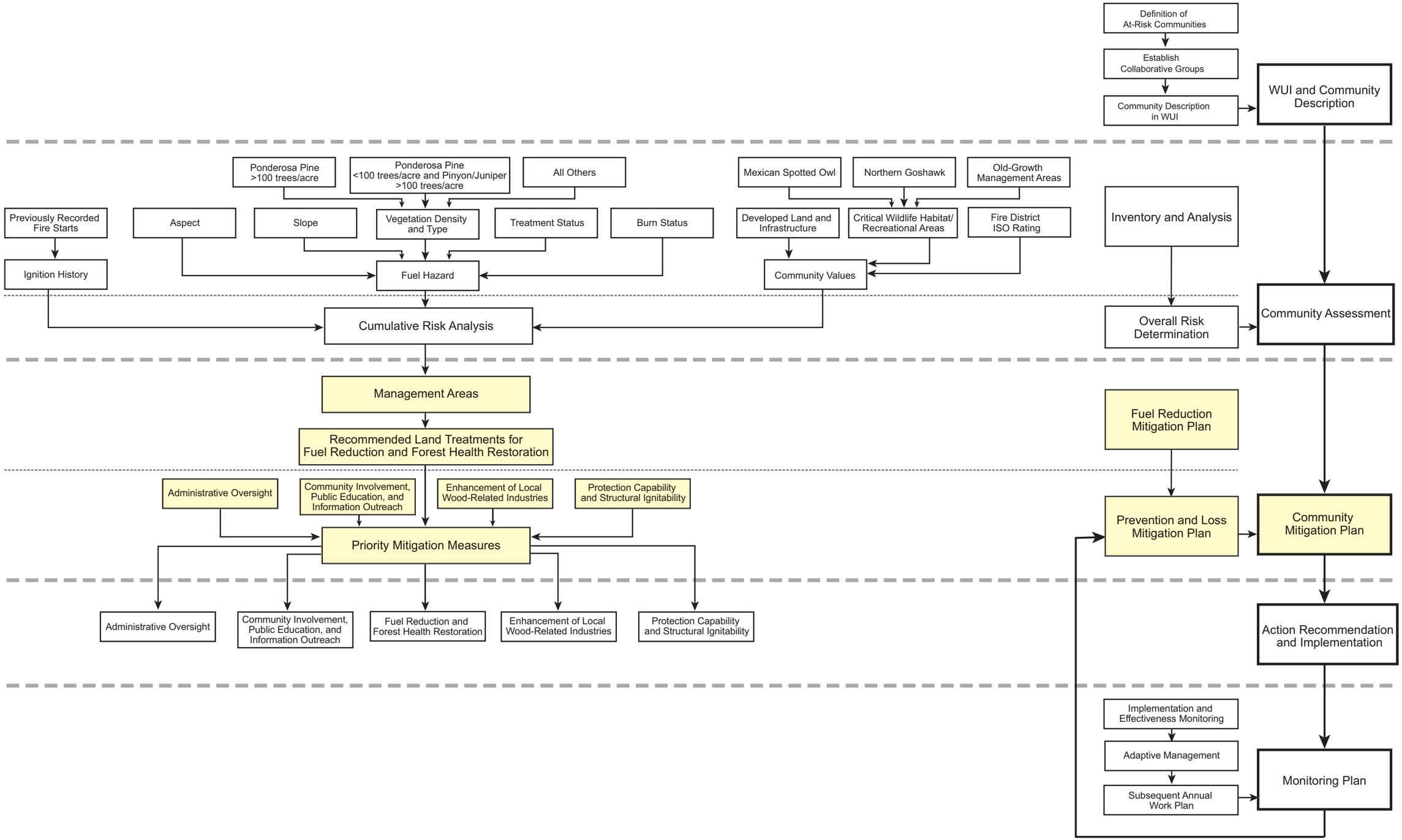
untreated, and previous treatments of federal and nonfederal lands have not been sufficiently extensive to moderate potential fire intensity. High fuel loads within the community create higher risks of wildfire ignition. Areas of concentrated human and natural fire starts are located primarily along SR 260 and within the Overgaard area. Lightning- and human-caused fires starts from the south, southwest, and from within the community pose the greatest risk to the community because of the prevailing southwest winds and the vast amount of adjacent forestland. Residential developments scattered throughout the community will greatly benefit from wildfire protection. The valuable transportation corridor of SR 260 serves as the economic center. Pine Meadows Country Club and the Mogollon Airpark are also community assets as is the Tall Timber County Park. The Heber-Overgaard Fire District provides fire protection services for the community and some of the surrounding county lands. The community also uses the current *Navajo County Evacuation Plan* in emergency situations.

9. Aripine

Aripine is in current Condition Classes 1 and 2, with a small portion in Class 3. The main fuel hazards for this community include thick stands of untreated forests on private and federal lands. The Rodeo-Chediski Fire burned large areas of forestlands to the south. If left untreated, these areas will become high risk for potential wildfires because of existing dead fuel loads. Lands within this WUI and adjacent SNF lands are currently untreated. Lightning- and human-caused fire starts from the south, southwest, and from within the community pose the greatest risk to the community because of the prevailing southwest winds and the vast amount of adjacent forestland. Residential developments scattered throughout the community will greatly benefit from wildfire protection. FS Road 146 and FS Road 332 provide the major access points to and through Aripine. The WUI uses the *Navajo County Evacuation Plan* in emergency situations.

10. Forest Lakes

Forest Lakes is in current Condition Classes 2 and 3. The main fuels hazards for this community include thick stands of untreated, small-diameter ponderosa pine on private and federal lands. The Rodeo-Chediski Fire burned large areas of forestlands to the south. If left untreated, these areas will become high risk for potential wildfires because of trees burned by the fire that will become groundfuels within 3 to 5 years, greatly adding to existing fuel loads. Lands within the community and adjacent SNF lands are mostly untreated, and previous treatments of both federal and nonfederal lands have not been sufficiently extensive to moderate potential fire intensity. High fuel loads within the community create higher risks of wildfire ignition. Lightning- and human-caused fires starts from the south, southwest, and from within the community pose the greatest risk to the community because of the prevailing southwest winds and the vast amount of adjacent forestland. Residential developments scattered throughout the community will greatly benefit from wildfire protection. SR 260 serves as the main transportation corridor and economic center for the area. Willow Springs Lake, located southwest of the community, is valued as a recreational area. Areas of concentrated human and natural fire starts are located north of SR 260. The Forest Lakes Fire District provides fire protection services for the community and some of the surrounding county lands. Forest Lakes has developed an evacuation plan for the community that is coordinated through the Coconino County Sheriff's Department.


Definition of At-Risk Communities
Establish Collaborative Groups
Community Description in WUI
WUI and Community Description
Ponderosa Pine >100 trees/acre
Ponderosa Pine <100 trees/acre and Pinyon/Juniper >100 trees/acre
All Others
Mexican Spotted Owl
Northern Goshawk
Old-Growth Management Areas
Previously Recorded Fire Starts
Aspect
Slope
Vegetation Density and Type
Treatment Status
Burn Status
Developed Land and Infrastructure
Critical Wildlife Habitat/ Recreational Areas
Fire District ISO Rating
Inventory and Analysis
Ignition History
Fuel Hazard
Community Values
Cumulative Risk Analysis
Overall Risk Determination
Community Assessment
Management Areas
Recommended Land Treatments for Fuel Reduction and Forest Health Restoration
Fuel Reduction Mitigation Plan
Administrative Oversight
Community Involvement, Public Education, and Information Outreach
Enhancement of Local Wood-Related Industries
Protection Capability and Structural Ignitability
Prevention and Loss Mitigation Plan
Community Mitigation Plan
Priority Mitigation Measures
Administrative Oversight
Community Involvement, Public Education, and Information Outreach
Fuel Reduction and Forest Health Restoration
Enhancement of Local Wood-Related Industries
Protection Capability and Structural Ignitability
Action Recommendation and Implementation
Implementation and Effectiveness Monitoring
Adaptive Management
Subsequent Annual Work Plan
Monitoring Plan

IV. COMMUNITY MITIGATION PLAN

Section I of the SCWPP describes the collaborative process for developing this plan; Section II explains how the communities have identified and mapped the WUI within the SNF. Section III analyzes the lands within the WUI for current potential of wildland fire risk by assessing 1) land components that cumulatively elevate the ability of the landscape to support fire, 2) the community values that must be protected from wildland fire, and 3) the communities' preparedness for wildland fire suppression. Section 4 prioritizes the areas that need fuel treatment and recommends the type and method of treatment and/or management necessary to mitigate the potential for catastrophic wildland fire within the WUI. The SCWPP communities' recommendations for enhanced wildland fire protection capabilities; public education, information, and outreach; and support for local wood products industries are also presented in this section.

A. Administrative Oversight

Generally, the most efficient way to manage the urban forest is through a single entity responsible for implementing the action recommendations within the SCWPP. This will allow for enhanced coordination of management actions and reduced inconsistency among local, state, and federal agencies. Implementation of the SCWPP in a manner that ensures timely decision making at all levels of government and that provides for community protection and forest restoration are the highest SCWPP priorities. Therefore, the primary recommendation of the SCWPP is for the City of Show Low; Town of Pinetop-Lakeside; and Apache, Coconino, and Navajo County governments to enter into an IGA creating a single oversight for SCWPP implementation through the establishment of a "Community Forester" program. This IGA will identify the responsibilities for coordinating, implementing, monitoring, and reporting to the signatories the status of the current-year priority recommendations. The IGA will detail the development of an annual work plan proposing priority action recommendations based on effectiveness monitoring of programs implemented in previous years. The annual report and annual work plans will be submitted to the signatories for review and approval each year. Once approved by the participating government entities and fire districts, the SCWPP will be presented to the Arizona State Forester and the A-S NFs Forest Supervisor for concurrence, and, subsequently, will be submitted for funding through HFRA.

B. Fuel Reduction Priorities

To prioritize treatments, the WUI has been identified, analyzed, and categorized according to potential risk from wildfire; the analyses of community values, fuel hazards, and fire history were compiled into a single map that depicts areas of low, moderate, and high risk (Figure 3.7). The areas of risk are further identified and categorized into manageable, site-specific areas within the WUI, with an overall risk value determined for each. Additionally, each site-specific area within the WUI was labeled based on the nearest community (Table 4.1 and Figure 4.1).

Within the SCWPP, 46 site-specific areas were identified and given an overall risk value. Additionally, each of these areas was ranked and described along with a recommendation for its preferred treatment type and method. Treatment recommendations are described in Section IV.2 and consider commercial—and other—opportunities for utilizing small-diameter trees and woody material byproducts from treatments. The following map and table identify and describe the site-specific risk areas within the WUI.

Table 4.1 Identified treatment management areas

Treatment management area	Map ID	Risk value	Location and description	Recommended treatment(s)[a]	Total acres	Federal acres	Nonfederal acres
Aripine	A1	High	A-S NFs' management area	1 and 2	1,298	202	1,095
Aripine	A2	Moderate	Private and federal land	3 and 4	1,874	1,728	146
Aripine	A3	Moderate	Proposed treatments located near Highway 260	3, 5, and 6	2,759	2,600	159
Clay Springs-Pinedale	CP1	High	Located on private and federal land encompassing Clay Springs	1–6	6,690	3,098	3,862
Clay Springs-Pinedale	CP2	High	Includes the communities of Clay Springs and Pinedale	1–3, 5, and 6	5,157	2,451	2,707
Clay Springs-Pinedale	CP2A	High	Subdivision north of Clay Springs	1 and 2	168	59	109
Clay Springs-Pinedale	CP3	High	Private and federal land southwest of Clay Springs	1– 6	6,636	5,698	938
Clay Springs-Pinedale	CP4	High	Federal land with higher risk	5 and 6	1,035	1,035	0
Clay Springs-Pinedale	CP5	High	Private and federal land southeast of Pinedale	1–3, 5, and 6	7,009	6,562	447
Clay Springs-Pinedale	CP5A	High	Federal land with proposed treatments	5 and 6	973	973	0
Clay Springs-Pinedale	CP6	Moderate	Includes federal and private lands in Pinedale's southern region	5 and 6	11,501	11,464	38
Clay Springs-Pinedale	CP6A	Moderate	Located south of Highway 260	1–4	2,287	2,073	215
Clay Springs-Pinedale	CP7	Moderate	Federal and private lands west of Clay Springs	1– 6	4,181	4,114	67
Clay Springs-Pinedale	CP8	Moderate	Federal lands south of Pinedale	1– 3	1,400	1,378	22
Clay Springs-Pinedale	CP9	Moderate	Federal and private land south of highway 260	1–3, 5, and 6	3,613	3,473	141
Clay Springs-Pinedale	CP10	Moderate	Located north of Highway 260	3 and 4	10,927	10,347	581
Clay Springs-Pinedale	CP11	Low	Treatment areas at various locations	maintenance	5,391	5,356	35
Forest Lakes	F1	High	Includes the community of Forest Lakes and federal land south and northeast of the community	1 and 2	3,525	2,390	1,135
Forest Lakes	F2	Moderate	Untreated federal lands south of the community	3, 5, and 6	1,830	1,830	0
Forest Lakes	F3	Moderate	Untreated federal lands with proposed treatments	3	1,111	1,111	0
Forest Lakes	F4	Moderate	Treated areas northwest of the community	maintenance	1,567	1,471	96
Heber-Overgaard	HO1	High	Heber-Overgaard, on both private and federal land	1–3, 5, and 6	10,251	2,302	7,949
Heber-Overgaard	HO2	Moderate	Mostly located on federal lands, this area has proposed treatments	1–3, 5, and 6	10,634	10,415	219
Heber-Overgaard	HO3	Moderate	Located south of the community, this area is untreated	5 and 6	3,581	3,581	0
Heber-Overgaard	HO4	Moderate	Located southeast of the community	5 and 6	1,535	1,535	0
Heber-Overgaard	HO5	Moderate	Located north of the community	3 and 4	4,082	3,300	782

Table 4.1 Identified treatment management areas *(continued)*

Treatment management area	Map ID	Risk value	Location and description	Recommended treatment(s)[a]	Total acres	Federal acres	Nonfederal acres
Heber-Overgaard	HO6	Low	Treated areas west of the community	maintenance	616	574	42
Linden	L1	High	Includes private and federal land within the community of Linden	1, 2, and 4	6,860	714	6,145
Linden	L1A	High	Includes private land within the community of Linden	1, 2, and 4	2,643	2,195	448
Linden	L2	Moderate	Private and federal land in pinyon/juniper country	1, 2, and 4	5,549	4,346	1,204
Linden	L3	Moderate	South of the community, the majority of this area has proposed treatments	1–6	3,028	2,982	45
Linden	L4	Moderate	Located southwest of the community, the majority of this area has proposed treatments	1–6	2,998	2,618	380
Linden	L5	Low	Located west of Show Low, these areas have been treated	maintenance	9,698	9,286	413
Pinetop-Lakeside	PL1	High	Includes the town of Pinetop-Lakeside and some of the surrounding A-S NFs lands	1–3	19,104	8,978	10,125
Pinetop-Lakeside	PL2	High	Located near Porter Mountain	1– 6	10,660	9,107	1,554
Pinetop-Lakeside	PL3	High	Located north of Turkey Mountain	1–3, 5, and 6	8,819	8,227	514
Pinetop-Lakeside	PL4	Moderate	Located north of Blue Ridge Mountain	1–6	1,519	1,454	66
Pinetop-Lakeside	PL5	Low	Blue Ridge Mountain treatment areas	maintenance	8,240	8,116	124
Show Low	S1	High	Encompasses Show Low and some of the surrounding A-S NFs lands	1–6	17,033	5,072	11,961
Show Low	S2	Moderate	East of Show Low, includes private and federal lands	1–6	8,968	5,197	3,772
Show Low	S3	Moderate	Areas north of Show Low include pinyon/juniper country	1–4	5,528	4,360	1,168
Show Low	S4	Low	South of the city	maintenance	1,108	1,043	65
Vernon	V1	High	Includes the community of Vernon and federal, state, and private land	1–6	9,671	2,021	7,650
Vernon	V2	Moderate	Includes private and federal land along the highway corridor	1–4	4,038	3,762	277
Vernon	V3	Moderate	Located west of the community on federal, state, and private lands	1–6	14,325	8,958	5,367
McNary and Hon Dah	FAIR	N/A	Located within the FAIR	maintenance	56,328	0	0

[a] See Table 4.2 for descriptions of these six treatment types

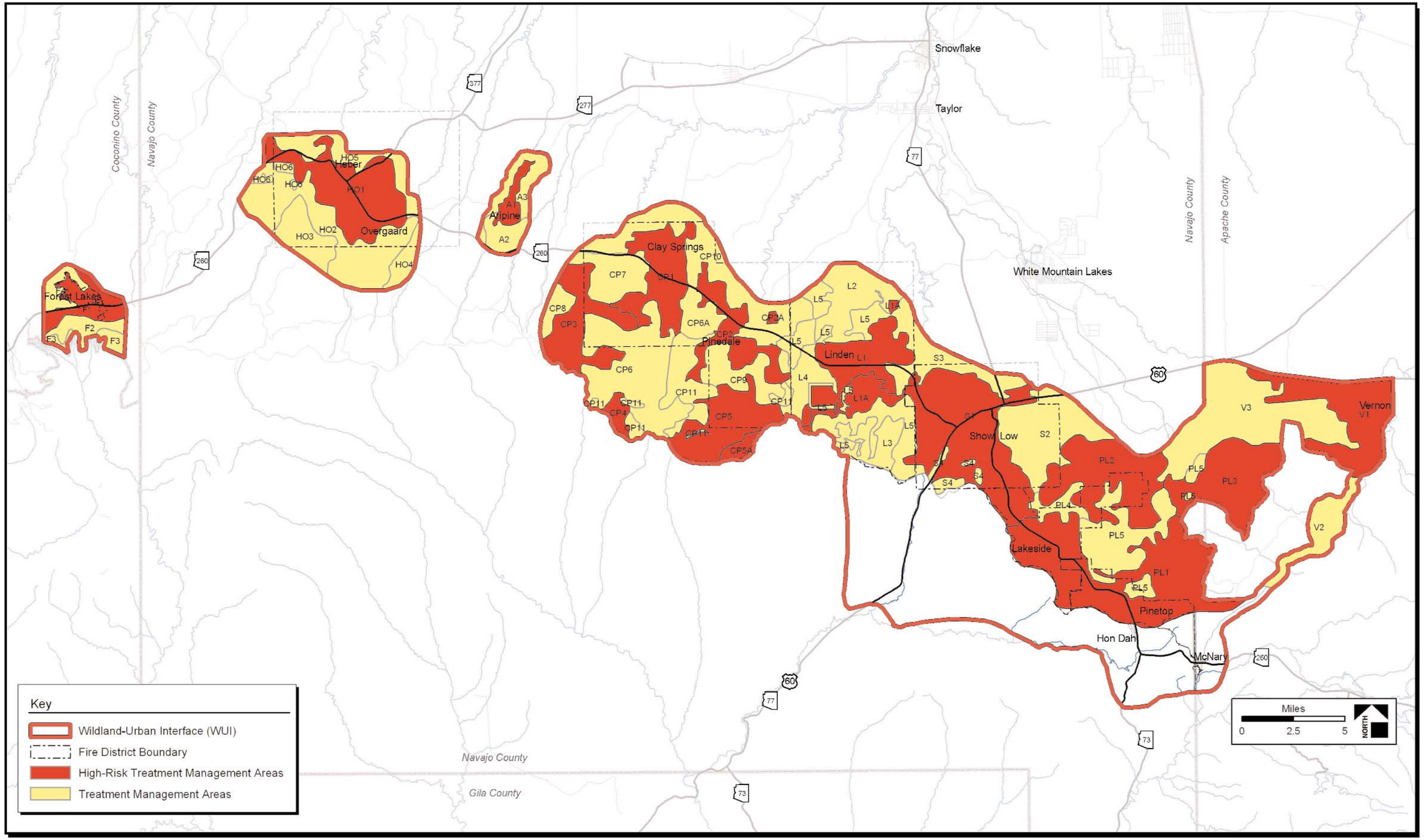


Figure 4.1 Treatment management areas

C. Recommendations for Land Treatments in the WUI to Meet Fuel Reduction or Modification Objectives

Table 4.2 Identifies treatment recommendations for lands located within the treatment management areas described in the previous figure. These treatments are designed to meet the SCWPP's fuel reduction/modification objective. Figure 4.2 shows general areas of the recommended treatments within the WUI.

In accordance with §102(*e*) of HFRA, fuel reduction and modification treatments recommended in the SCWPP are designed to "contribute toward the restoration of the structure and composition of old-growth stands…and retaining the large trees contributing to old-growth structure." Old-growth stands within the WUI were evaluated using 1996 data. A single designated Old-Growth Management Area is located within the WUI near the community of Forest Lakes. Any fuel reduction treatments within this area will be designed to enhance old-growth forest conditions and will be compliant with standards and guidelines established in the *Apache-Sitgreaves National Forests Plan.*

Additionally, to ensure compliance with §102(*f*) of HFRA, the SCWPP focuses on treatment and thinning of small-diameter trees to create defensible space, fuel breaks, and acceptable forest Condition Classes for community protection from catastrophic wildland fire. The components of the SCWPP were designed with consideration of wildlife biodiversity and forest health and restoration as well as watershed and groundwater enhancement. Large trees (trees >16 inches diameter at breast height [dbh]) are not considered in fuel reduction/modification unless they are diseased, dying, or dead trees on private property or diseased, dying, or dead trees on federal land in excess of standards for standing snags delineated in the *Apache-Sitgreaves National Forests Plan*, except within 0.25 mile of private land, or within designated fuel breaks. In these areas, all snags may be removed. In addition, some live trees over 16 inches dbh may be removed if necessary to achieve comparably fire-resilient stands, as stated in the HFRA. Downed logs in excess of 16 inches dbh will be removed or piled and burned only in excess of *Apache-Sitgreaves National Forests Plan* standards unless they are within designated fuel break treatment areas, in which case all dead and down material may be removed.

On federal lands, the silvicultural prescriptions and estimated costs per acre used in the SCWPP are

- precommercial thinning <6.0 inches dbh
  - thin and chip: $300/acre
  - thin and pile: $250/acre
- commercial thinning 6–12 inches dbh
  - mechanical thin and pile: $500/acre
  - mechanical thin and handpile: $635/acre
- commercial thinning 12–16 inches dbh
  - mechanical thin and pile: $500/acre
  - mechanical thin and handpile: $635/acre
- handpile slash and burn
  - handpile additional $135/acre
  - burning piles additional $50/acre
- broadcast burn
  - $50 per acres to conduct the burn
  - $35 per acre for monitoring the burn

Broadcast prescribed burning may be used as a slash disposal and restoration tool where feasible and practical. Applicable A-S NFs standards and guidelines will be followed.

Table 4.2 Fuel modification and treatment plans

Treatment number	1 Developed private parcels less than 2 acres			2 Undeveloped private parcels in excess of 2 acres		3 Federal lands within 0.5 mile of private land		4 Pinyon/juniper woodland on federal land	5 Federal lands greater than 0.5 mile from private land			6 Restoration of federal lands greater than 0.5 mile from private land
Treatment category	**Zone 1** (0–10 feet from structures)	**Zone 2** (10–30 feet from structures)	**Zone 3** (30–100 feet from structures)	Land unaffected by the Rodeo-Chediski Fire	Dead trees resulting from the Rodeo-Chediski Fire	Slopes < 40%	Slopes >40%	All slopes	Ponderosa pine and mixed conifers on slopes < 40%	Ponderosa pine and mixed conifers on slopes >40%	PAC[a] or PFA[a] management area	Ponderosa pine: presettlement
Vegetation	Remove all ladder fuels and reduce flammable vegetation. Remove and destroy all insect-infested, diseased, and dead trees.	Remove all ladder fuels; remove and destroy all insect-infested, diseased, and dead trees. Create separation between trees, tree crowns, and other plants based on fuel type, density, slope, and other topographical features. Reduce continuity of fuels by creating clear space around brush or planting groups.	Remove all ladder fuels; remove and destroy all insect-infested, diseased, and dead trees. Maximum density of trees (whichever is greater: for PP[a], 60 sq. ft. BA[a] at 80–100 trees/acre *or* average density of 100 trees/acre)	Remove all ladder fuels; remove and destroy all insect-infested, diseased, and dead trees. Fuel modification plan developed to promote forest health, prevent spread of fire to adjacent property, and create defensible space with considerations for wildlife and groundwater protection.	Remove all dead, diseased, and dying trees. Fell dead trees away from stream channels with defined bed and banks.	Target BA for conifers is 40–60. Conifers greater than 16-inch dbh[a] will not be cut[b] unless needed to promote fire-resilient stands. Conifers 5–16 inches will be thinned. In areas <40 BA, conifers between 1.5 and 4.9 inches dbh will be retained and spaced 15–20 feet from existing trees.	Same as Slopes <40%.	Pinyon-juniper woodlands will be thinned to a spacing of 20 to 35 feet between trees, as needed to promote fire-resilient stands. All trees >12 inches drc[a] will be left unless it is necessary to remove some to achieve the desired spacing. Alligator junipers when present will be favored over other juniper species when trees are left in place.	Target BA for conifers is 40–60. Conifers greater than 16 inches dbh will not be cut.[b] Conifers 5–16 inches dbh will be thinned. In areas with < 40 BA, conifers between 1.5 feet tall and 4.9 feet dbh will be retained and spaced 15–20 feet from existing trees. Where feasible 2–4-acre openings will be established in accordance with goshawk guidelines.	Target BA for conifers is 60–80. Confers greater than 16 inches dbh will not be cut unless needed to promote fire-resilient stands. Conifers 5–16 inches will be thinned. In areas less than 60 BA, conifers between 1.5 feet tall and 4.9 inches dbh will be retained and spaced 15–20 feet from existing trees. Where feasible, 1-acre openings will be established in accordance with goshawk guidelines.	Compliance with *Apache-Sitgreaves National Forests Plan* (Plan) standards and guides.	Restoration is designed to promote and protect presettlement trees, combined with wildlife and watershed improvements. Tree densities will vary from 60–100/acre in goshawk foraging areas to, in habitats of special concern, 30–70 BA. All presettlement trees will be retained; competing younger trees within competitive distances will be removed unless needed for replacement. Replacement trees will be identified close to remnant evidence. Average of ~1.5 trees 16 inches dbh or greater or 2–3 trees 16 inches dbh or less are used for replacements. Twenty percent of the area may be left untreated, emphasizing drainages, wildlife thermal and hiding cover, travel corridors, water sources, steeper slopes, squirrel nest, and midden areas.
Slash	Remove all dead plant material from ground, prune tree limbs overhanging roof, remove branches within 10 feet of chimney, remove flammable debris from gutters and roof surfaces, and reduce natural flammable material 2-4 feet above ground around improvements.	Control erosion and sedimentation. Remove all pine needle or leaf litter to a depth of 1 inch.	Same as Zone 2.	All slash, snags, and vegetation that may grow into overhead electrical lines; other ground fuels, ladder fuels, and dead trees; and the thinning from live trees must be removed, mechanically treated[c] (chipped, etc.), or piled and burned along with existing fuels.	Clean dead and down debris in channels where debris may be mobilized in floods, creating downstream jams. Some slash and debris can be scattered and retained in small, ephemeral streambeds where slash can help retain runoff and sediment and provide headcut stabilization.	All logs >3.9 inches in diameter from the thinning will be removed from the project area. On open slopes <25%, all slash will be mechanically treated (chipped, etc.), removed or piled and burned. On slopes of 25–40%, all created slash will be hand-piled along with existing fuels, and burned.	All created slash <16 inches in diameter will be removed or hand-piled along with existing fuels and burned. As a bark beetle control measure, all created slash >4 inches in diameter will be bucked into 14-inch lengths prior to piling.	For wildlife habitat enhancement, leave one slash pile/3 acres or leave lopped, and scatter slash on 30% of the treated area. Slash will be chipped, removed, or piled and burned within 0.25 mile of private lands or within fuel breaks.	All logs >3.9 inches in diameter from the thinning will be removed from the project area. On open slopes <25%, all slash will be mechanically treated (chipped, etc.), or piled and burned. On slopes of 25–40%, all created slash will be hand-piled along with existing fuels, and burned.	All created slash 12 inches in diameter will be hand-piled along with existing fuels and burned. Created slash >12 inches in diameter will be piled or bucked into short lengths. For bark beetle control measures, all created slash from PP >4 inches in diameter will be bucked into 14-inch lengths prior to piling.	Compliance with Plan standards and guides.	Slash will be treated as described for federal land in Treatment 5. All slash treatments will be conducted in compliance with Plan standards and guidelines. Slash treatments will be conducted to promote wildlife and watershed components.

[a] BA = basal area (in square feet)
PP = ponderosa pine
dbh = diameter breast height;
PAC = spotted owl protected activity center
PFA = goshawk postfledging family area
drc = diameter root collar
[b] All insect-infested, diseased, and dead trees should be removed and destroyed in excess of A-S NFs' standard for snags.
[c] Maintenance treatments include mechanical removal or burning treatments designed and implemented to diminish understory mass and reduce laddering.

Table 4.2 Fuel modification and treatment plans

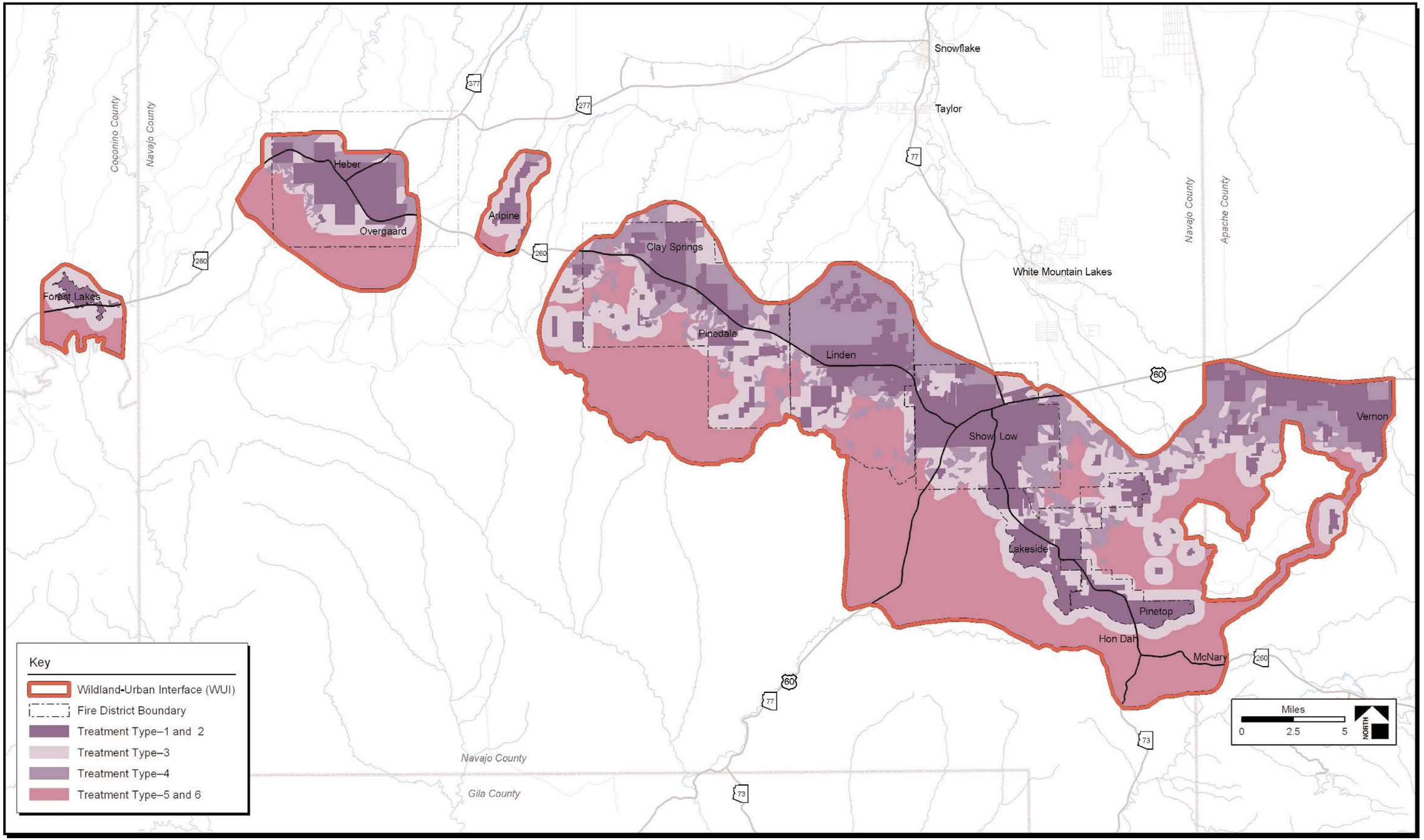


Figure 4.2 Treatment recommendations

Recent small-diameter treatments in ponderosa pine stands in the WUI have removed an average of 12 tons/acre, with over 6,500 acres treated. This amount of removed fuel complex is consistent with fuel model 10 as described in *Aids to Determining Fuel Models for Estimating Fire Behavior* (Anderson 1982) for the timber vegetation type. Therefore, an overall estimate of ground fuels to be removed, ranging from litter to understory fuels consisting of 1-hour to 100-hour fuels and live standing fuels, will average 12 tons per acre across the ponderosa pine vegetation type. Commercial value of small-diameter products from these treatments has averaged $12/ton. If silvicultural prescriptions require precommercial and commercial thinning with follow-up pile burning, total cost/acre treated may exceed $900 on small federal parcels. Average land treatment costs, considering treatment and handling of slash, is approximately $635/acre.

Additionally, within most federal land treatment areas, not all acres are involved. Therefore, costs to treat federal land areas are based on average treatment costs/acre, with a footprint covering 80 percent of the landscape.

Private land treatments within the WUI typically occur on small land parcels near power lines, structures, and other obstacles. In recent years the number of diseased, dying, and dead large trees on private lands has increased. In many cases cut trees and slash cannot be piled and burned or it is not the preferred slash treatment by a landowner of a small residential lot. Chipping or removal and transportation of slash to a disposal site increases costs of treatments. Treatments on private land parcels necessary to meet these recommendations have varied from less than $300/acre to over $1,900/acre and have averaged $1,200/acre. Costs-per-acre vary greatly for treatment of private parcels, depending on variables and landowner needs. Site analysis shows that land applications will be appropriate for no more than 60 percent of each acre. For example, within residential areas, homesites, streets, and other improvements are included with GIS-mapped estimates, but are areas not requiring treatment. Therefore cost/acre is modified at per-acre cost multiplied by 0.6.

The recovery cost of wood products from private parcels is comparable to that achieved with federal treatments; however, the treatment cost is much higher. Across all landscapes, the commercial value of the product removed will average less than 20 percent of the costs of effective treatment on federal parcels, and less than 15 percent of that with residential land treatments. Cost estimates for treatments in the WUI are based on these estimates for both federal and nonfederal land treatments.

It is recommended that private landowners who wish to adopt fuel modification plans other than those described in Table 4.2 be prepared or certified by a professional forester, a certified arborist, or other qualified individuals. Qualified individuals are provided at no cost to the homeowner through local fire departments, Arizona State Land Department Fire Management Office, and County Extension Agents. A fuel modification plan must identify the actions necessary to promote forest health and to help prevent the spread of fire to adjacent property by establishing and maintaining defensible space. The plan should include considerations for wildlife and for surface- and groundwater protection. The action identified by the fuel modification should be completed prior to development of the property.

A fuel modification plan shall include at least the following information:

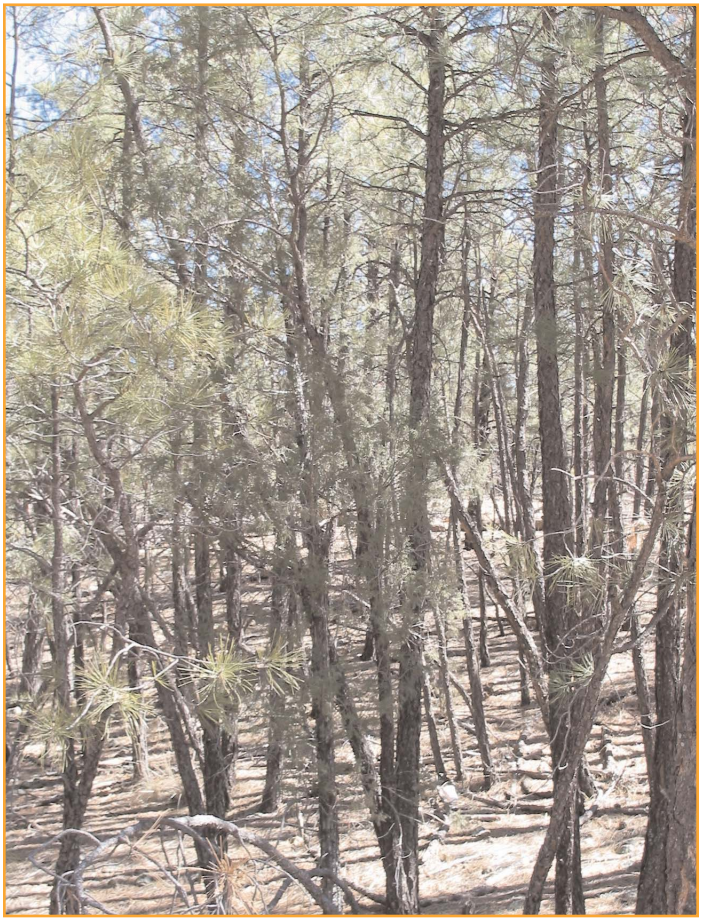
- A copy of the site plan
- Methods and timetables for controlling, changing, or modifying fuels on the property(-ies) in a timely and effective manner
- Elements of removal of slash, snags, and vegetation that may grow into overhead electrical lines; the removal of other ground fuels, ladder fuels, and diseased, dying, and dead trees; and the thinning of live trees.
- Methods and timetables for control and elimination of diseased and/or insect-infested vegetation
- A plan for the ongoing maintenance of the proposed fuel reduction and of control measures for disease and insect infestations
- When a grouping of parcels in multiple ownership is proposed to achieve compliance with this section, the proposed vegetation management plan will need to be accepted by all of the owners of the property covered by the plan

HFRA expedites administrative procedures for hazardous fuels reductions and restoration projects on federal lands. Regardless of priority treatments selected for federal lands, an environmental assessment must be conducted for forest health and fuel reduction projects. Although HFRA creates a streamlined and improved process for reviewing fuel reduction and restoration treatments, it still requires that appropriate environmental assessments be conducted and other collaborations be maintained. To meet conditions established within the Healthy Forest Initiative, the Departments of Agriculture and Interior adopted two new categorical exclusions from the normal review steps of an environmental assessment or of issuance of an environmental impact statement. These exclusions are for hazardous fuels reductions and for rehabilitation of resources and infrastructure damaged by wildfire. For a hazardous fuels reduction project on Forest Service lands to be categorically excluded from documentation of the results of an environmental assessment, the project must meet specific requirements:[3]

- It must have less than 4,500 acres to be treated, with mechanical slash treatment restricted to no more than 1,000 acres
- Its lands must be within Current Condition Class 2 or 3
- It must not be within a Wilderness or Wilderness Study Area
- It must not include use of pesticides, herbicides, or new road or infrastructure construction
- It may include sale of vegetative products if the primary purpose is to reduce hazardous fuels

For a project to be categorically excluded, its proposal must be satisfactorily reviewed to determine that no extraordinary circumstances exist. Section 104 of HFRA describes procedures for federal agencies to employ when they conclude that an environmental assessment must be prepared because of such extraordinary circumstances. Fuel reduction projects in these instances must comply with all land management plan requirements. For project proposals within the WUI, however, the A-S NFs is not required to analyze any alternative to the proposed action unless the at-risk community has adopted a CWPP and the proposed action does not implement the CWPP in terms of general location and treatment methods. If the proposed action does not implement a CWPP, the analysis must consider the CWPP proposal as an alternative to the proposed action. Conversely, if the proposed action does implement a CWPP, the action alternative could be the treatments described on the specific federal lands within the WUI of the CWPP.

For these reasons the communities within the SCWPP have strived to identify treatment areas where no extraordinary environmental circumstances exist and have recommended treatments that comply with the *Apache-Sitgreaves National Forests Plan*. Within federal land management areas where an environmental assessment shows no additional documentation is warranted, the priority areas identified for treatment within the SCWPP, and treatments recommended to meet fuel reduction or modification objectives, should be considered as the action alternative by A-S NFs.



Unhealthy forest located in WUI
Source: Logan Simpson Design Inc.

[3] see the *Forest Service Handbook*, 1909.15, Section 30.3

D. Prevention and Loss Mitigation

The SCWPP is intended to be used as a resource to assist in the coordination of long-term interagency mitigation of catastrophic wildfire events in the at-risk communities of the SNF. The communities in the SCWPP area agreed on six primary objectives for the SCWPP:

- improve fire prevention and suppression
- reduce hazardous forest fuels
- restore forest health
- promote community involvement
- recommended measures to reduce structural ignitability within the SCWPP area
- encourage economic development within the community.

The SCWPP should be periodically reviewed and updated as needed. Successful implementation of this plan will require a collaborative process among multiple layers of government as well as a broad range of special interests. Therefore, the communities within the SCWPP area have put forward the following action recommendations.

1. Improved Protection Capability and Reduction in Structural Ignitability

The risks of wildland fire igniting and spreading within the WUI has been seriously recognized by the communities. Fire departments and A-S NFs fire response crews' performance can be leveraged through combined responses. In the wake of a large fire or in the case of multiple fires, however, it may not be possible to protect every home and structure in the WUI. Community leaders as well as private landowners must take actions to reduce fire risks and promote effective responses to wildland fires. The following are recommendations to enhance protection capabilities within the SCWPP communities:

a) Provide decision-making data to the City of Show Low; Town of Pinetop-Lakeside; and Apache, Coconino, and Navajo Counties for use in adoption of a seamless tree policy. Such a policy would describe specific land standards that apply to trees and describe which conditions are acceptable and which are not. Such a tree policy within the WUI will depend on housing density and community values at risk, such as watersheds, archeological resources, recreational resources, wildlife, and grazing and timber resources. Local land use policies could include incentives for private landowners to address defensible space and fuels management on their properties and implement fire-sensitive land use planning and subdivision requirements. In addition, the City of Show Low; Town of Pinetop-Lakeside; and Apache, Coconino, and Navajo Counties propose to develop and refine jurisdictional agreements needed for seamless land treatment policies; development of ordinances and codes designed to reduce ignitability for both structural and wildland points of ignition; and application and administration of grants and programs needed to provide for oversight, management, and implementation of the SCWPP. Decision making will also include systems needed for evacuation, specific exigent circumstance mitigation, and fire-fighting resource distribution.

b) Enormous amounts of slash are generated through the thinning process. Treatment of the estimated 12 tons per acre of fuels that occur on lands within the WUI will require developing a process that allows landowners to remove and then transport slash to a disposal site. The removal of these fuels equates to vacant lands within the WUI containing approximately 60 cubic yards of biomass per acre in excess of that of treated residential lands. Untreated developed parcels will contain between 15 and 30 cubic yards of biomass per acre. The annual maintenance of treated parcels will generate as much as 15 cubic yards of such biomass per acre. The ability to handle this amount of biomass is, and will continue to, create a disposal problem for the residents of these communities. The communities recommend a county/city partnership to purchase and operate at least two industrial-sized chippers (consisting of a stationary grapple-feed and a portable manual-feed model) and a fluidized bed, air-curtain burner for incineration of slash to be located in the current slash disposal site in the town of Pinetop-Lakeside. The disposal site currently serves residents of Pinetop-Lakeside, Show Low, and Navajo County.

c) The communities recommend adoption of a consistent preparedness planning model, one that analyzes cost-effective fire protection within all administrative boundaries. In developing this model, county and local protection needs and resources must be considered. The model must produce refined, common reference and coordinated suppression efforts among fire districts, the A-S NFs and FAIR fire management and response departments.
d) The communities will develop and map specific areas of high risk. These maps will depict resource needs and specific fire-fighting descriptions that narrowly focus on suppressing fires occurring within the high-risk areas. For example, within a specific neighborhood, there might be residents identified with special needs—a nursing home or a campsite—that, for evacuation, would require notifying specialized personnel, or there might be a propane distribution center or other defined responses within the high-risk area. Additionally, specific subdivisions that currently have only one-way ingress/egress routes will be evaluated for evacuation and fire response.
e) With the A-S NFs, FAIR, the Arizona Department of Environmental Quality, and local fire departments, develop a Prescribed Fire Management Plan for the WUI. In addition, fire districts will enhance regulatory and control policies, such as open burning, campfires, smoking restrictions, and other use of fire within their boundaries and will enhance relationships with local law enforcement to ensure compliance with any regulations adopted.
f) Communities will incorporate trails and recreational areas and facilities into fire protection and response plans.
g) Provide additional comprehensive and frequent training for fire fighters. A-S NFs and the local fire districts will conduct a common training activity at least once a year prior to entry into fire season for the purpose of emphasizing tactics of WUI suppression and interagency coordination, such as the April 8, 2004, “tail board” exercise conducted at Lewis Canyon Campground. Communities will support Northland Pioneer College’s existing training programs such as the Fire Science and Emergency Medical Technology training programs. Continuing wildland/urban interface fire suppression training must be made available to volunteer and regular firefighters in each fire district.

2. Promote Community Involvement and Improved Public Education, Information, and Outreach

The communities within the SCWPP will develop and implement pubic outreach programs to help create an informed citizenry. The goal is to have residents support concepts of fire-safe landscaping and naturally functioning forest systems through restoration management and rapid response to wildland fire. The SCWPP is intended to be a long-term strategic instrument to address hazardous fuels and enhance forest health. To effectively achieve these goals, a grass roots collaborative structure of individual citizens, supported by local governments as full partners, will provide the most effective long-term means to maintain community momentum. The components of such a structure include the following recommendations:

a) Develop a uniform “land use code” to enhance wildfire management strategies on private land. The IGA signatories should adopt a “tree policy” standard. It is recommended that a public involvement process that meets public notice requirements of these participating governments be initiated throughout the SCWPP planning area. This public involvement process will derive, through overall community consensus, the seamless land use and structural codes and ordinances necessary to reduce ignitibility throughout the SCWPP communities.
b) Expand the use of current public information tools for fire-safe residential treatments as an immediate action step. This will be accomplished through information mailers to homeowners, presentations by local fire departments, and development of specific promotional materials.
c) Continue and enhance Northland Pioneer College’s offering of Defensible Landscaping and Forest Health Workshops, which demonstrate actions that can be used to protect home and property from wildland fire.
d) Develop a video presentation describing treatments a homeowner can undertake to reduce ignitibility, through both structural and land treatment improvements.
e) Develop an open-house approach to community education by conducting tours of both residences

that are fire-safe and of federal lands in the WUI that have been treated to meet Condition Class I standards.

f) The fire districts will each schedule a series of three community awareness seminars to inform and educate the citizenry regarding the need for fire-safe treatments of both public and private lands. These seminars will be scheduled annually to best accommodate year-round and part-time residents.

g) Fire department personnel will act as "goodwill ambassadors" by passing on wildland fire and residential preparedness information at community activities and events. Information will be made available in both printed and oral formats that explain the need for fire awareness and the benefits of preparing private property for potential fire ignition.

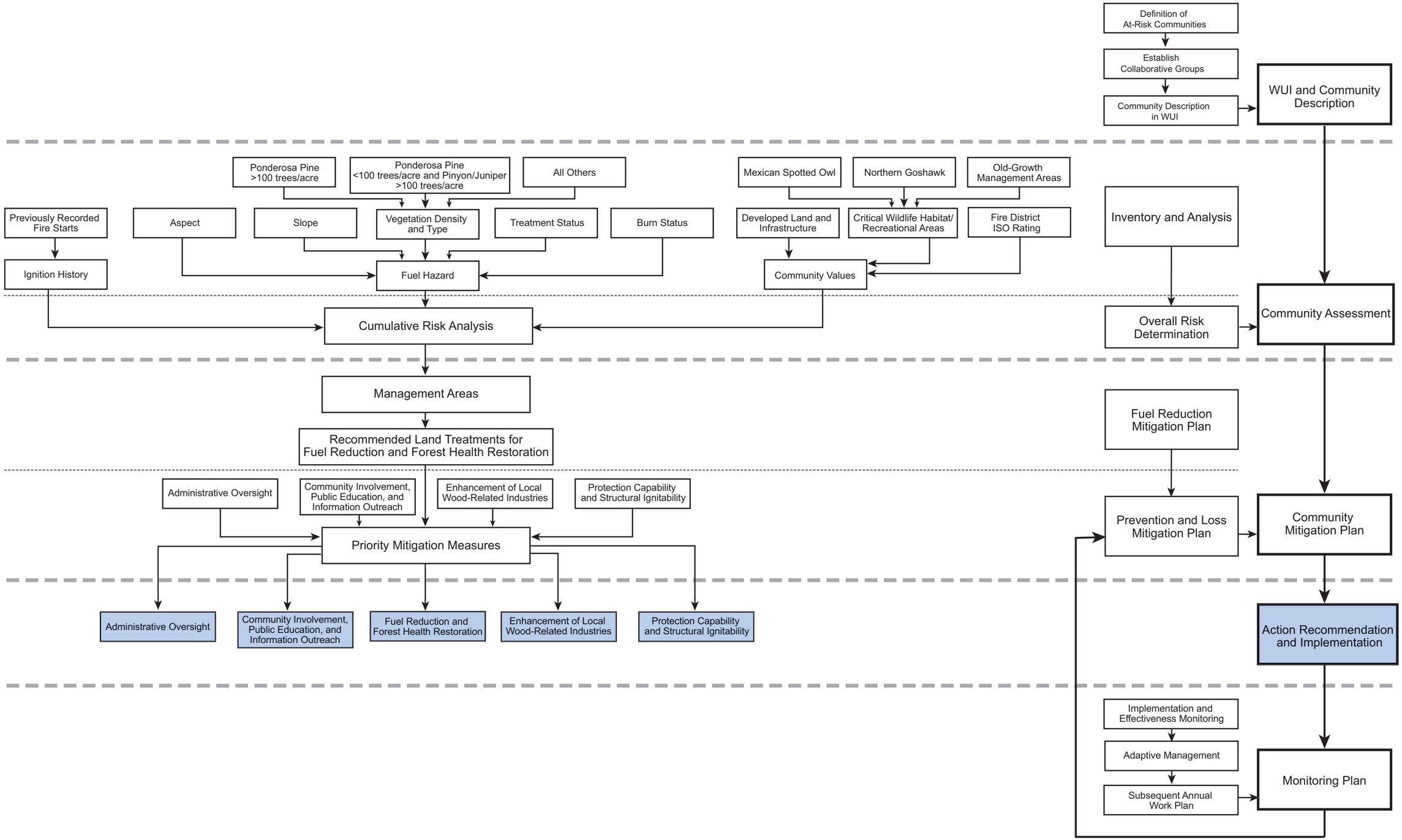
3. Enhance Local Wood Product-Related Industries

The SCWPP communities will continue to support and promote private contractors who perform fire-safe mitigation work. The communities will support new businesses or expansion of existing businesses involved in the fuel reduction market. The communities are committed to employing all appropriate means to stimulate industries that will utilize all size-classes of wood products resulting from hazardous-fuel reduction activities. Recommendations include:

a) Support and promote contractors who treat private land parcels.

b) Support the development of markets and industries that extract saleable material from fuel reduction management projects (e.g., biomass, pulpwood, firewood).

c) Support and promote the programs established and conducted by Northland Pioneer College in its Forest Worker Certification Program, which is designed to help loggers develop sound forest practices and diversify their skills. The SCWPP communities support a trained and ready work force for forest-related industries.


Definition of At-Risk Communities
Establish Collaborative Groups
Community Description in WUI
WUI and Community Description
Ponderosa Pine >100 trees/acre
Ponderosa Pine <100 trees/acre and Pinyon/Juniper >100 trees/acre
All Others
Mexican Spotted Owl
Northern Goshawk
Old-Growth Management Areas
Previously Recorded Fire Starts
Aspect
Slope
Vegetation Density and Type
Treatment Status
Burn Status
Developed Land and Infrastructure
Critical Wildlife Habitat/ Recreational Areas
Fire District ISO Rating
Inventory and Analysis
Ignition History
Fuel Hazard
Community Values
Cumulative Risk Analysis
Overall Risk Determination
Community Assessment
Management Areas
Recommended Land Treatments for Fuel Reduction and Forest Health Restoration
Fuel Reduction Mitigation Plan
Administrative Oversight
Community Involvement, Public Education, and Information Outreach
Enhancement of Local Wood-Related Industries
Protection Capability and Structural Ignitability
Prevention and Loss Mitigation Plan
Community Mitigation Plan
Priority Mitigation Measures
Administrative Oversight
Community Involvement, Public Education, and Information Outreach
Fuel Reduction and Forest Health Restoration
Enhancement of Local Wood-Related Industries
Protection Capability and Structural Ignitability
Action Recommendation and Implementation
Implementation and Effectiveness Monitoring
Adaptive Management
Subsequent Annual Work Plan
Monitoring Plan

V. CWPP PRIORITIES: ACTION RECOMMENDATIONS AND IMPLEMENTATION

The SCWPP communities have developed action recommendations (Section 4) necessary to meet the plan's objectives. A precise set of land management prescriptions has been adopted for fuel reduction treatments and restoration of forest health on both federal and nonfederal lands. A series of recommendations that will reduce structural ignitibility and improve fire prevention and suppression has been developed. The SCWPP expresses support from all participating communities for the local wood products industries and local wood products contractors. A unified effort to implement this collaborative plan requires timely decision making at all levels of government. The plan now must be strategically implemented to ensure that 1) action is taken on the highest-priority recommendations and 2) communities can handle the logistical demands of meeting the goals of each recommendation. There must be accountability for measuring and monitoring performance and outcomes of each action recommendation. As the Community Forester monitors the implementation of each action recommendation and informs the SCWPP communities, they will adaptively adjust their annual action recommendations accordingly.

To meet SCWPP objectives for fiscal year 2004/05, the CAGs developed and prioritized the following action recommendations. At the end of the fiscal year, the projects that resulted from these action recommendations will be assessed for effectiveness in terms of meeting SCWPP objectives. For the life of the SCWPP, recommendations for projects will be made for each coming fiscal year based on project success in the prior fiscal year.

A. Administrative Oversight

As stated previously, the communities concur that the most efficient way of implementing the SCWPP action recommendations is through formal agreement to delegate accountability to a single entity. Establishing a unified effort to collaboratively implement the SCWPP embraces adaptive management principles that enhance decision making at all levels of government. Therefore, creation of the Community Forester position is the primary action recommendation of the SCWPP communities. The IGA signatories will establish this position and request HFRA grant funds through the USDA Forest Service and the Arizona State Forester to provide an annual salary of an estimated $40,000 and benefits worth 30 percent of that, while covering $12,000 in mileage and other expenses. The IGA signatories would be willing to consider augmenting the HFRA funding for the Community Forester if necessary to meet SCWPP objectives.

B. Priorities for Reduction of Hazardous Fuels and Forest Health Restoration

Table 5.1 displays the priority treatment areas and projects recommended by the SCWPP communities for fiscal year 2004/05. These action recommendations will decrease vegetative fuels and thereby reduce wildfire intensity and potential impact to the communities, the surrounding forests, and FAIR lands. All projects recommended have "high" valuations for reducing risk.

Table 5.1 Action recommendations for reduction of hazardous fuels

Treatment management area	Location and description	RT[a]	Project partners	Treatment costs
Show Low (S1)	Includes Show Low and some of the surrounding SNF lands. FAIR will conduct fuel reduction thinning on 15,000 acres.	1–2	Show Low	federal, 5,072 acres: $2,576,576/ $515,315 annually nonfederal, 11,961acres: $8,611,920/ $1,722,384 annually
Pinetop-Lakeside (PL1)	Includes Pinetop-Lakeside and some of the surrounding SNF lands. FAIR will conduct fuel reduction thinning on 25,000 acres.	1–3	Pinetop-Lakeside	federal, 8,978 acres: $4,560,824/ $912,164 annually nonfederal, 10,125 acres: $7,290,000/ $1,458,000 annually
Heber-Overgaard (HO1)	Includes the community of Linden, on both private and federal lands	1–3, 5, and 6	Navajo County	federal, 2,302 acres: $1,169,416/ $233,883 annually nonfederal, 7,949 acres $5,732,280/ $1,144,656 annually
Forest Lakes (F1)	Includes the community of Forest Lakes and federal land to the south and northeast	1–2	Coconino County	federal, 2,390 acres: $1,214,120/ $242,824 annually nonfederal, 1,135 acres: $817,200/ $163,440 annually
Clay Springs/ Pinedale (CP2)	Communities of Clay Springs and Pinedale	1–3, 5, and 6	Navajo County Clay Springs/ Pinedale	federal, 2,451 acres: $1,245,108/ $24,902 annually nonfederal, 2,707 acres: $1,949,040/ $389,808 annually
Linden (L1)	Includes private land within the community of Linden. FAIR fuel reduction thinning on S1 will assist in community protection.	1–2, and 4	Navajo County	federal, 714 acres: $362,712/$72,542 annually nonfederal, 6,145 acres: $4,424,400/ $684,880 annually
Vernon (V1)	Includes the community of Vernon, on federal, state, and private lands	1–6	Apache County	federal, 2,021 acres: $1,026,668/$205,336 annually nonfederal, 7,650 acres: $5,508,000/ $1,101,600 annually
Aripine (A1)	Includes the private developed lands of Aripine	1–2	Navajo County	federal, 202 acres: $102,616/ $20,523 annually nonfederal, 1,095 acres: 788,400/ $157,680 annually

[a] recommended treatment—see Table 4.2; treatments all begin in fiscal year 2004/05 and end in fiscal year 2009/10

Table 5.2 Action recommendations for wildland fire protection and reduced ignitibility

Partners	Project	Equipment/expenses	Timeline
Show Low, Pinetop-Lakeside, Navajo County	Purchase and operate: ❖ at least two industrial-sized chippers: one stationary, grapple-feed model and one portable, manual-feed model ❖ one portable, refractory, self-contained diesel air curtain burner.	❖ air curtain burner, (AirBurner, LLC, Model S-121): $94,727 ❖ stationary chipper with grapple-feed: $115,000 ❖ portable manual-feed chipper: $25,000	Acquire for use in 2004/05 Operate annually
Show Low; Pinetop-Lakeside; and Apache, Coconino, and Navajo Counties	Initiate a public involvement program in all SCWPP communities to develop an integrated, consistent, land use code based on the recommended tree policy as adopted by Navajo County and the City of Show Low.	Public involvement program materials and meeting facilitation: $120,000 Technical assistance code and ordinance development: $45,000	Begin, 2004 End, 2006
Show Low; Pinetop-Lakeside; Navajo, Apache, and Coconino Counties	Develop and implement a comprehensive emergency response plan.	Risk assessment by specific community areas: $45,000 Technical assistance: $20,000	Begin, 2004 End, 2005

C. Priorities for Protection Capability and Reducing Structural Ignitibility Fiscal Year 2004/05

The communities within the CWPP area will evaluate, maintain, and where necessary, upgrade community wildfire preparation and response facilities, capabilities, and equipment. Table 5.2 lists the priority action recommendations for fiscal year 2004/05.

D. Priorities for Promoting Community Involvement Through Education, Information, and Outreach

The SCWPP communities will implement public outreach and education programs for residents and casual forest and community visitors alike to heighten awareness and understanding of the threats and other issues that wildland fire and forest disease pose to the White Mountains. Table 5.3 displays the SCWPP communities' priority recommendations to promote community involvement. Northland Pioneer College (NPC) supports public education of wildland fire danger and preparedness within the SCWPP through existing programs such as Fire Science, Defensible Landscaping and Forest Health Workshops. Additional programs that could be developed to enhance community outreach and education include:

- Communication liaison to notify NPC of educational opportunities and needs.
- Liaison with NPC Community Business Services to identify community outreach and education needs.
- Establish a means for requiring forest workers to attain "best practices" through a formalized education or certification approach.

Table 5.3 Action recommendations for enhanced public education, information, and outreach

Partners	Project	Equipment/expenses	Timeline
Show Low; Pinetop-Lakeside; Apache, Coconino, and Navajo Counties	Create and distribute a series of free video tapes for WUI residents to encourage compliance with land use codes and community tree policies.	Script preparation and production costs: $25,000 Video duplication and distribution costs: $10,000	Develop for use in 2004/05 Distribute continually
Show Low; Pinetop-Lakeside; and Apache, Coconino, and Navajo Counties	Initiate open-house tours of treated private and federal lands; complete 12 tours (one per month or to ensure that all new property buyers will have opportunity to participate) consisting of 20 participants each.	Vehicle rental and technical assistance for tour sponsorship, areas, and outreach; "take-home" materials: $45,000 annually	Begin, 2004 conduct continuously

E. Priorities for Enhancing Local Wood Product-Related Industry

The SCWPP communities will continue to support and promote private contractors who perform fire-safe mitigation work (e.g., fuel hazard reduction). The communities will also support and seek opportunities for local contractors to start new businesses or to expand existing businesses in the fire prevention/fuels reduction arena.

In cooperation with the IGA signatories, Northland Pioneer College will—beginning with fiscal year 2004/05—develop an annual curriculum for its "Forest Worker Certification" program. Estimated expenses:

- one-time (2004) course preparation and production costs: $25,000
- classroom rental and materials costs: $10,000 annually
- instructor costs: $20,000 annually

F. Requested Funding for Fiscal Year 2004/05

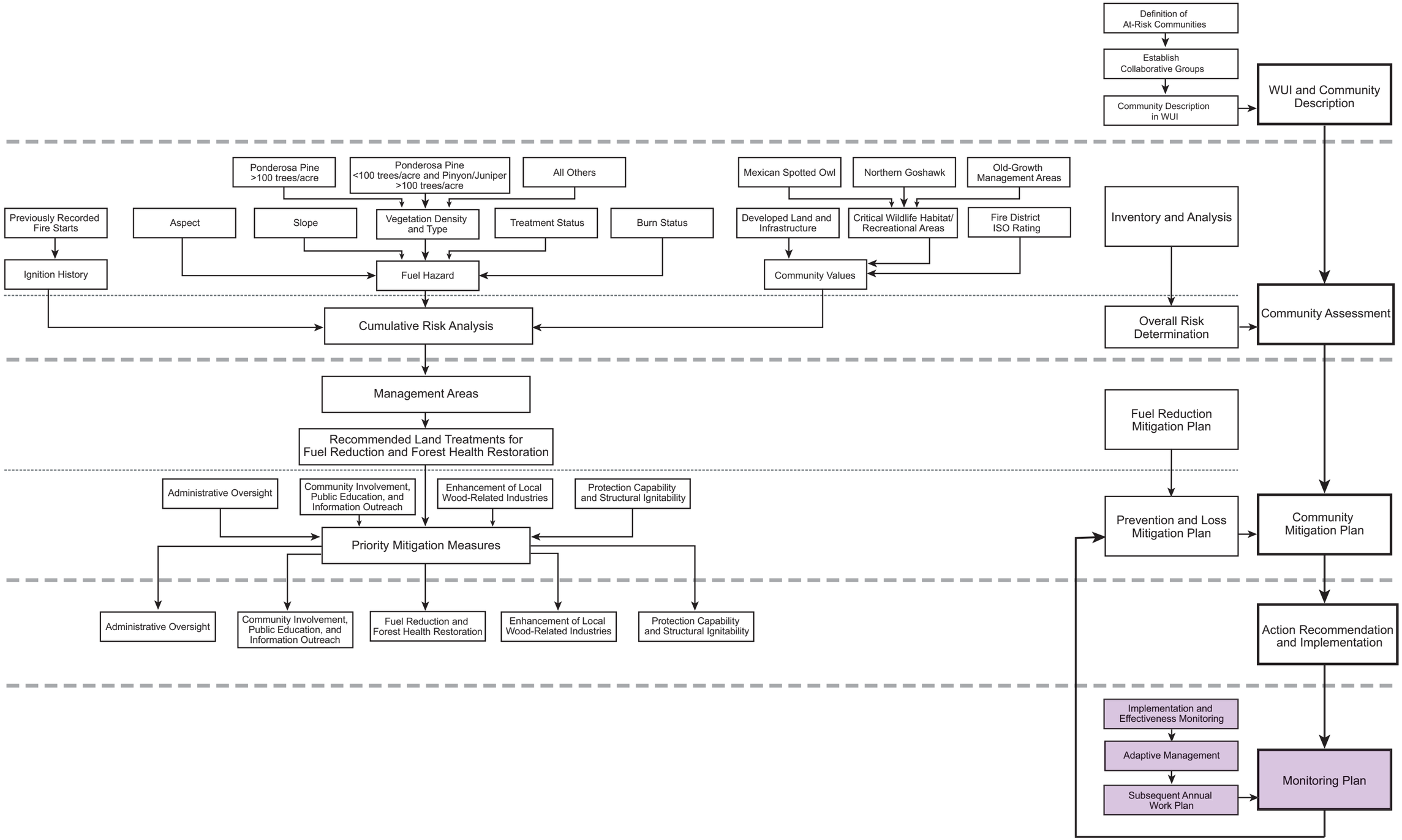
Table 5.4 summarizes the total fiscal year 2004/05 costs to launch the SCWPP action recommendations.

The Table 5.4 budget includes the following considerations:

- An expedited environmental assessment process, according to HFRA stipulations, is used for compliance with Forest Service requirements.
- Estimates of possible forest product and slash production and of treatment/prescription costs are based on federal and nonfederal land assessments/calculations.
- The SCWPP communities support development of local forest product industries.
- Site-specific treatment areas and requirements for implementing "special circumstance" treatments are identified.
- Recommended public involvement processes (e.g., adoption of codes and ordinances) have associated costs and time requirements.
- Establish Community Forester for administrative oversight of the SCWPP.

Table 5.4 Fiscal year 2004/05 budget

SCWPP objectives	Costs: State Forester	Costs: Forest Service
Administrative oversight		
Establishment of Community Forester	32,000	32,000
Reduction of fuel hazards		
Show Low (S1)	1,722,384	515,315
Pinetop-Lakeside (PL1)	1,458,000	912,164
Heber-Overgaard (HO1)	1,144,656	233,883
Forest Lakes (F1)	163,440	242,824
Clay Springs/Pinedale (CP2)	389,808	24,902
Linden (L1)	684,880	72,542
Vernon (V1)	101,600	205,336
Aripine (A1)	157,680	20,523
Wildland fire protection and reduced ignitability		
Equipment purchase	117,363	117,363
Public Involvement process for tree policy and structural code development	82,500	82,500
Emergency Response Plan development	65,000	1,000
Public education, information, and outreach		
Video description of compliant private lands	17,500	17,500
Public tours of treated private and federal lands	22,500	22,500
Enhancement of local wood product industries		
Forest worker curriculum	27,500	27,500
Total requested FY 2004/05 funds	$6,190,800	$2,531,850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Community Description in WUI
WUI and Community Description
Ponderosa Pine >100 trees/acre
Ponderosa Pine <100 trees/acre and Pinyon/Juniper >100 trees/acre
All Others
Mexican Spotted Owl
Northern Goshawk
Old-Growth Management Areas
Previously Recorded Fire Starts
Aspect
Slope
Vegetation Density and Type
Treatment Status
Burn Status
Developed Land and Infrastructure
Critical Wildlife Habitat/ Recreational Areas
Fire District ISO Rating
Inventory and Analysis
Ignition History
Fuel Hazard
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Cumulative Risk Analysis
Overall Risk Determination
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VI. MONITORING PLAN

Monitoring is essential to ensure that SCWPP goals are met. Show Low, Pinetop-Lakeside, and the three participating Counties will actively monitor the progress of the SCWPP's action recommendations and base recommendations for future projects on the effectiveness of the ongoing and completed projects in meeting SCWPP objectives.

In accordance with §102.g.5. of HFRA, the SCWPP communities will participate in multiparty monitoring to assess progress toward meeting SCWPP objectives. This authority will be vested in the Community Forester, a position establish as a product of the IGA. The SCWPP communities believe that participation in multiparty monitoring—associated with the pending White Mountain Stewardship Program and with the National Forest County Partnership Restoration Program—will provide effective and meaningful ecological and socioeconomic feedback on landscape and community fuel reduction projects in the SNF.

This section details the performance measures that will be used to assess the effectiveness of SCWPP projects. Monitoring will include assessing and evaluating both the success of individual SCWPP project implementation and of a given project's effectiveness in furthering SCWPP objectives.

A. Administrative Oversight, Monitoring, and SCWPP Reporting

The Community Forester will be responsible for implementing and monitoring the SCWPP action recommendations. At the end of each year's fire season, the Community Forester will produce an annual report detailing the success of SCWPP project implementation and overall progress toward meeting SCWPP goals. In each annual report, the Community Forester will review and make recommendations to the signatories to update the Community Mitigation Plan and the Prevention and Loss Mitigation Plan portions of the SCWPP. This information will ensure timely decision making for all levels of government, providing input necessary for the development of the next year's work plan and for prioritizing project recommendations both annually and for the next 5 years. The Community Forester will present the annual work plan to the IGA signatories for their approval and submission to the State Forester and the Forest Service for funding through HFRA.

B. Effectiveness Monitoring

Table 6.1 shows the performance measures the Community Forester will use to assess SCWPP performance against goals for the first fiscal year.

Table 6.1 Performance measures to assess SCWPP progress

Goal	Performance Measure
Improve fire prevention and suppression	Reduced wildland fire occurrence and acres burned (unplanned) within the WUI: ❖ City/County Partnership has purchased and placed into service the requisite chippers and the air curtain burner ❖ SCWPP communities have developed land use codes consistent in terms of land treatments and structural codes ❖ Effectiveness monitoring of fire prevention and suppression will include: - acres burned, degree of severity of wildland fire - percentage of wildland fire controlled on initial attack - number of homes and structures lost to wildland fire
Reduce hazardous forest fuels	High-risk areas effectively treated, by acre: ❖ Number of treated acres of nonfederal WUI lands that are in Condition Class 2 or 3, are identified as high-priority by the SCWPP communities, and are moved to Condition Class 1 ❖ Number of treated acres of federal WUI lands that are within Condition Class 2 or 3, are identified as high priority by the SCWPP communities, and are moved to Condition Class 1 ❖ Total acres treated through any fuel reduction measures, including prescribed fire, that are conducted within the WUI
Restore forest health	Acres of fuel reduction treatments that meet restoration treatment guidelines for federal lands.
Promote community involvement	Community outreach programs initiated: ❖ Percentage of at-risk communities that have initiated a public outreach program and promoted volunteer efforts to reduce hazardous fuels ❖ Number of communities supportive of public involvement process necessary to effect a seamless tree policy among local governments ❖ Number of communities that have developed and implemented evacuation plans for identified high-risk areas ❖ Curriculum enrollment in NPC courses
Reduce structural ignitibility	IGA signatories have developed consistent land use and structural codes and ordinances that effectively address ignitibility issues.
Encourage economic development	Wood products industry growth and diversification to utilize all size of material removed from fuel reduction treatments: ❖ Number of jobs in forest restoration sector retained and number added ❖ Number of value-added wood products developed by local industries ❖ Number of wood products-related industries added to local economy ❖ Number of new markets for local products created ❖ Number of technical assistance programs initiated to promote commercial uses for all size classes and diameters of wood products materials ❖ Growth in the number of trained and certified forest industry workers employed locally ❖ Requirement of forest workers to achieve “best practices” through formalized education

VII. DECLARATION OF AGREEMENT AND CONCURRENCE

The following partners in the development of this Community Wildfire Protection Plan have reviewed and do mutually agree or concur with its contents:

Agreement

6-16-04
David Brown, Chairman, Apache County Board of Supervisors — Date: 6-16-04

Matt Ryan, Chairman, Coconino County Board of Supervisors — Date: 060304

J. R. DeSpain, Chairman, Navajo County Board of Supervisors — Date: 5/20/04

Larry Vicario, Mayor, Town of Pinetop-Lakeside — Date: 6/17/04

Gene Kelley, Mayor, City of Show Low — Date: 5-19-04

Paul Watson, Chief, Pinetop Fire Department — Date: 5-25-04

Roger Miner, Chief, Lakeside Fire Department — Date: 5-25-04

Ben Owens, Chief, Show Low Fire Department — Date: 6-8-04

Marilyn Price, Chief, Linden Fire Department — Date: 6-9-04

Robert Garvin, Chief, Clay Springs-Pinedale Fire Department — Date: 6-9-04

Jack Ingraham, Chief, Heber-Overgaard Fire Department — Date: 6-9-04

Charles McGee, Chief, Forest Lakes Fire Department — Date: 6-9-04

Paul D. Kuehl, Chief, White Mountain Apache Tribe, Fire and Rescue — Date: 6/3/04

Concurrence

Elaine Zieroth, Forest Supervisor,
Apache-Sitgreaves National Forests — Date: 6/28/04

Kirk Rowdabaugh, Deputy State Forester, Arizona State Land Department,
Fire Management Division — Date: 6/22/04

Ben Nuvamsa, Superintendent, Bureau of Indian Affairs,
Fort Apache Agency — Date: 5/25/04

Dallas Massey, Chairman,
White Mountain Apache Tribe — Date: 6-3-04

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