



Maricopa County

Community Wildfire Protection Plan

FEBRUARY 2010



Aguila
Apache Junction
Avondale
Buckeye
Buckeye Valley
Cave Creek
Circle City/Morristown
Carefree
Chandler
El Mirage
Fountain Hills
Gila Bend
Glendale
Gilbert
Guadalupe
Goodyear
Harquahala
Litchfield Park
Mesa
New River
Peoria
Phoenix
Paradise Valley
Queen Creek
Rio Verde
Scottsdale
Sun City
Sun City West
Sunflower
Sun Lakes
Surprise
Tempe
Tolleson
Tonopah
Wickenburg
Wittmann
Youngtown

Arizona State Forestry Division
Maricopa County Department of Emergency Management
US Department of the Interior Bureau of Land Management
Tonto National Forest
Fort McDowell Indian Community
Gila River Indian Community
Tohono O'odham Indian Nation San Lucy District
Salt River Pima-Maricopa Indian Community

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February 2010

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TABLE OF CONTENTS

Acronyms and Abbreviations	iv
Executive Summary	v
I. Introduction	1
A. Background	3
B. WUI and Delineation Process	5
C. Desired Future Condition and Wildfire Mitigation in the WUI	9
D. Goals for the Maricopa County CWPP	11
E. Planning Process	12
II. Maricopa County CWPP Community Assessment and Analysis	14
A. Fire Regime and Condition Class	21
B. Fuel Hazards	24
C. Conditions of Ignition and Past Fire Occurrence	45
D. Community Values at Risk	48
E. Summary of Community Assessment and Cumulative Risk Analysis	51
III. Community Mitigation Plan	81
A. Fuel Reduction Priorities	81
B. Prevention and Loss Mitigation	98
1. Maricopa County CWPP Administration and Implementation	99
2. Improved Protection Capability and Reduction in Structural Ignitability	99
3. Promote Community Involvement and Improved Public Education, Information, and Outreach	100
4. Encourage Use of Woody Material from WUI Fuel Mitigation Programs	101
IV. Maricopa County CWPP Priorities: Action Recommendations and Implementation	102
A. Administrative Oversight	102
B. Priorities for Mitigation of Hazardous Wildland Fuels	104
C. Identified Action Items for Protection Capability and Reduced Structural Ignitability	104
D. Priorities for Promoting Community Involvement through Education, Information, and Outreach	108
V. Monitoring Plan	110
A. Administrative Oversight, Monitoring, and Maricopa County CWPP Reporting	110
B. Effectiveness Monitoring	111
VI. Declaration of Agreement and Concurrence	113
VII. References	119
VIII. Glossary of Fire Management Terms	123

APPENDIXES

Appendix A. Vegetation Association Descriptions	144
Appendix B. National Fire Danger Rating System Fuel Model Selection Key	152
Appendix C. Educational Resources	155
Appendix D. Information Data Sheet and Contacts	159
Appendix E. Invasive Species	161
Appendix F. National Fire and Aviation Executive Board Appropriate Management Response	176

LIST OF TABLES

Table 1.1 Maricopa County CWPP recommended at-risk communities.....	6
Table 2.1 Land management within the WUI.....	14
Table 2.2 Fire regime information.....	21
Table 2.3 Fuel model, fire-danger ratings, and intensity levels on vegetative associations in the WUI	25
Table 2.4 Fuel hazard components	40
Table 2.5 Ignition history and wildfire occurrence	48
Table 2.6 Community values	51
Table 2.7 Cumulative risk levels by percentage of the WUI area	76
Table 3.1 Fuel modification and treatment plans	82
Table 3.2 Identified treatment management units.....	84
Table 3.3 Acres of wildland fuels mitigation treatment conducted by ASFD fire and fuels crew during an 8-hour on-site workday units	97
Table 4.1 Action recommendations for wildland fuel modification	105
Table 4.2 Action recommendations for structural ignitability and public outreach	106
Table 4.3 Future recommendations for wildland fire protection and reduced ignitability.....	108
Table 4.4. Future recommendations for enhanced public education, information, and outreach.....	109
Table 5.1 Performance measures to assess Maricopa County CWPP progress.....	112

LIST OF FIGURES

Figure 1.1 Analysis area.....	1
Figure 1.2 Maricopa County CWPP process	7
Figure 2.1a Maricopa County CWPP WUI area, east	16
Figure 2.1b Maricopa County CWPP WUI area, west	17
Figure 2.2a Maricopa County CWPP vegetation associations, east	30
Figure 2.2b Maricopa County CWPP vegetation associations, west.....	31
Figure 2.3a Maricopa County CWPP flammability, east	32
Figure 2.3b Maricopa County CWPP flammability, west.....	33
Figure 2.4a Maricopa County CWPP wildland fuel hazards during typical fire season, east	41
Figure 2.4b Maricopa County CWPP wildland fuel hazards during typical fire season, west.....	42
Figure 2.5a Maricopa County CWPP wildland fuel hazards during extraordinary rainfall years, east.....	43
Figure 2.5b Maricopa County CWPP wildland fuel hazards during extraordinary rainfall years, west	44
Figure 2.6a WUI ignition history, east.....	46
Figure 2.6b WUI ignition history, west	47
Figure 2.7a Maricopa County CWPP community values, east.....	52
Figure 2.7b Maricopa County CWPP community values, west	53
Figure 2.8a Maricopa County CWPP cumulative risk analysis, east.....	79
Figure 2.8b Maricopa County CWPP cumulative risk analysis, west	80
Figure 3.1a Maricopa County CWPP treatment management units, east	94
Figure 3.1b Maricopa County CWPP treatment management units, west	95

LIST OF PHOTOS

Photo 1.1 2005 Wildfire in Maricopa County CWPP	9
Photo 2.1 Desert Scrub vegetation association	35
Photo 2.2 Shrubland vegetation association	36
Photo 2.3 Woodland vegetation association	37
Photo 2.4 Deciduous Southwest Riparian vegetation association.....	38
Photo 2.5 Developed land within the WUI.....	39

ACRONYMS AND ABBREVIATIONS

AMR	Appropriate Management Response
APS	Arizona Public Service
ASLD	Arizona State Land Department
ASFD	Arizona State Forestry Division
ASP	Arizona State Parks Department
BA	basal area
BAER	burned area emergency response
BLM	Bureau of Land Management
CWPP	community wildfire protection plan
dbh	diameter at breast height
drc	diameter at root collar
FO	BLM Field Office
FRCC	fire regime condition class
FS	Forest Service
GIS	geographic information system
GPS	Global Positioning System
HFRA	Healthy Forests Restoration Act of 2003
IGA	intergovernmental agreement
IMS	Federal Wildland Fire Occurrence Internet Mapping Service
ISO	Insurance Services Office
NFDRS	National Fire Danger Rating System
MCDEM	Maricopa County Department of Emergency Management
MLRA	Major Land Resource Area
PNVG	potential natural vegetation group
PPE	Personal protection equipment
R _x	prescribed fire
SR	state route
SRP	Salt River Project
SWReGAP	Southwest Regional Gap Analysis Project
TES	Threatened, endangered, and sensitive species
TNF	Tonto National Forest
USDA	United States Department of Agriculture
USDI	United States Department of the Interior
WUI	wildland-urban interface

EXECUTIVE SUMMARY: MARICOPA COUNTY COMMUNITY WILDFIRE PROTECTION PLAN

The Maricopa County Community Wildfire Protection Plan (CWPP) was developed in response to the Healthy Forests Restoration Act of 2003 (HFRA) for the at-risk communities and unincorporated areas in Maricopa County, Arizona, located in and around public lands administered by the US Department of the Interior Bureau of Land Management (USDI BLM) Phoenix District Office and the Tonto National Forest (TNF). HFRA established unprecedented incentives for communities to develop comprehensive wildfire protection plans in a collaborative, inclusive process. Furthermore, this legislation gives direction to BLM and the US Forest Service to address local community priorities in fuel reduction treatments, even on nonfederal lands. For a community to take full advantage of the opportunities provided in HFRA, it must first prepare a CWPP. A CWPP developed in accordance with HFRA is the most effective way to acquire federal funding for fire preparedness and planning. Maricopa County, partner agencies, and participating communities wish to adopt a CWPP to better protect their communities from wildfire risk, to better prepare citizens, and to become eligible to apply for and receive federal and other grant monies to implement wildland fire mitigation projects and programs.

To ensure that all residents of Maricopa County were represented in this planning process, two core teams were formed to implement the agency and public collaboration necessary to develop a CWPP compliant with HFRA: the Eastern Core Team includes all identified at-risk communities in Maricopa County located east of Interstate 17 (I-17) and east of Interstate 10 (I-10), and the Western Core Team includes all identified at-risk communities west of I-17 and I-10. The Core Teams agreed to and established an efficient process to be followed throughout the Maricopa County CWPP development. The Core Teams identified 44 communities and analyzed 3,103,370 acres for potential risk from catastrophic wildland fire within Maricopa County.

Section I. Introduction

A primary objective of a CWPP is to help local governments, fire departments and district, and residents identify at-risk public and private lands to better protect those lands from severe wildfire threat. Additional functions of a CWPP are to improve fire prevention and suppression activities, as well as to identify funding needs and opportunities to reduce the risk of wildland fire and enhance public and firefighter safety. Identifying at-risk areas and improving fire protection capabilities helps the communities to prioritize high-risk projects and expedites overall project planning. Maricopa County's CWPP was created to meet these objectives at a local level while integrating with overall federal- and state-level fire planning.

The Core Teams identified needed agency and organization partners and interested parties to initiate the collaborative process and to establish the following overarching goals of the Maricopa County CWPP:

- Improve fire prevention and suppression, emphasizing firefighter and public safety
- Reduce hazardous fuels, emphasizing public and private property protection
- Restore forest, rangeland, and riparian health
- Promote community involvement and provide for community protection

- Recommend measures to reduce structural ignitability in the wildland-urban interface (WUI)
- Encourage economic development in the communities from vegetative treatments
- Promote development of wildfire emergency evacuation and communication plans
- Integrate use of the CWPP with surrounding community and agency fire management plans

The Core Teams developed and concurred with the process that was to be followed in developing the Maricopa County CWPP. This section establishes all necessary planning components and clearly articulates the intent of the Maricopa County CWPP, discloses the communities identified for analysis, and ensures that the Maricopa CWPP is compliant with HFRA.

Section II. Community Assessment

Section II covers the methods used in community wildfire risk assessments; the identification of the WUI; and the identification of communities with high, moderate, and low wildland fire risk within the WUI. The Maricopa County CWPP describes the commitment to hazard mitigation by Maricopa County and local jurisdictions by preparing the first Maricopa County Multi-Jurisdictional Hazard Mitigation Plan (2004 Plan). This section ties the multi-jurisdictional planning team (MJPT) collaborative effort to review, evaluate, and update the 2004 Plan into a single, consolidated Maricopa County Multi-Jurisdictional Hazard Mitigation Plan (Plan). The Plan also contains a Tribal Annex for each of the two participating Indian Tribes that address Tribal specific planning elements (MCDEM 2009).

The Maricopa County CWPP was developed to be complimentary to the Plan by developing a quantitative analysis of wildland fire risk across Maricopa County, designing mitigation measures and priority needs to implement mitigation measures, whether wildland fire fuel manipulations, resource response, reduced structural ignitability or public education and outreach.

Environmental elements used by the Core Teams to identify the WUI include wildland vegetative fuel hazards, comparison of average and extreme rainfall years, consideration of aspect and local topography, historical fire occurrence, and wildfire ignition history. These environmental factors were coupled with community-based characteristics and values, such as local fire resource preparedness, infrastructure, evacuation routes, and population/structure density. An external element, the Fire Insurance Service Organization ratings, was also used in determining wildland fire risk to communities within the WUI. These elements were all identified and combined using spatial analysis within a geographic information system (GIS). As a result of the GIS analysis, a WUI and sub-WUI boundary map and a wildfire risk rating map were created. Sub-WUIs were divided into treatment management areas, according to high, moderate, and low fuel hazard. Several components, including slope, aspect, vegetation type, vegetation density, ground fuel loads, and treated areas, were used to make fuel hazard determinations. The Maricopa County CWPP analysis consisted of 3,072,461 acres of federal, state, and private lands. Cumulative risk levels across the Maricopa County CWPP analysis area include 120,252 acres (4%) of high wildland fire risk, 1,749,492 acres (57%) of moderate risk, and 1, 202,717 acres (39%) of low risk.

Section III. Community Mitigation Plan

Section III prioritizes the areas in need of wildland fuel mitigation and recommends the types and methods of treatment and management necessary to mitigate the potential for catastrophic wildland fire in the WUI. Also presented in this section are the Maricopa County CWPP communities' recommendations for enhanced wildland fire protection capabilities; public education, information, and outreach; and support for businesses and industries centered on local wood products, woody biomass, and wildland vegetative fuel management.

As part of the community mitigation plan, the Core Teams identified the Maricopa County CWPP administrators—Maricopa County fire chiefs, Maricopa County Department of Emergency Management (MCDEM), TNF, Arizona State Forestry Division (ASFD), and BLM—who will be mutually responsible for implementing and monitoring Maricopa County CWPP action recommendations in coordination with the future-established countywide community CWPP Working Group. Maricopa County CWPP administrators are responsible for ensuring implementation of the Maricopa County CWPP, for preparing reports and work plans, and for developing community bulletins and public service announcements that inform residents of wildfire dangers and preventive measures. Additional tasks include assisting federal and state agencies and private landowners to identify appropriate funding sources to implement action recommendations of the Maricopa County CWPP, as well as continued coordination with communities outside the analysis area. Maricopa County CWPP administrators are also responsible for coordinating monitoring and reporting of implementation actions that will allow for enhanced coordination of management programs and that will reduce inconsistencies among local, state, and federal agencies.

To prioritize treatments, the Core Teams identified 112 wildland treatment management units within 53 sub-WUI designations of the WUI. These treatment units were analyzed and categorized according to potential risk for wildfire. Each unit was also ranked and described along with a recommendation for its preferred treatment type and method. Preferred treatments were recommended for treatment management units identified as high risk. These treatments are designed to meet the fuel reduction and modification objectives of the Maricopa County CWPP.

Section IV. Maricopa County CWPP Priorities: Action Recommendations and Implementation

During the development of the Maricopa County CWPP, the Core Teams identified action recommendations necessary to achieve the goals outlined in the plan. The first action recommendation was to identify priority treatment areas for fuel reduction projects. Treatment areas were identified within the WUI to create defensible space through treatments within the home ignition zone, the use of strategically placed fuelbreaks, and the modification of hazardous wildland fuels. The objective of a fuels reduction project is to create an acceptable vegetation condition class for community and infrastructure protection and public and firefighter safety. Priority treatment management areas were designated in areas identified as high risk. Table 4.1 in Section IV lists the priority action recommendations for the reduction of hazardous fuels within the Maricopa County CWPP area. The second action recommendation identified by the Core Teams was to reduce structural ignitability. Reduction of structural ignitability is achieved through evaluation; maintenance; and, at times, upgrades to community response facilities, capabilities, and

equipment. The third action recommendation described is the promotion of community involvement; action items include community education, information, and outreach.

Section V. Monitoring Plan

The monitoring plan, outlined in Section V, describes how implementation and monitoring of the Maricopa County CWPP will occur. The Maricopa County CWPP administrators are responsible for implementation and monitoring. Implementation begins by securing grants and other funding necessary to execute the action items.

The Maricopa County CWPP administrators will provide an annual report of successful grant awards and projects implemented as a result of those awards. The administrators will also update work plans based on projects completed in the previous years.

Acknowledgments

The following communities and agencies were involved in the preparation of the Maricopa County CWPP:

Arizona State Forestry Division

Municipal fire departments and local fire districts

Government officials, emergency managers, and fire chiefs from the following communities:

Aguila, Apache Junction, Avondale, Buckeye, Buckeye Valley, Cave Creek, Circle City/Morristown, Carefree, Chandler, El Mirage, Fountain Hills, Gila Bend, Glendale, Gilbert, Guadalupe, Goodyear, Harquahala, Litchfield Park, Mesa, New River, Peoria, Phoenix, Paradise Valley, Queen Creek, Rio Verde, Scottsdale, Sun City, Sun City West, Sunflower, Sun Lakes, Surprise, Tempe, Tolleson, Tonopah, Wickenburg, Wittmann, and Youngtown

Maricopa County Department of Emergency Management

US Department of the Interior Bureau of Land Management

Tonto National Forest

Fort McDowell Indian Community

Gila River Indian Community

Salt River Pima-Maricopa Indian Community

Tohono O'odham Indian Nation San Lucy District

I. INTRODUCTION

The Maricopa County Community Wildfire Protection Plan (CWPP) was developed in response to the Healthy Forests Restoration Act of 2003 (HFRA) for the at-risk cities and unincorporated areas in Maricopa County, Arizona (see Figure 1.1), located around public lands administered by the following agencies: the US Department of the Interior Bureau of Land Management (USDI BLM) Phoenix District Office and the Tonto National Forest (TNF) Cave Creek District. HFRA established unprecedented incentives for communities to develop comprehensive wildfire protection plans in a collaborative, inclusive process. Furthermore, this legislation gives direction to BLM to address local community priorities in fuel reduction treatments, even on nonfederal lands.

Congress passed HFRA in November 2003, and the President signed it into law that December. When certain conditions are met, Title I of HFRA authorizes the Secretaries of Agriculture and the Interior to expedite the development and implementation of hazardous fuel reduction projects on federal, tribal, state, and private lands.

HFRA requires federal agencies to collaborate with communities in developing hazardous fuel reduction projects and places priority on treatment areas identified by communities through the development of a CWPP. Priority areas include the wildland-urban interface (WUI), municipal watersheds, areas affected by windthrow or by insect or disease epidemics, and critical wildlife habitat that would be negatively affected by a catastrophic wildfire.

In compliance with Title 1 of HFRA, the CWPP requires agreement among local governments, local fire departments and districts, and the state agency responsible for forest management. For the Maricopa County CWPP, this agency is the Arizona State Forestry Division (ASFD). The CWPP must also be developed in consultation with interested parties and the applicable federal agency managing the public lands surrounding the at-risk communities. The majority of lands surrounding the at-risk communities and unincorporated intermixed community zones within Maricopa County are located adjacent to “public lands,” as defined in Sections 3.1.A and B of HFRA; Indian tribal lands, as defined in Section 3.2 of HFRA; and Arizona State Trust lands.

The Maricopa County CWPP has been developed to assist local governments, fire departments and districts, and residents to identify lands—including federal lands—at risk from severe wildfire threat and to identify strategies for reducing hazardous vegetative fuels within the WUI while improving watershed and rangeland health, supporting local industry and local economies, and improving public and firefighter safety and response capabilities. The Maricopa County CWPP is based on the *Approved Arizona Statewide Land*



Figure 1.1. Analysis area

Use Plan Amendment for Fire, Fuels, and Air Quality Management and Decision Record (USDI BLM 2004a); *Amendment 25 to the Tonto National Forest Land and Resource Management Plan* (USDA FS 2006); and the *Statewide Strategy for Restoring Arizona's Forests* (Governor's Forest Health Councils 2007). This CWPP has been developed in consultation with the BLM Phoenix District and TNF to help Maricopa County and the State of Arizona implement the recommendations of Maricopa County and to help the Arizona State Land Department (ASLD); ASFD; TNF; and 44 separate communities, including 27 municipal fire departments, 3 tribal fire departments, and 13 fire districts. Cooperating fire departments/districts include the Salt River Pima-Maricopa Indian Community and the participating municipal fire departments of Apache Junction, Buckeye, Carefree, Cave Creek, Chandler, El Mirage, Fountain Hills, Glendale, Goodyear, Guadalupe, Gila Bend, Litchfield Park, Paradise Valley, Peoria, Phoenix, Scottsdale, Surprise, Tolleson, Gilbert, and Youngtown. Cooperating municipal fire departments include Avondale, Mesa, Queen Creek, Tempe, and Wickenburg. Participating fire districts include Aguila, Buckeye Valley, Circle City/Morristown, New River/Daisy Mountain, Harquahala, Rio Verde, Sun City, Sun City West, Sun Lakes, Tonopah Valley, and Tonto Hills. Cooperating fire districts include Gilbert County Island and Wittmann. The community of St. Johns is located within the Gila River Indian Community. Additional tribal communities, structures/infrastructures, and recreation areas are included in the Salt River Pima-Maricopa Indian Community, the Fort McDowell Indian Reservation, and the Tohono O'odham Nation San Lucy District analyses; however, they are not presented separately in the Maricopa County CWPP. The community of Sunflower is not located within a fire district. The Maricopa County CWPP also allows these entities to identify strategies for reducing vegetative fuels within the WUI while improving riparian and rangeland health, supporting local industry, making recommendations for reducing structural ignitability, developing wildfire public education and outreach programs, and improving public and firefighter safety and response capabilities. The Maricopa County CWPP is based on guidance from *Preparing a Community Wildfire Protection Plan: A Handbook for Wildland-Urban Interface Communities* (Communities Committee et al. 2004) and the *Southwest Community Wildfire Protection Plan Guide* (Southwest Strategy 2009).

To ensure that all residents of Maricopa County were represented in this planning process, two core teams were formed to implement the agency and public collaboration necessary to develop a CWPP compliant with HFRA: the Eastern Core Team includes all identified at-risk communities in Maricopa County located east of Interstate 17 (I-17) and east of Interstate 10 (I-10), and the Western Core Team includes all identified at-risk communities west of I-17 and I-10. The Core Teams agreed to and established an efficient process to be followed throughout the Maricopa County CWPP development. The Core Teams identified 44 communities and analyzed 3,072,461 acres for potential risk from catastrophic wildland fire within Maricopa County.

In addition, the Core Teams were formed to ensure that local, state, and federal management recommendations for wildland fire protection, watershed, and riparian health were addressed in the Maricopa County CWPP. The Core Teams represent all identified at-risk communities and principal developed areas within Maricopa County. As additional guidance documents become available, changes or amendments will be incorporated into the Maricopa County CWPP as necessary.

The following sections detail the background and process used to develop the Maricopa County CWPP and define the associated WUI. In addition, the desired future condition of lands covered by the Maricopa

County CWPP is described; current fire policies and programs are identified; and current projects and future needs are discussed. Finally, the goals of the Maricopa County CWPP are presented along with an outline of planning methods to achieve those goals.

A. Background

The process for developing this CWPP consisted of evaluating Maricopa County—including tribal trust lands—to identify communities, infrastructure, and remote private lands at risk from catastrophic wildland fire. During this analysis the County solicited federal, state, and local governments; fire chiefs; and interested individuals to participate in the Core Teams. The Core Teams were created to define and locate interface and intermix communities in which significant community values and infrastructure are at risk because of the potential of wildland fire.¹ The Maricopa County Department of Emergency Management (MCDEM) requested that local governments, fire departments and districts, BLM, TNF, ASFD, and interested individuals throughout Maricopa County participate in the Core Teams to develop the draft CWPP. Maricopa County is the local government authority for the unincorporated communities identified as at risk, while the city or town councils of the Cities of Avondale, Gilbert, Mesa, Queen Creek, Tempe, and Wickenburg are the appropriate municipal government authorities for cooperating fire departments in developing and agreeing to the Maricopa County CWPP. Maricopa County and the Core Teams recognize the value of conveying information developed from the Maricopa County CWPP process to local citizens. Therefore, the Core Teams provided updates of the Maricopa County CWPP development process at public meetings that were held within the county. These public informational meetings were the foundation for general public involvement and information dissemination. This process established by the Core Teams ensures an open public process, with the goal of all community interests being represented during the development of the Maricopa County CWPP. The Core Teams, in association with planned public involvement, meets all collaborative guidance criteria established by the Wildland Fire Leadership Council (2002).

The Core Teams and collaborators developed this CWPP to increase preparedness, to reduce hazardous wildland fuels, to reduce impacts from catastrophic wildfire, and to prepare recommendations for reducing structural ignitability. In addition, the Core Teams developed this CWPP to increase communication with local, county, state, and federal emergency response personnel by determining areas of high risk from unwanted wildland fire; by developing mitigation measures to reduce hazardous wildland fuels; by improving emergency response to unplanned wildfire; by preventing wildfire ignitions from state and public lands from spreading into the WUI and into the communities; and by preventing wildfire ignitions within the WUI from spreading to adjacent state and public lands.

During initial analyses for the proposed wildland fuel mitigation recommendations, as well as the development of the Maricopa County CWPP, the Core Teams reviewed the following documents:

¹*Interface communities* exist where structures directly abut wildland fuels; *intermix communities* exist where structures are scattered throughout a wildland area (USDA and USDI 2001a).

- “Urban Wildland Interface Communities within the Vicinity of Federal Lands That Are at High Risk from Wildfire,” *Federal Register* Vol. 66, Nos. 3 and 160 (US Department of Agriculture [USDA] and USDI 2001a and 2001b)
- *Field Guidance: Identifying and Prioritizing Communities at Risk* (National Association of State Foresters 2003)
- *Arizona Wildland Urban Interface Assessment* (Arizona State Forester 2004)
- *Arizona-Identified Communities at Risk* (Arizona State Forester 2009a)
- *Statewide Strategy for Restoring Arizona’s Forests* (Governor’s Forest Health Councils 2007)
- *2006 Status Report and Recommendations* (Governor’s Arizona Forest Health Oversight Council 2006)
- *A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment: 10-Year Comprehensive Strategy Implementation Plan* (USDA Forest Service [FS] and USDI BLM 2002)
- *Approved Arizona Statewide Land Use Plan Amendment for Fire, Fuels, and Air Quality Management and Decision Record* (USDI BLM 2004a)

The Core Teams also reviewed Section 101.16.B.iii of HFRA to determine an area adjacent to an evacuation route for hazardous fuel reduction measures to provide safer evacuation from an at-risk community. Since 1980, over 4,016 wildfire ignitions have been recorded within the Maricopa County CWPP WUI. Large wildfires have become increasingly common in the desert vegetation zones due to the presence of nonnative annual grasses. In total, 13 large wildfires have occurred in or adjacent to the WUI since 2000, burning over 376,173 acres of wildland habitat within and adjacent to the Maricopa County CWPP WUI. The fire departments and districts within the county have responded to and suppressed numerous wildland fires within the WUI during the past several years. The Core Teams determined that the majority of wildfire starts within the county have occurred within the Gila River riparian corridor from the south border of the San Tan Mountains through the Gila River Indian Community to west of Gila Bend. Additional high-ignition areas include the I-17 corridor from north Phoenix to the community of New River, the SR 87 corridor to the community of Sunflower, and the Verde River corridor, from the confluence of the Verde and Salt rivers north to the WUI boundary. Many of these wildland fire ignitions have occurred within saltcedar-invaded riparian communities and higher-elevation chaparral and woodland vegetation associations that threaten the at-risk communities of Maricopa County with the potential for catastrophic wildland fire. Continued extreme weather conditions, dry fuels, increased nonnative invasive vegetation, and increased fuel loading on federal and nonfederal lands contribute to the potential for catastrophic wildland fires within Maricopa County. As a result, the fire departments and districts and governmental agencies have initiated fire preparedness and land-treatment planning efforts to deal with the types and densities of wildland fuels that significantly threaten communities with potential catastrophic wildfire.

In 2003, Governor Janet Napolitano created the Forest Health Advisory Council and the Forest Health Oversight Council in response to the increasing number, frequency, and intensity of unwanted wildfires threatening Arizona communities and forests (Executive Order 2003-16). The councils were directed to

develop scientific information and policy recommendations to advise the Governor’s administration on matters of forest health, unnaturally severe forest fires, and community protection. In 2005, the councils established a subcommittee to begin work on a 20-year strategy to restore forest health, protect communities from fire, and encourage forest-based economic activity. Governor Napolitano approved and signed the *Statewide Strategy for Restoring Arizona’s Forests* in June 2007. Governor Janice Brewer issued Executive Order 2007-17 re-establishing the Forest Health Council on July 9, 2009. The Core Teams have reviewed the strategy—specifically, the Sky Islands landscapes—to ensure that the recommendations adopted by the Core Teams and presented within the Maricopa County CWPP comply with, and complement, the *Statewide Strategy for Restoring Arizona’s Forests*. Using the information gathered from these supporting documents, the Core Teams and collaborators agreed that the Maricopa County communities listed in the *Arizona-Identified Communities at Risk* (Arizona State Forester 2009), as well as other developed areas identified as at risk within the Maricopa County CWPP WUI, constitute interface or intermix communities (see USDA and USDI 2001a; Arizona State Forester 2007) at risk from wildland fire.

B. WUI and Delineation Process

In 2009, five Maricopa County communities (St. Johns, Buckeye Valley, Gila Bend, New River, and Sunflower) were included in the *Arizona-Identified Communities at Risk* (Arizona State Forester 2009) and were given a WUI risk rating for catastrophic wildland fire. The Core Teams and collaborators concur with the listing of at-risk communities within the *Arizona-Identified Communities at Risk* (Arizona State Forester 2009), as maintained by the Arizona State Forester. The Core Teams and collaborators recommend maintaining the listing of those 5 communities, based on the results of the Maricopa County CWPP wildland fire analysis, and further recommend including 41 other Maricopa County communities, along with their associated WUI risk ratings, in the *Arizona-Identified Communities at Risk* (Arizona State Forester 2009) (see Table 1.1).

The Maricopa County CWPP analyzes risk and makes recommendations to reduce the potential for unwanted wildland fire to the 44 at-risk communities in Maricopa County, including tribal trust lands. The Maricopa County CWPP analysis further refines components of wildland fire risk and prioritizes community recommendations for reducing wildland fire potential through vegetative fuel management and public outreach/education and for reducing structural ignitability. Figure 1.2 summarizes the process that the Core Teams followed to produce the Maricopa County CWPP. At the far right of each tier is the “product” resulting from the activities in that tier. These tiers correspond to the sections in the Maricopa County CWPP and serve as a guide for the rest of this document.

According to HFRA, an “(1) At-risk community . . . means an area – (A) that is comprised of – (i) an interface community . . . or (ii) a group of homes and other structures with basic infrastructure and services . . . within or adjacent to Federal land; (B) in which conditions are conducive to a large-scale wildland fire disturbance event; and (C) for which a significant threat to human life or property exists as a result of a wildland fire disturbance event” (Secs. 101.1.A.i–ii, 101.1.B, and 101.1.C).

Table 1.1. Maricopa County CWPP recommended at-risk communities

Community^a	WUI^b risk	Fire department/ district	Community^a	WUI risk	Fire department/ district
Aguila	L	Aguila Fire District	Paradise Valley	M	Phoenix Fire Department
Apache Junction	M	Apache Junction Fire Department	Peoria	L	Peoria Fire Department
Avondale	M	Avondale Fire Department	Phoenix	L	Phoenix Fire Department
Buckeye	M	Buckeye Fire Department	Queen Creek	M	Queen Creek Fire Department
Buckeye Valley	M	Buckeye Fire District	Rio Verde Corridor	M	Rio Verde Fire District
Carefree	M	Carefree Fire Department*	Salt River Pima-Maricopa Indian Community	M	Salt River Pima-Maricopa Indian Community Fire Department
Cave Creek	M	Rural Metro Fire Department	St. Johns	M	Gila River Indian Community Fire Department
Chandler	L	Chandler Fire Department	Scottsdale	M	Scottsdale Fire Department
Circle City/Morristown	L	Circle City/Morristown Fire District	Sun City	L	Sun City Fire District
El Mirage	L	El Mirage Fire Department	Sun City West	L	Sun City West Fire District
Fort McDowell	L	Fort McDowell Yavapai Indian Reservation	Sunflower	H	None
Fountain Hills	M	Fountain Hills Fire Department*	Sun Lakes	L	Sun Lakes Fire District
Gila Bend	M	Gila Bend Fire Department	Surprise	M	Surprise Fire Department
Gila River Indian Community	M	Gila River Indian Community Fire Department	Tempe	L	Tempe Fire Department
Gilbert/Gilbert County Island	L	Gilbert Fire Department	New River	H	Daisy Mountain Fire District
Glendale	L	Glendale Fire Department	Tonto Hills	M	Tonto Hills Volunteer Fire Department and Rural Metro Fire Department
Goodyear	M	Goodyear Fire Department	Tolleson	L	Tolleson Fire Department
Guadalupe	L	Guadalupe Fire Department	Tonopah Valley	L	Tonopah Fire District
Harquahala	L	Harquahala Fire District	Wickenburg	M	Wickenburg Fire Department
Litchfield Park	L	Litchfield Park Fire Department*	Wittmann	L	Wittmann Fire District
Mesa	L	Mesa Fire Department	Youngtown	L	Youngtown Fire Department
Mobile	L	Good Year Fire Department and Maricopa Fire Department**			

^a St. Johns, Buckeye Valley, Gila Bend, and New River are listed as moderate and Sunflower is listed as low on the 2009 *Arizona Communities at Risk Matrix* (www.azsf.az.gov).

^b L=Low, M=Moderate, H=High wildland fire risk

* Through agreement with Rural Metro Fire Department.

** By automatic-aid agreement with City of Goodyear.

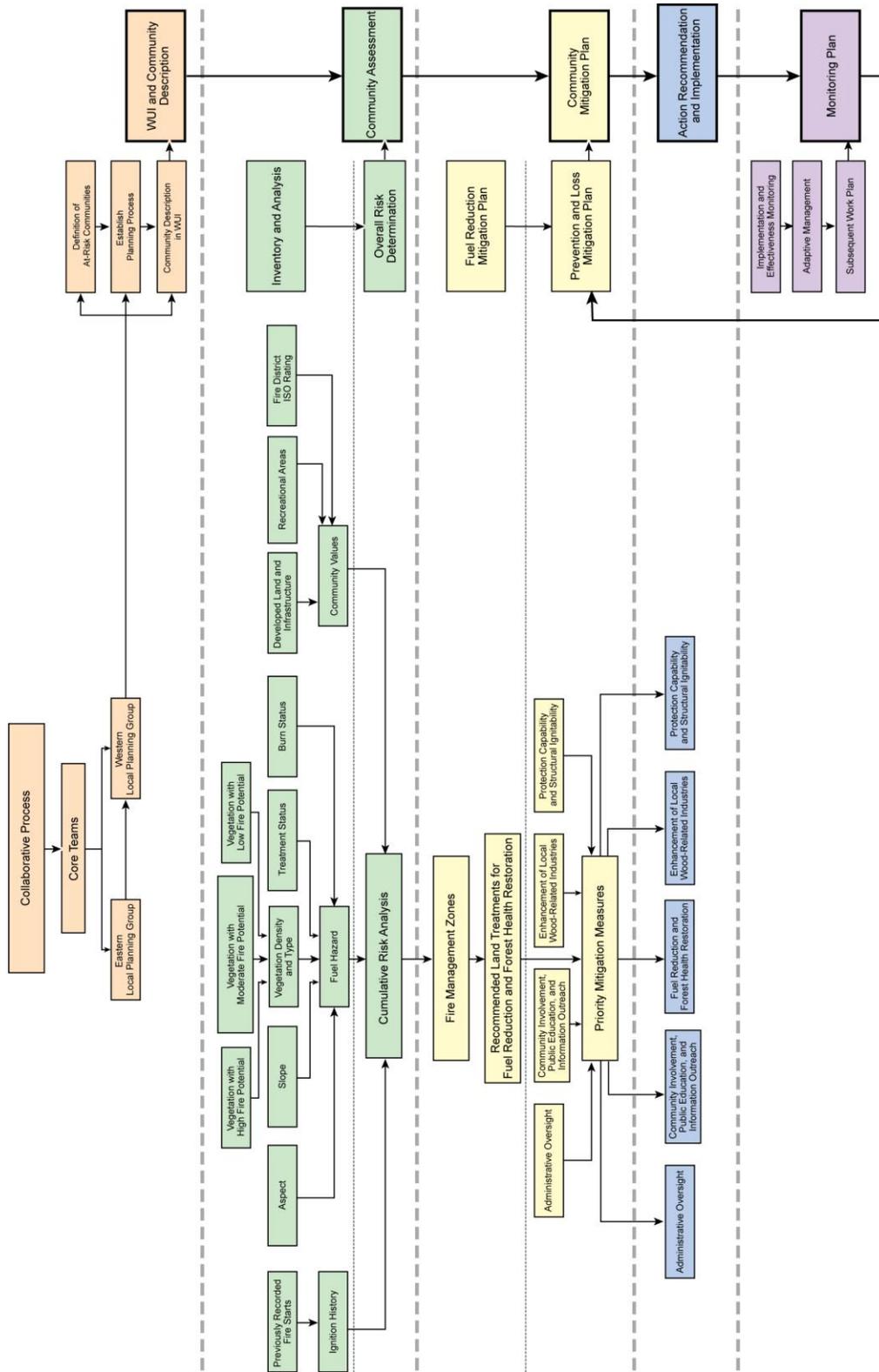


Figure 1.2. Maricopa County CWPP process

The at-risk communities within Maricopa County are adjacent to federal lands, including public lands administered by BLM and TNF, and are consistent with the Arizona State Forester's definition of an *intermix* or *interface community* (2007:1):

The Intermix Community exists where structures are scattered throughout a wildland area. There is no clear line of demarcation; wildland fuels are continuous outside of and within the developed area. The developed density in the intermix community, ranges from structures very close together to one structure per forty acres. Local fire departments and/or districts normally provide life and property fire protection and may also have wildland fire protection responsibilities.

The Interface Community exists where structures directly abut wildland fuels. There is a clear line of demarcation between wildland fuels and residential, business, and public structures. Wildland fuels do not generally continue into the developed area. The development density for an interface community is usually three or more structures per acre, with shared municipal services. Fire protection is generally provided by a local fire department with the responsibility to protect the structure from both an interior fire and an advancing wildland fire.

In addition to a community's listing status, the current condition of the wildland fuels within and adjacent to at-risk communities significantly contributes to the possibility of a catastrophic wildfire capable of damaging or destroying community values, such as houses, infrastructure, recreational sites, businesses, and wildlife habitats. Establishing a CWPP to enhance the protection of community values and to minimize the potential loss of property while ensuring public and firefighter safety during a catastrophic wildfire, remains the overriding priority recommendation of the Maricopa County CWPP.

The WUI is commonly described as the zone where structures and other features of human development meet and intermingle with undeveloped wildland or vegetative fuels. Communities in the WUI face substantial risk to life, property, and infrastructure. Wildland fire in the WUI is one of the most dangerous and complicated situations firefighters face. Both the *National Fire Plan* (USDA FS and USDI BLM 2004b), which is a response to catastrophic wildfires, and *A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment: 10-Year Comprehensive Strategy Implementation Plan* (USDA FS and USDI BLM 2002), which is a plan for reducing wildland fire risk, emphasize working collaboratively with communities in the WUI to reduce their risk from large-scale wildfire. HFRA builds on existing efforts to restore healthy wildland conditions in the WUI by empowering local communities to determine the extent of the WUI; by determining appropriate wildland fuel mitigation measures; by enhancing public education for the prevention of wildland fire; and by authorizing expedited environmental assessments, administrative appeals, and legal review for qualifying projects on federal land.

The Maricopa County CWPP process of delineating WUI boundaries for at-risk communities involved collaboration among local, state, and federal government representatives as well as interested individuals within the communities. The Maricopa County CWPP WUI is the minimum area needed to provide protection to each community and its surrounding community values. The identified WUI includes a total of 3,103,370 acres composed of a mix of private, county, state, tribal trust, and federal lands. The WUI lands that surround the communities are in a condition conducive to a large-scale wildland fire, and such a wildfire could threaten human life and properties (see Photo 1.1).



Photo 1.1. Wildland fire in Maricopa County
(courtesy of Avondale Fire Department)

General elements used in creating the WUI for Maricopa County at-risk communities include the following:

- Fuel hazards, local topography, vegetative fuels, and natural firebreaks
- Historical fire occurrence
- Community development characteristics
- Firefighting preparedness and response capabilities
- Infrastructure and evacuation routes
- Recreation and wildlife values

C. Desired Future Condition and Wildfire Mitigation in the WUI

The desired future condition of Maricopa County CWPP lands includes the maintenance of, or return to, wildland fire resiliency status and the maintenance of, or return to, the vegetation component of the historical plant potential community across Maricopa County. This historical plant potential community is composed of desert scrublands, shrublands (mesquite uplands), riparian corridors, and semidesert grasslands; all of these plant communities have an associated understory of grasses and shrubs, and some are also composed of invasive grasses and woody species (NatureServe 2004; Gori and Enquist 2003). The Core Teams intend the Maricopa County CWPP to complement BLM and TNF objectives; the *Statewide Strategy for Restoring Arizona's Forests* (Governor's Forest Health Councils 2007); the *Approved Arizona Statewide Land Use Plan Amendment for Fire, Fuels, and Air Quality Management and Decision Record* (USDI BLM 2004a); and *Amendment 25 to the Tonto National Forest Land and Resource Management Plan* (USDA FS 2006). The desired future condition of public lands is consistent with those described by the Core Teams—community wildfire protection, watershed and rangeland restoration, and protection of community values, as well as the restoration of native vegetation to historical wildfire return

intervals. Vegetative types maintained in this historical condition allow natural processes such as fire to be incorporated into long-term management practices to both sustain habitat health and meet Maricopa County CWPP management goals while providing for community protection from unwanted wildland fire. Public education and land treatment projects in the Maricopa County CWPP area, coupled with current efforts of local governments, fire departments and districts, TNF, and BLM, will create a better-informed constituency capable of protecting at-risk communities through restoration and vegetative fuels mitigation efforts within the WUI. Federal wildfire reduction policy on public lands is planned and administered primarily by tribal governments, BLM, and TNF, which are the federal governing agencies for the public lands associated with the Maricopa County CWPP planning area. BLM and TNF manage wildland fire to help reduce unnaturally high wildland fuel loads that contribute to catastrophic wildland fire and to help encourage the return of fire to a more natural role in fire-adapted ecosystems, to achieve ecosystem benefits, to reduce economic impacts, and to enhance public and firefighter safety.

The desired future condition of federal lands includes improving public and firefighter safety from wildland fire on public lands, using wildland fire as a management tool to achieve resource objectives, managing hazardous wildland fuels within and adjacent to the WUI, providing adaptive wildland fire response and suppression, and returning public lands to Condition Class I status. Federal lands in this condition class can carry wildfire without significant impacts on habitat components. Once this condition class is achieved, natural processes such as fire can be incorporated into long-term management practices to sustain habitat health. Current federal fire policy requires all wildland fires from unplanned ignitions to be managed for either protection objectives (wildfire) or resource benefit (wildland fire use). Under the current policy a single wildfire cannot be managed for both objectives concurrently (National Fire and Aviation Executive Board 2007; see Appendix F). The BLM and TNF adhere to federal policy when managing all unplanned wildfire ignitions on public lands within the WUI. Federal policy for reducing wildfires on public lands (that is, BLM and FS lands) is planned and administered locally through the BLM's field offices and the TNF's Cave Creek District. The Salt River Pima-Maricopa Indian Community (SRPMIC) is a compact tribe and manages its own wildland fire program. The SRPMIC Fire Department manages and funds all the equipment and staff, cross-utilizing the resources for the delivery of other emergency services.

Under the proposed action described in the *Approved Arizona Statewide Land Use Plan Amendment for Fire, Fuels, and Air Quality Management and Decision Record* (USDI BLM 2004a), BLM-administered public lands are assigned one of two land use allocations for fire management: Allocation 1 includes areas suitable for wildland fire use for resource-management benefit, and Allocation 2 includes areas not suitable for wildland fire use for resource benefit. With the exception of the northern and eastern portions of the analysis area, the majority of the WUI is classified as Allocation 1 lands.

The desired future condition of private lands in the WUI is for landowners to comply with the National Firewise Communities program (www.Firewise.org) or to meet home-ignition-zone landscaping or fire-safe landscaping recommended by the Maricopa County CWPP fire departments and districts in compliance with local ordinances. Firewise is a national program that helps communities reduce wildfire risks and provides them with information about protecting themselves against catastrophic wildfires and mitigating losses from such fires. Within Arizona, the State Forester administers the Firewise certification program. Fire departments and districts and local governments in Maricopa County would like to make this

information available to their citizens and to encourage its application. For example, after making modifications to include high-desert fuel evaluations and construction as being Firewise eligible, Ancala West development in the city of Scottsdale was recognized as the first Firewise community in Maricopa County. Residential and other structures that comply with Firewise standards significantly reduce fire-ignition risks in a community, as well as the potential for fires to spread to surrounding habitats. Additionally, structures that comply with Firewise recommendations are more likely to survive wildland fires that do spread into a community (Cohen 2008).

The Core Teams are aware that wildland fuel accumulations primarily associated with the invasion of woody species and nonnative grasses, together with community growth in the WUI, have produced areas at high risk from catastrophic wildfire. The Core Teams aspire to achieve restored, self-sustaining, biologically diverse habitats of mixed open space and developed areas that contribute to a quality of life demanded by Maricopa County citizens. The Core Teams recognize that protection from catastrophic wildland fire requires collaboration and implementation through all levels of government and through an informed and motivated public. The Core Teams considered ecosystem restoration to the historical plant potential community, community protection, and public and firefighter safety while developing this CWPP (see Photo 1.2).

Financial commitments required to reduce the risk of catastrophic wildfire can be extensive for municipal, county, state, and federal governments, as well as for the small rural communities surrounded by public lands. Maricopa County, TNF, and BLM have implemented wildland fuel mitigation projects within or near the Maricopa County CWPP WUI. Fire departments and districts have improved wildland fire suppression response and continue public education and outreach programs concerning wildland fire threat and home-ignition-zone recommendations. Maricopa County fire departments and districts have standing automatic aid agreements allowing for closest resources to provide initial attack response. The Fire Departments and Districts of Maricopa County maintain wildland fire response teams supported by various engines and support equipment including 57 ambulances, 43 brush trucks, 155 fire engines, 33 ladder trucks, and 5 Heavy Rescue vehicles, and various other specialized response vehicles to help suppress wildland fires. Additionally, the fire departments and districts have taken proactive measures to encourage willing property owners to reduce fire risk on private property (HFRA, Sec.103.d.2.B). Wildland fire response teams are composed of personnel with various levels of wildland firefighting training, including red-carded firefighters. The response teams are coordinating radio frequencies to improve communications between initial-attack and responding firefighting agencies and departments. Specially trained wildland fire response teams not only provide suppression response to brush fires but also provide community awareness programs and structural-fire risk assessments. The Core Teams, BLM, and TNF collaborators are proposing additional wildland fuel treatments and wildland fire suppression enhancements and have been proactive in pursuing funding for wildland fire public outreach programs and fire-suppression training and equipment.

D. Goals for the Maricopa County CWPP

To reduce the risks to life and property from catastrophic wildland fire, the Core Teams have agreed on the following primary goals of the Maricopa County CWPP:

- Improve fire prevention and suppression, emphasizing firefighter and public safety
- Reduce hazardous fuels, emphasizing public and private property protection
- Restore forest, rangeland, and riparian health
- Promote community involvement and provide for community protection
- Recommend measures to reduce structural ignitability in the WUI
- Encourage economic development in the communities from vegetative treatments
- Promote development of wildfire emergency evacuation and communication plans
- Use the CWPP in conjunction with surrounding community and agency fire management plans

E. Planning Process

During initial analysis, and to aid the overall development of this plan, the Core Teams reviewed the following documents and studies:

- “Urban Wildland Interface Communities within the Vicinity of Federal Lands That Are at High Risk from Wildfire,” *Federal Register* Vol. 66, Nos. 3 and 160 (USDA and USDI 2001a, 2001b)
- *National Fire Plan* (USDA FS and USDI BLM 2004b)
- *Healthy Forests: An Initiative for Wildfire Prevention and Stronger Communities* (Presidential Policy 2002)
- HFRA
- *The Healthy Forests Initiative and Healthy Forests Restoration Act: Interim Field Guide* (USDA FS and USDI BLM 2004a)
- *Preparing a Community Wildfire Protection Plan: A Handbook for Wildland-Urban Interface Communities* (Communities Committee et al. 2004)
- *Field Guidance: Identifying and Prioritizing Communities at Risk* (National Association of State Foresters 2003)
- *Arizona Wildland Urban Interface Assessment* (Arizona State Forester 2004)
- *Arizona-Identified Communities at Risk* (Arizona State Forester 2009)
- *Identifying Arizona’s Wildland/Urban Interface Communities at Risk: A Guide for State and Federal Land Managers* (Arizona State Forester 2007)
- *Statewide Strategy for Restoring Arizona’s Forests* (Governor’s Forest Health Councils 2007)
- *A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment: 10-Year Comprehensive Strategy Implementation Plan* (USDA FS and USDI BLM 2002)
- *Approved Arizona Statewide Land Use Plan Amendment for Fire, Fuels, and Air Quality Management and Decision Record* (USDI BLM 2004a)
- *Tonto National Forest Land and Resource Management Plan* (USDA FS 2005)
- *Wildland Fire Use Implementation Procedures Reference Guide* (USDI and USDA 2005)
- *Wildland Fire Suppression (Including Wildland Fire Use) and Rehabilitation in Riparian and Aquatic Habitats (RA)* (USDI BLM 2004b)

- *Strategic Plan 2007-2012* (Central Arizona Wildland Response Team 2007)
- *Wildland Fire Use Implementation Procedures Reference Guide* (USDI and USDA 2005)
- *Guidance for Implementation of Federal Wildland Fire Management Policy* (USDA and USDI 2009)
- *Maricopa County Multi-Jurisdictional Hazard Mitigation Plan* (MCDEM and JE Fuller 2009)

Action recommendations for at-risk areas within the Maricopa County CWPP WUI boundaries have been developed as part of this planning process. Treatments for wildland vegetative fuels and additional wildland fire mitigation measures are recommended to be implemented in specific time frames and with associated monitoring to determine and document measurable outcomes. Successful implementation of the Maricopa County CWPP will require collaboration by fire departments and districts, governments, resource-management agencies, and the private sector. The cooperating agencies must develop processes and systems that ensure recommended actions of the Maricopa County CWPP comply with applicable local, state, and federal environmental regulations. The dedication of the Core Teams and collaborators in implementing the Maricopa County CWPP assures that all agencies, groups, and individuals involved will develop any additional formal agreements necessary to ensure the Maricopa County CWPP's timely implementation, monitoring, and reporting. The Core Teams were formed not only to meet collaborative requirements of HFRA but also to represent all of the different interests of the Maricopa County communities, with all parties being involved and being committed to the development and implementation of the Maricopa County CWPP.