



# **Yavapai Communities Wildfire Protection Plan**

**February 2005  
Version 2**

---

*A Collaborative Communities Effort  
Directed and Monitored by*

**Interagency Fire and Emergency Management Group  
Of The  
Prescott Area Wildland/Urban Interface Commission**

## **Executive Summary**

This Yavapai Communities Wildfire Protection Plan (YCWPP) formalizes and expands the coverage of the Prescott Area collaborative, community wildfire fuel reduction and citizen awareness programs that have been initiated and are underway.

In 1990, the Yavapai County Board of Supervisors and the Prescott Mayor and City Council passed a joint resolution forming the Prescott Area Wildland/Urban Interface Commission (PAWUIC). This Commission is a collaborative group of volunteer citizens and cooperating agencies – USDA Forest Service, Arizona State Land Department, Yavapai County Emergency Management, City of Prescott Fire Department, Central Yavapai County Fire District, Groom Creek Fire District, and Yavapai-Prescott Indian Tribe – with the mission of identifying, developing, and implementing wildland/urban interface defensible space and citizen fire safety awareness programs for “at risk” communities in the Prescott Area.

Since its inception, the members of PAWUIC have conducted: annual fire awareness Town Hall meetings, the Prescott National Forest Service has implemented prescribed burns and wildland urban interface (WUI) fuel reduction projects and the Arizona State Land Department has implemented the Government Canyon Wildland Management Project. National Fire Plan matching grants have been used for performing residential defensible space projects and community wildfire awareness education.

Photo 1 - Prescribed Burn behind Thumb Butte.



The Interagency Fire and Emergency Management Group (IFEMG) is a committee within PAWUIC. The IFEMG has the responsibility for the development and implementation of the YCWPP. Members of this Group include representatives from Prescott National Forest Fire Management, Arizona State Land Department Fire Management, Yavapai County Emergency Management, PAWUIC, and five Fire Districts/Departments in the Prescott Area. Community Wildfire Protection Planning and Implementation has been actively in progress in the Prescott Basin through this Group.

The IFEMG members defined the YCWPP boundaries by analysis of the contiguous hazardous fuel and combustible vegetation conditions and “at risk” communities surrounding the Prescott Basin, which is located in Central Arizona (Map: 1). The YCWPP boundaries were expanded beyond the Prescott Basin area and the IFEMG members increased to a total of thirteen Fire organizations (Department/District/Volunteer) and BLM representation. This expanded the coverage of the YCWPP to include over 960 thousand acres and over 100 communities/neighborhoods/camps with an assessed value of over 6.6 billion dollars. (See Appendix 1 and Map 2).

Seven Management Areas have been identified within the Plan Boundaries. (App: 2 and Map: 3). These Management Areas will facilitate the risk assessments and prioritizing of “at risk” mitigation projects. The Yavapai County Assessor’s and GIS Office have mapped each community/neighborhood/ camp identified. Risk assessments for each of these areas are being performed.

The Healthy Forest Restoration Act of 2003 (Ref: 1) directed that community wildfire protection plans needed to be developed for at-risk communities. As minimum requirements, these plans need to include:

- Collaboration – A CWPP must be developed “within the context of the collaborative agreements and the guidance established by the Wildland Fire Leadership Council and agreed to by the applicable local government, local fire department, and State agency responsible for forest management, in consultation with interested parties and the Federal land management agencies managing land in the vicinity;
- Prioritized Fuel Reduction – A CWPP must identify and prioritize areas for hazardous fuel reduction treatments and recommend the types and methods of treatment on Federal and non-Federal land that will protect an at-risk community or its essential infrastructure;
- Structural Ignitability – A CWPP must recommend measures to reduce the ignitability of structures throughout the at-risk community.

This YCWPP addresses all of these requirements. Other CWPPs and guidelines (Ref: 2 and 3) were reviewed and used in the development of this Plan. This is an ongoing, continuously changing Plan with the formation of an Administrative Oversight Committee within PAWUIC to manage the implementation of the Plan to revise it as accomplishments allow and new conditions dictate. As the sponsoring organization PAWUIC will seek public and private funding to assist member communities and Fire Districts to accomplish their priorities for wildfire risk reduction and citizen safety.

Version 2



United States  
Department of  
Agriculture

Forest  
Service

Prescott National Forest

344 South Cortez  
Prescott, AZ 86303  
Phone: (928) 443-8000  
Fax: (928) 443-8008  
TTY: (928) 443-8001

File Code: 1560

Date: **DEC 03 2004**

Mr. Al Bates,  
Chairman  
Prescott Area Wildland/Urban Interface Commission  
c/o Prescott Fire Department  
1700 Iron Springs Road  
Prescott, AZ 86305

Dear Al,

Congratulations on the development and completion of the Yavapai Communities Wildfire Protection Plan (YCWPP). The Prescott Area Wildland/Urban Interface Commission (PAWUIC) continues its leadership in Yavapai County and Arizona by promoting firewise concepts, interagency cooperation, citizen education and involvement and biomass utilization. This strategic community wildfire protection plan represents a comprehensive and collaborative effort to protect affected communities from catastrophic wildfire, as described in the Healthy Forests Restoration Act of 2003 (HR 1904). The YCWPP takes us a major step forward to achieving and maintaining defensible space and healthier forests.

The Prescott National Forest endorses the YCWPP wholeheartedly and looks forward to implementing it with PAWUIC and our interagency partners. We are pleased that the financial and technical support provided by the Forest Service to PAWUIC has resulted in this outstanding effort.

Sincerely,

MICHAEL R. KING  
Forest Supervisor Prescott National Forest



Caring for the Land and Serving People

Printed on Recycled Paper



# YAVAPAI COUNTY BOARD OF SUPERVISORS

GERAL BROWNLOW  
District 1  
[dawn.wasowicz@co.yavapai.az.us](mailto:dawn.wasowicz@co.yavapai.az.us)

LORNA STREET  
District 2  
[lorna.street@co.yavapai.az.us](mailto:lorna.street@co.yavapai.az.us)

A.G. "CHIP" DAVIS  
District 3  
[chip.davis@co.yavapai.az.us](mailto:chip.davis@co.yavapai.az.us)

1015 FAIR STREET  
PRESCOTT, ARIZONA 86305  
PHONE: (928) 771-3200  
FAX: (928) 771-3257  
TDD: (928) 771-3530  
[www.co.yavapai.az.us](http://www.co.yavapai.az.us)

JAMES M. HOLST  
County Administrator  
[jim.holst@co.yavapai.az.us](mailto:jim.holst@co.yavapai.az.us)

DAVID S. HUNT  
Board Counsel  
[dave.hunt@co.yavapai.az.us](mailto:dave.hunt@co.yavapai.az.us)

BEV STADDON  
Clerk of the Board  
[bev.staddon@co.yavapai.az.us](mailto:bev.staddon@co.yavapai.az.us)



December 6, 2004

Al Bates, Chairman  
Prescott Area Wildland Interface Commission  
% Prescott Fire Department  
1700 Iron Springs Road  
Prescott, AZ 86305

The Yavapai County Board of Supervisors strongly endorses the Yavapai Communities Wildfire Protection Plan and commends PAWUIC for taking the lead in developing this Plan. The primary goal of the Plan, "Reduction of fuels and wildfire risk to life and property" are the exact remedies requiring application to avoid the occurrence of a catastrophic wildfire event.

The Board of Supervisors tasks PAWUIC with the responsibilities for implementation of the Yavapai Communities Wildfire Protection Plan. The Plan is indicative of the advanced level of partnership, communications, and collaboration that exists between PAWUIC and members of the Basin Fire Management Agencies. These collaborating agencies commitment to the mitigation of the wildfire hazard is exemplary, continually considering the welfare of the forest and of the community.

The Board of Supervisors extends our cooperation and support to the implementation of this Plan.

Sincerely,

  
A.G. "Chip" Davis  
Chairman, Board of Supervisors

To reach County Offices toll-free from the following areas, call:

Ash Fork .....637-2390  
Bagdad .....633-2169

Seligman .....422-3426  
Yarnell .....427-3895

Verde Valley .....639-8100  
Black Canyon .....495-8800

**CITY OF PRESCOTT**  
P.O. Box 2059  
Prescott, AZ 86302  
928-777-1270  
Mayor Rowle P. Simmons



Councilman Bob Bell  
Councilman Steve Blair  
Councilman Jim Lamerson  
Councilman Bob Roecker  
Councilman John Steward  
Councilwoman Mary Ann Suttles

December 7, 2004

Al Bates  
Chairman  
Prescott Area Wildland Interface Commission  
c/o Prescott Fire Department  
1700 Iron Springs Road  
Prescott, AZ 86305

The Prescott Mayor and City Council strongly endorses the Yavapai Communities Wildfire Protection Plan and commends PAWUIC for taking the lead in developing this Plan. The primary goal of the Plan, "Reduction of fuels and wildfire risk to life and property" are the exact remedies requiring application to avoid the occurrence of a catastrophic wildfire event.

The PAWUIC is tasked with the responsibilities for implementation of the Yavapai Communities Wildfire Protection Plan. The Plan is indicative of the advanced level of partnership, communication, and collaboration that exists between PAWUIC and members of the Basin Fire Management Agencies. These collaborating agencies commitment to the mitigation of the wildfire hazard is exemplary, continually considering the welfare of the forest and of the community.

The Prescott Mayor and City Council extends the cooperation and support of our City's agencies, especially the Prescott Fire Department, to the implementation of this Plan.

Sincerely,

A handwritten signature in black ink, appearing to read "Rowle P. Simmons", is written over a faint, larger version of the same signature.

Rowle P. Simmons, Mayor



## United States Department of the Interior

### BUREAU OF LAND MANAGEMENT

Phoenix Field Office  
21605 North 7th Avenue  
Phoenix, AZ 85027

In reply refer to:  
(210)

December 9, 2004

Mr. Kenneth Iversen  
Chairman-Elect  
Prescott Area Wildland/Urban Interface Commission  
141 Juniper Ridge Drive  
Prescott, Arizona 86301

Dear Mr. Iversen:

Thank you for your December 9, 2004 visit. I appreciate the tremendous effort that has brought Prescott Area Wildland/Urban Interface Commission (PAWUIC) to this point. The Bureau of Land Management Phoenix Field Office is pleased to endorse the Yavapai Communities Wildfire Protection Plan (Plan). We commend you for taking the lead in its development. You have produced a plan that is practical and implementable.

I would like to recognize the PAWUIC and the members of the Interagency Fire and Emergency Management Group for your commitment to the mitigation of wildfire hazard. This effort is essential for the welfare of communities and the landscapes that surround them. The advanced level of partnership, communication and collaboration that has been demonstrated thus far ensures the ultimate success of the Plan.

We look forward to working with you and other cooperators to meet the primary goal of the Plan; "Reduction of fuels and wildfire risk to life and property."

Please contact me at 623-580-5500 if I can be of any assistance.

Sincerely,

Teresa A. Raml  
Field Manager



PRESCOTT AREA WILDLAND URBAN INTERFACE COMMISSION

YAVAPAI COMMUNITIES WILDFIRE PROTECTION PLAN

Signatures

By [Signature]  
STATE FORESTER

Date: 12/20, 2004

By [Signature]  
Chairman, Prescott Area Wildland  
Urban Interface Commission

Date: \_\_\_\_\_, 2004

By [Signature]  
Chief, Central Yavapai Fire District

Date: 12-9, 2004

By \_\_\_\_\_  
Chief, Cherry Volunteer Fire District

Date: \_\_\_\_\_, 2004

By [Signature]  
Chief, Chino Valley Fire District

Date: 12-20, 2004

By [Signature]  
Chief, Crown King Fire Department

Date: 12/14, 2004

By [Signature]  
Chief, Groom Creek Fire District

Date: 12/13/1, 2004

By [Signature]  
Chief, Mayer Fire District

Date: 12-14, 2004

By [Signature]  
Chief, Peoples Valley Volunteer Fire

Date: 12/10, 2004

By [Signature]  
Chief, Prescott Fire Department

Date: 12/9, 2004

- Signatures Continued on next page -

Prescott Area Wildland Urban Interface Commission

Yavapai Communities Wildfire Protection Plan

Version 1

Signature Page

By Bill Walker  
Chief, Skull Valley Fire Team #4

Date: 12/16, 2004

By [Signature]  
Chief, Walker Fire Protection Association

Date: 12/13, 2004

By [Signature]  
Chief, Yarnell Fire District

Date: 12/16/04, 2004

By [Signature] FOR  
Chief, Southern Yavapai Volunteer  
Fire Department

Date: 12-13, 2004

By [Signature]  
Chief, Williamson Valley Volunteer  
Fire Department

Date: 12-20, 2004

---

Prescott Area Wildland Urban Interface Commission

Yavapai Communities Wildfire Protection Plan

Version 1

Signature Page

# TABLE OF CONTENTS

Executive Summary	i-ix
Table of Contents	x-xi
<b>1. Introduction</b>	
1.1 Goals and Objectives	1-1
1.2 Background and History	1-2
1.3 Wildland-Urban Interface and Planning Area Boundaries	1-3
1.4 Fire Policies and Programs	1-4
<b>2. Planning Process</b>	
2.1 Methodology	2-1
2.2 Partners and Committees	2-2
2.3 Collaboration and Community Outreach	2-3
2.4 County Mapping Assistance	2-4
<b>3.0 Community Identification and Description</b>	
3.1 Planning Area Demographics	3-1
3.2 Topography and Ecosystem Characteristics	3-2
3.3 Socio-Economic Trends	3-3
3.4 Growth Projections	3-4
<b>4.0 Risk Assessment</b>	
4.1 Fire Regime and Condition Class	4-1
4.2 Fuel Hazards	4-5
4.3 Risk of Ignition and Wildfire Occurrence	4-6
4.4 Community Values at Risk	4-7
4.5 Infrastructure Protection Capabilities and Community Preparedness	4-8
<b>5.0 Emergency Management</b>	
5.1 IFEMG Goals	5-2
5.2 Programs, Projects and Activities	5-2

5.3 Evacuations	5-3
5.4 Grants	5-4
5.5 Exercises	5-6
5.6 Action Items	5-7
<b>6.0 Mitigation Plans</b>	
6.1 Administrative Oversight	6-1
6.2 Strategy for Fuel Hazard Reduction	6-1
6.3 Fuel Reduction and Fire Loss Mitigation	6-3
6.4 Economic Utilization Planning	6-5
6.5 Education and Community Outreach	6-7
<b>7.0 Implementation and Monitoring</b>	
7.1 Community Mitigation Priorities	7-1
7.2 Roles and Responsibilities	7-3
7.3 Plan Reviews and Adoption	7-4
7.4 Funding Needs and Timelines	7-4
7.5 Implementation Process	7-6
7.6 Monitoring and Evaluations	7-7
7.7 Change Management – Plan and Priority Updates	7-8
<b>8.0 Glossary of Terms</b>	
8.1 Glossary of Terms	8-1
8.2 Definitions and Abbreviations	8-8
8.3 References	8-8
8.4 Photos	8-9
<b>9.0 Maps</b>	9-1
<b>10.0 Appendices</b>	10-1

# **1 Introduction**

## **1.1. Goals and Objectives.**

This Yavapai Communities Wildfire Protection Plan (YCWPP) has been developed, within the guidelines of the Healthy Forest Restoration Act of 2003, as an on-going collaborative process to reduce the risk of wildfire from combustible vegetation that threatens the communities, wildlife, and natural resources within the Plan boundaries. This plan will serve as an active management tool, as well as a consolidated guide to wildfire mitigation.

The goals and objectives of this Plan are to:

- 1.1.1. Establish a cohesive team of community citizens with Federal, State, County, municipal and tribal representatives to prepare this Plan and to provide the resources needed for the on-going monitoring of its implementation.
- 1.1.2. Identify the hazardous, at risk wildfire conditions of the communities and neighborhoods within the boundaries of the Plan.
- 1.1.3. Conduct risk assessments and evaluations to prioritize the areas requiring highest mitigation for the protection of potential losses to life, property and natural resources from wildfire.
- 1.1.4. Implement a process to monitor the changing conditions of wildfire risk and citizen action over time.
- 1.1.5. Develop public awareness and community education programs at all levels on wildfire prevention and defensible space.
- 1.1.6. Define economic utilization and marketing programs to aid in the remediation of the at risk conditions.
- 1.1.7. Assist in securing funding sources to support the recommended actions by the YCWPP.

## 1.2. Background and History

The City of Prescott, located in the center of the YCWPP boundaries, became the first territorial capital of Arizona in 1864. Mining, ranching, and logging (primarily for use in building construction) were the main industries in this rural area. In 1900, a major fire destroyed most of the wood buildings surrounding the Courthouse Plaza. Prescott was rebuilt and along with the many communities within the Plan boundaries continued to grow and expand into the WUI. Today, the population density is in the “tri-city” area of Prescott, Prescott Valley, and Chino Valley, though only small segments of Prescott Valley and Chino Valley are within the YCWPP boundaries. Within the Plan’s boundaries, Prescott, Walker and Crown King are all on the Federal list of “at risk” communities.

As residents expanded into the wildland/urban interfaces, protection of residents and businesses from catastrophic wildfire became a concern.

In 1990, the devastating “Dude” wildfire in the Payson area prompted the Yavapai County Board of Supervisors and the Council and Mayor of the City of Prescott to issue a joint resolution that formed the Prescott Area Wildland/Urban Interface Commission (PAWUIC).

The members of the PAWUIC organization are volunteer citizens with the direct support of Federal, State, County, and Municipal Cooperating Agencies.

PAWUIC has been given the mission of identifying, prioritizing, and guiding the management of wildland/urban interface issues in the Prescott area. This Commission is specifically directed to:

- Advise the Cooperating Agencies in matters related to the wildland/urban interface.
- Through public and agency participation identify, develop, prioritize, and address wildland/urban interface issues facing the citizens of the area.
- Promote the development of citizen awareness of wildland/urban interfaces and initiatives.
- Insure that the public is aware of risks, emergency procedures and evacuation guidelines.
- Assist the public agencies by raising and distributing funds that said agencies will expend on equipment and activities that support Commission objectives.

PAWUIC has over 20 volunteer members with additional active representation from the USDA Forest Service Prescott National Forest and Bradshaw Ranger District, Arizona State Land Department, Yavapai County Emergency Management, City of Prescott Fire Department, Central Yavapai Fire District, Chino Valley Fire District, Groom Creek Fire District, and Yavapai-Prescott Indian Tribe.

PAWUIC is a truly, community-oriented, collaborative organization that is focused on Wildland/Urban Interface and Community Wildfire Protection issues. In the past three years, PAWUIC has received over one million dollars in National Fire Plan matching grants to perform resident defensible space projects in the WUI areas. Both Prescott Fire and Central Yavapai Fire have participated in the matching programs. To date over 25% of the residents in the WUI areas have received defensible space treatments from this grant. PAWUIC's Public Education efforts are centered around an annual Fire Awareness Town Hall meeting, the distribution of brochures and other literature, news articles, videos aired on local cable TV and staffs public awareness booths at local events.

PAWUIC is best prepared to take the primary lead in developing and implementing the YCWPP. This organization has several active committees with missions directly related to the YCWPP objectives – Interagency Fire and Emergency Management Group (IFEMG), Healthy Forest Economic Development Team (HFEDT), and Community Education/Wildfire Awareness.

### **1.3. Wildland-Urban Interface and Planning Area Boundaries.**

The YCWPP core team, in collaboration with the various Fire Chiefs and the County of Yavapai GIS department, reviewed central and southern Yavapai County topography, Fire District borders, as well as fuel types to determine the outer boundaries for the Plan. The defined area for this Plan is a contiguous U-shaped perimeter around the most densely populated (tri-city) area in this region (Map 2). The outer boundaries follow the crest of the Mingus Mountain range in the northeast and go south outside the communities of Cherry, Mayer, and Spring Valley to southeastern communities of Crown King and Horse Thief Basin. This outer boundary then goes west following the southern base of the Bradshaw Mountain range to the community of Yarnell. From Yarnell, the boundary goes north

(encompassing Peeples Valley, Kirkland Junction, Skull Valley) and ends in the northwestern edge of Williamson Valley.

The outer boundary follows the change in fuel types from desert scrub to more combustible vegetation on the slopes of the mountain ranges. The inner boundary follows the western slope of the Mingus mountains on the east turning west at Dewey going through the edge of Prescott Valley and then north along the east of the Dells to Prescott Airport. From here the inner boundary goes on the eastern side of Sullivan Buttes bordering Chino Valley and ending in Williamson Valley. The Prescott Basin, with the Bradshaw Mountains and the Sierra Prieta Range on the south and west of the City of Prescott, is within this Plan's boundaries. The total Plan area covers 963,575 acres (over 1505 sq miles) of combustible vegetation in Yavapai County.

In order to better control and facilitate the Plan's risk assessment process, remediation priorities, and mitigation implementation, the overall Plan area was divided into 7 Management Areas. These Management Areas were developed based on change in fuel type and fires district borders. (Map: 4) Within each Management Area, the wildland/urban interfaces were defined as communities (separate or standalone residential areas), neighborhoods (adjacent residential areas within a community), camps, tribal, and critical infrastructures (roads, overhead power, telecom sites, railroads, and water/gas utilities). There are over 100 identified communities, neighborhoods, and camps within the Plan Boundaries.

#### **1.4. Fire Policies and Programs**

- Healthy Forest Restoration Act of 2003
- National Fire Plan and 10-Year Comprehensive Strategy
- Federal Emergency Management Agency Disaster Mitigation Act
- Prescott National Forest Fire Management Plan developed and used by the USDA Prescott National Forest Service
- 2003 Wildland Urban Interface Code and 2003 International Fire Code are used by the City of Prescott Fire and Planning Departments.

## 2. Planning Process

### 2.1. Methodology

The planning and preparation for developing the YCWPP has followed the guidelines in “Preparing a Community Wildfire Protection Plan”, March 2004 guidelines (Ref: 2) as well as information from the review of other Community Wildfire Protection Plans. This YCWPP uses these guides, but more importantly it is a work-in-progress action plan that has already actually performed several community risk assessments and recommendations as part of the Plan’s development. Additionally, this Plan has already had extensive County GIS and assessor maps developed. The following planning methodology constitutes the process:

- 2.1.1. Convene Decision Makers and Involve Agencies – PAWUIC, which is a combination of volunteer citizens and Federal, State, County, and Municipal Agencies, has taken the lead in developing the YCWPP. A core team has been established and the IFEMG is participating in the risk assessments, evaluations, and implementation of the Plan.
- 2.1.2. Engage Interested Parties – In determining the YCWPP boundaries, interested parties in all communities and fire districts were contacted to agree on the extent of the boundaries. Upon completion of community risk assessments, recommended actions will be communicated to each community and progress updates provided.
- 2.1.3. Establish a Community Base Map – The County GIS and Assessor’s Office has developed extensive layers of maps from the overall Plan boundaries down to individual communities, neighborhoods, camps, tribal land, and critical infrastructures. These maps will be used as references for implementing the Plan’s priorities and will be updated to show progress achieved.
- 2.1.4. It was determined that the Assessment Form (App: 3) and standard definitions set forth in the “Standard for Protection of Life and Property from Wildfire”, 2002 Edition (NFPA 1144) (Ref: 4) would be used for conducting the area risk assessments.

- 2.1.5. Establish Community Priorities and Recommendations – Recommendations for each assessment form will be developed and used to determine recommended priorities within each Management Area.
- 2.1.6. Develop an Action Plan and Assessment Strategy – A mitigation plan and implementation action plan will be developed as well as an on-going monitoring and evaluation process.
- 2.1.7. Finalize Community Wildfire Protection Plan – Community feedback and action plans will be communicated to key community partners and organizations. An Administrative Oversight Team will be assigned to monitor the progress of the Plan’s implementation and to update the plan’s accomplishments.
- 2.1.8. Plan Approval and Implementation – The Plan was reviewed and approved by the participating IFEMG organizations. Support letters have been obtained from the government organizations. A citizen’s review and awareness process will be provided. The Plan will be submitted to the State and Federal Fire Agencies for endorsement. Upon completion and approval, the Plan’s Oversight monitoring and implementation process will commence.

## **2.2. Partners and Committees.**

The core team responsible for coordinating the tasks and documenting this Plan includes:

Nick Angiolillo, Director, Yavapai County Emergency Management  
Ken Iversen, Vice Chairman PAWUIC  
Carolyn A. Ladner, Yavapai County Assessor’s Office  
Rich Van Demark, private forester and owner Southwest Forestry, Inc.

The Interagency Fire and Emergency Management Group (IFEMG) has the responsibility for overseeing the development and completion of this Plan as well as to establish the on-going implementation and monitoring efforts. Members of this Group, which were complimented by additional partners to cover the larger YCWPP boundaries, include:

Nick Angiolillo, Director, Yavapai County Emergency Management  
Al Bates, Chairman, PAWUIC  
Ken Iversen, Vice Chairman, PAWUIC

Rich Van Demark, PAWUIC, Private Forester  
Dave Curtis, Chief, Central Yavapai FD  
Charlie Cook, Fire Marshall, Central Yavapai FD  
Bud Gindhart, Chief Cherry Fire  
Chuck Tandy, Chief, Chino Valley Fire  
Steve Lombardo, Chief, Crown King Fire  
Todd Bentley, Chief, Groom Creek Fire  
Glenn Brown, Chief, Mayer Fire  
Jack Rauh, Chief, Peoples Valley Fire  
Darrell Willis, Chief, Prescott Fire  
Duane Steinbrink, Wildland Division Chief, Prescott Fire  
Bill Hilliker, Chief, Skull Valley Fire  
Mike White, Chief, Southern Yavapai Fire  
John Sumner, Chief, Walker Fire  
Jim Koile, Chief, Williamson Valley Volunteer Fire  
Peter Andersen, Chief Yarnell Fire  
Ernie Del Rio, Ranger, Bradshaw District, PNF  
Robert Morales, Fire Management Officer, PNF  
Tony Sciacca, Asst. Fire Management Officer, PNF  
Travis Haines, Public Information Officer, PNF  
Bruce Olson, Fuels Management, Bureau of Land Management  
McKinley-Ben Miller, State Forester, Bureau of Land Management  
Russ Shumate, Fire Management Asst., Az.State Department of Land  
Jeff Schalau, University of Arizona Cooperative Extension  
Jeff Spohn, Arizona Public Service Co.

### **2.3. Collaboration and Community Outreach**

Based on the natural changes in the Yavapai County wildland topography and fuel types, the YCWPP boundaries were extended beyond the Prescott Basin. Fire Chiefs, Prescott National Forest Rangers, BLM fire management directors, and Arizona State Land Department fire management directors were asked to participate in the development and implementation of this Plan.

Through the close collaboration with the thirteen Fire Chiefs, the community risk assessments will be performed, recommendations on wildfire risk and fuel hazard reduction will be made to the communities, and actions for reducing hazardous wildfire conditions will be implemented.

Progress on the preparation of the YCWPP has been published on the local web site for all local emergency alerts – [www.regionalinfo-alert.org](http://www.regionalinfo-alert.org). This web site will also publish the completed Plan for community review and comment. Before each fire season, one or more Fire Awareness Town Hall meetings are conducted in the Prescott area. Fire Districts hold community wildfire awareness meetings. Many neighborhood homeowners associations have presentations to their members by the local fire department or district.

Members of each “at risk” community within the Plan, will be informed of the risk assessments and recommended actions to be taken to reduce wildfire risks in their community/neighborhood. Homeowner Questionnaires (App: 4) will be distributed and responses compiled by Management Area.

Additional outreach programs for wildfire awareness and “firewise” safety are being developed by PAWUIC for both adult and K-12 students.

## **2.4. County Mapping Assistance**

Yavapai County Assessor’s Office is assisting the plan project by mapping out the 7 Management Areas of the project and specific areas designated by the Plan boundaries under the direction of Emergency Management. The Assessor’s Office has provided maps showing buildings as of 2000 (Map: 18), as well as corresponding satellite imagery maps that will aid in identifying topography and vegetation. Pie charts denoting ownership within each of the 7 Management Areas is available to help the entities involved to know their area of responsibility (App: 5).

An alpha spreadsheet corresponding to each area by neighborhood, community, and camp has been created to denote the number of parcels, the number of houses, the number of improvements (all buildings including houses), acreage and full cash value of the properties. Property values are queried from the Department of Revenue files compiled for Ad Valorem Taxation purposes and are representative of market value.

The Yavapai County GIS Office, working with the State of Arizona and Prescott National Forest GIS departments, has been generating and modifying custom GIS data layers for the YCWPP core team. This has included creating wall size maps for display, which has 3D or Terrain Analysis of the Plan area.

Maps have been generated to show the critical infrastructures within the Plan area, including well/towers, power stations, pumping stations, and utility lines. Maps have also been developed to show the history of fire ignition points.

The GIS Office has also assisted in training volunteers to use a GIS computer with software to help create data layers and analysis of the demographic and topographic mapping of the Plan segments.

### 3. Community Identification and Description

#### 3.1 Planning Area Demographics.

The population hub located in the center of the YCWPP boundary is the tri-city area of Prescott, Prescott Valley and Chino Valley. These three cities and their surrounding county areas have a combined population of over 107,000 (Ref: 5). While most of Prescott, a high “at risk” community, is within the Plan boundary only small segments of Prescott Valley and Chino Valley are included within the Plan boundary. However, all three cities would be heavily affected by a catastrophic wildfire in the Prescott Basin. The YCWPP boundaries were expanded beyond just the Prescott Basin to include the community fire districts of Central Yavapai, Cherry, Crown King, Groom Creek, Prescott, Mayer, Skull Valley, Southern Yavapai, Walker, Wilhoit, and Yarnell. The Yavapai Prescott Tribe land, 25 Camps, 43 communities, and 32 neighborhoods within communities are within the Plan boundaries. This Plan includes over 31,000 homes and 55,000 parcels with an assessed value of over \$6.6 billion.

Ownership of the land within this YCWPP is broadly distributed as follows: National Forest – 47.06%, Private – 24.09%, State Trust –16.42%, Bureau of Land Management –11.69%, and the remaining - 0.79% comprising Tribal, County, and City holdings. (App: 5 and Map: 5).

The Prescott Basin area is identified, by the *Ecological Restoration Institute* of Northern Arizona University, as being in “grave danger of catastrophic fire”. The area is considered one of the highest interface fire risks in the Southwest. Prescott, Walker, and Crown King are on the Federal Register of high fire risk communities. The communities and camps within the Plan boundaries are within high combustible vegetation conditions ranging from overly dense, hazardous woodlands to overgrown chaparral and dry grasslands.

During the fire season, the Basin population also includes an extraordinarily large number of campers, recreation users and tourists, which often exceeds the permanent population. The Forest Service has estimated that there are over a thousand homeless that may occupy the risk area. The established Youth Camps escalate the population at risk by 4,000 to 10,000 weekly. Many communities in the risk area have restricted or limited access roads.

The Youth Camps create an added dimension of evacuation concern, as the majority of them are without transportation.

The area experienced disaster during the 2002 fire season when the *Indian Fire* destroyed 1330 acres of forest and 7 structures. The fire was largely the result of extreme drought conditions, hot temperatures, low humidity and high



Photo 2 Indian Fire

winds. The fire and drought combined to place extreme stress on the forest vegetation. The extreme stress has produced a devastating bark beetle epidemic that has already claimed 60% of the trees (as of August 2002). The epidemic may ultimately involve as much as 85% of the forest.

### **3.2 Topography and Ecosystem Characteristics.**

The YCWPP outer boundaries were primarily defined by the topographic and fuel type changes in the area. (Map: 6). The eastern boundary follows the crest of the wooded Mingus Mountain range through the lower natural

vegetation contours to Horseshoe Basin. The south slope of the forested Bradshaw Mountains establishes the southern boundary from Horseshoe Basin to Yarnell. The western boundary follows the dense chaparral hills and slopes, adjacent to WUI communities, north to the communities in Williamson Valley.

A wide range of vegetation biomes and geologic landforms are within in this YCWPP area. Plant communities, climate, wildlife, geologic factors and recreation use complement the growing interface population in this complex ecosystem. The forest community is comprised of conifers and deciduous trees. Studies have identified the primary fuel types in the Plan area as, ponderosa pine, ponderosa mixed with brush, pinon pine, and chaparral. Other members of the forest include gambel oak, white or emory oak, douglas fir, juniper and aspen.

### **3.3 Socio-Economic Trends**

The most significant hazard however, would be to the YCWPP area economy. The Prescott area's economies are driven by three major forces – tourism, recreation and retirement. A catastrophic fire in the wildland urban interface surrounding the Prescott Basin would significantly reduce tourism, recreation, and retail revenues. Negative publicity on the fires would reduce or delay ingress of retirees and related businesses from coming to the area. Subsequently, the devaluation of properties affected or destroyed would affect the area's tax base.

The decades of injunctions and administrative processing delays that have prevented safer, healthier forest thinning or harvesting of hazardous fuels in the forests and woodlands have also virtually eliminated local wood products/biomass businesses. At the present time all building construction materials and other wood and biomass products are being imported into the YCWPP markets while nearly all value added cut logs are being exported outside the area. In addition, all the local woody biomass is being burned at the roadside or transfer stations resulting in a negative economic cash flow for the forestry/wood products industries in the Plan boundary.

### **3.4 Growth projections**

The Tri-City Regional Economic Diversity Steering Committee Report (Ref: 5) was issued in July 2004. This report indicates that the Prescott Basin is projected to grow from its current population of 107,000 to 145,000 by 2010 and to 185,000 by 2015. This reflects a 73% growth over 11 years or an annualized growth of 6.6% for the tri-cities. Though most of this projected growth will be outside the immediate WUI within this Plan, there will be continued growth in all the “at risk” communities of the Plan. The desirable climate, recreation opportunities, and woodlands will continue to draw retirees and second homeowners into the WUI area.

## 4 Risk Assessment

### 4.1 Fire Regime and Condition Class

The YCWPP area is characterized by vegetation types evolved and maintained by fire. (Map: 7). Fires started by lightning and native peoples were an integral part of the ecosystems making up the YCWPP area. This ecological setting was likely diverse and productive with a built-in resistance to large scale, devastating fires. Fire regime and condition class are significant because of this history. Fire events are inevitable but their effect is manageable through prevention; namely, removal and modification of vegetation.

The particular effect fire has on vegetation types within the YCWPP area is highly variable and likewise complex. Ecological processes such as seral stage development, nutrient cycling, fuel accumulation, and water availability are all influenced by fire. Vegetative characteristics such as fuel composition, plant health/vigor, age/size class distribution, and species composition are also influenced by fire.

Vegetation types may be classified by fire regime. The YCWPP area has several natural fire regimes because of the diversity in soil, elevation, aspect, precipitation, and vegetation type. The natural fire regime is the total pattern of fires within the vegetation type that is characteristic of that portion of the area. Factors that make up the natural fire regime include source of ignition, behavior and intensity, size, return interval, and effects. Fire regimes may be described by intensity, effect on vegetation, and frequency.

The Condition Class of a vegetation type for a particular area may be used to define its departure from the natural fire regime. The departure from historical fire frequencies and the level of change from the natural regime are considered along with the likelihood of losing key ecological components to determine the current Condition Class.

- Condition Class 1: Fire regimes are within an historical range and the risk of losing key ecosystem components is low.
- Condition Class 2: Fire regimes have been moderately altered from their historic range. The risk of losing key ecosystem components is moderate. Fire frequencies have departed from historical frequencies by one or more return intervals.

- Condition Class 3: Fire regimes have been significantly altered from their historic range. The risk of losing key ecosystem components is high. Fire frequencies have departed from historical frequencies by multiple return intervals.

During the last century natural fire return intervals have been interrupted across most of the YCWPP area. The current fire environment can be characterized by an overgrown complex fuel profile, moderate to steep terrain, poor ground access, increasing percentage of standing-dead (beetle-killed) trees, extended drought climate and a rapidly expanding wildland/urban interface.

Ponderosa Pine. This vegetation type is represented mostly in Management Areas 4, 5, and 7. Ponderosa pine (*Pinus ponderosa*) is the predominant tree species throughout. White fir (*Abies concolor*) and Douglas fir (*Pseudotsuga menziesi*) may be found in association at the higher elevations, while Gambel oak (*Quercus gambelii*), pinon pine (*Pinus californiarum* var. *fallax*), junipers (*Juniperus* spp.), and chaparral species are intermixed to varying degrees. Ponderosa pine stands are currently stocked at moderately high levels with an age class composition characterized as mostly immature with very little in the young and mature components.

The natural fire regime within this vegetation type was probably typical of other western ponderosa pine forests. This regime can be described as having frequent light surface fires with return intervals of from one to twenty-five years (Ref: 8 Covington, 1992). These fires maintained an open and park-like stand with a grass and forb understory. Burning released nutrients from accumulated woody debris and duff.

The suppression of fire, timber harvesting, and historical grazing practices have disrupted this natural fire regime to the extent that current tree stocking is relatively high, and associated forest fuels are more continuous. Understory grass and forb stocking is correspondingly low. Also, the absence of fire has allowed the conversion to shade-tolerant species at the higher elevations. These understory species establish fire ladders to the ponderosa pine overstory. Much of the ponderosa pine vegetation type is currently in Condition Class 3, which means that fire frequencies have departed from historical frequencies by multiple return intervals. Fire regimes have been significantly altered from the natural range, and the risk of losing key ecosystem components is high (Prescott National Forest Fire Management Plan).

Pinon-Juniper. This woodland vegetation type is represented in each of the Management Areas to varying degrees. The species that make up this vegetation type include pinon pine, and numerous junipers (*Juniperus deppeana*, *J. monosperma*, and *J. osteosperma*). In some cases chaparral may be found intermixed, and in others grass savannahs are interspersed through the vegetation type. Ponderosa pine and riparian vegetation may be found in some drainage bottoms as well. Pinon-juniper and pure juniper stands are established at a range of stocking levels with an approximate age class composition as mostly immature and mature with little young component. Immature and mature woodland stands typically have little understory vegetation and ground cover. These stands can be characterized by extensive levels of sheet and gully erosion.

The natural fire regime within this vegetation type was likely one characterized by infrequent and severe surface fires with return intervals of more than 25 years. However, the natural range of this vegetation type was probably more confined than today, with much of its current range having been grassland with a significantly different fire regime. The natural range was probably more limited to sites that were relatively protected from frequent fire, such as rock outcrops. When these stands burned under this fire regime there were likely sporadic crown fires that killed many trees but did not replace the stand.

The suppression of fire and historical grazing practices have significantly disrupted the natural fire regime of historical grassland areas. Many of these historical grassland areas are now occupied by the pinon-juniper vegetation type, with correspondingly sparse to nonexistent understory vegetation and surface fuels. This current vegetation and fuels condition will not carry the frequent low-intensity fire that occurred naturally. The risk of losing key ecosystem components to a fire event is relatively low. The significant loss of the grassland component occurred long ago.

Chaparral. This vegetation type is represented in all seven Management Areas. Predominant species include mountain mahogany (*Cercocarpus montanus*), manzanita (*Arctostaphylos pungens*), silk tassel (*Garrya wrightii*), scrub oak (*Q. turbinella*), emory oak (*Q. emoryi*), and Arizona white oak (*Q. arizonica*). The post-fire resprouting shrubs associated with this vegetation type may include Gambel oak, manzanita, mountain mahogany, scrub oak, and silk tassel. This vegetation type is arranged as large, continuous stands of chaparral in addition to being interspersed with ponderosa pine and woodland

areas. A range of stocking levels is represented in this vegetation type, with an approximate age class composition as mostly mature, some young, and very little immature. Mature chaparral stands tend to have little in the way of understory vegetation and associated ground cover. Extensive levels of sheet and gully erosion can occur in these stands.

The natural fire regime within this vegetation type was characterized as severe surface fires combined with crown fires. The return interval was approximately 35 to 40 years. These fires served as replacement events in mature stands of chaparral and probably maintained more of a mosaic of age classes across the landscape.

The suppression of fire has moderately altered the natural fire regime in the chaparral vegetation type. Relatively large and continuous stands with little age class or structural diversity now make up much of the chaparral. Most of this type has burned at least once in the last century, which represents a departure by at least one fire return interval. This places the chaparral in Condition Class 2. Fire regimes have been moderately altered from their historic range, and the risk of losing key ecosystem components is considered moderate (Ref: 9 Prescott National Forest Fire Management Plan).

Grassland / Desert Shrub. The grassland vegetation type characterizes minimal portions of Management Areas 1, 2, 3, 5, 6, and 7. The desert shrub vegetation type characterizes some of the lower elevations of Management Areas 3 and 5. Predominant shrub species include scrub oak, algerita (*Berberis fremontii*), catclaw (*Acacia greggii*), and mesquite (*Prosopis* spp.) and are typically widely spaced. Predominant grass species can be found in a range of stocking conditions.

The natural fire regime within this vegetation type was characterized as low-intensity surface fires with a return interval of from one to twenty-five years. The frequency and nature of these fires probably maintained the grass composition and prevented the establishment by woody vegetation.

The suppression of fire and historical grazing practices have significantly disrupted the natural fire regime on some historical grasslands. Many of these areas have evolved into woodlands with a completely different fire regime. Existing grasslands and desert shrub areas have probably not burned as frequently as in the past. However, fire events have occurred in these types and have helped to promote and maintain the grass component. Departure

from the natural fire regime is difficult if not impossible to determine. The risk of losing key ecosystem components may be low.

The natural fire regime over much of the CWPP area has been disrupted. With respect to the fire ecology across the vegetation types within this landscape, the longer the return interval of fire the more severe and larger the fire event. Also, the more acres burned by more numerous fires through time effects the movement towards restoration of the natural fire regime at the landscape level.

## **4.2 Fuel Hazards**

Fuel hazards include combustible vegetation as well as combustible structures and related improvements. Areas of concern are continuous across the landscape except where previous events have reduced hazard such as wildfire, prescribed burns, and vegetation modification through thinning and mowing. (See Maps 14 & 15)

The YCWPP area has been delineated with respect to topographic position (lower slope) and vegetation type (woody versus grass). Essentially all of the vegetation within the area is combustible to varying degrees. Specific characteristics which further define combustibility include: horizontal continuity of the primary fuel layer; vertical continuity between the secondary and primary fuel layers; percent dead component; amount and distribution of surface fuels; and the amount and distribution of ground fuels. The overall area can be characterized as having excess combustible vegetation arranged in a relatively continuous fashion. Surface fuels are typically moderate to heavy and ground fuels such as grasses are typically sparse to nonexistent. The percent dead component also varies throughout but is obvious in areas recently infested by damaging bark beetles and/or influenced by drought conditions.

The combustibility of structures is intensified primarily by topographic position, architectural design, and construction materials. In general, structure position is a function of lot location and not with respect to proximity of steep slopes or topographic features such as canyons or ridge tops. Similarly, architectural design has not incorporated fire resistive features and often include numerous ember catch points, exposed decks, open crawl spaces under the floor system, and accommodations for existing vegetation such as trees through the deck and eaves. Construction materials are typically combustible and include non-rated roofing assembly as well as wood siding and decking

material. Also, the close proximity and similar condition of numerous outbuildings is common.

A wildland fire risk and hazard severity assessment has been or soon will be completed for each identified community, neighborhood, and camp within the YCWPP area. This assessment methodology has been adopted from the NFPA 1144, Standard for Protection of Life and Property from Wildfire, 2002 Edition (Ref: 4 ). The methodology is appropriate throughout all vegetation types and is efficiently incorporated with existing techniques and findings. In particular this assessment includes ratings for: means of access; vegetation (fuel models); topography within 300 feet of structures; additional rating factors (topographical features, fire occurrence history, severe fire weather, and separation of adjacent structures); roofing; building construction; available fire protection; and the placement of gas and electric utilities.

### **4.3 Risk of Ignition and Wildfire Occurrence**

The risk of ignition comes from a combination of human-caused and lightning starts. The USFS portion of the CWPP area alone has averaged approximately 90 fires annually with more than half being started by lightning. Almost 30,000 acres have burned on the Prescott National Forest between the mid 1980's and the mid 1990's. The number of human-caused starts will likely continue to increase as more people are concentrated throughout the CWPP area.

Concentrations of fire ignition points are often related to human activity such as private property and roadways. These ignitions along with lightning show at least three general areas of concentration within the CWPP area: west and south of the Prescott area; the Crown King area; and the west slope of Mingus Mountain in Management Area 7 (Map 8). This summary does not include numerous abandoned campfires subsequently extinguished by fire prevention personnel.

The historical occurrence of wildfires throughout the CWPP can be characterized as common as well as increasing in number, size, and severity. The 2002 Indian Fire is one of the more memorable but certainly not unique to the area (Map 9).

A Rare Event Risk Assessment was conducted for the Prescott National Forest in 2003. The following are excerpts from the fire behavior narrative of this report.

“An extreme fire behavior potential condition exists within your forest. The potential for a wildfire to impact the community of Prescott is matched to our interface problem in Southern California. The current and projected fuel and weather conditions for your 2003 fire season pose a critical threat for fire suppression. The magnitude of your fuel conditions alone are an extreme concern. The mortality of your Manzanita and Ponderosa Pine from Drought is significant.”

“A fire growth map (FGM) (Map:10) has been developed to show a fire potential if established to the South of Prescott. Historical weather data has been utilized in conjunction with burning index, spread components, energy release components and projected fuel conditions. The FGM shows the fires potential under very high to extreme fire danger indices.”

“The fire growth map displays a fire that will be of high complexity and control. The weather and fuels data utilized are at the low end of the rare and significant event weather window. The FGM also can relate the fire potential on a non-significant rare event day. This is representative to a day with very high to extreme indices. This is validated with the rates of spread and growth potential as in the Indian Fire May 15, 2002.”

#### **4.4 Community Values at Risk**

Extensive development on private and leased property has evolved into a complex wildland/urban interface throughout the YCWPP area. Community values at risk of a general nature include public safety, aesthetics, and economic viability. At-risk ecological components valued by the communities include soil, water, air, and wildlife habitat.

At-risk private property is delineated throughout the YCWPP area as communities, neighborhoods, and camps. The assessed full cash value of the property making up these categories is approximately seven billion dollars.

Critical infrastructure is also delineated throughout the YCWPP area and includes specific roadways, railroads, overhead utility transmission lines, water and gas distribution systems, and telecommunications sites (Map: 11). The importance of certain components extends past the YCWPP boundaries and includes high voltage electrical transmission lines and backbone microwave towers.

## **4.5 Infrastructure Protection Capabilities and Community Preparedness**

Infrastructure Protection and Community Preparedness are obviously high priority issues. There are several aspects to capabilities and preparedness.

- 4.5.1 Annually, prior to our high-risk season, both subjects are thoroughly discussed, reviewed, planned for and exercised. The Interagency Incident Management – Prescott Basin Operating and Evacuation Plan 2004 (Ref: 6) is reviewed updated by the IFEMG. A public meeting is held with all responders in the interface including volunteer agencies as well as other interested parties such as youth camps and homeowner associations. This plan streamlines the response to multiple ignition scenarios and specifically defines each agency’s responsibilities, lists frequencies and evacuation protocols for maximum response efficiency. Exercises are a key element to protection and preparedness. One such drill was held 12 days prior to the Indian Fire, which proved invaluable.
- 4.5.2 On the Community Preparedness side, PAWUIC hosts an annual “Town Hall” style Fire Danger Meeting, held at the prestigious Yavapai College Performance Hall. The meeting draws an average 400+ interface residents. PAWUIC uses a multi-media approach to the meeting, utilizing radio, newspaper flyers, theatre ads and newspaper articles. These serve to announce the meeting and provide a warning about the ever-present danger, precautions and evacuation information. Brochures, mailers, displays and theatre ads are used year round.
- 4.5.3 There are fourteen fire agencies operating in the interface. The alliance and interdependence among these agencies is extraordinary as is the techniques used to keep ignitions from becoming catastrophic. Lead by the Prescott National Forest Fire Management Team of Robert Morales and Tony Sciacca, very ingenious and innovative techniques have been developed and implemented. Nearly all of the 62 average annual

ignitions are held to one-quarter acre or less. Offense, can be the best defense - mitigation activities by the Prescott National Forest, State Land, BLM, PAWUIC, Citizens, Homeowner Associations and a very pro-active electric utility contribute significantly in protecting against the risk of a catastrophic wildfire.

## **5 Emergency Management**

The Yavapai County Office of Emergency Management (YCEM) is responsible for Preparedness, Response, Recovery and Mitigation of all emergencies and disasters throughout the County, including wildfire.

Emergency Management representatives for the 22 cities, towns and significant communities in the county are maintained. A special organization has been commissioned to specifically address the severe wildfire potential. This organization is the Interagency Fire and Emergency Management Group (IFEMG). IFEMG organizational composition includes members (see complete listing below) from all fire agencies within the defined interface, Emergency Management and the Prescott Area Wildland Urban Interface Commission.

The IFEMG members collaborate to discuss wildfire issues, conduct drills and exercise and to produce the annual “Prescott Basin Wildfire Operations and Evacuation Plan”. (Ref: 6). This plan spells out all authorities, responsibilities, communications and procedures that would be associated with a major wildfire. The plan is designed to streamline operations from initial attack to mop up, evacuations through re-entry, by eliminating “turf wars”, politics and any other potential obstruction to the efficient, effective response to a wildfire.

Through the IFEMG, Yavapai County enjoys strong partnerships and coordination among the fire, emergency management, land management, and planning professions needed to prepare for and respond to a disaster.

YCEM writes and updates the Yavapai County Disaster Response Plan and 22 local Disaster Response Plans. This provides a strong baseline of information to make rapid decisions and connections to fire professionals and strengthen emergency management procedures related to wildfire and protection of citizens and public and private property.

### **Inter-Agency Fire and Emergency Management Members:**

Arizona State Land Department, Fire Management  
Central Yavapai Fire District  
Chino Valley Fire District

Crown King Fire District  
Groom Creek Fire District  
Prescott Area Wildland/Urban Interface Commission  
Prescott Fire Department  
Prescott National Forest, Bradshaw District Ranger  
Prescott National Forest, Fire Management  
Prescott National Forest, Supervisor  
Yavapai County Emergency Management (Chair)

### **5.1 IFEMG Goals:**

- To maintain relationships between responding agencies to achieve a unified, efficient and effective initial attack and response capabilities
- To maintain communications and coordinative capabilities to ensure safe, rapid, organized evacuations and re-entries.
- To develop and distribute an annual operations and evacuation plan, prior to each fire season, that specifically delineates authorities, responsibilities, communication, notifications, policies and procedures to avoid conflicts, questions, confusion and/or other obstacles that would prevent or diminish agencies from providing the best possible response effort for the citizenry.

### **5.2 Programs, Projects, and Activities**

#### **5.2.1 DMA2000**

The Disaster Mitigation Act of 2000 (DMA 2000) (P.L. 106-390), provides an opportunity for Yavapai County to take a new approach to mitigation planning. Section 322 of the Act established a new requirement for Local Mitigation Plans and with it opportunities for funding to be able to accomplish projects specified in the plan.

This Community Wildfire Protection Plan, as well as being a stand-alone management tool, will be a significant annex in the DMA 2000 Mitigation Plan.

## **5.2.2 Disaster Response Plan**

Although the Disaster Response Plan was only two years old, the County recently completed a review and update. Primarily, the updates consist, invariably, of phone contact number changes. Response to recent events have produced some relatively minor procedural changes.

## **5.2.3 National Incident Management System (NIMS)**

The National Interagency Incident Management System (NIIMS) provides a total systems approach for response to a wide range of emergencies, including fires, floods, earthquakes, hurricanes, tornados, tidal waves, riots, spilling of hazardous materials, and other natural or human-caused incidents. NIIMS includes five major subsystems, which together provide a comprehensive approach to incident management.

In Fiscal Year 2005, implementation of NIMS will be a condition for federal assistance in the form of “grants, contracts and other activities. On the local level, NIMS compliance will consist essentially of employing the Incident Command System (ICS) on emergencies or disasters. All agencies are familiar with and are implementing the ICS during incidents. The problem is there are a number of Incident Command Systems. They all work and are basically similar, but are not standardized. YCEM chaired an ICS committee in an attempt to standardize on one system. This attempt failed. The committee then met to determine objections and eventually focused on standardization of ICS terminology as a solution rather than converting to a standard system.

This approach was successful and agreed upon by all responding agencies within the county.

## **5.3 Evacuations**

### **5.3.1 Reverse 9-1-1 System**

YCEM has been researching systems to improve the safety, speed and thoroughness of conducting evacuations. These systems enable

agencies to send out mass messages to specific populations using the Geographic Information System

The value of this system is that information can be categorized by area and by need. (e.g., citizens in particular location or people with special needs listed in the disaster registry can be targeted.) These systems have a wide range of functions, including phone, tty, tdd, fax, email, pagers, a program call list, can be pre-set for specific zones such as floodplain areas or for specific groups.

To date, no system has the ability to adequately address new technologies. Many families no longer have conventional land line telephones. Cell phones are increasingly becoming the only telephone device. Technological advances are occurring rapidly and soon may address the cell phone issue. At that point, an appropriate commitment of initial funding and maintenance costs can be made.

### **5.3.2 Special Needs**

County Emergency Management has developed and been coordinating a Special Needs program for the past 6 years. Special Needs persons include elderly, handicapped, disabled, injured and latchkey kids. Each year the data is updated through a media ad campaign as well as a significant amount of data and assistance furnished by Mona Berkowitz and her Medical Assistance Staff. This data is used to identify individuals who may not be able to evacuate or need assistance doing so or to provide help during extended power outages, etc. Special transportation issues are addressed as well as need for special medications and/or equipment.

The information is kept strictly confidential and treated with the utmost sensitivity and is disseminated on a need-to-know basis only.

## **5.4 Grants**

YCEM is currently administering or serving as the applicant agent for 11 separate grants. This is more than a full time job. Quarterly reports and reimbursement submissions, annual and final reports, documentation and coordination efforts are daunting. The benefits, however, are more than worth the significant effort involved.

Homeland Security Grants – YCEM has applied for, has been awarded and is currently administering three Homeland Security grants. The total funding available for these grants is approximately \$2.5 million. The purpose of the grants is to provide first responders with communications, detection and personal protection equipment.

State Fire Assistance Grant - YCEM applies for and administers this USDA National Fire Plan Grant. The application is made through the Prescott Area Wildland Urban Interface Commission (PAWUIC). 2005 represents the fourth consecutive application. The applications have achieved being designated the number one priority in the state for 2 years and number two priority during two years. To date, PAWUIC has been the recipient of \$1,007,661.00 in funds for the application of defensible space treatment within the defined interface.

Community Emergency Response Team – This grant provides funding for the free training of citizens and development of neighborhood emergency response teams. This training enables the neighborhood to provide for itself until professional first responder help becomes available during widespread disaster. The training focuses on Fire Suppression, Disaster First Aid, Light Search and Rescue and Disaster Psychology. The county has been awarded over \$25,000.00.

DMA 2000 – This grant is being used to hire a consultant firm to assist with the extensive and intensive requirements for the mitigation plans for the county. The award is over \$100,000.

Emergency Response Fund – This is a state grant to Local Emergency Planning Committees (LEPC) to purchase HAZMAT specific equipment for local HAZMAT teams. The County is fortunate to have two fully staffed Class “A” entry teams. The County has received over \$55,000 in the last half-dozen years.

Hazard Material Emergency Preparedness – This is a USDOT grant to LEPC’s, (which are HAZMAT steering committees within a designated local jurisdiction) to assist with the costs of HAZMAT planning initiatives. Over \$30,000 has been awarded to the county to develop plans and to perform required annual reviews and updates.

Community Wildfire Protection Plan – This \$15,000 Grant from the Forest Service is deferring the cost of producing this CWPP.

State and Local Assistance – This is a grant that supplements the cost of local emergency management programs. The program has provided over \$300,000 in reimbursements over the last 6 years.

Emergency Food and Shelter Program – This FEMA program has provided over \$270,000 to local social service relief agencies in the past 6 years.

Fuel Reduction and Community Development – This grant was recently completed with the development of a plan to implement private industry into the fuel reduction equation. Treating property for defensible space is only half of the issue. Finding a use for the biomass removed from the interface is equally challenging. The grants that have been used to achieve the progress made to date will not last forever. This plan identifies new and existing private industry that can utilize and provide a continuing need for the biomass product, which will also provide the motivation to continue and maintain defensible space treatment without the need to use public funding. This will, of course, benefit the community financially as well.

## 5.5 Exercises

Photo 3: Mass Casualty Exercise

YCEM, in cooperation with responding agencies throughout the County, conducts a minimum of two to three major exercises each year. This year's exercises focus on mass casualty issues, as the



most predominant limiting factor to disaster response in the county is medical capacity. The exercises, which are full-scale, are designed for field units and EOC's to coordinate and familiarize themselves on procedures for handling an overwhelming number of fatalities and

injuries. The decision-making process includes maximum efficient use of local resources combined with requests for mutual aid and outside assistance up to and including activation of state and/or federal resources (Metropolitan Medical Response System (MMRS) and/or Disaster Medical Assistance Team).

Prior to 2002, exercises concentrated on wildfire and evacuation. On May 3, 2002, a full-scale wildfire evacuation exercise was conducted. This exercise proved to be heaven sent. On May 15, 2002, the Indian Fire prompted evacuations, including of some of the areas that were involved in the exercise. 3000 citizens were

Photo 4: Evacuation Exercise –  
Red Cross Registration



evacuated without incident. 2003 saw two additional wildfires with evacuations as was also the case for the 2004 fire season.

Wildfire/evacuation exercises were deemed unnecessary since we were engaged in the real world application of those plans.

## 5.6 Action Items

YCEM’s main goal is to maintain and improve the existing level of cooperation, communication and mutual aid and agreement among jurisdictions and agencies within the county. This has been the “secret” of our successful response to the more than 65 wildfire ignitions experienced annually. YCEM has been the “common ground” required for the resolution of any disputes and/or disagreements. Exercises and real world events, which demonstrate the necessity for continued agreement, are the catalyst to achieving this goal.

Second, YCEM has established major mitigation goals and will continue the pursuit of grants to achieve them, whether through the Western States Fire Assistance Program, Community Wildfire Protection Program, Homeland Security or other sources. Community development, however, is the future. Self-sustaining projects for processing biomass generated by maintenance of defensible space will provide part of the long term solution. This is an extremely critical element. The Prescott area economy hinges on tourism and recreation. A blackened forest south of Prescott would result in an economic disaster many times worse than a major catastrophic wildfire.

Thirdly, YCEM is aware that the only true, permanent, effective means of ensuring a fully defensible interface, including fire-safe subdivision and structure design, landscaping and building material issues, is through legislation. Just as cities have been protected for over 100 years by the enactment into law of fire and construction codes, sprinkler requirements, fire hydrants and fire departments; so too, will Wildland Urban Interface fire legislation be necessary to achieve an overall “Firewise” condition, that will enable communities to be truly defensible. While fire will always be a natural component of the interface, this legislation and the result is the only way to protect against a catastrophic event.

## **6 Mitigation Plan**

### **6.1 Administrative Oversight**

An Administrative Oversight Committee will be formed to monitor the implementation of this Plan and to assist in seeking funding to support the Plan's recommendations. This Committee will consist of a collaborative, cross-section of community representatives with Federal, State, and County advisors. The Oversight Committee will be a part of PAWUIC and will work with community leaders, fire district chiefs, homeowner groups, as well as Forest Service, BLM, State Land, and County agencies to evaluate the progress of this Plan's implementation.

The Oversight Committee will provide progress reports at the monthly PAWUIC meetings. PAWUIC will report the progress of the Plan's implementation to the Yavapai County Board of Supervisors quarterly. Each community's Fire District will report specific progress to their responsible community on a quarterly basis.

A semi-annual review of the Plan's progress will be performed to up date the Plan and to indicate further recommendations for action.

### **6.2 Strategy for Fuel Hazard Reduction**

The YCWPP strategy to reduce fuel hazard is adaptive in design. This process may be described as establishing targets, taking action, measuring results, establishing targets, and continuing to take action. The following strategic components are used in this adaptive management process.

- Implement collaborative projects that accomplish a reduction and modification of combustible vegetation. These projects are characterized as having high fire hazard and high values at risk. Establishing the on-the-ground capability to physically remove and dispose of excess combustible vegetation is an early step in promoting this activity to private land owners. An example of how this strategy was implemented is the ASLD Government Canyon project and the Prescott Basin Fuels Crew work with adjacent private land owners. The crew started on the ASLD side of the property boundary and continued their work into the neighborhood at the request of individual property owners. The State and key private citizens used leadership by example to reduce fuel hazard.

Photo 5 ASLD and Private Fuel Hazard Reduction



- Obtain permission from the owner or manager of the vegetation. On federal land this process may be a formal Categorical Exclusion or Environmental Assessment conducted by the Agency (See Map 13). On private property this process may be a formal written agreement between the land owner and the local fire department or district. Without permission work cannot be accomplished.
- Support the hierarchical relationship among agencies that accomplish a reduction and modification of combustible vegetation. For example, the USFS will continue to emphasize work activities at the landscape level amongst at risk neighborhoods and communities. An example is the Boundary project area south of Prescott. The Groom Creek Fire District has jurisdictional authority within this forested area and will continue to work on private property including the structures and adjacent combustible vegetation.
- Enable private land owners to remove and dispose of excess combustible vegetation. The disincentive for reducing combustibility is often not having the means or the place to take the material. This is often the case

even when the private land owner is willing to grant permission. An example of this strategy is the BLM providing chipping and disposal service to residents of at risk communities. This action compliments the local resources and provides a real time incentive to others.

- Establish and maintain an accomplishment presence in at risk communities and neighborhoods. Private land owners will choose to act for different reasons and at different times. Often local results will demonstrate a desired outcome and serve to influence change. Incremental accomplishments can be made by being highly accessible and capable of doing the necessary work. The Prescott Basin Fuels Crew has worked in approximately forty neighborhoods within the jurisdictional boundaries of Central Yavapai Fire District and Prescott Fire Department. (Map: 12).

### 6.3 Fuel Reduction and Fire Loss Mitigation

Preventative measures will be applied to combustible vegetation and structures in order to reduce fuel and mitigate the losses from fire. On Federal and State lands these measures may be presented as a silvicultural prescription and on private property as a set of recommendations to the land owner.

- Combustible vegetation will be retained so that the primary fuel layer is discontinuous and so that vertical continuity from ladder fuel arrangements is uncommon and isolated. Species variety will be represented by healthy trees, bushes, and cacti. Accumulated surface fuels will be light and grass ground fuels will be moderate.

Photo 6: USFS Groom Creek School House Fuel Reduction Project  
Before - After



- In many situations a majority of the woody vegetation will need to be removed in order to reduce fuel loading and modify fuel composition to grass ground fuels. Mechanical approaches include the use of chainsaws and thinning and mowing machines. Disposal options include piling and burning on site, chip and broadcast on site, and removal from site. Maintenance options may include prescribed broadcast burning in the ponderosa pine and grazing goats in the chaparral.
- Establishing and maintaining fire safe access/egress routes is fundamental to life safety and fire protection capabilities. The condition of combustible vegetation within close proximity to these routes may determine their utility in an emergency event. Dead standing trees often pose a hazard as well.
- The area surrounding the structure may be described as “defensible space” or the “home ignition zone” and extends at least one hundred feet in all directions. Adjacent houses and out buildings may be within this area as well as varying amounts and types of native vegetation. This area may be subdivided into zones.
  - Zone 1. 0-15 feet from the edge of the structure. The goal is to reduce a creeping ground fire. Minimize the amount of flammable vegetation and do not allow ladder fuel arrangements. Maintain non-combustible ground material adjacent to the structure such as pathways, planter beds and rock belts. Maintain the area free of accumulated surface fuels such as needles and leaves. Native woody plants should be occasional and only partially within this zone. Limbs of trees should not touch or hang over the structure. Living plants should be free of dead wood and arranged irregularly so that fuel arrangement is discontinuous.
  - Zone 2. 15-50 feet from the structure. The goal is to reduce radiant heat and short-range spotting. Maintain low combustible ground cover and accumulated surface fuels at less than one inch in depth. Minimize and isolate ladder fuel arrangements. Native plants should be free of dead wood, lightly stocked, and irregularly arranged. Space between plants or groups of plants

- should be clear of woody vegetation and typically greater than fifteen to twenty feet.
- Zone 3. 50-100 feet from the structure. The goal is to reduce radiant heat and mid-range spotting as well as minimize crown fire. Retain native trees and bushes at combined densities from twenty to seventy per acre. Minimize and isolate ladder fuel arrangements. Maintain accumulated surface fuels at less than one inch in depth.

The combustibility of the structure may be reduced by using fire resistive construction materials for the roof, siding, and deck. Architectural design modifications may include enclosing crawl ways, decks, and eaves.

The proper maintenance of combustibles around the structure may include covered storage of wood piles and maintained out buildings. Utilities should be located underground. Fire safe areas around above ground LPG tanks and overhead power lines should be maintained.

#### **6.4 Economic Utilization Planning.**

A Prescott Basin Fuel Reduction and Economic Development Plan (Ref: 7) was completed in May 2004. The purpose of this plan was to identify actions and recommendations for the development and marketing of local Prescott Basin wood products and woody biomass businesses needed to utilize the materials being harvested from the hazardous fuel reduction and thinning projects being performed in the surrounding forests and woodlands. Developing and growing sustainable wood products and biomass markets through use of the local natural resources will increase the Prescott Basin workforce and economies as well as to produce healthier and safer forests for future generations. It is important for sustainability that the business sizes being established are complementary to the fuel reduction and forest health thinning volume projections. Also, it is the objective of this plan to provide the economic development segment that will be incorporated with the Area's community wildfire protection plan. This Plan proposed the formation of a Healthy Forest Economic Development Team (HFEDT) within PAWUIC that oversee the implementation of the following recommendations:

- Develop marketing programs to promote expansion of existing local sawmills and wood products/biomass businesses;
- Assist county and tri-city community development departments in setting up incentives and programs to bring additional woods products and biomass businesses (such as bioenergy generators, wood pellet products, and biomass materials for landscaping, road maintenance, and erosion control) to the Prescott Basin;
- Seek community support for establishing a multi-use woods/biomass industrial park(s);
- Assist in establishing a materials removal operation to transport the harvested biomass materials from the forests to the industrial park(s);
- Assist in the development of training courses to support the increase forestry and woods product industries workforce requirements; and
- Conduct local community awareness programs to encourage citizens and businesses to use products produced from local sources.

Crucial to the success of growing the woods and biomass industries in the area is the need for the Forest Service and State Land Department to provide predictable yield forecasts, such as forest stewardship programs and the requirements in proposals for bidders to work with local businesses. Without the assurance that supplies are available, new businesses will be hesitant to start up operations in the area.

This plan is based on Federal, state and/or local community participation in the HFEDT and their initial community development funding sources, in the form of grants and economic assistance, until such time as local commercial development can be self-sustaining.

This plan was presented to the County of Yavapai Board of Supervisors and Prescott Mayor and City Council. Both groups endorsed the plan and directed PAWUIC to proceed with the formation of the HFEDT.

## 6.5 Education and Community Outreach

An integral part of the YCWPP is the education and community outreach program. Wildfire awareness and producing residential defensible space are on-going educational outreach programs by the Prescott National Forest Service, Prescott Fire Department, Fire Districts, Cooperative Extension, the Highland Center for Natural History, and PAWUIC. Educational outreach is coordinated through PAWUIC to limit duplication of effort and deliver a consistent message. New publications are reviewed jointly by PAWUIC and suggestions from partner organizations are incorporated. Two posters, one on defensible space zoning and the other on PAWUIC and landscape level fuels treatments, have been created and are used at public events.

Educational outreach programs have varied in size and scope to engage a range of audiences. These range from public events where people stroll through and pick up information to courses where professionals learn about new research and techniques. The most popular programs are those that are timely (when risk is highest) and provide a range of wildfire-related information. Specific programs include:

6.5.1 Annual Town Hall Meeting. Each Spring, before the start of fire season, PAWUIC conducts a fire awareness town hall meeting for all residents of the communities. This meeting includes presentations by local government officials involved with healthy forest and “firewise” programs, Forest Service Fire Management representatives, and local community fire management personnel. The purpose for these meetings is to develop community awareness for the fire season and to communicate citizen defensible space and “firewise” programs available to the community.

6.5.2 Newsprint flyers, such as “Living With Fire”, have been adapted to local conditions and are distributed during public events and inserted in newspapers.

6.5.3 County Fair and Community Events. PAWUIC and the Forest Service host booths at the County Fair and special community events throughout the year. These booths provide displays and handout material on wildfire awareness and prevention. The Fire Department/Districts

within the YCWPP boundaries conduct similar wildfire awareness programs.

- 6.5.4 Homeowner Defensible Space Assessments. The Prescott Fire Department and Central Yavapai Fire District offer residential defensible space assessments and remediation programs to homeowners in their jurisdictions. Through a National Fire Plan grant to PAWUIC, these fire organizations offer a variety of defensible space opportunities for homeowners ranging from conducting property assessments to reimbursing homeowners who conduct their own clean up to performing defensible space projects for individual residents. Groom Creek and other Fire Districts within the YCWPP boundaries conduct similar programs.
- 6.5.5 Homeowner Education Programs. PAWUIC, Forest Service, BLM, and Fire organizations, at the request of local communities and homeowner associations, conduct public wildfire awareness, defensible space, and healthy forest education programs to the local citizens.
- 6.5.6 Firewise Landscaping. The University of Arizona Cooperative Extension and the Highland Center for Natural History located in Prescott provide publications and courses on “Firewise” Plants and Landscaping. and how to create defensible space while striving to maintain native plant diversity and habitat. A forty minute video was also produced by the University of Arizona Cooperative Extension about defensible zoning and Firewise landscaping. Much of the video was taped in the Prescott Area.
- 6.5.7 The University of Arizona Cooperative Extension is in the process of hiring a half-time Instructional Specialist to assist home and property owners with creating and maintaining defensible space in the wildland urban interface. The Instructional Specialist will work closely with PAWUIC and Arizona Firewise Communities to provide a scientifically valid and consistent message.

6.5.8 K-12 Grade Wildfire Education. PAWUIC is developing in cooperation with the local school districts a wildfire awareness program for school children. This program is being directed toward training 5<sup>th</sup> and 6<sup>th</sup> grade teachers on protecting homes from wildfires. This curriculum uses Learning Tree methods to give students take home materials to share with their parents.

## **7 Implementation and Monitoring**

### **7.1 Community Mitigation Priorities**

Getting preventative work done where you can provides the practical basis for mitigating fire hazard throughout the YCWPP area. This preventative work requires at least two things: permission and resources. A high priority is improving the awareness and education of the private property owner that the combustibility of their property is their responsibility. Improved understanding will encourage the property owner to give permission to for mitigation work to be done. But, this priority must be supported by the means to get the work done. The Prescott Basin Fuels Crew is an example of this imperative capability.

Thousands of private property owners will be provided site-specific recommendations on reducing combustibility. The completed Fire Risk and Hazard Severity Assessment provides the basis for neighborhood and community wide recommendations. This level of assessment focuses on the predominant characteristics within the community, neighborhood, or camp. These recommendations include necessary changes to and maintenance of the structure, removal of excess combustible vegetation, and possible ways to accomplish these tasks. The particular fire service organization in that area provides site-specific mitigation services at the individual lot or group of lots level. Examples of target areas include: Highland Pines and Ponderosa Park in Central Yavapai Fire District; Kingswood and Forest Highlands in Prescott Fire Department; and Prescott Pines Camp in The Groom Creek Fire District. (See Map 18) The ASLD will work around the Oak Knoll Village area and the BLM will continue to work n the Mayer, Cordes Junction and Yarnell Communities.

A high priority is establishing and maintaining fire safe critical infrastructure. Particular roads may provide access/egress in emergency events to thousands of individuals. This capability will be influenced by the combustible vegetation along side it. Water and gas distribution systems should not be vulnerable during a fire event. Specific telecommunications sites supporting broadband frequencies function as points of connection along a more extensive system that could be state-wide or regional in extent. High voltage over head transmission lines may be a more apparent example of a mitigation responsibility that extends past the YCWPP boundary.

A high priority is promoting life safety. Those areas of the YCWPP plan area that support residents and visitors are of great importance. Seasonal residents and camp attendees are coincident with the typical fire season. At the community and neighborhood levels relative population densities can be determined from structure densities. The population density of a camp will be reflected at capacity.

Photo 7 Mt Francis Telecommunications Array



An example of how this priority can be accomplished is on USFS land currently leased for camp use. Agency administered lands adjacent and in close proximity to private property are also opportunities for promoting life safety. The 2005 planned PNF prescribed burning, brush crushing and tree thinning clearly shows this emphasis. (See Maps 16 & 17).

A high priority is continuing to accomplish work in high fuel and fire hazard areas. Fuel hazard is a relative measure and can be based on standardized vegetation fuel models, condition class, and risk ratings. The typical association of chaparral plants

along with overstory oak, juniper, pinon, and ponderosa pine should be assumed within the woodland and conifer forest vegetation types. These associations may not be reflected in standardized fuel models. The following general relationships will be assumed for nondeveloped land as well as for native vegetation within developed communities, neighborhoods, and camps.

Vegetation <u>Description</u>	NFDRS Fuel <u>Model</u>	Condition <u>Class</u>	Fuel Hazard <u>Rating</u>
Grassland	A		Low
Desert Shrub	A		Low
Chaparral	B	2	High
Woodland	F		Moderate
Conifer Forest	G	3	High

Fire hazard incorporates associated fire behavior and resistance to control characteristics often times determined by topographic features such as steepness of slope and aspect. Historical fire ignitions may be significant depending on the scale of interpretation and the distinction between lightning and human caused. The fire hazard rating for developed property is provided by the standardized assessment methodology.

A methodology is being developed to understand and interpret these combined priorities. An integral component of this methodology is the Geographic Information System (GIS) managed by Yavapai County. This system will support the analysis, evaluation, and reporting of mitigation measures. Each shape file will be georeferenced and described as to its ownership as well as size in acres. Also, specific attribute layers will be used to distinguish land areas within the YCWPP and may be weighted as to their importance. These attributes include critical infrastructure, life safety, permission, and fire hazard.

Combinations of these attribute layers may focus priority areas as well as provide an idea of the scope of work to be accomplished through time.

## 7.2 Roles and Responsibilities of Stakeholders

To successfully implement this Plan requires the approval/endorsement of the US Forest Service, BLM, ASLD, Yavapai County, community and fire department/district leaders. Designated representatives from PAWUIC and IFEMG must

- conduct the risk assessments and establish priorities,
- develop mitigation plans,
- seek funding for implementing reduction of combustible vegetation in the “at risk” WUI areas,

- prepare and conduct community “firewise” education and awareness programs,
- direct local economic development programs, and
- monitor the on-going maintenance and revisions to the Plan.

Local businesses and citizens must develop “mindsets” to recognize the severity of the wildfire conditions within the boundary area and to support the remediation efforts as set forth within the Plan.

### **7.3 Plan Reviews and Adoption**

The completed YCWPP will be reviewed by each of the participating community Fire Districts as well as Federal, State, and County agencies. Citizens can review the Plan through the PAWUIC web site and by request to the local news media. The Yavapai County Board of Supervisors should adopt the Plan. Each of the participating Fire Districts should sign the Plan. Also, the Forest Service, BLM, and State Land Department representatives should submit formal letters of support, acknowledging their on-going participation. Endorsement of this Plan will highlight the collaborative process between community “at risk” fire districts, local government, community-based organizations, and public agencies.

### **7.4 Funding Needs and Timelines**

#### **7.41. Challenges**

The scope of work that has been identified within this plan obviously represents significant funding requirements for the Prescott National Forest, BLM, ASLD, Yavapai County and PAWUIC. The defined interface of over 1505 square miles defies logical funding or timeline estimates. The dynamics of change within such a large area, combined with drought, infestations, growth and expansion factors, would render helpless even sophisticated computer technology.

The equation does not get any easier when considering that areas treated today will require treatment again in seven years or less.

## 7.4.2 Meeting the Challenges

In spite of the seemingly impossible magnitude of the challenges, PAWUIC and its partners are making headway and will continue until the entire goal is met, one project at a time.

PAWUIC has received over one million dollars (two million total project cost) in grants over the past three years, which has resulted in the completion of treatment of more than 25% of the homes in the original interface. The expansion of the interface, triggered by this plan, has reduced that completion percentage to 16.9%. This remains a significant achievement and will continue to be a motivation.

Logically, it will take an additional twelve million dollars to complete the initial project and will take approximately 17 years.

The treatment of the Prescott National Forest areas is more daunting as they have a much larger area to contend with. Currently, they have initiated the “Boundary Project”. A ten year project that will treat approximately 34,000 acres directly south of the most inhabited area of the interface. The cost for the first year is over \$400,000. Once again, treating the 900,000+ acres does not lend itself to any reasonable estimate of time and money.

Neither of these conditions is acceptable. Neither is the continued expectancy of grant funding. To overcome these obstacles, PAWUIC conceives of a two pronged approach:

- 1) PAWUIC has written and put into action, a “Fuel Reduction and Community Economic Development” plan. This plan prescribes the development of private enterprise that will use the products available in the forest. The profit derived by harvesting the excess bio-mass produced within the interface annually, will be the motivation to complete our initial goals and sustain them.
- 2) PAWUIC recognizes the responsibility of homeowners in the solution to the challenges. PAWUIC has and will continue to use its public education assets, including the public participation aspect of this plan to encourage homeowners to accept that responsibility.

PAWUIC, however, is well aware that these efforts will bear fruition with less than 50% of the interface occupants. It will take the enactment of interface fire laws, including defensible spacing and combustion resistant building material.

This is not an unreasonable expectation. Fire departments, fire hydrants and sprinkler systems are but a few of the fire reduction systems that are in place as a result of legislation. Interface legislation is the next necessary step that our elected leaders must soon take.

### **7.4.3 The “Bottom Line”**

It doesn't take an extraordinary imagination to arrive at the juncture that says it will take a lot of money, forever. In reality, however, that is exactly what it will take to establish and maintain the goals subscribed herein.

The solution is multifaceted and continuous. It literally will be a “living” project, accomplished with grant funds, private industry, county and local jurisdictions, legislation, citizen support, trade organizations, agency cooperation and “vested interest” groups, IE: insurers, real estate, utilities and communications providers, for the life of the forest.

## **7.5 Implementation Process**

Conceptually, the process is rational, logical and relatively simple. The Process steps are: Assessment, prioritization, funding and completion.

7.5.1 The first step to accomplish the implementation process is to complete the risk assessments. The assessments will be completed for open forest, critical infrastructure, communities, neighborhoods and camps included within the boundaries. These assessments are compiled, and grouped by Management Area and Fire Department/District.

7.5.2 The second step, the prioritization process can be complex and can take on several differing characteristics, based on who has jurisdiction within the Management Area and/or Community being evaluated.

Generally, Prescott National Forest (PNF), areas considered for treatment will be made by their Fire Management Officer. The PNF also has initiated their “Boundary Project” (See 7.4.2, 4<sup>th</sup> paragraph). These projects are usually coordinated by the PNF with the other agencies to determine the priorities therein.

Residential areas and Critical Infrastructure will be prioritized by the presiding fire agency and/or utility and then coordinated with other agencies to derive where the specific priority ranks within the entire scope of the interface. Home Owner Associations and/or the Citizenry will also have input into the prioritization process. Assessments are presented to residents of the various assessed locations via the Fire District, homeowner association, or in some cases mail. In addition to assessments, levels of homeowner interest for mitigation are determined.

7.5.3 Fiscal constraints. Once the priorities and levels of opportunity have been established, the next step to performing mitigation planning is determining the funding necessary to accomplish the community wildfire protection tasks. The funding sources and amounts, will ultimately determine the mitigation tasks that will be performed.

7.5.4 Political factors are always the “wild card” in any such process. These elements, instead of being allowed to upend the process, will be expected and included for consideration.

Throughout the implementation efforts, the Administrative Oversight Committee will be documenting the progress and reporting the results. As mitigation efforts are completed in specific areas the risk assessments for these areas will be revised.

## **7.6 Monitoring and Evaluation**

The Oversight Committee will use monitoring to track implementation of activities and to evaluate how well the goals and objectives of the YCWPP are being met over time.

Monitoring is the collection and analysis of information to assist with decision making, to ensure accountability, and to provide the basis for evaluation and learning. It is a continuing function that uses methodical collection of data to provide management and the main stakeholders of an

ongoing project or program with early indications of progress and achievement of objectives. Monitoring will also be used to ensure compliance with Federal and State statutes.

Each major element of the YCWPP will have monitoring tasks for recommended follow up actions. A summary of these monitoring tasks is as follows:

Evaluation of ongoing YCWPP activities, increased public awareness, and collaboration between partners will strengthen the value and impact of this Plan. The monitoring tasks within the YCWPP specifically address evaluation. The Oversight Committee will administer annual evaluations of the fire planning process and integrate questions about awareness and action into the annual survey administered by PAWUIC. The survey findings from these evaluations will be shared with participating communities and fire districts as well as posted on the PAWUIC web site.

## **7.7 Change Management – Plan and Priority Updates**

Upon formal implementation of this Plan, the IFEMG and Administrative Oversight Committees will develop progress reporting procedures. Monthly reviews of these progress reports and updates of risk assessments will be performed. Revised mitigation priorities and implementation plans will be prepared. Every six months the Oversight Committee will publish YCWPP updates and revisions to the stakeholders and community leaders.

## 8. Glossary of Terms

### 8.1 Glossary of Terms

**Aerial Fuels.** The fuel layer comprised of the crowns of trees arranged through the air.

**Aspect.** The direction the slope is facing or the ridge is running. North – NO; Northeast – NE; East – EA; Southeast – SE; South – SO; Southwest – SW; West – WE; Northwest – NW.

**Basal Area.** The area of the cross-section of a tree stem near its base, generally at breast height (4.5' above ground line) and inclusive of bark. Stand basal area is generally expressed as the total basal area in square feet per acre of land.

**Black Jack.** An immature ponderosa pine tree with characteristic black bark.

**Bole.** The trunk of the tree.

**Broadcast Burning.** The controlled application of fire to a land area in order to improve forest health and reduce wildfire hazard.

**Building.** Any structure used or intended for supporting or sheltering any use or occupancy.

**Camp.** A group of structures within the WUI that provides various programs for transient campers.

**Combustible.** Any material that, in the form in which it is used and under the conditions anticipated, will ignite and burn or will add appreciable heat to an ambient fire.

**Community.** A designated group of residences, businesses, and structures that has some supporting services.

**Critical Fire Weather Days.** Those days rated as “high” or “extreme” by the National Fire Danger Rating System (NFDRS).

**Cultural Resources.** Artifacts of indigenous people.

**Defensible Space.** An area typically thirty feet or more between an improved property and a potential wildland fire where combustible materials and vegetation have been removed or modified to reduce the potential for fire on improved property spreading to wildland fuels or to provide a safe working area for fire fighters protecting life and improved property from wildland fire.

**Designated Landing.** The area specifically identified for the purposes of merchandising forest products and slash disposal.

**Desired Future Condition.** The future condition of the property (vegetation) , which is desired by the property owner. The result of implementing the YCWPP.

**Diameter at Breast Height (DBH).** Diameter at breast height (measured at 4.5 feet above ground level on the trunk of the tree).

**Dominants.** Generally, an individual or species of the upper layers of the canopy. Ponderosa pine trees of the greatest heights of good form and vigor.

**Dripline.** The downward vertical extension of the outermost edge of the crown. Where precipitation theoretically drips off the crown of the tree.

**Duff.** A soil layer consisting of litter and decomposing vegetation.

**Evacuation.** The temporary movement of people and their possessions from locations threatened by wildland fire.

**Fire Hazard.** A fuel complex, defined by kind, arrangement, volume, condition, and location, that determines the ease of ignition and/or resistance to fire control.

**Fire Resistant Construction.** Construction designed to offer reasonable protection against fire.

**Forest Fuels.** Flammable materials such as plants and forest litter.

**Forest Health.** A condition of forest plant communities which are comprised of individual specimens of relatively good vigor, and taken collectively, are resilient to natural disturbance regimes and events.

**Forest Stand.** A community of trees possessing similar uniformity of composition, arrangement, constitution, or age.

**Forest Stewardship.** Acting upon the land and natural resources to physically influence their condition and function so as to meet the goals and objectives of the steward – the land owner.

**Fuel Modification.** Any manipulation or removal of fuels to reduce the likelihood of ignition or the resistance to fire control.

**Fuels.** All combustible materials within the wildland/urban interface or intermix, including but not limited to vegetation and structures.

**Ground Fires.** A fire event which typically consumes fuel on the ground and moves under the tree canopy.

**Ground Fuels.** Forest fuels which are connected to the ground through their root system; typically understory plants such as grasses, forbs, and brush.

**Habitat Generalists.** Wildlife species (mammalian and avian) which are relatively common throughout the surrounding forested area and which are not obligated to the property.

**Intermediate Thin.** The selective removal of midstory trees.

**Jackpots.** Concentrations of large accumulated surface fuels such as large fallen limbs and fallen trees.

**Ladder Fuels.** Forest fuels which connect ground and surface fuels with aerial fuels. In the unmanaged ponderosa pine forest, these fuels are typically lower live and dead limbs as well as sapling and pole-sized trees arranged in close proximity to mid and over-story trees.

**Mechanized Whole Tree Harvesting Operation.** A forest stewardship tool which utilizes machinery to fall and bunch designated trees as well as skid bunches of trees to a designated landing.

**Mitigation.** Action that moderates the severity of a fire hazard or risk.

**National Fire Danger Rating System (NFDRS).** Used by the federal, state, and local fire suppression agencies. Ratings are based on weather related factors including air temperature, relative humidity, fuel stick moisture content, and wind velocity. All of these factors contribute to the relative danger of fire starts and fire intensity.

**Native.** Indigenous to a specific geographical area.

**Neighborhood.** A defined group of residences or structures within a community that are usually adjacent to other neighborhoods and may be managed by a Home Owners Association.

**Natural.** Without the influences of non-indigenous human beings.

**Noncombustible.** Any material that, in the form in which it is used and under the conditions anticipated, will not ignite and burn nor will add appreciable heat to an ambient fire.

**Noxious Weeds.** Weed species that are very harmful or poisonous.

**Nutrient Cycling.** The circulation of chemical elements and compounds, such as nitrogen and carbon, in specific pathways from the non-living parts of the ecosystem into the organic substances of the living parts of the ecosystem, and then back again to the non-living parts of the ecosystem.

**Overstory Canopy.** A roughly horizontal layer of vegetation comprised of tree crowns at the upper most canopy layer.

**Pole-Sized Trees.** A descriptive term used for a ponderosa pine tree that is roughly between 4" DBH and 10" DBH.

**Prescription.** The written instructions for the preparation and implementation of vegetation modifying activities. The prescription is the result of integrating the biophysical condition of the property with the objectives of the property owner.

**Pruning.** The removal of live or dead branches from standing trees.

**Regeneration.** The established seedlings of a tree crop.

**Relics.** Remains from the past ponderosa pine forest identified as stumps, snags, and live old-age trees.

**Residual Tree.** A tree remaining after other vegetation has been removed. Taken collectively, the forest component of the desired future condition.

**Road.** Any accessway, not including a driveway, that gives access to more than one parcel and is primarily intended for vehicular access.

**Sapling.** A descriptive term used for a ponderosa pine tree that is roughly between 1" DBH and 4" DBH. The size class between seedling and a pole.

**Savannah.** A more or less open woodland with a predominant undergrowth of mostly grasses. The natural ponderosa pine savannah was characterized by tree densities of from five to twenty five per acre with a luxuriant grass understory.

**Semiarid.** Having very little rainfall.

**Silviculture.** The art and science of controlling the establishment, composition, constitution, and growth of forests.

**Silvicultural Prescription.** The means to accomplish forest management objectives by utilizing silvicultural practices.

**Site Index.** A species specific measure of actual or potential forest productivity which is expressed in terms of average heights of trees at a specified age.

**Size Classes.** Seedlings < 1" DBH; Saplings 1" to 4" DBH; Poles 4" to 10" DBH.

**Skidding.** The movement of cut trees to a designated landing. In a mechanized operation, cut trees are bunched and oriented towards the skid trail, the grapple skidder (hydraulic pinchers) grabs the entire bunch of cut trees, lifts the butts off the ground, and drags the bunch or turn of trees to the landing. This technique effectively drags only the tops of the trees. This skidding function is also used to remove heavy fuels such as large limbs and the tops of large cut trees.

**Skid Trails.** Designated paths to be used for the skidding function.

**Slash.** All parts of cut trees which are not merchantable as solid wood products. In a mechanized operation, essentially all of the tree which is cut is removed to a designated landing where merchantable products are manufactured and removed and all residual material is concentrated. Treatment alternatives for the remaining slash include chipping, grinding, or piling for future disposal burn.

**Slope.** Upward or downward incline or slant, usually expressed as a percentage.

**Slope Position.** A relative term used to describe the location on a slope: RT – Ridge Top; US – Upper Slope; MS – Mid Slope; LS – Lower Slope; DB – Drainage Bottom.

**Snag.** A dead standing tree.

**Stocked.** An indication of growing space, occupancy relevant to a pre-established standard.

**Stumps.** The woody base of a tree, as left in the ground after felling or natural causes.

**Sublimation.** Conversion of a solid substance by heat into vapor.

**Suppression.** (1) The process whereby specific trees weaken from competition with neighboring trees; (2) Work activities associated with fire extinguishing operations.

**Surface Fuels.** Forest fuels which are on the surface; typically needles, leaves, twigs, branches, and cones.

**Thin From Below.** The selective removal of small, immature, or suppressed trees.

**Thinned.** The selective removal of trees in a stand to improve the health and accelerate the growth of residual trees.

**Threatened and Endangered Species.** Those species (mammalian and avian) that are listed by the U.S. Fish and Wildlife Service.

**Tree Canopy.** The more or less continuous cover of branches and foliage formed collectively by the crowns of adjacent trees and other woody growth.

**Tree Crown.** The upper part of a tree carrying the main branch system and foliage.

**Tree Seedlings.** A descriptive term used for a ponderosa pine tree that has become established and that is less than 4.5' in height or has a DBH less than 1".

**Trees Per Acre (tpa).** A unit of measure that quantifies the stocking condition of a forest.

**Turnaround.** A portion of a roadway, unobstructed by parking, that allows for a safe reversal of direction for emergency equipment.

**Turnouts.** A widening in a travelway of sufficient length and width to allow vehicles to pass one another.

**Understory.** Any plants growing under a forest canopy, particularly trees, brush, grasses, and forbs.

**Underutilized Condition.** Understory plants showing no or little sign of use by ungulates (domestic or wild).

**Water Supply.** A source of water for fire-fighting activities.

**Wildfire Hazard.** A measure of that part of the fire danger contributed by the fuels available for burning.

**Wildfire Risk.** The danger arising from an existing or probable incendiary agent, person, or activity which may cause ignition of a wildfire.

**Wildland Fire.** An unplanned and uncontrolled fire spreading through vegetative fuels, at times involving structures.

**Wildland/Urban Interface.** An area where improved property and wildland fuels meet at a well-defined boundary.

**Wildland/Urban Intermix.** An area where improved property and wildand fuels meet with no clearly defined boundary.

## 8.2 Definitions and Abbreviations

ASLD –	Arizona State Land Department
BLM –	Bureau of Land Management
CERT -	Community Emergency Response Team
CWPP –	Community Wildfire Protection Plan
DMA2000 -	Disaster Mitigation Act of 2000
FEMA –	Federal Emergency Management Agency
FMO -	Fire Management Officer
GIS –	Geographic Information System
HAZMAT –	Hazardous Material
HFEDT –	Healthy Forest Economic Development Team, a committee within PAWUIC
HFRA –	Healthy Forests Restoration Act of 2003
HOA –	Home Owners Association
ICS –	Incident Command System
IFEMG –	Interagency Fire and Emergency Management Group, a committee within PAWUIC
LEPC -	Local Emergency Planning Committee
NIIMS -	National Interagency Incident Management System
NFP –	National Fire Plan
PAWUIC –	Prescott Area Wildland/Urban Interface Commission
PNF -	Prescott National Forest
USDA –	United States Department of Agriculture
USDOT –	United States Department of Transportation
USFS-	United States Forest Service
WUI –	Wildland Urban Interface
YCWPP –	Yavapai Communities Wildfire Protection Plan
YCEM -	Yavapai County Emergency Management

## **8.3 References**

**Ref: 1 – Healthy Forest Restoration Act of 2003 – HR 1904**

**Ref: 2 – “Preparing a Community Wildfire Protection Plan” A Handbook for Wildland-Urban Interface Communities, March 2004**

**Ref: 3 – “Wildland/Urban Interface Fire Hazard Assessment Methodology”  
Developed by National Wildland/Urban Interface Fire Protection Program**

**Ref: 4 – NFPA 1144, Standard for Protection of Life and Property from Wildfire, 2002 Edition, National Fire Protection Association**

**Ref: 5 – “Tri-City Regional Economic Diversity Steering Committee Report, July 2004, prepared by Yavapai College Office of Workforce & Economic Development**

**Ref: 6 – Interagency Incident Management – Prescott Basin Operating and Evacuation Plan 2004**

**Ref: 7 – “Prescott Basin Fuel Reduction and Economic Development Plan” May 2004, prepared by Prescott Area Wildland/Urban Interface Commission**

**Ref: 8 – “Ponderosa Pine Fire Ecology”, Covington, 1992**

**Ref: 9 – Prescott National Forest Fire Management Plan, 2002**

## **8.4 Photographs**

**Photo 1: USFS Prescribed burn behind Thumb Butte**

**Photo 2: Indian Fire**

**Photo 3: Mass Casualty Exercise**

**Photo 4: Evacuation Exercise – Red Cross Registration**

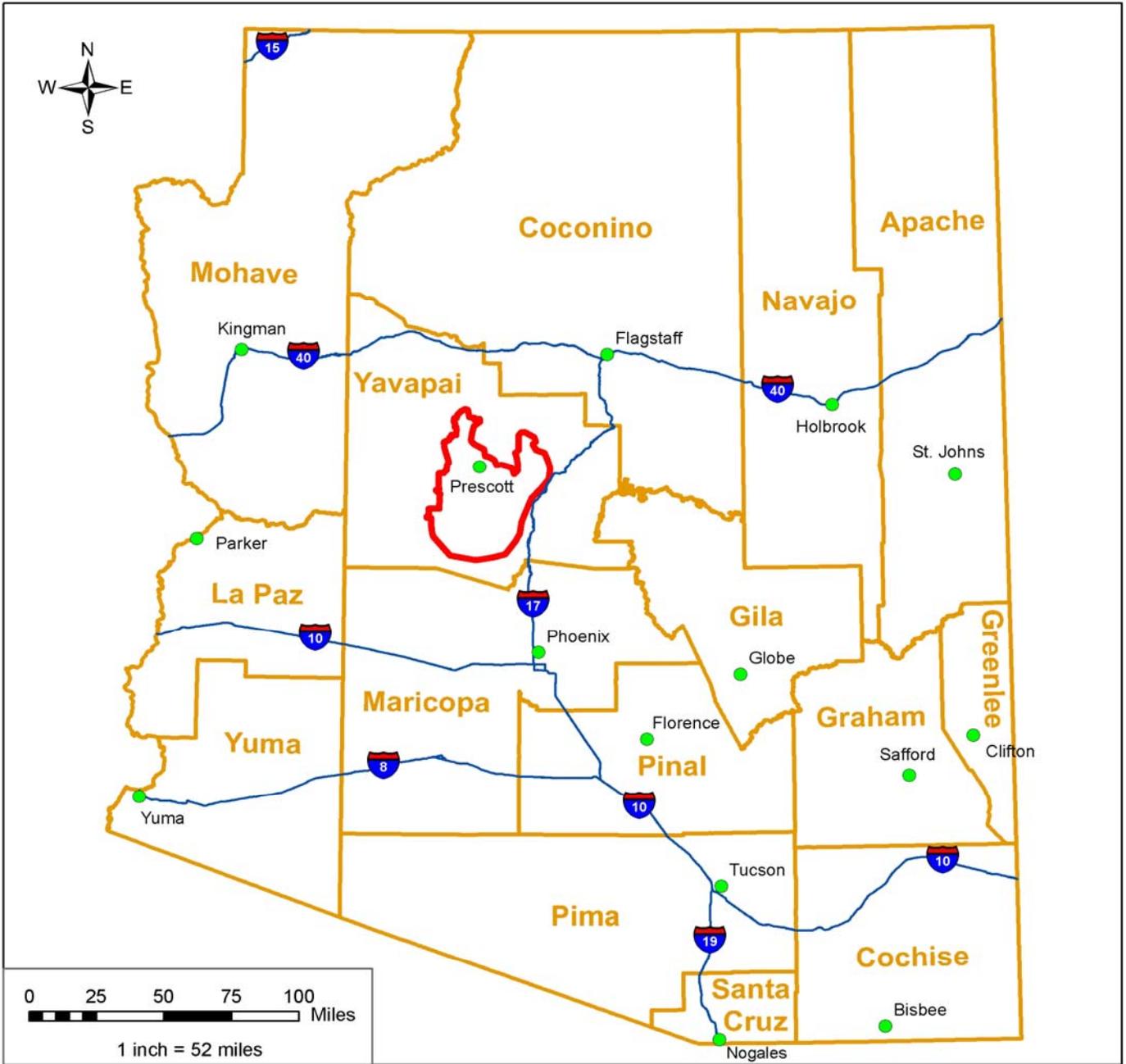
**Photo 5: ASLD and Private Fuel Reduction**

**Photo 6: USFS Groom Creek Fuel Reduction Project**

**Photo 7: Mt. Francis Telecommunications Array**

## 9.0 Maps

Map: 1 YCWPP Location Within State of Arizona	9-2
Map: 2 YCWPP Wildland Urban Interface Boundary	9-3
Map: 3 YCWPP Management Areas	9-4
Map: 4 CWPP Fire Districts	9-5
Map: 5 YCWPP Land Ownership	9-6
Map: 6 YCWPP Topography	9-7
Map: 7 YCWPP Natural Vegetation	9-8
Map: 8 YCWPP Fire Ignition Points	9-9
Map: 9 YCWPP Fire History	9-10
Map: 10 Copper Basin Wash Fire Growth	9-11
Map: 11 YCWPP Critical Infrastructure	9-12
Map: 12 Sample Treated Areas	9-13
Map: 13 Prescott National Forest Approved Vegetation Treatments	9-14
Map: 14 Prescott National Forest Recent Prescribed Burns	9-15
Map: 15 Prescott National Forest Recent Timber Treatments	9-16
Map: 16 Prescott National Forest Planned Prescribed Burns for 2005	9-17
Map: 17 Prescott National Forest Planned Vegetation Treatments for 2005	9-18
Map: 18 Target Area Examples – Highland Pines, Kingswood, Ponderosa Park, Prescott Pines Camp	9-19 to 9-22



**LEGEND**

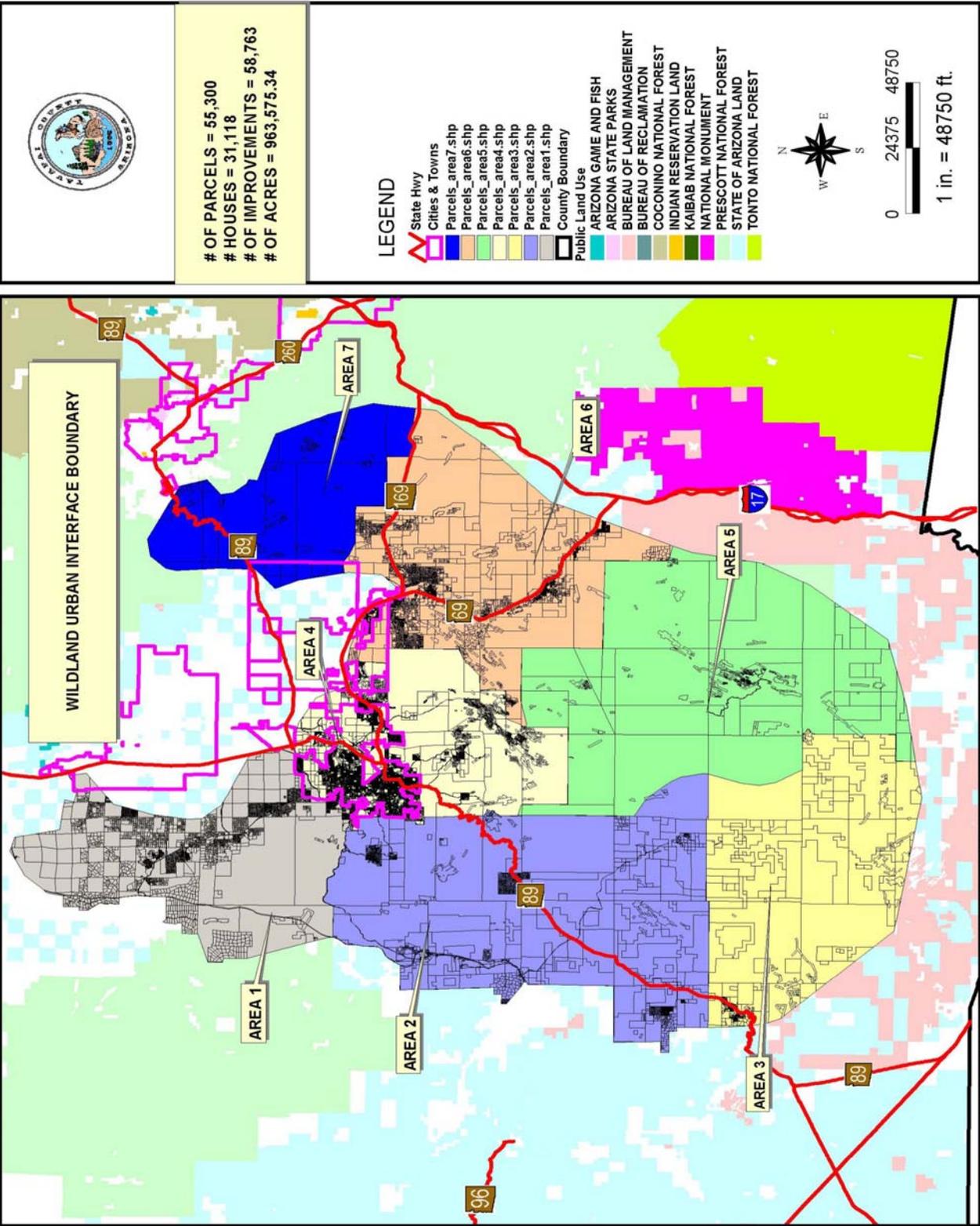
-  Interstate Highways
-  Yavapai CWPP
-  Counties
-  County Seats

## Yavapai Communities Wildfire Protection Plan Location



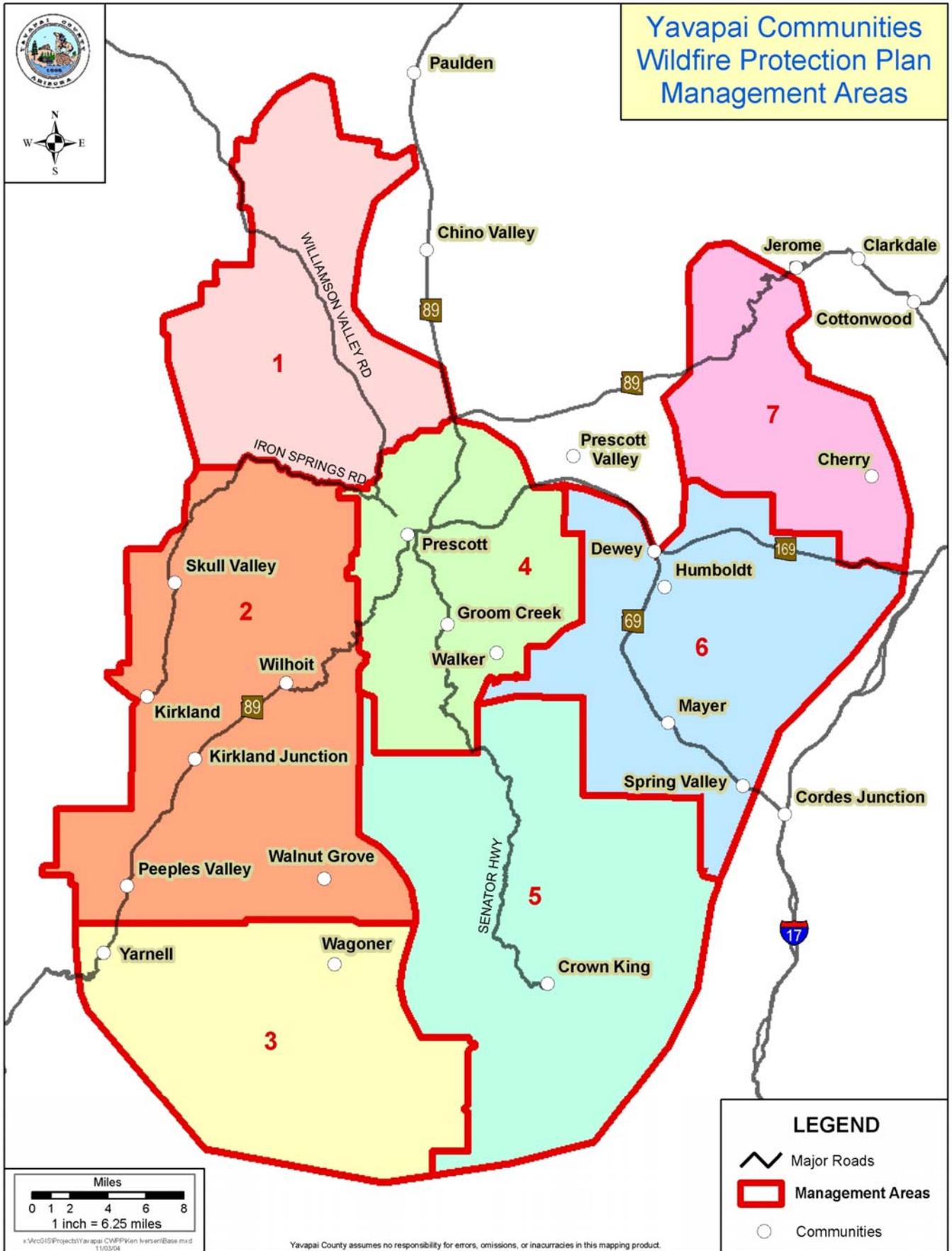
Yavapai County assumes no responsibility for errors, omissions, or inaccuracies in this mapping product.

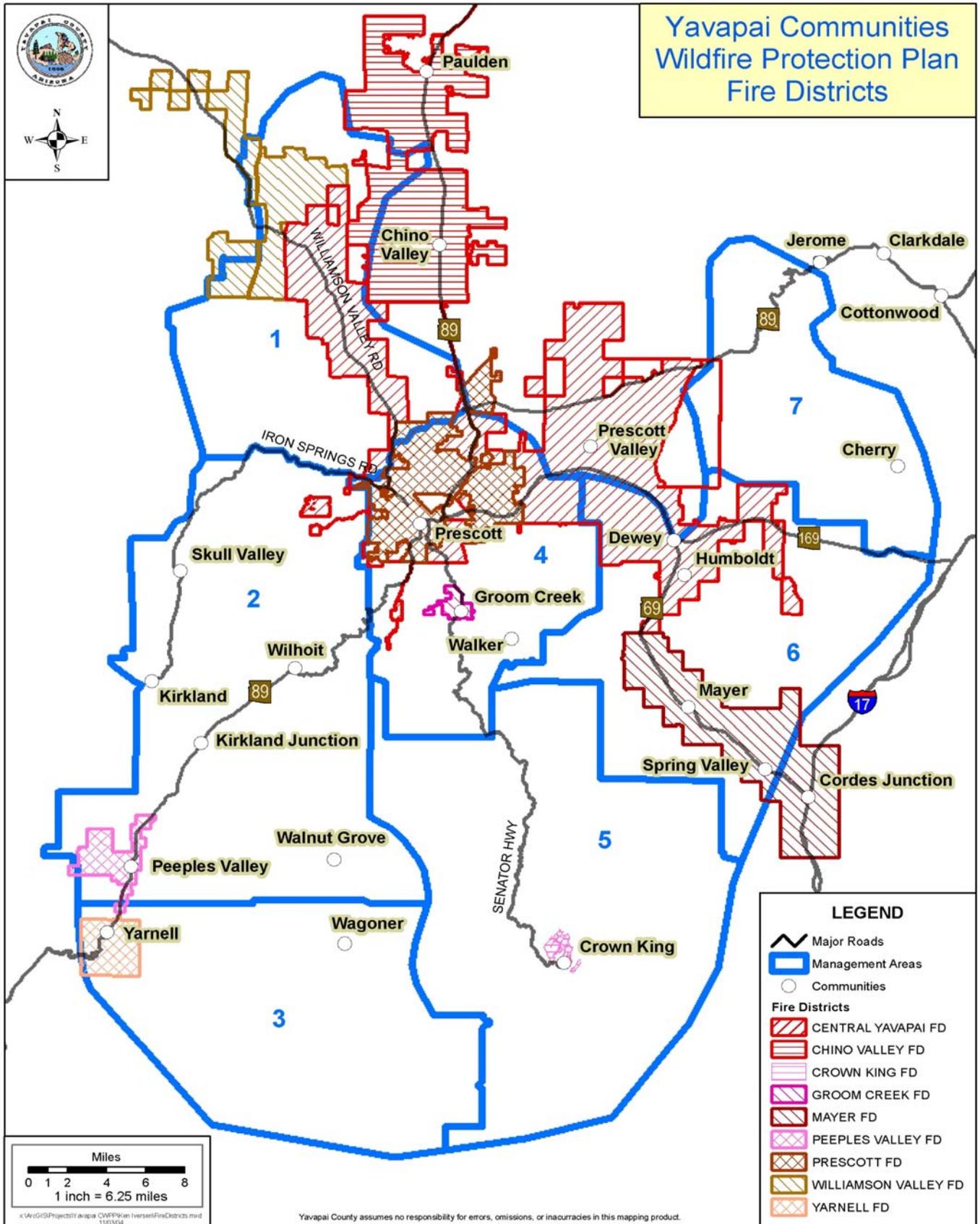
x:\ArcGis\Projects\Yavapai CWPP\Ken Iversen\YCWPP\_Location.mxd

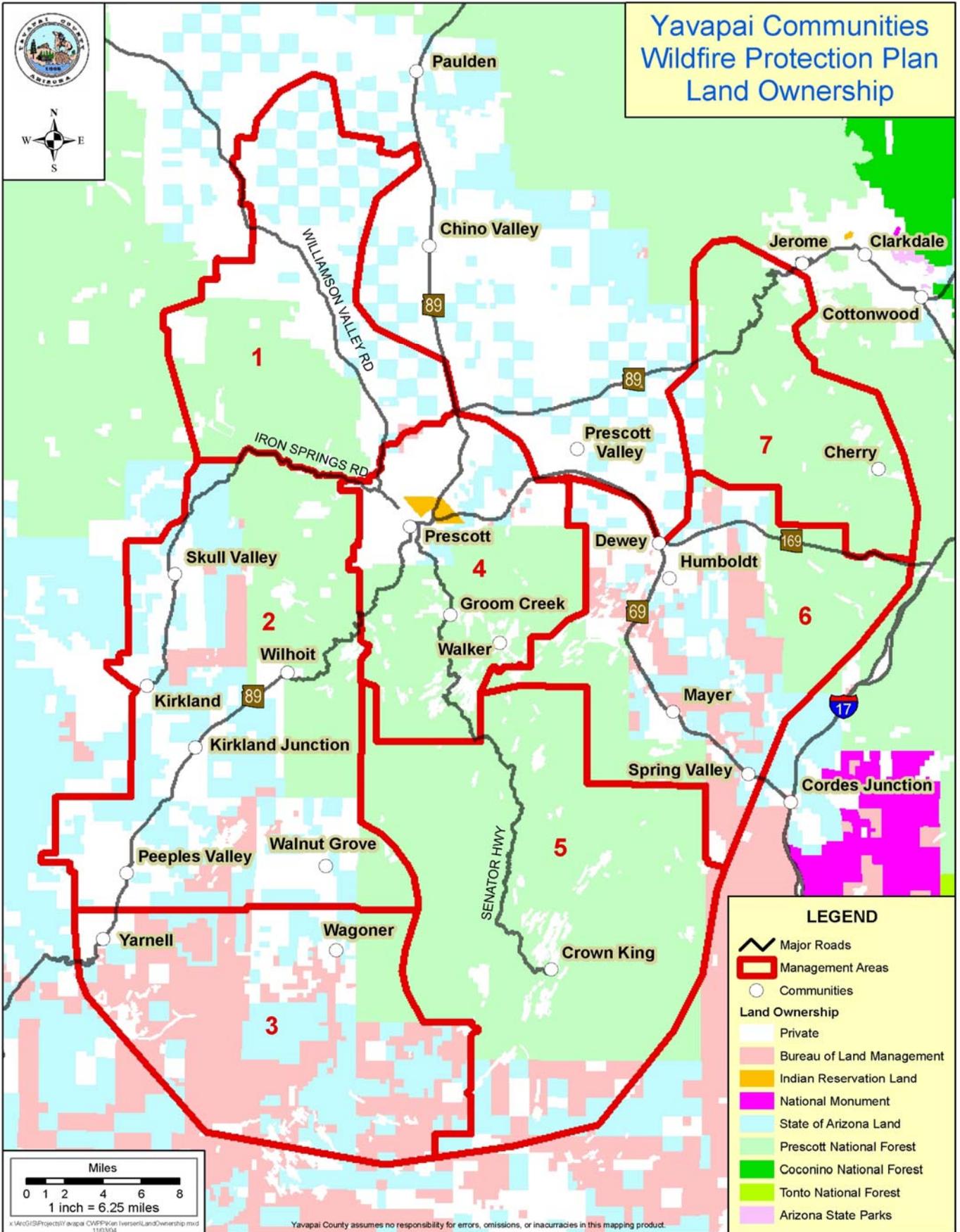


January 10, 2005

Yavapai County assumes no responsibility for errors, omissions, and/or inaccuracies in this mapping product.

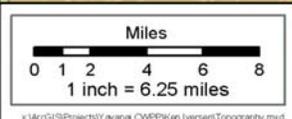
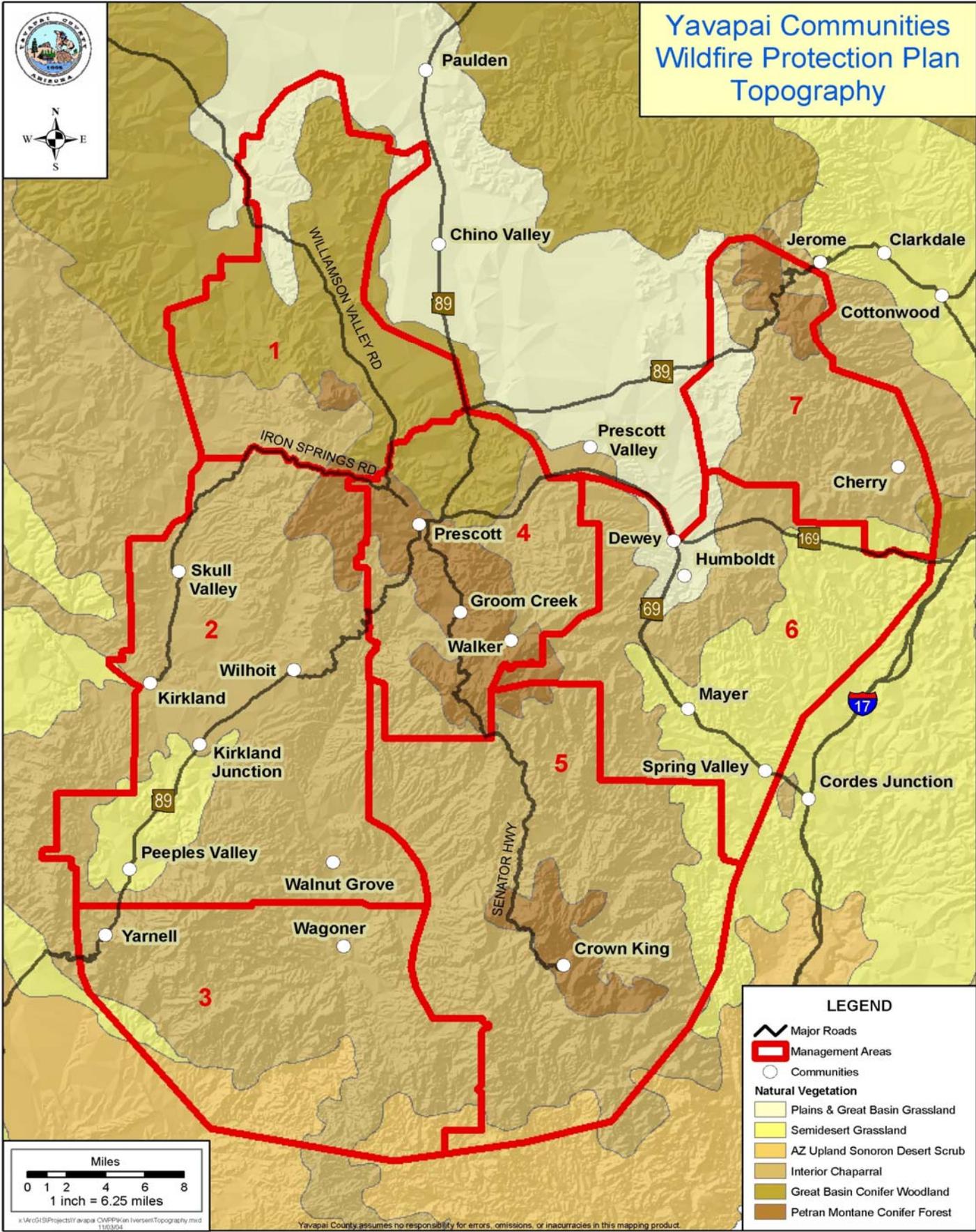








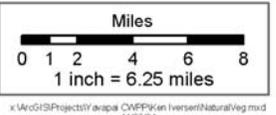
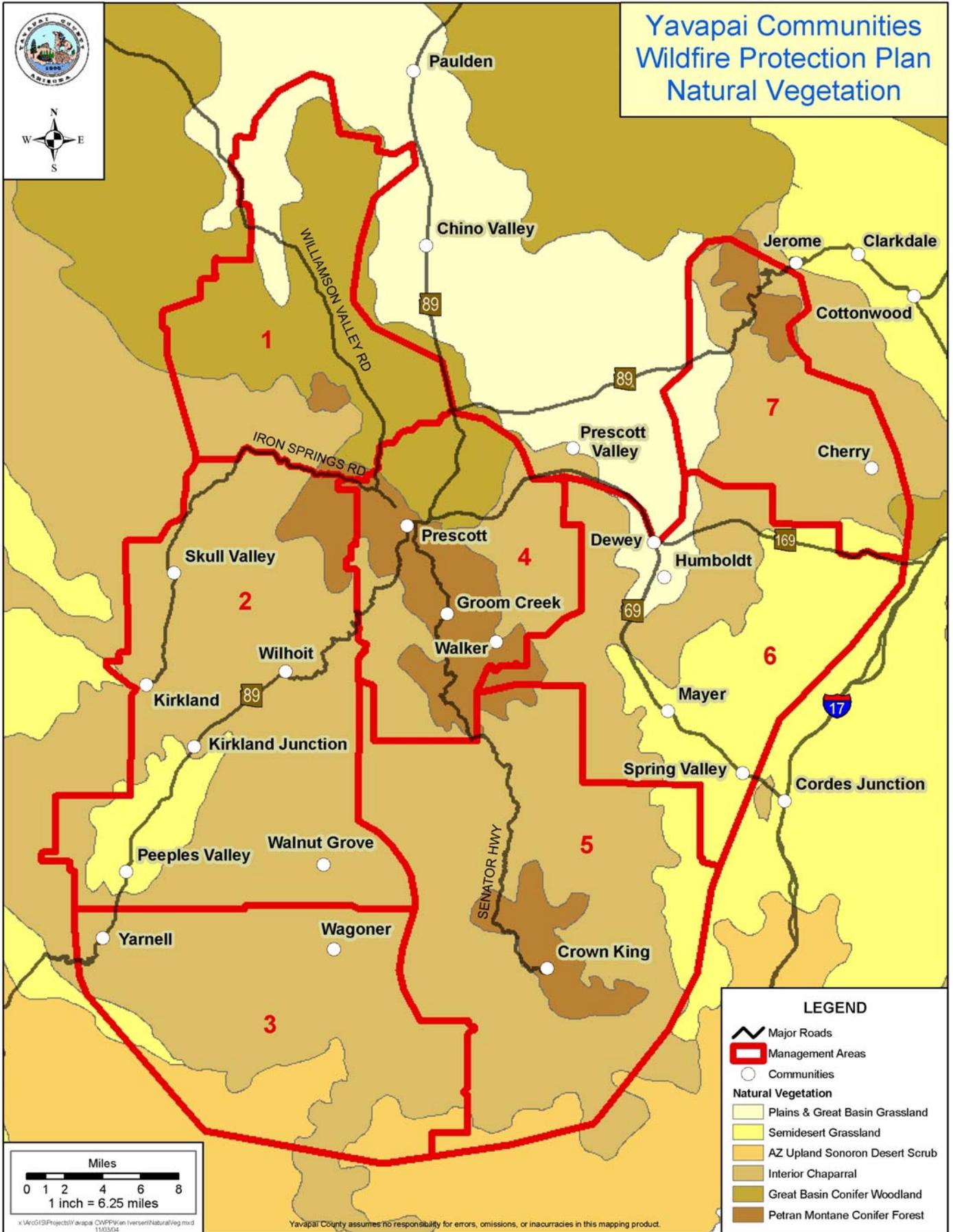
# Yavapai Communities Wildfire Protection Plan Topography



LEGEND	
	Major Roads
	Management Areas
	Communities
<b>Natural Vegetation</b>	
	Plains & Great Basin Grassland
	Semidesert Grassland
	AZ Upland Sonoran Desert Scrub
	Interior Chaparral
	Great Basin Conifer Woodland
	Petran Montane Conifer Forest

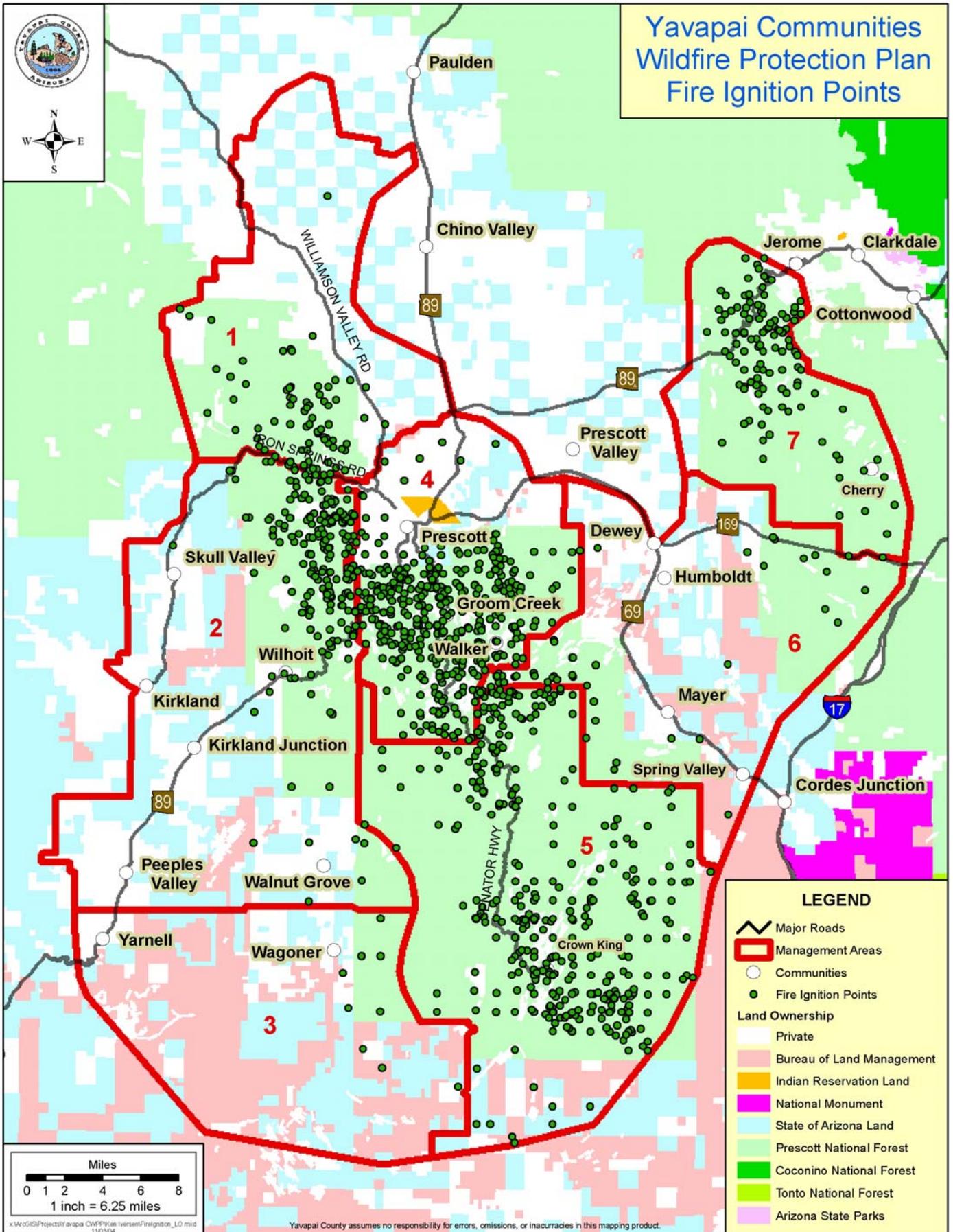


# Yavapai Communities Wildfire Protection Plan Natural Vegetation

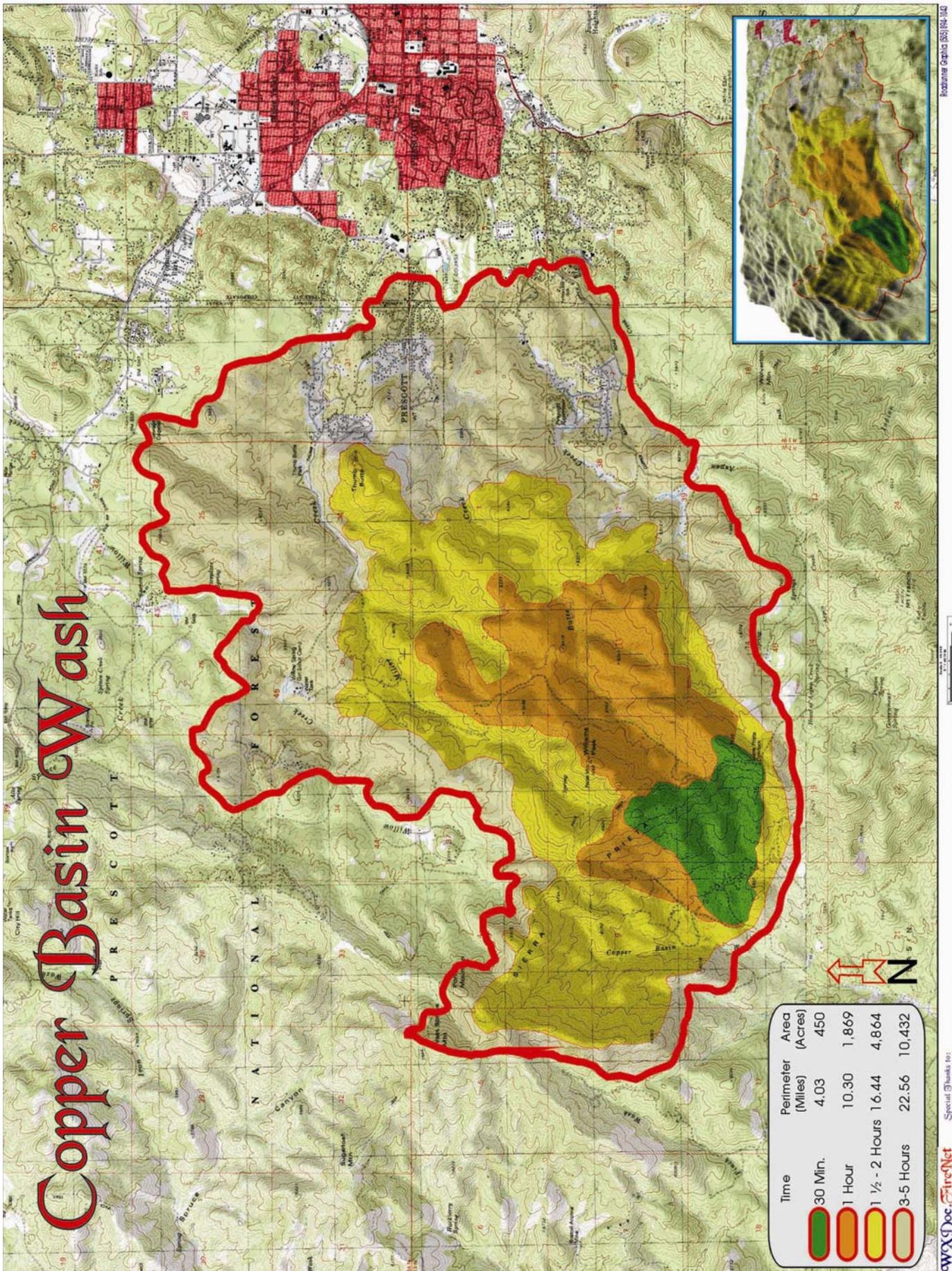


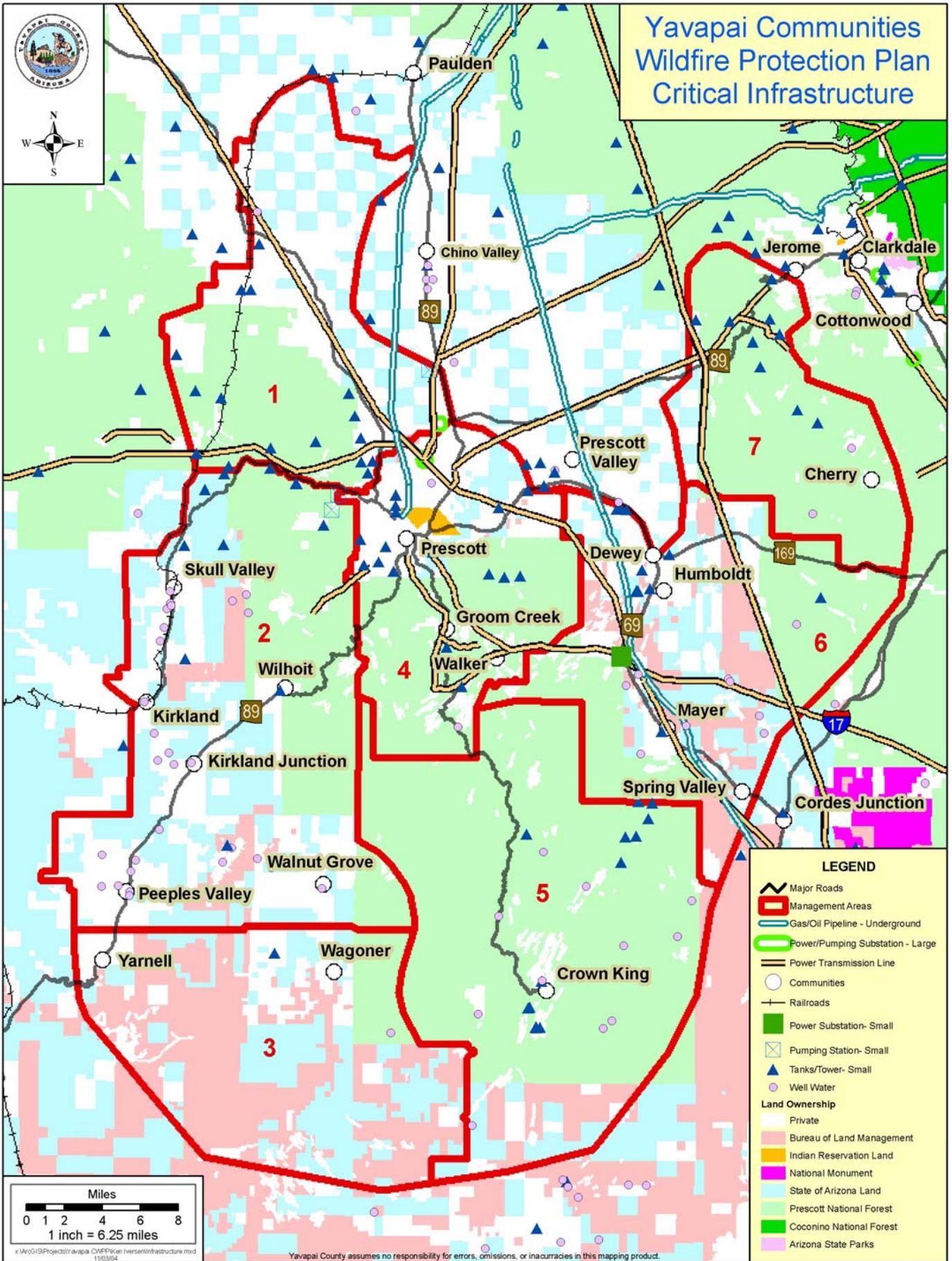
**LEGEND**

- Major Roads
- Management Areas
- Communities
- Natural Vegetation
  - Plains & Great Basin Grassland
  - Semidesert Grassland
  - AZ Upland Sonoran Desert Scrub
  - Interior Chaparral
  - Great Basin Conifer Woodland
  - Petran Montane Conifer Forest







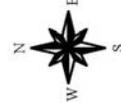




# TREATED AREAS

## LEGEND

- Public Land Use
- ARIZONA GAME AND FISH
  - ARIZONA STATE PARKS
  - BUREAU OF LAND MANAGEMENT
  - BUREAU OF RECLAMATION
  - COCONINO NATIONAL FOREST
  - INDIAN RESERVATION LAND
  - KAIBAB NATIONAL FOREST
  - NATIONAL MONUMENT
  - PRESCOTT NATIONAL FOREST
  - STATE OF ARIZONA LAND
  - TONTO NATIONAL FOREST
  - County Boundary
  - Subdivisions.shp
  - Parcels
  - Subdivisions

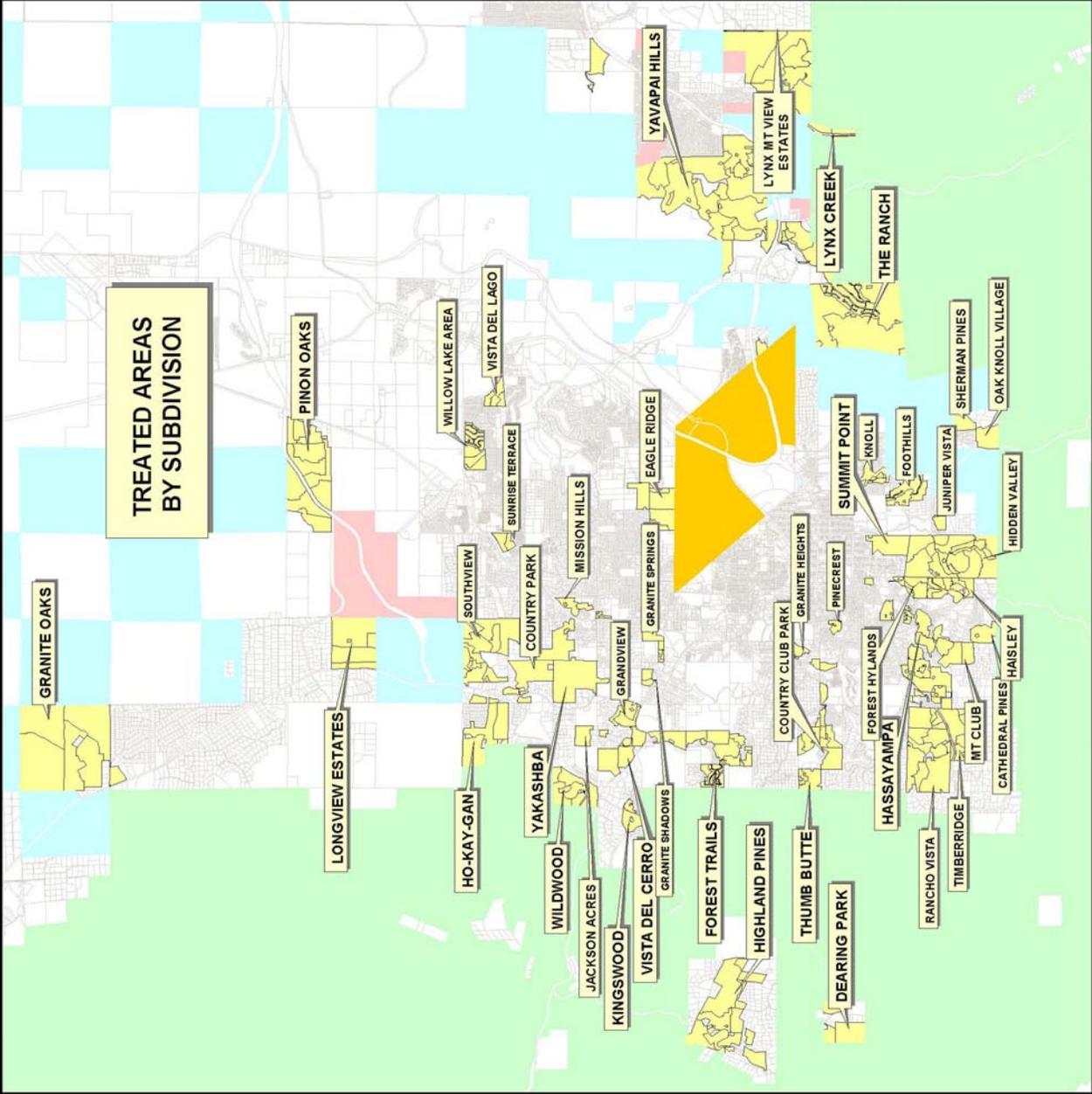


0 4792 9583

1 in. = 9583 ft.

January 12, 2005

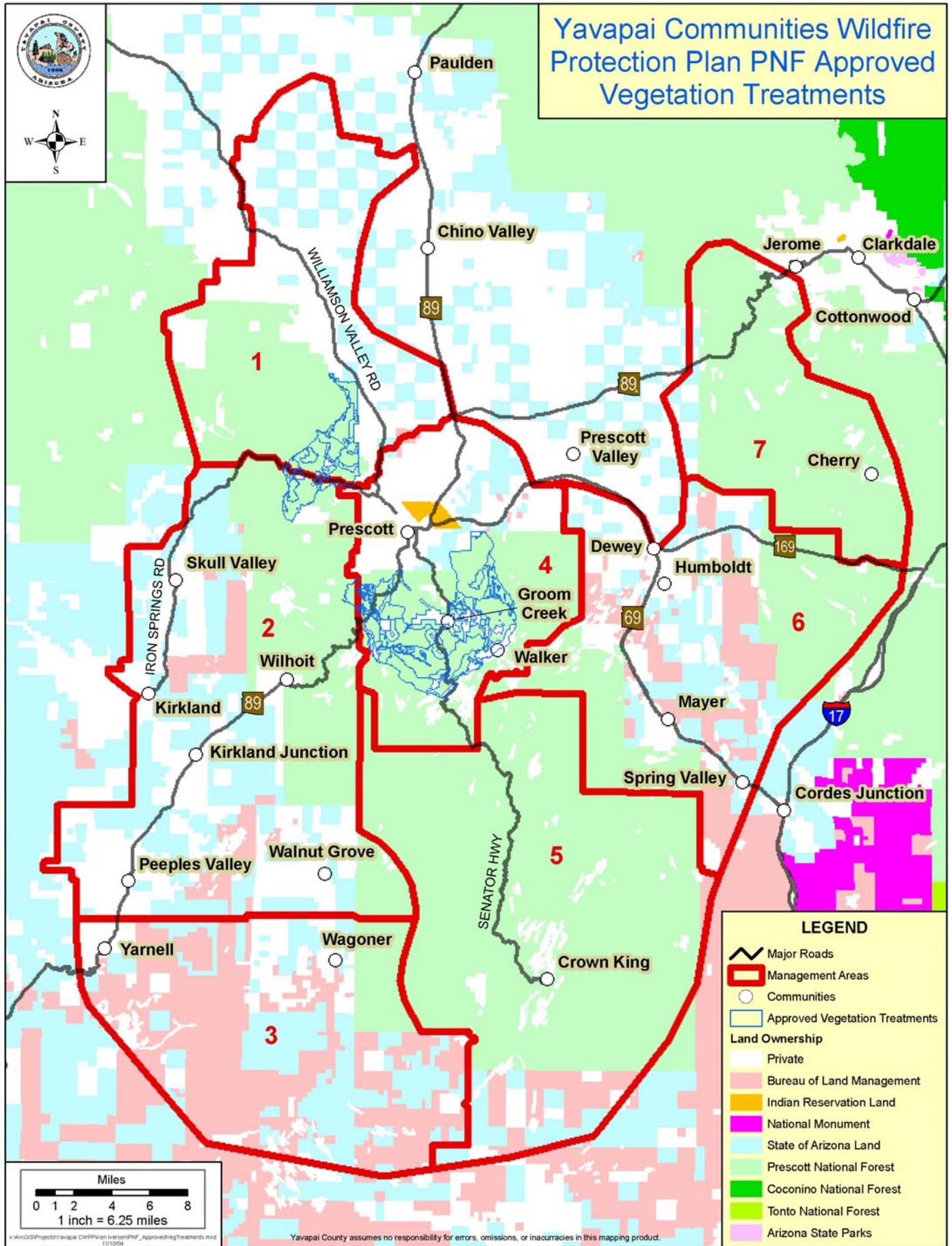
# TREATED AREAS BY SUBDIVISION

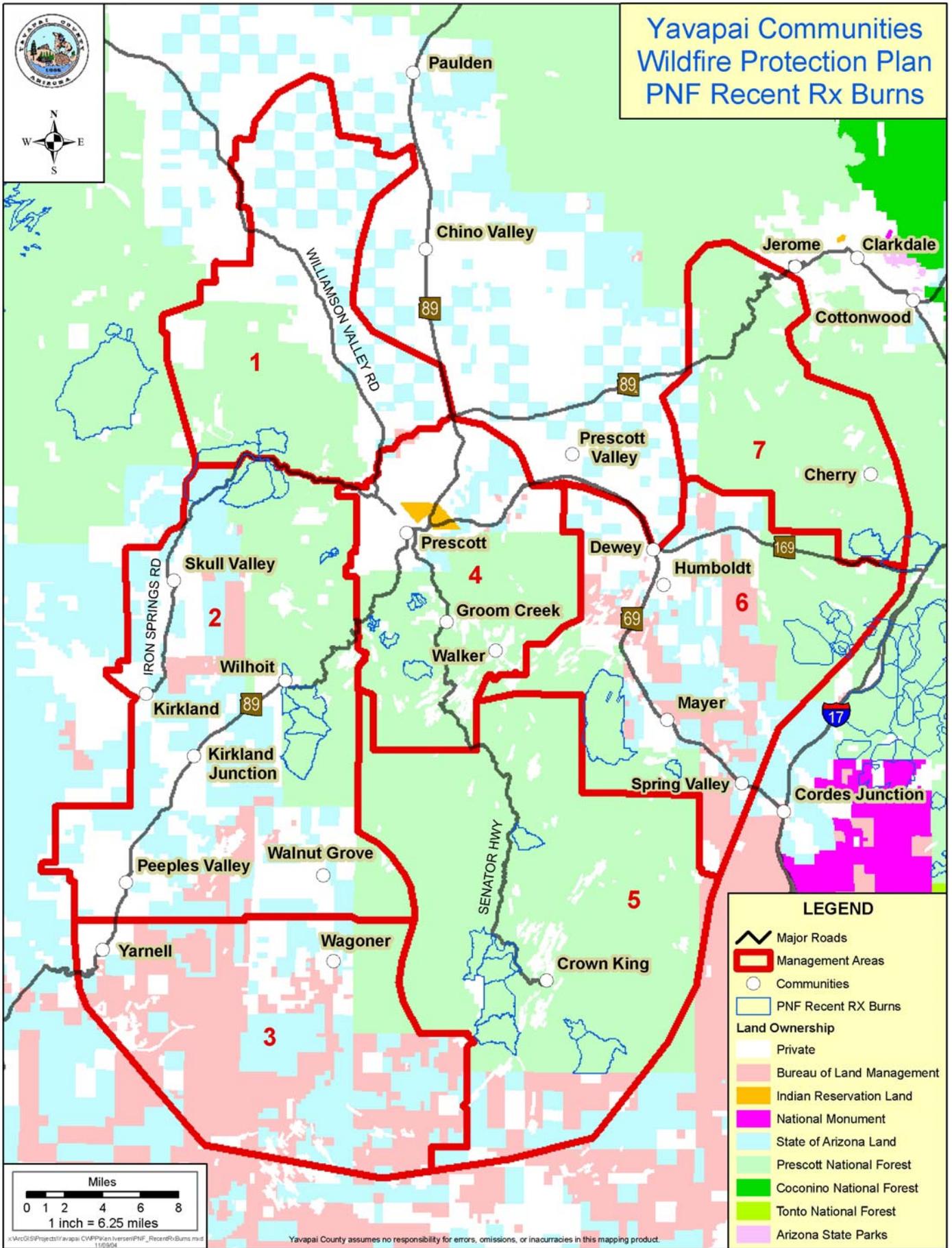


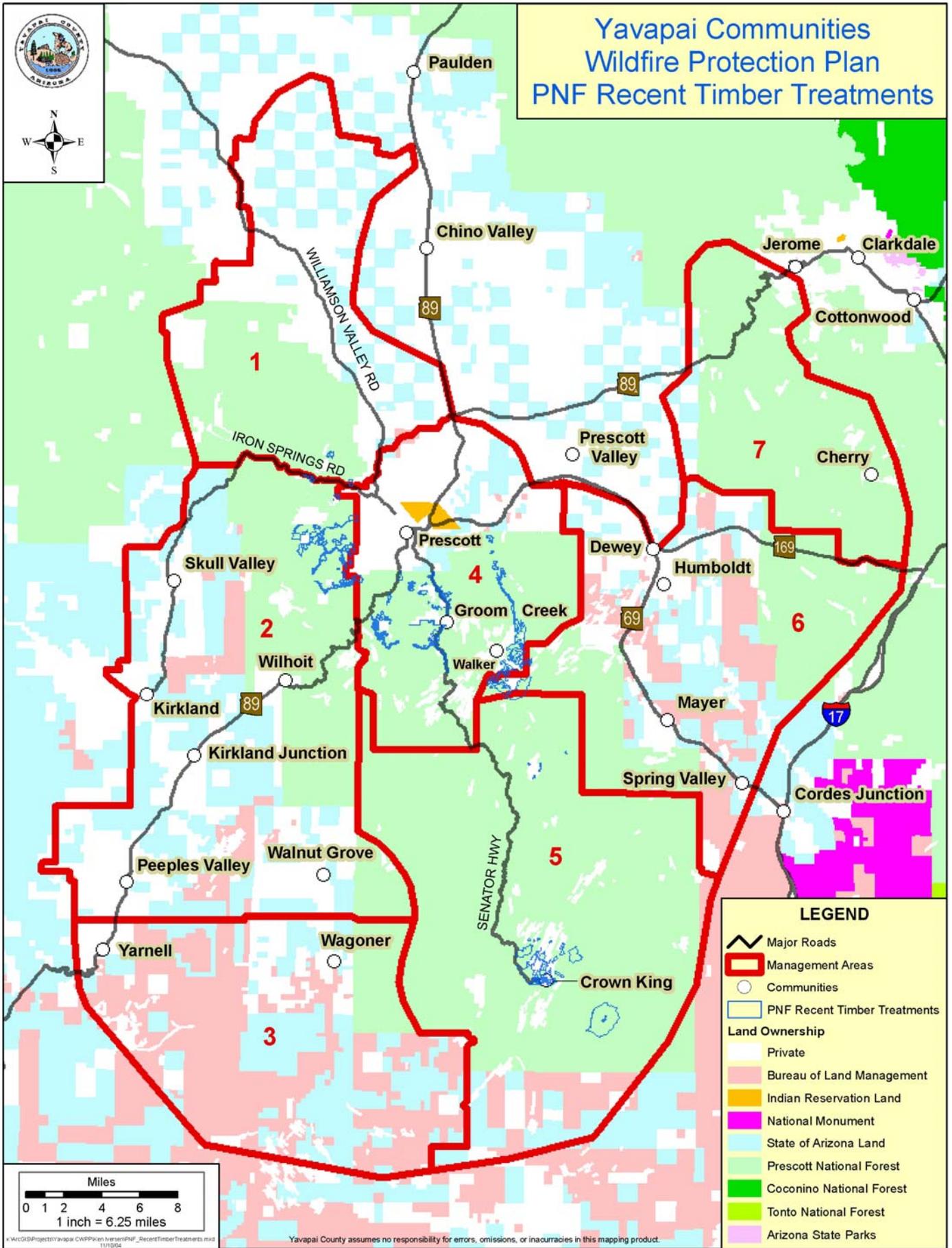
Yavapai County assumes no responsibility for errors, omissions, and/or inaccuracies in this mapping product.



# Yavapai Communities Wildfire Protection Plan PNF Approved Vegetation Treatments

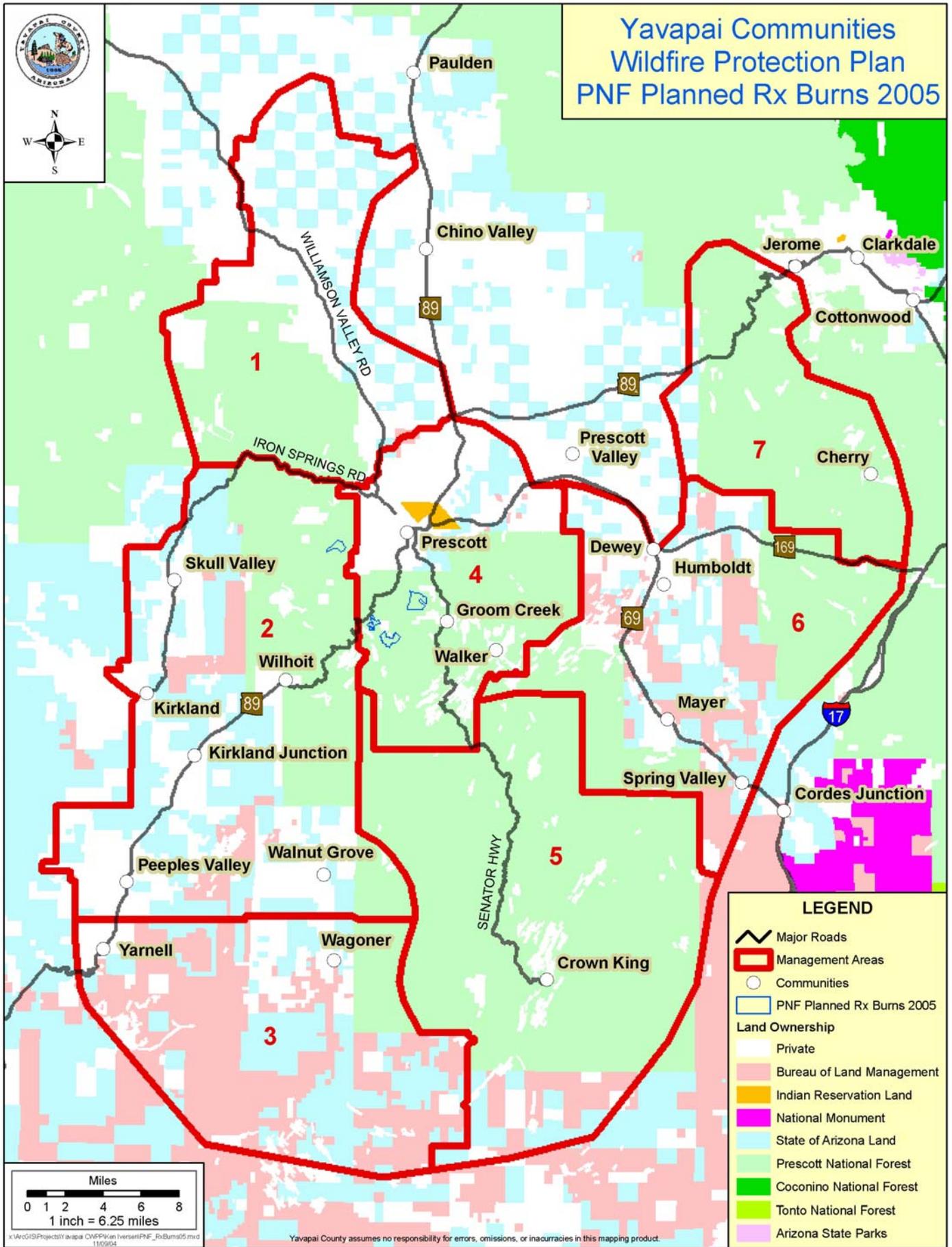








# Yavapai Communities Wildfire Protection Plan PNF Planned Rx Burns 2005

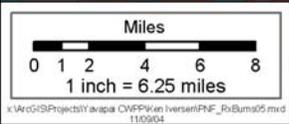


**LEGEND**

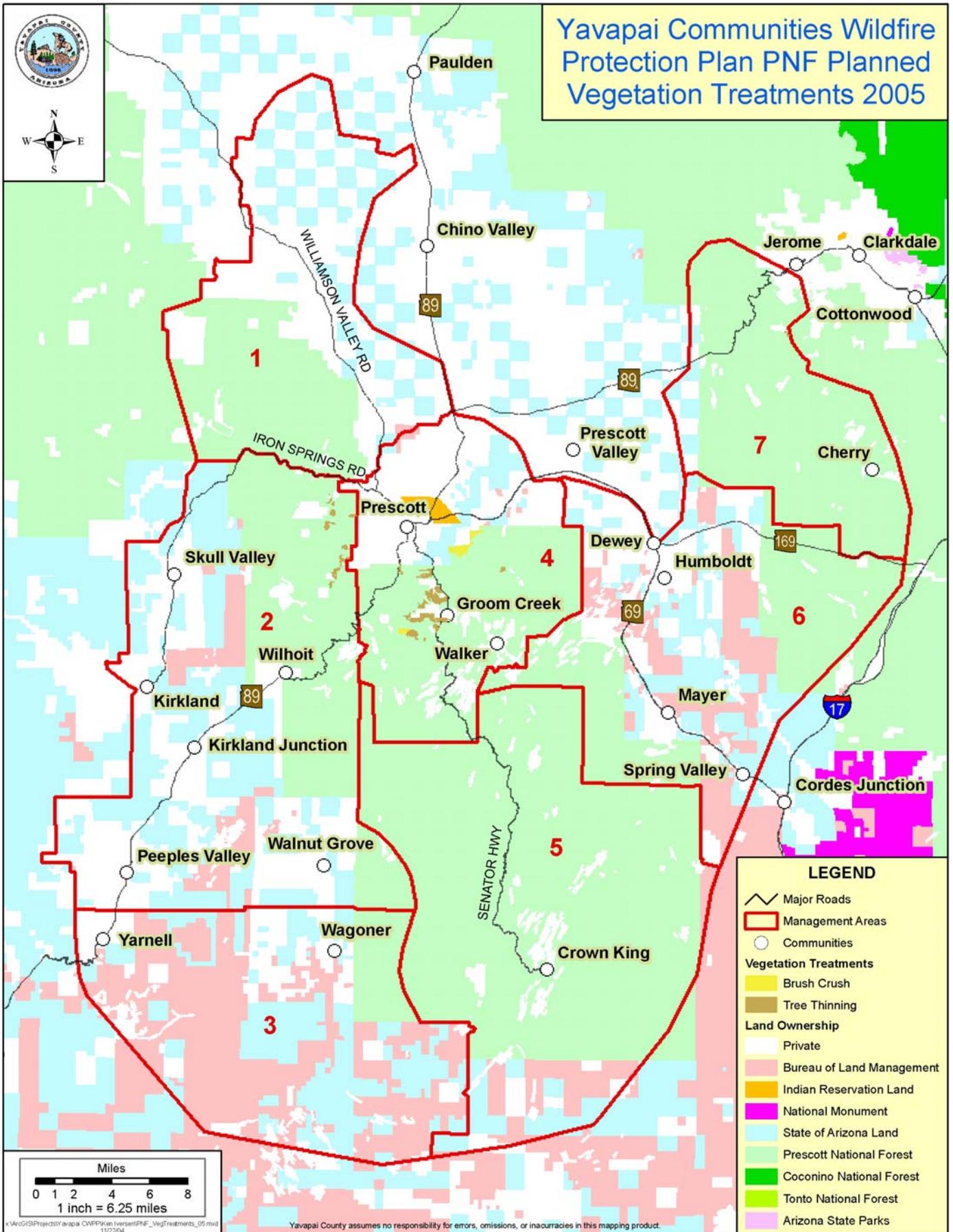
- Major Roads
- Management Areas
- Communities
- PNF Planned Rx Burns 2005

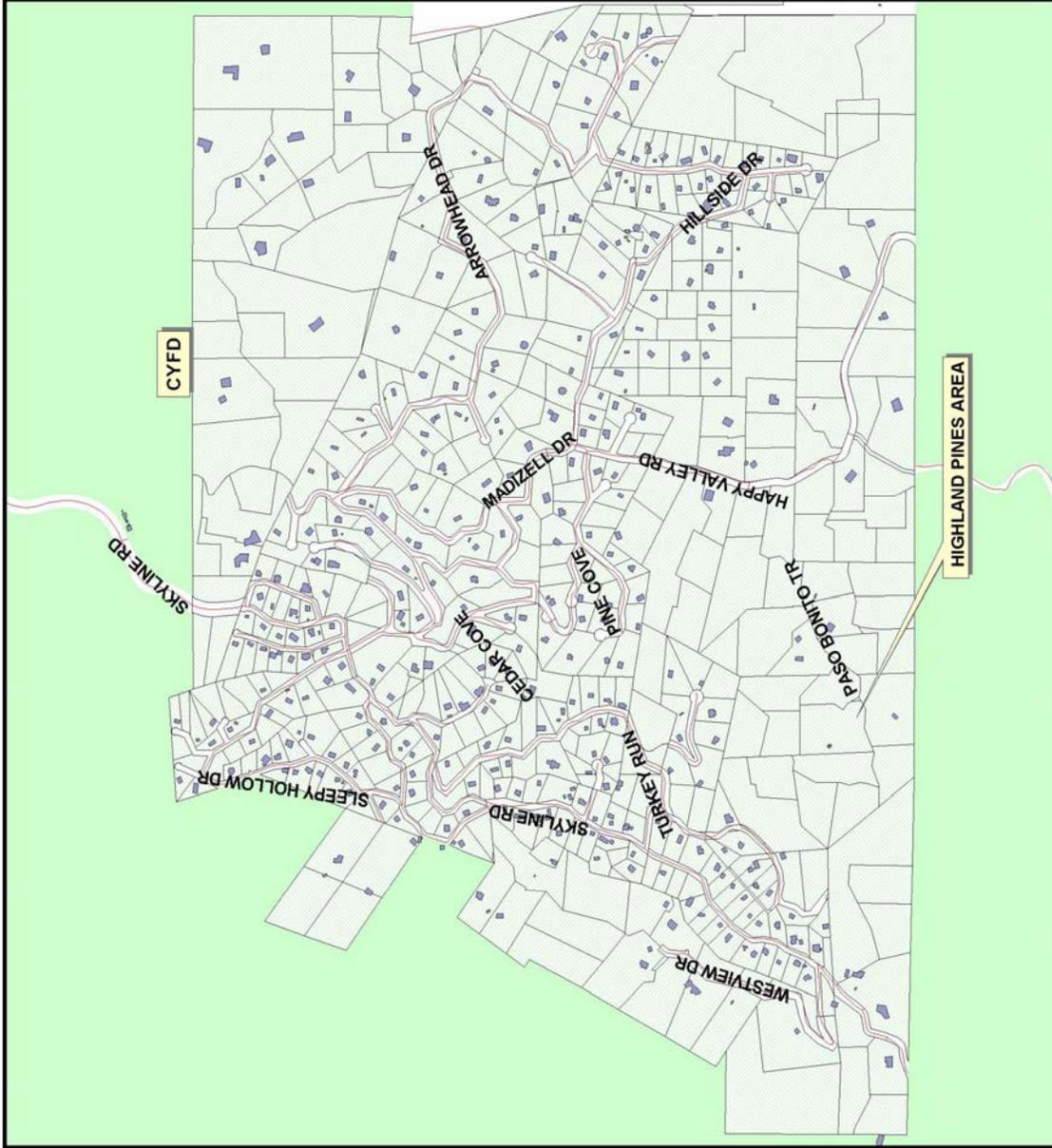
**Land Ownership**

- Private
- Bureau of Land Management
- Indian Reservation Land
- National Monument
- State of Arizona Land
- Prescott National Forest
- Coconino National Forest
- Tonto National Forest
- Arizona State Parks



Yavapai County assumes no responsibility for errors, omissions, or inaccuracies in this mapping product.





**AREA 2**  
**HIGHLAND PINES AREA**  
**# OF PARCELS = 575**  
**# OF HOUSES = 413**  
**# OF IMPROVEMENTS = 553**  
**# OF ACRES = 792.27**

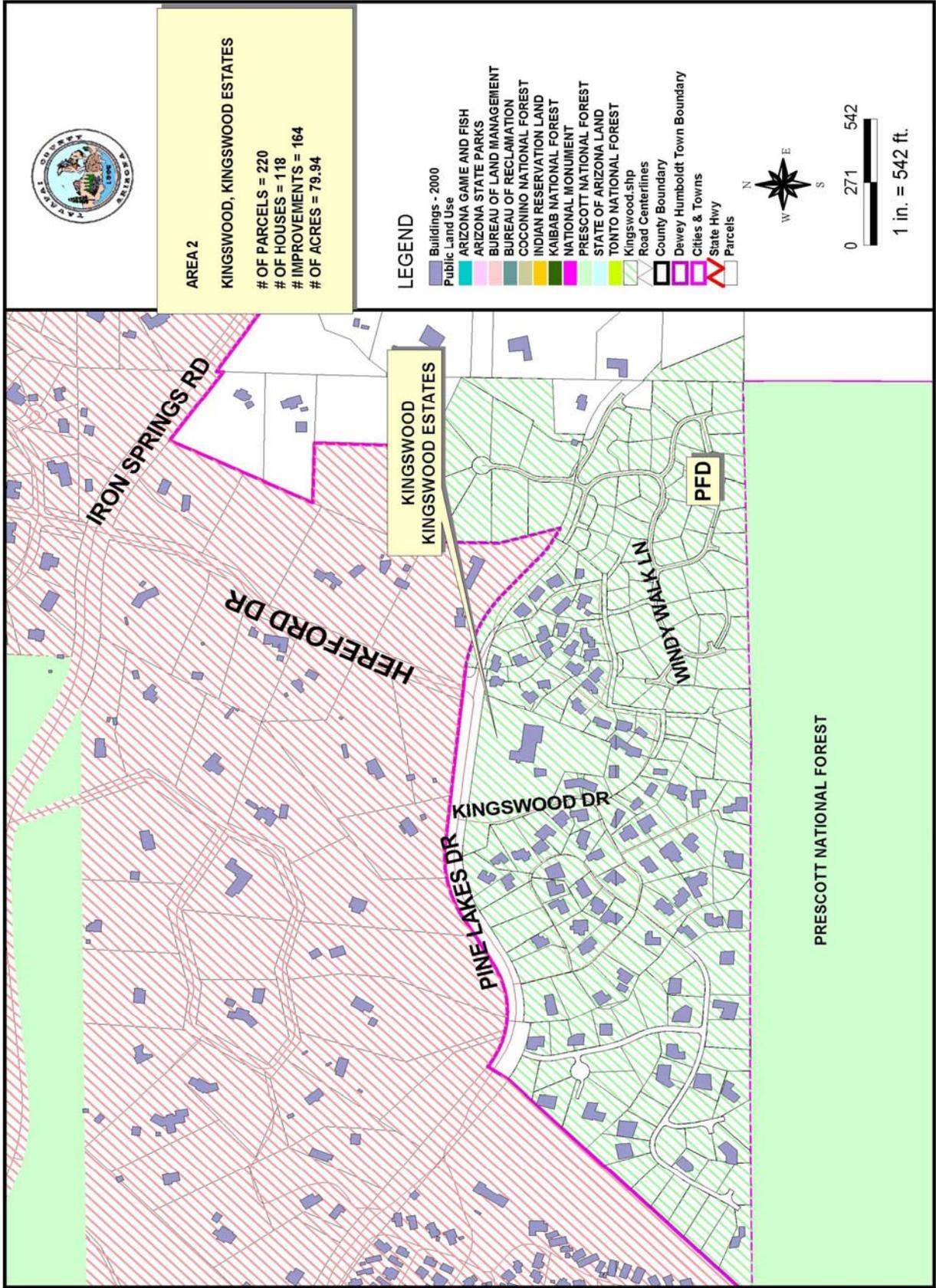
**LEGEND**

- Buildings - 2000
- Highland pines2.shp
- State Hwy
- Cities & Towns
- County Boundary
- Public Land Use
- ARIZONA GAME AND FISH
- ARIZONA STATE PARKS
- BUREAU OF LAND MANAGEMENT
- BUREAU OF RECLAMATION
- COCONINO NATIONAL FOREST
- INDIAN RESERVATION LAND
- KAIBAB NATIONAL FOREST
- NATIONAL MONUMENT
- PRESCOTT NATIONAL FOREST
- STATE OF ARIZONA LAND
- TONTO NATIONAL FOREST
- Road Centerlines
- Parcels



January 10, 2005

Yavapai County assumes no responsibility for errors, omissions, and/or inaccuracies in this mapping product.





**AREA 4**

**PONDEROSA PARK**

**# OF PARCELS = 252**

**# OF HOUSES = 300**

**# OF IMPROVEMENTS = 461**

**# OF ACRES = 273.77**

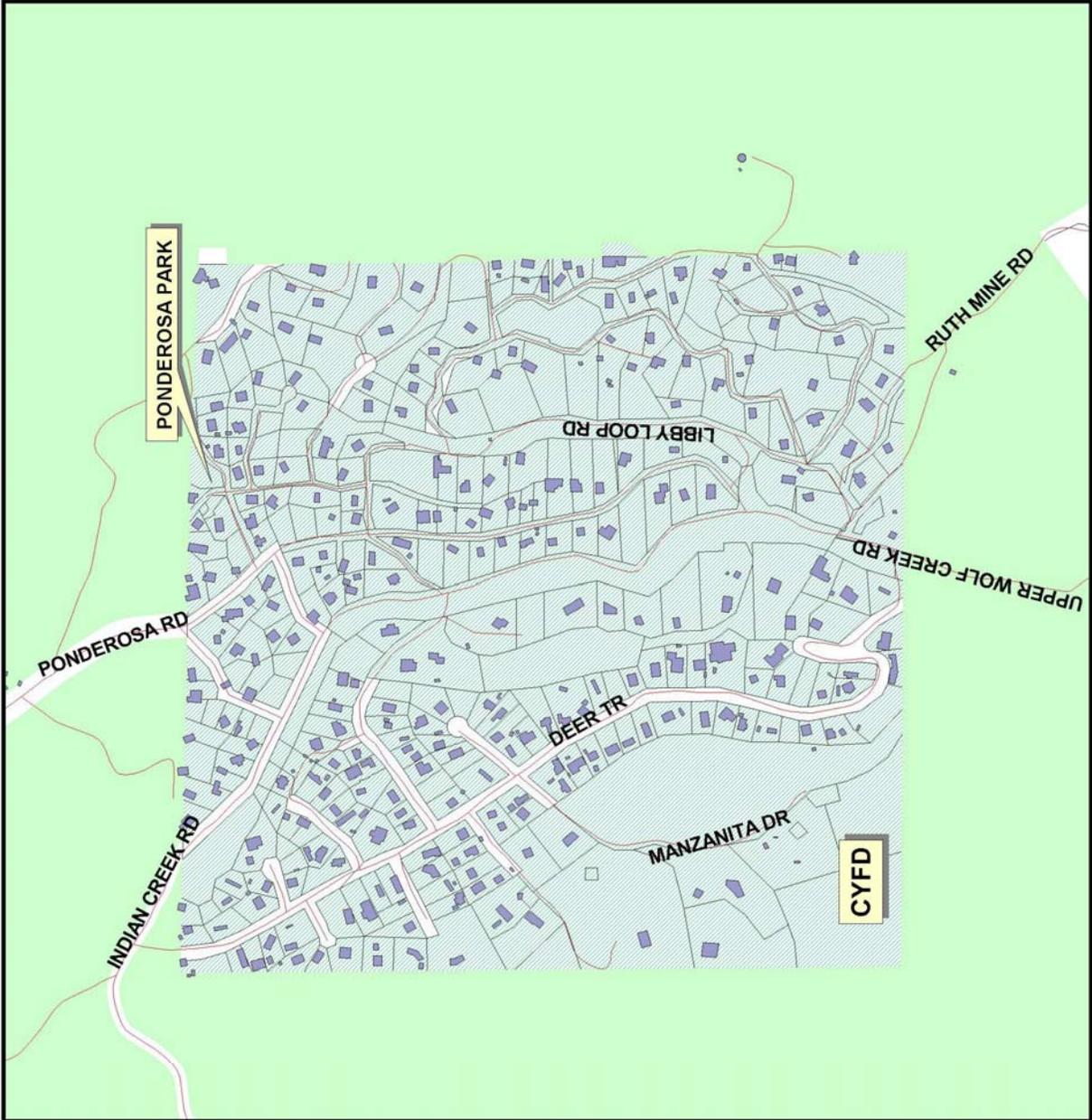
**LEGEND**

- Road Centerlines
- Buildings - 2000
- State Hwy
- Public Street U/I
- ARIZONA GAME AND FISH
- ARIZONA STATE PARKS
- BUREAU OF LAND MANAGEMENT
- BUREAU OF RECLAMATION
- COCONINO NATIONAL FOREST
- INDIAN RESERVATION LAND
- KAIBAB NATIONAL FOREST
- NATIONAL MONUMENT
- PRESCOTT NATIONAL FOREST
- STATE OF ARIZONA LAND
- TONTO NATIONAL FOREST
- Ponderosa.shp
- Kingswood.shp
- Cities & Towns
- County Boundary
- Parcels



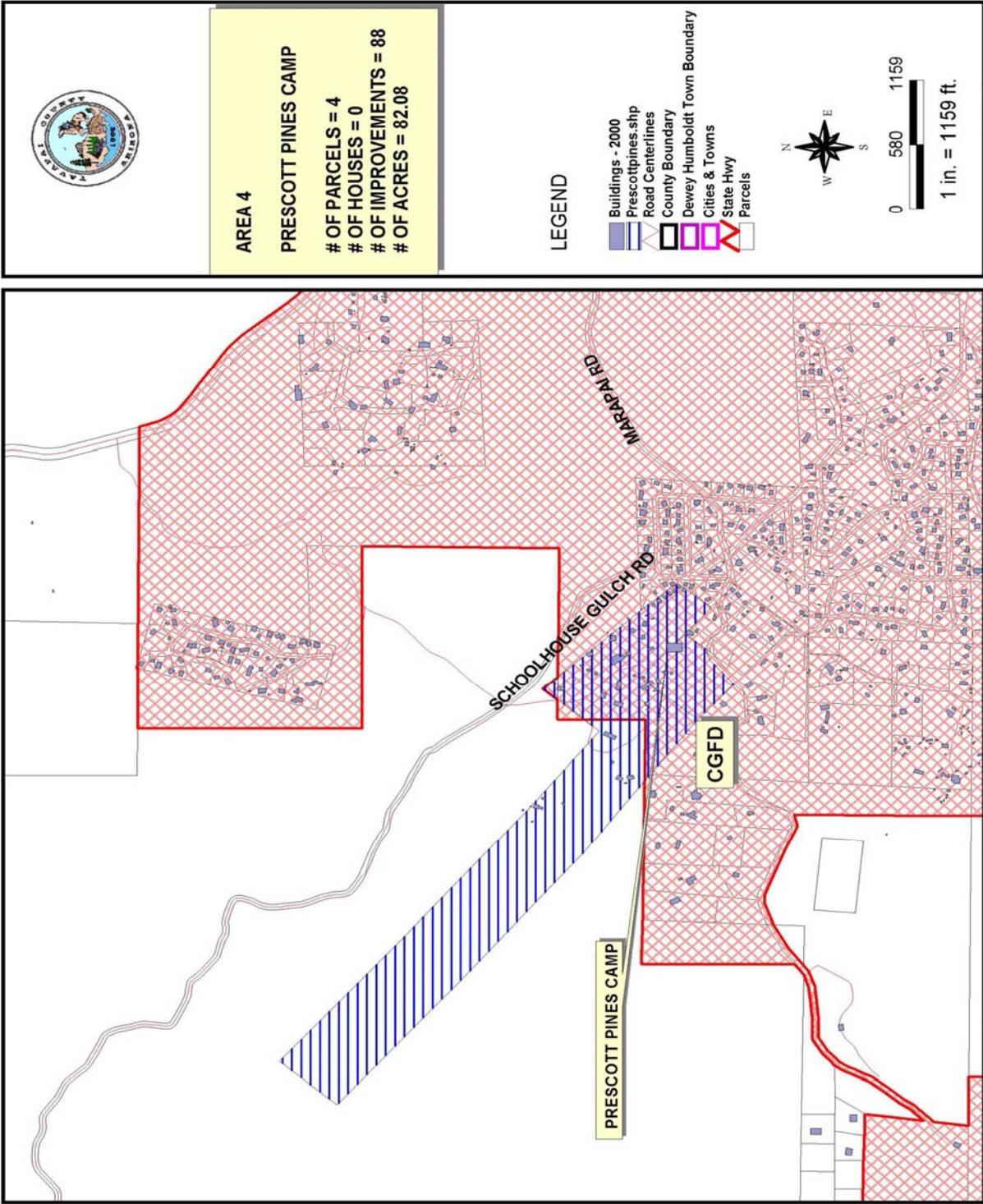
0 313 625

1 in. = 625 ft.



January 10, 2005

Yavapai County assumes no responsibility for errors, omissions, and/or inaccuracies in this mapping product.



January 26, 2005

Yavapai County assumes no responsibility for errors, omissions, and/or inaccuracies in this mapping product.

## 10.0 Appendices

App: 1 YCWPP Boundary Acreage Totals by Values and Ownership	Deleted
App: 2 YCWPP Management Area Lists of Communities, Neighborhoods, and Camps	Deleted
App: 3 YCWPP Wildland Fire Risk and Hazard Severity Assessment Form	10-2 to 10-3
App: 4 YCWPP Homeowner Questionnaire	10-4 to 10-6
App: 5 YCWPP Management Area Ownership Distribution	10-7 to 10-8

## Yavapai Communities Wildfire Protection Plan (CWPP)

### WILDLAND FIRE RISK AND HAZARD SEVERITY ASSESSMENT FORM

**Date:**

**Subdivision/Neighborhood name:**

**Jurisdiction:**

**Assessor:**

Assign a value to the most appropriate element in each category and place the number of points in the column in the right.

Element	Points
<b>A. Means of Access</b>	
1. Ingress and egress	
a. Two or more roads in/out	0 _____
b. One road in/out	7 _____
2. Road Width	
a. $\geq 24$ ft	0 _____
b. $\geq 20$ ft and $< 24$ ft	2 _____
c. $< 20$ ft	4 _____
3. All-season road condition	
a. Surfaced road, grade $< 5\%$	0 _____
b. Surfaced road, grade $> 5\%$	2 _____
c. Non-surfaced road, grade $< 5\%$	2 _____
d. Non-surfaced road, grade $> 5\%$	5 _____
e. Other than all-season	7 _____
4. Fire Service Access	
a. $\leq 300$ ft with turnaround	0 _____
b. $> 300$ ft with turnaround	2 _____
c. $< 300$ ft with no turnaround	4 _____
d. $\geq 300$ ft with no turnaround	5 _____
5. Street Signs	
a. Present [4 in. in size and reflectorized]	0 _____
b. Not present	5 _____
<b>B. Vegetation (Fuel Models)</b>	
1. Characteristics of predominate vegetation within 300ft	
a. Light (e.g., grasses, forbs, sawgrasses, and tundra) NFDRS Fuel Models A, C, L, N, S, and T	5 _____
b. Medium (e.g., light brush and small trees) NFDRS Fuel Models D, E, F, H, P, Q, and U	10 _____
c. Heavy (e.g., dense brush, timber, and hardwoods) NFDRS Fuel Models (e.g., B, G, and O)	20 _____
d. Slash (e.g., timber harvesting residue) NFDRS Fuel models J, K, and L	25 _____
2. Defensible Space	
a. More than 100ft of vegetation treatment from the structure(s)	1 _____
b. 71ft to 100ft of vegetation treatment from the structure(s)	3 _____
c. 30ft to 70 ft of vegetation treatment from the structure(s)	10 _____
d. $< 30$ ft of vegetation treatment from the structure(s)	25 _____
<b>C. Topography Within 91.4m (300ft) of Structure(s)</b>	
1. Slope $< 9\%$	1 _____
2. Slope 10% to 20%	4 _____
3. Slope 21% to 30%	7 _____
4. Slope 31% to 40%	8 _____
5. Slope $> 41\%$	10 _____

**Element**

**Points**

**D. Additional Rating Factors (rate all that apply)**

- 1. Topographical features that adversely affect wildland fire behavior 0-5 \_\_\_\_\_
- 2. Areas with a history of higher fire occurrence than surrounding areas due to special Situations (e.g., heavy lightening, railroads, escaped debris burning, and arson) 0-5 \_\_\_\_\_
- 3. Areas that are periodically exposed to unusually severe fire weather and strong dry winds 0-5 \_\_\_\_\_
- 4. Separation of adjacent structures that can contribute to fire spread 0-5 \_\_\_\_\_

**E. Roofing Assembly**

- 1. Class A roof 0 \_\_\_\_\_
- 2. Class B roof 3 \_\_\_\_\_
- 3. Class C roof 15 \_\_\_\_\_
- 4. Nonrated 25 \_\_\_\_\_

**F. Building Construction**

- 1. Materials (predominate)
  - a. Noncombustible/fire-resistive siding, eaves, and deck 0 \_\_\_\_\_
  - b. Noncombustible/fire-resistive siding and combustible deck 5 \_\_\_\_\_
  - c. Combustible siding and deck 10 \_\_\_\_\_
- 2. Building setback relative to slopes of 30% or more
  - a.  $\geq 30$ ft to slope 1 \_\_\_\_\_
  - b.  $< 30$ ft to slope 5 \_\_\_\_\_

**G. Available Fire Protection**

- 1. Water source availability
  - a. Pressurized water source availability
    - 500gpm hydrants  $\leq 1000$ ft apart 0 \_\_\_\_\_
    - 250gpm hydrants  $\leq 1000$ ft apart 1 \_\_\_\_\_
  - b. Nonpressurized water source availability (off site)
    - $\geq 250$ gpm continuous for 2 hours 3 \_\_\_\_\_
    - $< 250$ gpm continuous for 2 hours 5 \_\_\_\_\_
  - c. Water unavailable 10 \_\_\_\_\_
- 2. Organized response resources
  - a. Station  $\leq 5$  mi. from structure 1 \_\_\_\_\_
  - b. Station  $> 5$  mi. from structure 3 \_\_\_\_\_
- 3. Fixed fire protection
  - a. NFPA 13, 13R, 13D sprinkler system 0 \_\_\_\_\_
  - b. None 5 \_\_\_\_\_

**H. Placement of Gas and Electric Utilities**

- 1. Both underground 0 \_\_\_\_\_
- 2. One underground, one aboveground 3 \_\_\_\_\_
- 3. Both aboveground 5 \_\_\_\_\_

**I. Totals for Home or Subdivision (Total of all points)**

<u>Hazard Assessment</u>	<u>Total Points</u>
Low hazard	$< 40$
Moderate hazard	40-69
High hazard	70-112
Extreme hazard	$> 112$

(NFPA 1144 Standard for Protection of Life and Property from Wildfire, 2002)

YAVAPAI COMMUNITY WILDFIRE PROTECTION PLAN

Homeowner Questionnaire

Dear Home/Property Owner:

A Community Wildfire Protection Plan (CWPP) is being developed for communities in south-central Yavapai County. A committee has been formed representing local fire departments, Arizona Public Service, Arizona State Land Department, U.S. Forest Service and the Bureau of Land Management. The committee is collecting information from homeowners as to their needs and knowledge related to wildfire protection. **This form represents your voice in this process and is a critical part of the plan.** The goal of the plan is to provide public education and the means to reduce hazardous vegetation in and around communities, helping them become safer by reducing the risk of wildfires.

Please complete this form and return it to your community representative, fire department, or in the stamped envelope provided. Attach any additional comments on a separate sheet of paper.

1. Which category most correctly describes your property and how it is used?

- year-round residence
- seasonal residence
- vacation home
- undeveloped lot
- undeveloped acreage
- other

2. Are you aware of any potential risks associated with wildfire near your property?

Yes, or no? \_\_\_

3. Are there obstacles preventing you from reducing wildfire risk on your property?

Yes or no? \_\_\_ Briefly, what are the obstacle(s), if any?

---

---

4. If needed, would you be willing to replace areas of your home (roof, siding, windows, doors, etc.) with fire-retardant components?

Yes, or no? \_\_\_ Which component(s) \_\_\_\_\_

---

---

Would you be more likely to replace areas if the cost was subsidized by a grant? Yes No \_\_\_\_\_

5. If curbside pick-up were available, would you be more likely to remove hazardous vegetation from your property?

Yes, or no? \_\_\_

6. Do you have access to information, assistance, or educational opportunities to help you reduce the risk of wildfire on or near your property?

Yes, or no? \_\_\_

7. Were you aware that wildfire information is posted daily at [www.regionalinfo-alert.org](http://www.regionalinfo-alert.org) ?

Yes, or no? \_\_\_\_

8. Have you had a wildfire risk assessment conducted on your home/property by an official agency, fire department, landscape contractor, or other trained professional?

Yes, or no? \_\_\_\_\_

If yes, who did the assessment? \_\_\_\_\_

9. Are you familiar with “Firewise Community Concepts”?

Yes, or no? \_\_\_\_\_

Would you be interested in becoming a “Firewise” community? Yes\_ or no? \_\_\_\_\_

(For “Firewise” information log on to: <http://www.firewise.org/> or contact XXXX)

10. Many strategies are used to reduce the risk of damage by wildfire to you, your family, and your property. Please circle the number that best describes your level of knowledge about each of the following risk-reduction strategies.

	None	Limited	Some	Full
a. Defensible zoning	1	2	3	4
b. Fire-resistive plants	1	2	3	4
c. Access to property	1	2	3	4
d. Slope position	1	2	3	4
e. Construction materials	1	2	3	4
f. Alternative water sources	1	2	3	4
g. Ingress/egress	1	2	3	4
h. Home maintenance	1	2	3	4

11. In the event of wildfire, many different firefighting organizations and resources can be called in to assist with fire wildfire suppression. Please circle the number that best describes your level of knowledge about wildfire suppression resources available in your area.

	None	Limited	Some	Full
a. City Fire Department	1	2	3	4
b. County Fire District	1	2	3	4
c. Volunteer Fire Department	1	2	3	4
d. Arizona State Lands	1	2	3	4
e. U.S. Forest Service	1	2	3	4
f. Bureau of Land Management	1	2	3	4

**12. How would you rate the level of protection from wildfire that exists now in your community?**

(Circle one)      Excellent                      Good                      Fair                      Poor

Comments: \_\_\_\_\_  
\_\_\_\_\_

13. Do you think that your fire department/district is providing an adequate level of wildfire protection in your community?

Yes, or no? \_\_\_\_\_ Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

14. What is the one thing that your fire department/district should do that would protect your community better against wildfire?

\_\_\_\_\_  
\_\_\_\_\_

Please provide any comments or recommendations that you may have about this survey.  
**(IE, additional questions, poorly worded question, etc.)**

Questions? Please contact CWPP committee at (978) 771-3321

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

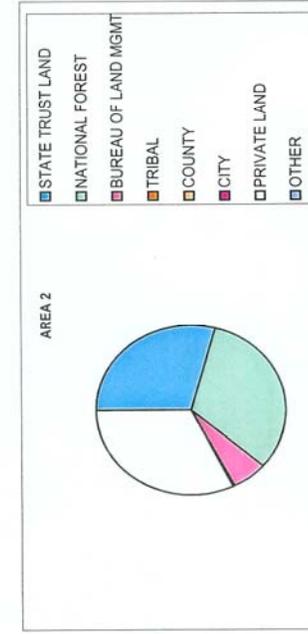
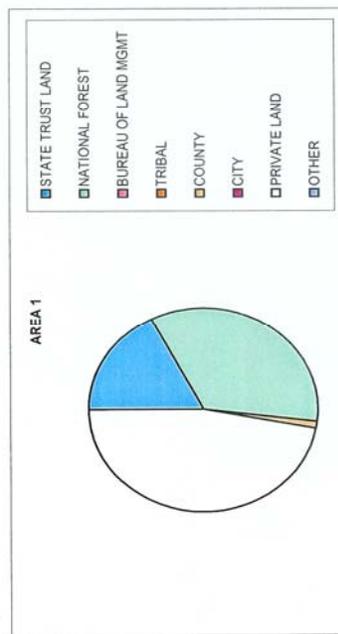
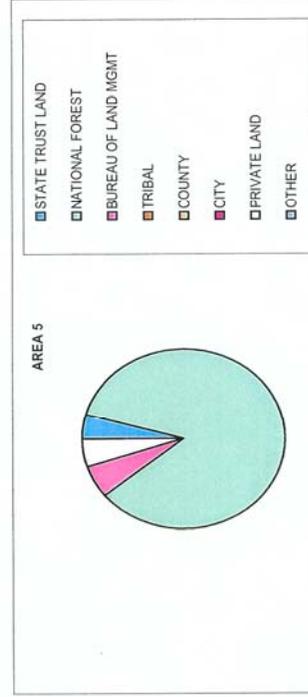
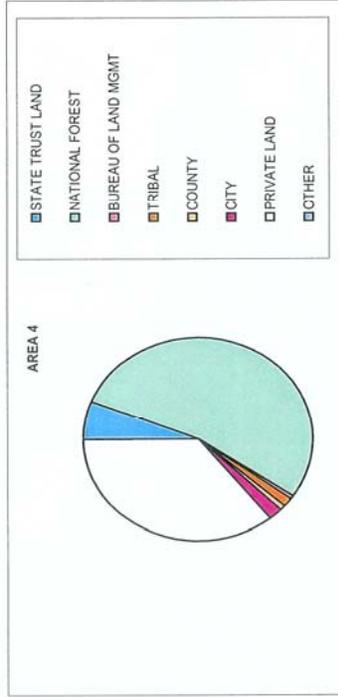
Other comments or recommendations (if you need more space, please attach on another sheet of paper)

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Thank you for contribution!**

WILDLAND URBAN INTERFACE BOUNDARY OWNERSHIP

OWNERSHIP BY ACREAGE	AREA 1	AREA 2	AREA 3	AREA 4	AREA 5	AREA 6	AREA 7	Total	% of Total
STATE TRUST LAND	20,466	57,476	37,026	6,036	8,682	26,020	2,525	158,231	16.42%
NATIONAL FOREST	40,515	63,131	10,913	53,077	185,152	51,691	68,980	453,459	47.06%
BUREAU OF LAND MGMT	266	11,873	62,430	541	11,451	26,098	0	112,659	11.69%
TRIBAL	0	0	0	1,387	0	0	0	1,387	0.14%
COUNTY	1,049	802	56	823	68	665	18	3,481	0.36%
CITY	88	0	0	1,811	0	35	0	1,934	0.20%
PRIVATE LAND	55,238	63,306	25,315	35,569	9,528	35,793	7,349	232,088	24.09%
OTHER	9	16	1	103	13	181	2	325	0.03%
<b>ROUNDED TOTALS</b>	<b>117,631</b>	<b>196,004</b>	<b>135,741</b>	<b>99,347</b>	<b>194,894</b>	<b>140,483</b>	<b>78,874</b>	<b>963,574</b>	<b>100.00%</b>



WILDLAND URBAN INTERFACE BOUNDARY OWNERSHIP

