



MARICOPA COUNTY

Community Wildfire Protection Plan

UPDATE

January 2020

Maricopa County
Department
of Emergency
Management
Arizona Fire & Medical
Authority
Avondale
Buckeye
Carefree
Cave Creek
Chandler
El Mirage
Fountain Hills
Fort McDowell
Gila Bend
Gilbert
Glendale

Goldfield Ranch
Goodyear
Guadalupe
Harquahala Valley
Litchfield Park
Mesa
Rio Verde
Paradise Valley
Peoria
Phoenix
Queen Creek
Salt River
Scottsdale
Sun City
Tempe

Tolleson
Surprise
Wickenburg
Youngtown
Arizona Public Service
Salt River Project
Arizona Department
of Forestry and Fire
Management
Bureau of Land
Management - Phoenix
District
United States Forest
Service - Tonto National
Forest
Bureau of Indian Affairs
- Pima and Salt River
Agencies



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ACRONYMS AND ABBREVIATIONS

ADOT	Arizona Department of Transportation
AFMA	Arizona Fire and Medical Authority
APS	Arizona Public Service
ASLD	Arizona State Land Department
AZ	Arizona
BIA	Bureau of Indian Affairs
BLM	Bureau of Land Management
CAWRT	Central Arizona Wildland Response Team
CENS	Community Emergency Notification System
CWPP	Community Wildfire Protection Plan
DFFM	Department of Forestry and Fire Management
DOC	Department of Corrections
DSAP	Defensible Space around Poles
EO	Executive Order
FAMWEB	National Wildfire Coordinating Group Fire and Aviation Management Web Applications
FD	Fire Department/District
GIS	Geographic Information System
GRIC	Gila River Indian Community
GRIT	Gil River Interpretive Trail
HFRA	Healthy Forests Restoration Act of 2003
HOA	Homeowner Association
IAFF	International Association of Fire Fighters
IGA	Intergovernmental Agreement
IPAWS	Integrated Public Alert and Warning System
MCCWPP	Maricopa County Community Wildfire Protection Plan
MCDEM	Maricopa County Department of Emergency Management
NFPA	National Fire Protection Association
OHV	Off-Highway Vehicle
PPE	Personal protection equipment
SFA	State Fire Assistance
SRP	Salt River Project
SRPMIC	Salt River Pima-Maricopa Indian Community
TMU	Treatment Management Unit

TNF	Tonto National Forest
USFS	United States Forest Service
USGS	United States Geological Survey
UTV	Utility Task Vehicle
WCS	Wildland Command Specialist
WUI	Wildland-Urban Interface

I. INTRODUCTION

The existing Maricopa County Community Wildfire Protection Plan (MCCWPP) for at-risk communities in Maricopa County was developed in 2010 in response to the Healthy Forests Restoration Act of 2003 (HFRA) and due to the proximity of these communities to landscape-scale fires. The 2010 MCCWPP is compliant with HFRA and was designed to support the efforts of local land managers (both public and private) to identify and mitigate hazards to private property, community infrastructure, and ecosystem health from wildland fire in the wildland-urban interface (WUI). In order to develop a countywide community wildfire protection plan (CWPP) compliant with HFRA, the Maricopa County Department of Emergency Management (MCDEM) established a Core Team composed of federal and state wildland fire resource staff, municipal fire district/department staff, as well as other wildfire resource specialists, communities, and individually interested parties. The 2010 MCCWPP established goals and objectives to reduce wildland fire threat to at-risk communities and, since its approval, residents, government agencies, and fire districts/departments have worked collaboratively to achieve the overarching goals established in the CWPP. The MCCWPP was completed in April of 2010 and was approved or concurred by 70 agencies, fire districts/departments, and organizations. The collaborative planning process utilized to develop the MCCWPP is described in Section 1 of the 2010 MCCWPP.

In 2014, MCDEM and the Core Team produced a Five-Year Update of the MCCWPP. The 2014 MCCWPP Update combined all of the agency actions conducted subsequent to the approval of the 2010 MCCWPP into a single report and detailed the progress that had been made towards the action recommendations, and consequently, towards achieving the overarching goals of the MCCWPP. The Community Mitigation Plan and the Action Recommendations and Implementation sections were reviewed, revised, and updated, as necessary, to provide a detailed account of the status of the MCCWPP and the actions implemented in addressing the fuel reduction priorities, prevention and loss mitigation projects, community involvement, and public education, information, and outreach identified in the 2010 planning process.

On December 21, 2018 Executive Order (EO) 13855 (Promoting Active Management of America's Forests, Rangelands, and Other Federal Lands to Improve Conditions and Reduce Wildfire Risk) was signed, and on January 2, 2019 Executive Order 3372 (Reducing Wildfire Risk on Department of Interior Lands through Active Management) was signed. Collectively, these EOs establish goals to (EO 13855 Sec. 2. *Goals*. [a]) "protect communities and watersheds, to better prevent catastrophic wildfires, and to improve the health of America's forests, rangelands, and other Federal lands; and (EO 13855 Sec. 6. *Collaborative Partnerships* [a])"... to mitigate wildfire risk by expanding existing or entering into new Good Neighbor Authority agreements; and in (EO 13855 Sec. 6. *Collaborative Partnerships*. [b])"...reducing fuel loads by pursuing long-term stewardship contracts, including 20-year contracts, with States, tribes, non-profit organizations, communities, and the private sector"; and to expand collaboration with States, tribes, communities, non-profit organizations, and the private sector.

Together, these EOs re-affirm and strengthen the federal agencies support of collaboratively working with local communities to enhance wildland fire protection and forest and rangeland health. The Core Team recognizes that by developing and consistently reviewing and revising a CWPP will support efforts of local governments and federal agencies to work cooperatively to achieve CWPP goals and objectives.

Another five years have passed since the 2014 MCCWPP Update and the Core Team and cooperating agencies have continued working toward implementation of the MCCWPP action recommendations. As such, MCDEM and the Core Team have come together again to produce the 2019 Five-Year Update of the MCCWPP. To accomplish this project, the countywide Core Team was reconvened to determine what progress had been made in the past five years towards the action recommendations and overarching goals set forth in the 2010 CWPP, and to collaboratively plan for the next five years by reviewing goals and priorities and developing action recommendations. Four Core Team meetings were held across the Phoenix metropolitan area, to accommodate jurisdictions and agencies from all regions of the Maricopa County WUI in participating in the collaborative process. An additional federal agency Core Team meeting was held at the MCDEM office to get their input, priorities, and future goals in order to determine where partnerships and coordination could occur over the next five years.

This update is intended to inform federal agencies, local governments, fire departments, and residents of actions taken within Maricopa County during the last five years by all CWPP cooperators, agencies, and individuals in working toward achieving the goals and objectives of the MCCWPP and to be utilized by the cooperators, agencies, and individuals to identify priority actions and opportunities for the next five years.

Goals of the Maricopa County Community Wildfire Protection Plan

The overarching goals for the MCCWPP remain unchanged since 2010. During the original planning process, the Core Team established the following goals of the MCCWPP:

- 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
- Integrate use of the MCCWPP with surrounding community and agency fire management plans

Wildland-Urban Interface Cumulative Risk Analysis

During the 2010 MCCWPP planning process, MCDEM and the Core Team analyzed the potential of catastrophic wildland fire for all at-risk communities and unincorporated areas in Maricopa County. This cumulative risk analysis has subsequently been carried through both the 2014 MCCWPP Update as well as this 2019 MCCWPP Update to inform the areas of greatest risk in the County. Figure I-1 shows the land ownership within Maricopa County and the WUI, and Figure I-2 depicts the results of the cumulative risk analysis for the Maricopa County WUI. The cumulative risk analysis resulted in the determination that there are 3,072,461 acres of WUI within 43 Maricopa County communities which are composed of 120,252 acres (4%) of high wildland fire risk, 1,749,491 (57%) acres of moderate wildland fire risk, and 1,202,717 (39%) acres of low wildland fire risk (See Appendix A).

The environmental elements used by the Core Team to identify wildland fire risk to community WUIs included wildland vegetative fuel hazards, comparison of wildland fire fuels and behavior during 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 to form the basis of the cumulative risk analysis. An external element, the Fire Insurance Service Organization ratings, were also used as an influencing factor in determining wildland fire risk to communities within the WUI. The wildland fire analyses and results are described in Section 2 of the 2010 MCCWPP.

To prioritize fuel treatments, the Core Team identified 112 treatment management units (TMUs) within 53 sub-WUI designations within Maricopa County (See Appendix B). These TMUs were analyzed and categorized according to potential risk for wildland fire. Each unit was also ranked and described along with a recommendation for its preferred treatment type and method (See Appendix C). Preferred treatments were recommended for TMUs identified as high risk. These treatments are designed to meet wildland fuel modification objectives, enhance wildland fire protection and public education and outreach, and create fire adapted communities in order to accomplish the goals of the MCCWPP. The collaborative process for developing wildland fuel reduction recommendations, developing comprehensive wildland fire prevention and loss mitigation recommendations, and recommendations for public outreach and education is presented in Section 3 of the 2010 MCCWPP.

Action Recommendations and Implementation

In order to reduce the risk of, and enhance response to, unwanted wildland fire, the Core Team developed recommendations for the management of hazardous wildland fuels; 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. The Core Team also identified the MCCWPP administrators—Maricopa County Fire Chiefs, MCDEM, Tonto National Forest (TNF), Department of Forestry and Fire Management (DFFM), and Bureau of Land Management (BLM)—who will mutually work toward implementing and monitoring the MCCWPP action recommendations.

During the development of the MCCWPP, the Core Team identified action recommendations, implementation schedules, and project partners, necessary to achieve priority goals outlined in the 2010 MCCWPP. Action recommendation included identifying priority treatment areas for fuel reduction projects. Treatment areas were identified within the WUI to create survivable space through treatments within the home ignition zone, the use of strategically placed fuel breaks, and the modification of hazardous wildland fuels. Additional action recommendations identified by the Core Team were designed to reduce structural ignitability. Reduction of structural ignitability is achieved through evaluation, maintenance, and, at times, upgrades to community response facilities, capabilities, and equipment. Action recommendations also described the promotion of community involvement and the role of community education and outreach, and homeowners' responsibility and participation in reducing the threat of wildland fire. Priority action recommendations for fuels reduction, reduced structural ignitability, and public outreach is described in Section 4 of the 2010 MCCWPP. However, the action recommendations associated with the

2019 MCCWPP Update have been reevaluated and revised based on the Core Team's current goals and priorities. These updated 2019 action recommendations are necessary to meet the MCCWPP goals and objectives and are presented in Section III of this plan.

The Core Team determined that, as needed, MCDEM, in coordination with the countywide community MCCWPP Working Group, would produce a report detailing the success of MCCWPP project implementation and overall progress toward meeting MCCWPP goals. The MCCWPP Working Group reports successful grant awards received for implementing the MCCWPP action recommendations to the MCDEM. Successful grant awards and projects accomplished are necessary for the production of an annual monitoring report describing accomplishments toward achieving MCCWPP goals. The Core Team established performance measures during the 2010 MCCWPP planning process to be evaluated in each annual monitoring report. The Administrative Oversight, Monitoring, and Reporting recommendations are presented in Section 5 of the 2010 MCCWPP.

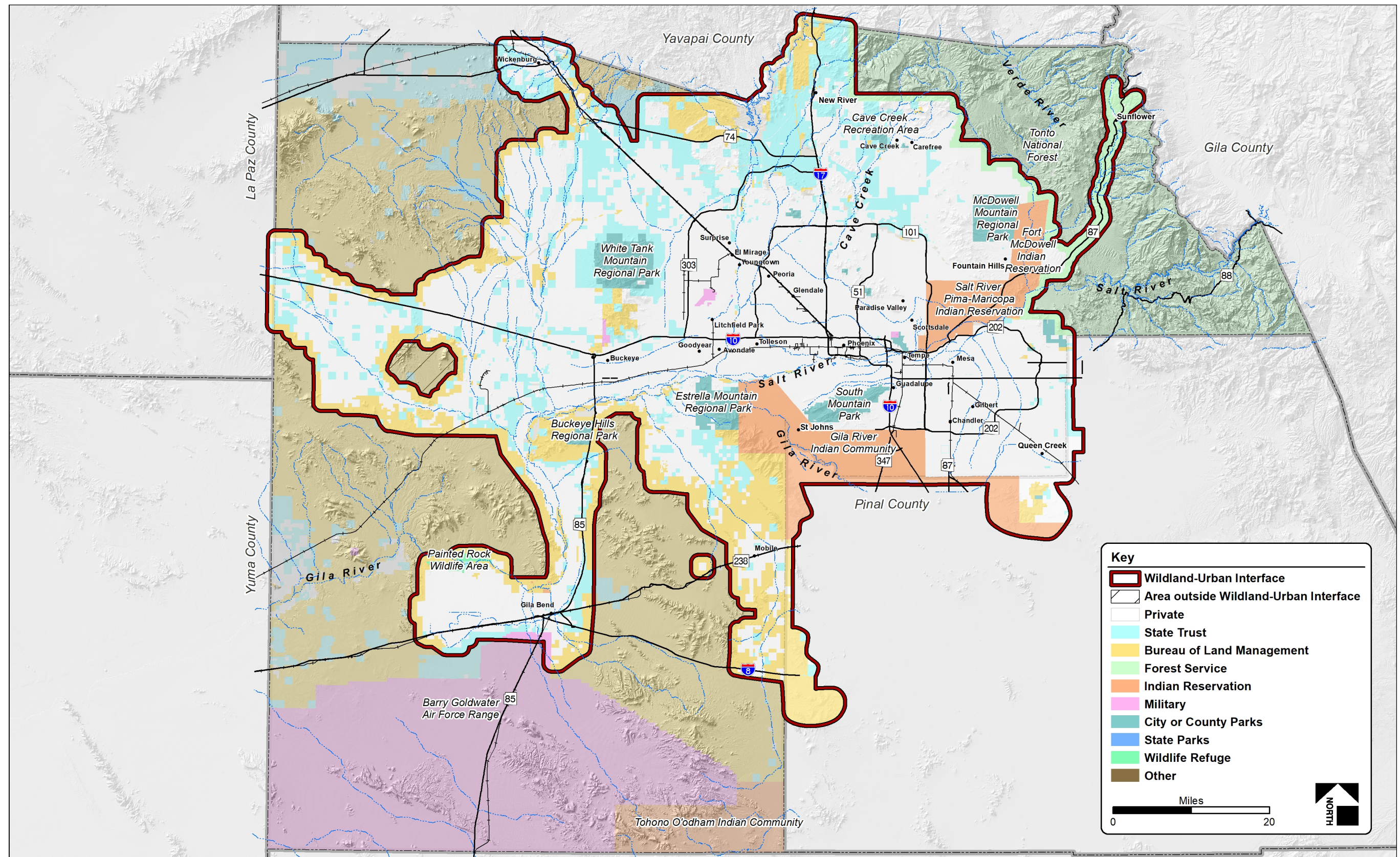


Figure I-1. Maricopa County Land Ownership and Wildland-Urban Interface

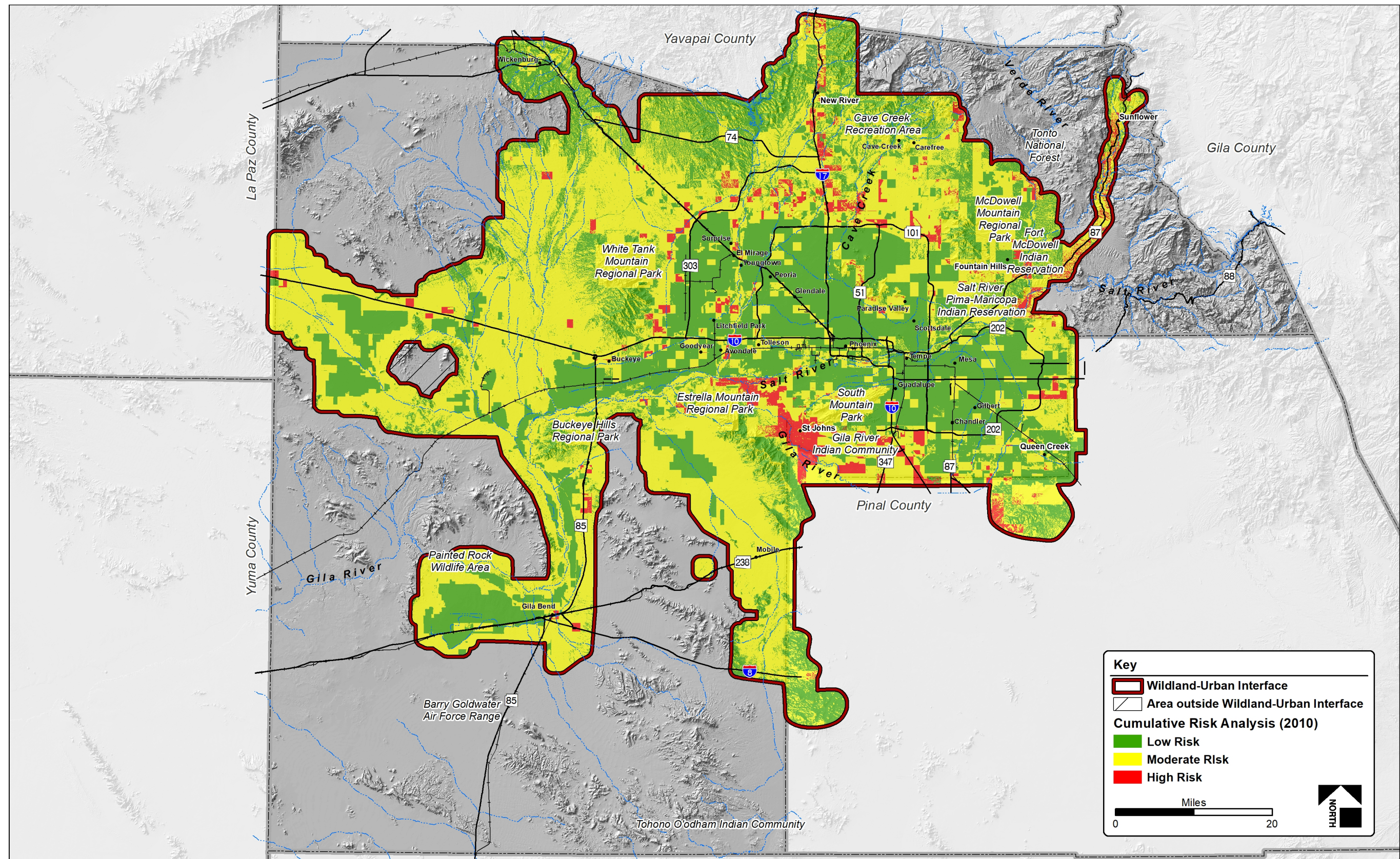


Figure I-2. Maricopa County Cumulative Risk Analysis

II. COMMUNITY MITIGATION PLAN

This section outlines the 2019 priorities for wildland fuels treatments, as well as the recommended treatment methods and management strategies for mitigating the potential spread of wildland fire throughout the WUI. In addition, this section presents recommendations for enhanced wildland fire protection capabilities and public education, information, and outreach. To track progress and to continue achieving the goals and objectives set forth in the 2010 MCCWPP, MCDEM and the Core Team agreed that the 2019 MCCWPP Update should identify completed projects and other accomplishments that furthered MCCWPP goals and objectives and include updated priority recommendations for achieving the goals in the MCCWPP. The Core Team also recognizes the necessity of establishing fire adapted communities (<https://fireadapted.org>) that are engaged and where actions of residents and agencies lessen the need for extensive protection actions and enable the communities to safely accept fire as part of the surrounding landscape.

A. Wildland Fuel Reduction Priorities

In 2010, after determining the areas at greatest risk for wildland fire (Section 2 of the 2010 MCCWPP), the Core Team developed a series of proposed actions, including residential treatments, a series of fuel breaks appropriate for the wildland fuel types, and fuel mitigation treatments for undeveloped landscape areas. These action recommendations were designed to meet the MCCWPP goals of enhancing firefighter and public safety, reducing hazardous wildland fuels on public and private lands, improving fire prevention and suppression, restoring riparian and rangeland health, involving the community, and expediting project implementation.

To prioritize wildland fuel mitigation projects, the Core Team analyzed wildland fuel hazards, wildland fire history, and at-risk community values. This combined risk assessment was compiled in a single community base map depicting areas of low-, moderate-, and high-risk evaluations. These risk areas were further identified and categorized into site-specific TMUs, with an overall risk value assigned to each unit (See Appendix B). Hazardous fuels reduction recommendations for each TMU vary by constituting either a single fuel break, in appropriate width and length within the WUI, or broader land treatment applications of wildland fuel reduction and habitat restoration within the WUI. The complete listing and risk rating of all TMUs and associated treatments is contained within Section 3 of the 2010 MCCWPP.

Wildland fuel reduction and restoration treatments have occurred within or proximate to the WUI between 2010 and 2019, since the adoption of the 2010 MCCWPP and the 2014 MCCWPP Update. The Core Team have undertaken these projects in order to reduce the risk of unwanted wildland fire within the WUI. The information below in section II.A.1 identifies projects completed between 2015 and 2019 that were designed to meet fuel reduction goals and objectives identified in the 2010 MCCWPP and the 2014 MCCWPP Update. Figure II-1 identifies projects in relation to identified TMUs within the MCCWPP WUI.

1. Fuel Reduction Projects Completed Between 2015 and 2019

Arizona Fire and Medical Authority (AFMA)

- AFMA has identified areas in Wittmann, AZ where fuel mitigation work needs to be done by conducting drone flights and on-the-ground reconnaissance.
- Beginning in January of 2019, AFMA, in partnership with Tonopah, AZ, began the process of evaluating hazardous fuels around the community.
- AFMA works with Arizona Department of Transportation (ADOT) to reduce fuels along the roadways within their jurisdiction.

Arizona Public Service (APS)

- APS is currently updating their Integrated Vegetation Maintenance Plan, which is a statewide document, and applies in Maricopa County.
- Beginning in 2015, APS began implementing Defensible Space Around Poles (DSAP). This process applies a 10-foot radius of defensible space around poles with electrical equipment on them. Clearing of hazard vegetation around these poles could occur anywhere within the WUI.

Buckeye

- Buckeye has a project planned in undeveloped lands northeast of their municipal boundary.
- Buckeye has created a property and maintenance code to ensure maintenance of lands by landowners.
- Buckeye has treated 40 acres near the South Buckeye Equestrian Center and Miller Road
- Buckeye has treated 20 acres on the south end of 7th Street, near a water treatment plant.
- Fuel mitigation has occurred in the area of TMU BE2 due to the Tartesso subdivision.
- In the northern portion of the White Tank Mountains, a 30-foot rip-rap and concrete fire break was put in that doubles as flood control.

Carefree

- Carefree's field maintenance crews maintain medians and town easements on a regular basis.

Department of Forestry and Fire Management (DFFM)

- In 2016, DFFM completed four fuels treatments, totaling 90 acres, in Cave Creek and Rio Verde:
 1. Solstice (Cave Creek): 15 acres
 2. Solano (Cave Creek): 10 acres
 3. Dove Valley (Cave Creek): 5 acres
 4. Rio Verde: 60 acres
- In 2017, DFFM completed three fuels treatments, totaling 72 acres, in the Maricopa County WUI area:
 1. Fountain Hills: 55 acres
 2. Gila River (Buckeye): 10 acres

3. Goodyear: 7 acres
- In 2018, DFFM completed four fuels treatments, totaling 94 acres, in Cave Creek and the Lower Salt River:
 1. Solstice (Cave Creek): 12 acres
 2. Solano (Cave Creek): 15 acres
 3. Dove Valley II (Cave Creek): 17 acres (5 acres of touch-up and 12 new acres)
 4. Lower Salt River: 50 acres
 - In 2019, DFFM completed three fuels treatments, totaling 50 acres, in the Maricopa County WUI area:
 1. Kerkes (Wickenburg): 20 acres
 2. Arizona Game & Fish (near Interstate 17): 25 acres
 3. Arizona Game & Fish (Robbins Butte): 5 acres

Fort McDowell

- Hazard vegetation thinning along roadways occurs on a regular basis in Fort McDowell (ADOT conducts work along the Beeline Highway).

Gila River Indian Community (GRIC)

- GRIC Pee Posh Wetlands Bald Eagle Nest Platform Fuels Break: in September 2017, a 100-foot fuel break was constructed in the Pee Posh Wetlands to protect an artificial bald eagle nest platform after the original nest was destroyed by a wildland fire. The approximately 0.2-acre site was re-treated in February 2019 by felling regrowth and applying Garlon 3A to cut stumps.
- GRIC Pee Posh Wetlands 91st Avenue Fuel Break: from February 2017–February 2019, an approximately 2.5-acre fuel break was created to protect urban infrastructure and a riparian restoration project. In March 2019, it was re-treated to protect sensitive riparian habitat in the Pee Posh Wetlands. Crewmembers mechanically removed salt cedar with chainsaws and a skid steer, and treated cut stumps with Garlon 3A.
- GRIC Pee Posh Wetlands Beaver Dam Restoration Site: from May 2017–March 2019, approximately 5.5 acres of salt cedar were cleared to enhance riparian habitat for Fremont's cottonwood and Gooding's willow poles, and xeric habitat for four-wing saltbush and velvet mesquite. Ten crewmembers cut and piled salt cedar, treated all cut stumps with Garlon 3A and conducted a pile burn to remove biomass (Photo 1).



Photo 1. GRIC Habitat Specialist monitoring a pile burn for potential hazards.

Source: Photo courtesy of GRIC

- GRIC Gila River Wetlands Restoration Site: from September 2016–April 2019, approximately 7.0 acres of salt cedar were cleared near the ISM Raceway to protect urban infrastructure from wildland fire and to provide suitable habitat for a mesquite restoration project. Salt cedar was mechanically removed and treated with Garlon 3A, and the resulting biomass was piled and burned (Photo 2).



Photo 2. Original salt cedar clearing at the Gila River Wetlands, performed in September 2016.

Source: Photo courtesy of GRIC

- GRIC Tunnel Road Fuels Break: from March 2018–September 2019, approximately 43.1 acres of salt cedar, forbs, and grasses were mechanically cleared and treated with Garlon 3A by multiple crews including GRIC Department of Environmental Quality, Pima Agency Wildland Fire cadets, and Greyback Forestry. The fuels break was created to reduce the risk of wildland fire and to protect nearby community housing.
- GRIC Northern Road Fuels Break: from March 2018–September 2019, approximately 23.5 acres of salt cedar, forbs, and grasses were removed along Northern Road, west of Santa Cruz Road, in the village of St. John's, to protect nearby homes and municipal structures from the threat of wildland fire. Native velvet mesquite and bush seep weed were left to stabilize soils and discourage the regrowth of salt cedar.
- GRIC Ñui Kosh Restoration Site: from February 2018–March 2019, approximately 7.2 acres of salt cedar were cleared to revitalize a decrepit riparian area. Salt cedar was mechanically removed and the stumps were treated with Garlon 3A (Photo 3).



Photo 3. Fuels crew members swamping and piling salt cedar at Ñui Kosh.

Source: Photo courtesy of GRIC

- GRIC Gila River Interpretive Trail Restoration Site: from February 2019–March 2019, approximately 13.0 acres of salt cedar, forbs, and grasses were removed at the Gila River Interpretive Trail (GRIT) near the Olberg Bridge to provide suitable habitat for riparian vegetation and plant species which are used in traditional activities. Salt cedar was mechanically removed and treated with Garlon 3A and the resulting biomass was chipped on site to mitigate soil erosion.

Gilbert

- Gilbert, due to being well built out, does not have the wildland fuels they once did. The riparian areas that occur within Gilbert Town limits are planned, designed, and maintained on a regular basis.

Glendale

- Glendale has had success in mitigating fire risk in the Thunderbird Conservation Park by building all trails at a width of 5 feet to act as fire breaks.

Goldfield

- Goldfield completed a 500-acre fuel reduction project through a fire services contract with Fort McDowell.
- Goldfield completes neighborhood cleanups throughout the year, and subsequently conducts pile burns of the vegetation that is collected.

Goodyear

- In 2016, Goodyear completed hazardous fuel reduction work in Corgett Wash (Photo 4 and Photo 5).



Photo 4. Hazardous fuels in Corgett Wash prior to treatment in 2016.

Source: Photo courtesy of MCDem



Photo 5. Hazardous fuel reduction in Corgett Wash following treatment in 2016.

Source: Photo courtesy of MCDEM

- Goodyear conducted joint fuel reduction projects in 2017 and 2018, which qualified parts of Estrella Mountain Ranch as Firewise.
- In 2018, Goodyear continued work in and adjacent to Corgett Wash, working with local communities to remove approximately four tons of chipped vegetative fuels from the area.
- Goodyear has completed two projects near homes in washes near Estrella Mountain Ranch in conjunction with the Perryville Department of Corrections Crew and the BLM.

Litchfield Park

- Over the past five years, the City of Litchfield Park began and will continue fuel reduction in the 20-acre plot of land referred to as Rancho La Loma, the Paul Litchfield Homestead. The 20 acres rest on a hilltop west of Litchfield Road and north of Camelback Road in Litchfield Park. Rancho La Loma was the winter homestead of Paul and Florence Britton Litchfield. Litchfield was the founding Father of Litchfield Park. The homestead was built in the early 1900's and remained in the family until donated to the City in 2009. During the years that no one lived in the home and prior to 2009, the 20 acres became over grown with vegetation. After the City of Litchfield Park received the gift of Rancho La Loma from the remaining living relatives of Litchfield; the City began the process of clearing vegetative fuels. This ongoing project is maintained each year by clearing vegetative fuels within a 30-foot defensible space around structures and reduces hazardous fuels throughout the 20-acre property.

Maricopa County

- Hassayampa River Restoration Project: in 2017, this fuel reduction project was a collaborative effort between Maricopa County Parks and MCDEM to reduce fire danger along the Hassayampa River Preserve corridor adjacent to the US 60/89 south of Wickenburg, AZ. The funding made available

by MCDEM allowed Parks and Recreation to utilize a County contract to remove brush and weeds, raise tree canopies, and reduce the associated fire risk surrounding these buildings. Three 40-yard dumpsters were filled with debris and hauled off site to help mitigate the fire danger posed to these structures.

Mesa

- Mesa is currently working with MCDEM on a Firewise grant for fuel reduction in the community of Las Sendas.
- In 2018, two hazardous fuel reduction projects were completed in Mesa. In conjunction with a DFFM fuels crew, Mesa was able mitigate wildfire risk in the WUI area along the western, southern and, northern edge of their Fire Training Facility and an estimated 30,000 cubic yards of debris was removed.
- In 2018, Mesa conducted a Community Wildfire Risk Assessment for the Boulder Mountain Homeowner Association (HOA)/Subdivision. The Las Sendas HOA reached out requesting the same assessment in 2019.

Paradise Valley

- Paradise Valley has ongoing fuel reduction projects within their jurisdiction, including a wash mapping program.
- Paradise Valley employs a full-time code enforcement officer who ensures private landowners are clearing fuels from the washes on their property.

Queen Creek

- The Queen Creek Grounds Department conducts fuel thinning in washes throughout the town, totaling approximately 10 acres per year.
- In 2016, Queen Creek conducted hazardous fuel reduction work along Queen Creek Wash at the Ocotillo Road Bridge (Photo 6 and Photo 7).



Photo 6. Hazardous fuels prior to treatment under the Ocotillo Road Bridge.
Source: Photo courtesy of MCDEM



Photo 7. Hazardous fuel reduction following treatment under the Ocotillo Road Bridge.
Source: Photo courtesy of MCDEM

Rio Verde

- Rio Verde has used department of corrections crews to build a fuel break along approximately 75 percent of their western boundary.
- Various fuels treatments are conducted by Firewise crews in Rio Verde.
- Rio Verde works with TNF on their western boundary to maintain a 30-foot wide fuel break.

Rural Metro

- Rural Metro is part of the Trail Builders joint program to complete fuel reduction work on the McDowell Sonoran Preserve.
- Rural Metro has an ongoing wash maintenance plan in Fountain Hills to conduct additional fuel reduction work more often than the current seven-year rotation they are on.

Salt River Pima-Maricopa Indian Community (SRPMIC)

- SRPMIC has a significant amount of WUI as well as wildlands with different fuel loads, and as such has done a lot of work with the Bureau of Indian Affairs (BIA) in reducing those fuels.
- SRPMIC has re-formalized their fine fuels reduction program and have started a heavy fuels reduction program as well. These two programs correspond some, but are mostly separate: the fine fuels program is related to defensible space and the WUI, whereas engineering and construction have impacts on heavy fuels program.
- SRPMIC continually conducts fuel reductions on the heavy salt cedar areas near the TNF.

Salt River Project (SRP)

- SRP routinely conducts vegetation management and line clearing in their utility corridors, completes annual inspections, and has had no lapse in thinning their electrically cleared area over the past five years.
- At their Pinnacle Peak complex, SRP has conducted hazard fuel reductions in order to protect their equipment and critical infrastructure.
- During fire events, as needed, SRP has begun treating their power line poles with retardant, which lasts until a wetting rain occurs. The retardant is applied with a utility task vehicle (UTV) and 85- gallon pump/sprayer.

Scottsdale

- Over the past five years, in collaboration with the city Parks and Solid Waste Departments, and the McDowell Sonoran Preserve staff, the Fire department performed hazardous vegetation removal services on city and preserve land. The most recent operation occurred in September 2019, where crews cleared vegetation excluding indigenous vegetation, native cactus, and established trees along Bell Road from Thompson Peak Parkway to 104th Street. In total, Scottsdale has completed approximately 15 miles of fire risk management improvements (fuel breaks) around the Scottsdale McDowell Sonoran Preserve. This is in conjunction with a network of trailheads and trails throughout the Preserve that act as fuel breaks and access points for responding to any wildland fire incidents that might occur.

- Multiple City of Scottsdale departments have an ongoing role in fuel reduction, including the Solid Waste Department adding removal services specifically for defensible space cuttings in WUI neighborhoods.
- Scottsdale has a Hazardous Fuels Mitigation Plan in place that helps coordinate and plan fuel reduction in the City.
- Because of the identified risk and large WUI area, the Scottsdale Fire Department has aggressively obtained resources and worked with various community groups to address the wildfire threat. The City has a response agreement with TNF for a 1-mile-in/1-mile-out area along their shared borders. The Scottsdale Fire Department is a member of the Phoenix Regional Automatic Aid system and has other mutual aid agreements with Carefree, Rio Verde, and SRPMIC.
- In 2017, Scottsdale conducted two fuels reduction projects.
- In 2019, Scottsdale began coordination with local golf courses to reduce vegetative fuels and develop a defensible space buffer zone, where possible, and reduce unintended wildland fire starts.
- In 2019, Scottsdale began coordination with local contractors and construction site managers to reduce excessive combustible and flammable materials, where possible, and limit the chances of a fire starting that could spread to adjacent open desert spaces (WUI).
- Due to Firewise activities, approximately 2,906 acres received defensible space/fuel management treatments immediately adjacent to an estimated 2,423 properties (Photo 8 and Photo 9).



Photo 8. Hazardous fuels in Scottsdale, AZ prior to treatment from a Firewise project.

Source: Photo courtesy of Scottsdale FD



Photo 9. Hazardous fuel reduction in Scottsdale, AZ following treatment from a Firewise project.

Source: Photo courtesy of Scottsdale FD

Sun City

- Sun City, in conjunction with APS, has mitigated fuels on their western border near the Agua Fria River and the Railroad Bridge and Grand Avenue Bypass.
- Private landowners have allowed the City to come in and reduce fuels on their lands.

Surprise

- Since 2014, the City of Surprise has completed fuel reduction work at Lizard Run at North Greasewood Street south of West Bola Drive: a once heavily brushed area running through residential streets and neighborhoods has been cleared and reduced a major fire hazard.
- There are large WUI areas in the northwest portion of the City where private property owners are responsible for maintaining and reducing fuel loads.
- Surprise has a contract with the Department of Corrections (DOC) crews that maintain the sides of the roads to reduce fuels and create a fuel break.
- Surprise conducted extensive public education with DFFM this last fire season in the northwest valley due to increased fuels from rains and several fires in the area.
- Surprise has added a Type 3 engine and a Type 6 truck to their wildland suppression resources, as well as three members on the Southwest Incident Management Team.

Tempe

- Since 2017, Tempe has focused on the removal of vegetative fuels in the majority of the LoPiano Mesquite Bosque, in the southern section of the Papago Preserve. This work has totaled approximately 18 acres of hazardous fuel reduction between 2017 and 2018. Since work began in 2017, follow-up maintenance work has occurred twice a year in the project areas (Photo 10 and Photo 11).



Photo 10. Hazardous fuels prior to treatment in the LoPiano Mesquite Bosque.

Source: Photo courtesy of MCDEM



Photo 11. Hazardous fuel reduction following treatment in the LoPiano Mesquite Bosque.

Source: Photo courtesy of MCDEM

Wickenburg

- In 2018, Wickenburg completed work with the Perryville DOC crew, where they constructed a fuel break and reduced hazardous fuels between the Hassayampa River and the Town boundary.

2. Fuel Reduction Projects Completed to Date by Federal Partners

BLM – Phoenix District

- In 2016, the BLM Phoenix District conducted approximately 190 acres of herbicide maintenance on Robbin's Butte in the Gila River corridor.
- Gila River Hazardous Fuels Project: in 2016, the BLM was contracted to conduct fuels treatments in the Gila River corridor, totaling approximately 75 acres.

- In 2017, The BLM Phoenix District conducted approximately 63 acres of prescribed fire treatments and approximately 74 acres of herbicide treatments
- Project Daylight: while not primarily a fuel reduction project, this vegetation clearing project has secondary benefits of reducing hazardous fuels along Interstate 8.

United States Forest Service (USFS) – Mesa Ranger District, TNF

- In 2018, the USFS Mesa Ranger District completed an approximately 1.6 mile-long, 63 acre fuel break around the community of Sunflower, AZ (Photo 12).



Photo 12. Mechanically thinned and masticated fuels to create a fuel break around Sunflower, AZ.

Source: Photo courtesy of TNF Mesa Ranger District

- The Mesa Ranger District conducted pile burning around the community of Vista Verde, AZ (Photo 13).



Photo 13. Pile burning being conducted near Vista Verde, AZ.

Source: Photo courtesy of TNF Mesa Ranger District

USFS – Cave Creek Ranger District, TNF

- Rio Verde Fuels Project: the Cave Creek Ranger District constructed approximately 10 acres of fuel breaks around the community of Rio Verde, AZ.
- Vista Verde Fuels Project: The Cave Creek Ranger District constructed approximately 100 acres of fuel breaks around the community of Vista Verde, AZ.
- The Cave Creek Ranger District has conducted prescribed fire treatments adjacent to the WUI near New River, Anthem, and Fort McDowell.
- The Cave Creek Ranger District treated approximately 8,000 acres on New River Mesa, which may provide some protection to the WUI.

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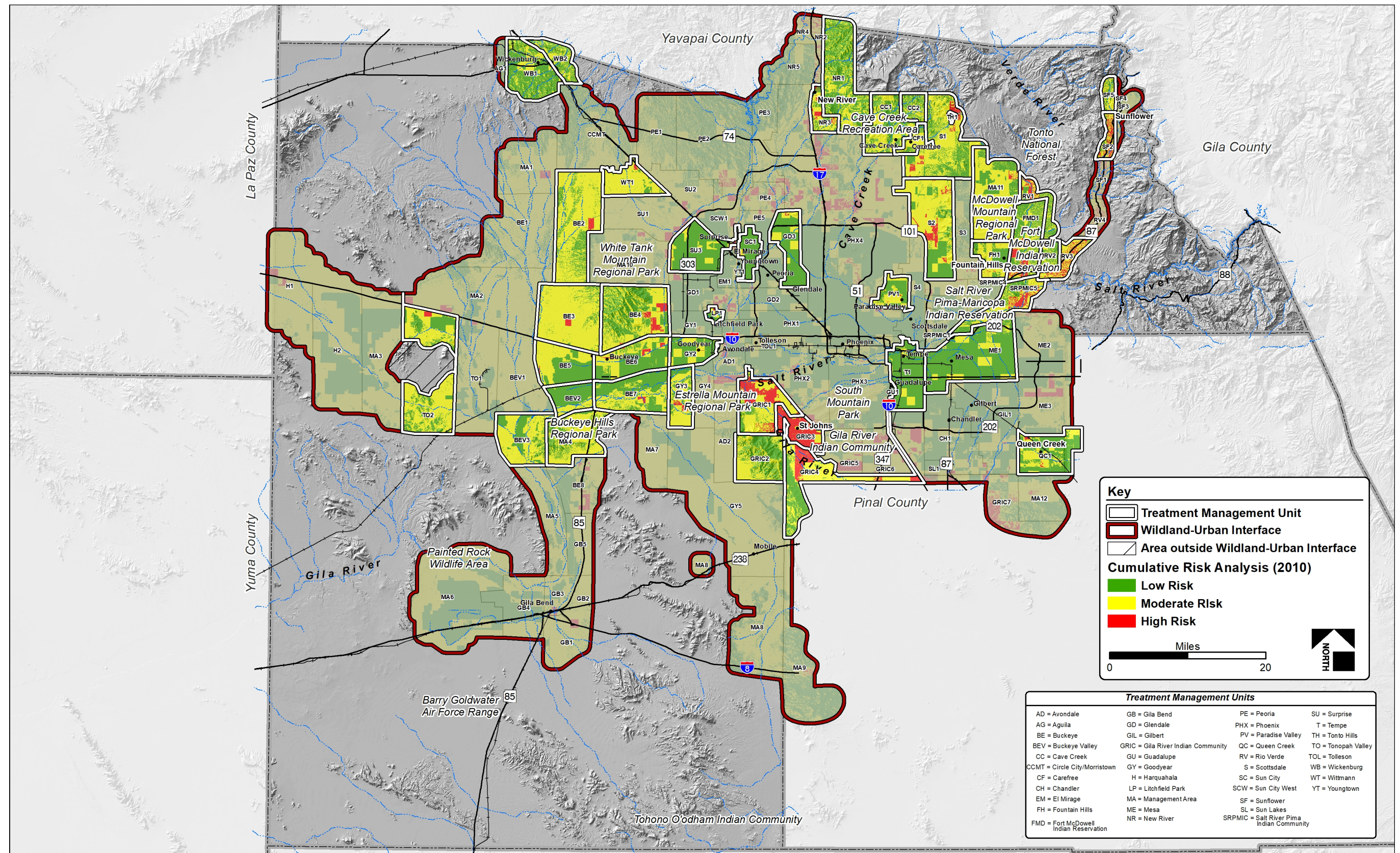


Figure II-1. Treatment Management Units in Which Hazardous Fuel Reduction Projects Were Completed (2015-2019)

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B. Prevention and Loss Mitigation

The MCCWPP is intended be used as a resource to help coordinate long-term interagency mitigation of catastrophic wildfire events in at-risk communities within Maricopa County. The MCCWPP Core Team established specific goals for wildland fire prevention and loss mitigation as follows during the development and implementation of the 2010 MCCWPP:

- Improve fire prevention and suppression for firefighter and public safety and to protect private property
- Promote community collaboration, involvement, and education
- Recommend measures to reduce structural ignitability in the MCCWPP WUI
- Preserve the aesthetics and wildlife values within riparian areas
- Identify funding needs and opportunities
- Expedite project planning through partnerships with DFFM, Good Neighbor Authority and Shared Stewardship agreements with the TNF and the BLM, and other private and public entities in managing wildland fire risk within the WUI

The MCCWPP should be reviewed and updated as needed. Successful implementation of this plan will require a collaborative process among multiple layers of government entities, as well as a broad range of community interests.

During the 2010 MCCWPP planning process, the Core Team stated that actions which reduce fire risks and promote effective responses to wildland fires and reduce the risk of wildland fire igniting and spreading throughout the WUI must be undertaken. The Core Team jurisdictions and agencies have responded to many wildland fires throughout the Maricopa County WUI between 2010 and 2019. According to state (National Wildfire Coordinating Group Fire and Aviation Management Web Applications [FAMWEB]) and federal (United States Geological Survey [USGS]) data, subsequent to the adoption of the 2010 MCCWPP, 78 fires of one acre or greater in size have occurred between 2010 and 2014 within the Maricopa County WUI, averaging approximately 16 fires of this size per year. Between 2015 and 2019, complete state and federal fire data only exist for 2015 and 2016. During this two-year span, 31 fires of one acre or greater in size occurred in the Maricopa County WUI, averaging approximately 16 fires of this size per year. While federal fire data is not available for 2017 and 2018, state fire data is available for this timeframe. Of the 33 fires one acres in size or greater that occurred in the Maricopa County WUI between 2015 and 2018 in the statewide dataset (FAMWEB), 25 were in the two-year span between 2017 and 2018 (Figure II-2). This trend makes it evident that the need for highly trained and efficiently equipped firefighters remains, and that actions taken to prevent wildland fire starts and mitigate the threat of wildland fire to values at risk must continue. The overarching goal of firefighter and public safety and protection from unwanted wildland fire is paramount to the Core Team.

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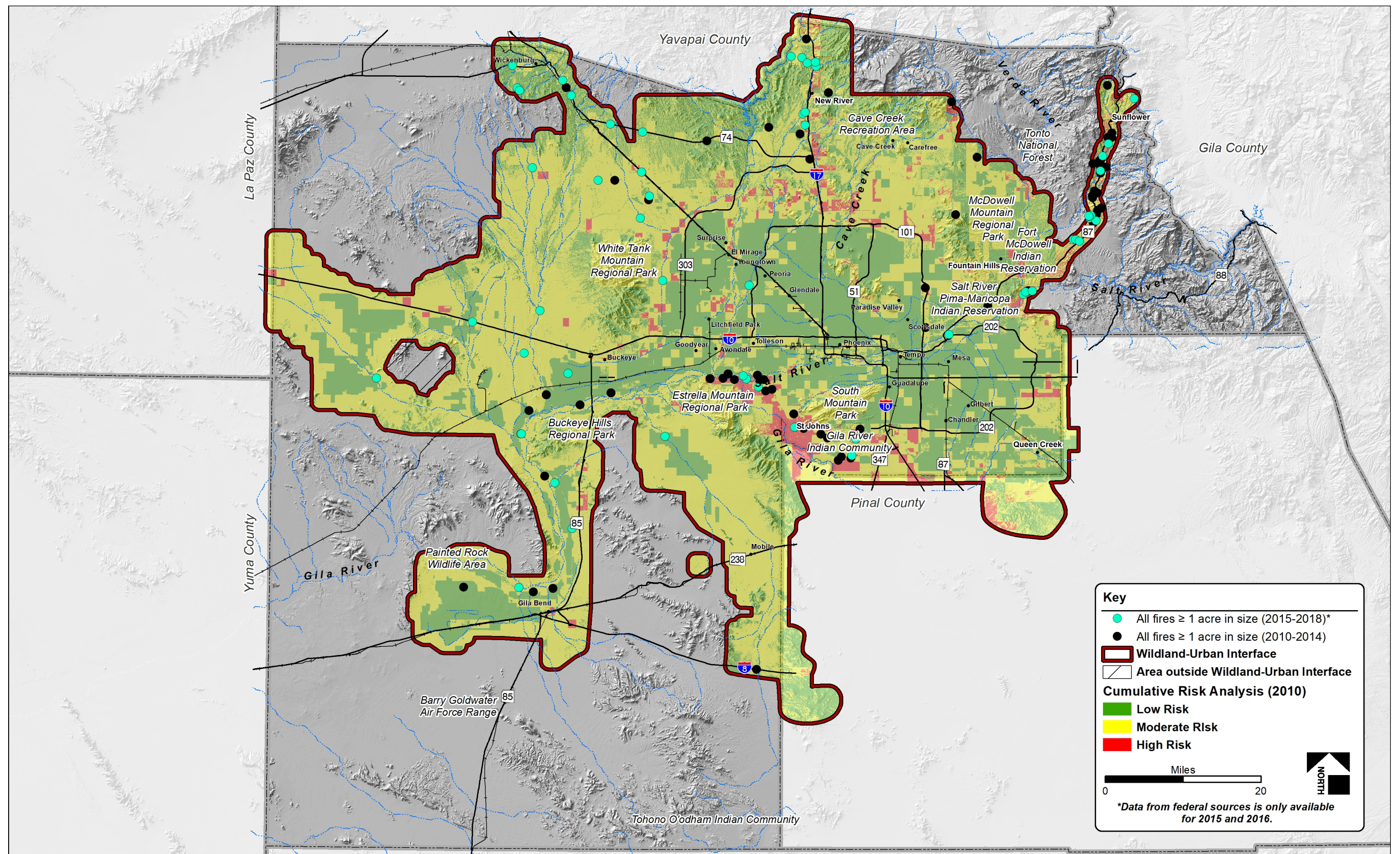


Figure II-2. All Fires One Acre in Size or Greater in the Maricopa County WUI between 2010-2014 and 2015-2018

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1. Fire Prevention, Loss Mitigation, Community Involvement, and Public Education, Information, and Outreach Recommendations

During the 2010 MCCWPP planning process, the Core Team stated that actions must be undertaken that reduce fire risks, promote effective responses to wildland fires, and reduce the risk of wildland fire igniting and spreading throughout the WUI. In 2019, the Core Team carried forward the following recommendations to enhance protection capabilities for at-risk communities within Maricopa County to meet the goals of the MCCWPP:

Prevention and Loss Mitigation

During the 2010 MCCWPP planning process the Core Planning Team stated that actions which reduce fire risks and promote effective responses to wildland fires and reducing the risk of wildland fire igniting and spreading throughout the WUI must be undertaken. Therefore in 2010 the Core Planning Team developed the following recommendations to enhance protection capabilities for at-risk communities within Maricopa County:

- Obtain one fully functional Type 6 engine and one fully functional Type 1 engine for wildland fire response by local fire departments and districts.
- Develop additional wildland fire preplans for all high-hazard locations across Maricopa County where they have not been adopted.
- Develop and maintain mutual-aid agreements with neighboring fire departments or districts for wildland and structural fire response support and other emergency response.
- Arrange for the acquisition, operation, and maintenance of a green-waste disposal site within reasonable proximity to the citizens and encourage the use of the disposal site for all vegetative material removed during wildland fuel treatments on private lands within the WUI.
- Encourage fire departments and districts to participate in annual multi-agency wildland fire safety training conducted prior to the fire season.
- Develop new water sources in key areas.

Public Education, Information, and Outreach

The Core Team developed recommendations for implementing public outreach programs to help create a citizenry that was informed of wildfire danger and supportive of actions designed to reduce the number and effects of wildland fire incidents. The goal, as stated in the 2010 MCCWPP, is to “have residents support concepts of Firewise landscaping and naturally functioning wildland systems through restoration management and rapid response to wildland fire.” The Core Team supports a robust public education and information program that is necessary to build fire adapted communities. The components of the public outreach recommendations include the following:

- Expand the use of current public information tools for fire-safe residential treatments as an immediate action step. This will be accomplished through information mailers to homeowners, presentations by local fire departments and districts, and the development of promotional materials with assistance from DFFM, BLM, USFS, and Maricopa County.

- Place fire-danger information signs on major access roads throughout the WUI. Community bulletins and other public service announcements concerning wildfire threat and preparedness should be developed with assistance from DFFM, BLM, USFS, and Maricopa County.
- Replace and maintain fencing adjacent to high-use and illegal off-road-vehicle use areas within or adjacent to the WUI.
- Provide enhanced and coordinated firefighting training and equipment, such as personal protective equipment (PPE) and second-generation fire shelters, for newly certified wildland firefighters and volunteer firefighters.
- Assist in implementing a Firewise Communities/USA® Recognition Program in communities where the program is supported by the local FDs. The Firewise Communities approach emphasizes community and individual responsibility for safer home construction and design, landscaping, and maintenance. The Core Team will also help identify high-priority communities that would most benefit from a Firewise Communities/USA® Recognition Program.

During the 2019 MCCWPP Update, the Core Team discussed the efforts taken to meet the MCCWPP fire prevention and loss mitigation goals. Progress has been made towards the MCCWPP identified goals, and more, as conditions on the ground have changed and Core Team priorities have evolved over the past nine years. The following information identifies projects completed between 2015 and 2019 which were designed to meet the fire prevention, loss mitigation, community involvement, and public education, information, and outreach goals and objectives identified in the 2010 MCCWPP.

2. Fire Prevention, Loss Mitigation, Community Involvement, and Public Education, Information, and Outreach Projects Completed Between 2015 – 2019

Arizona Fire and Medical Authority (AFMA)

- In response to the large number of fire starts in the northwest valley in 2019, AFMA hosted a public forum at the local school in Wittmann, AZ to educate the public about fire starts and how to prevent them. Additionally, AFMA provided mitigation information on reducing fuels and reducing the risk of structure involvement and the introduction on the campaign “Ready, Set, Go”.
- AFMA has Type 3 and Type 6 brush trucks, water tankers and a team of 25 wildland-trained firefighters.

Arizona Public Service (APS)

- APS has developed a fire risk index in order to adhere to state and federal fire restrictions and closures. When field personnel are out working they try to adhere to the restrictions and closures and are prepared to address an ignition with trucks equipped with water, backpack pumps, and fire extinguishers. This has been rolled out statewide and company-wide during high fire risk conditions.
- APS has adapted the national and state preparedness levels so their field personnel are prepared if there is an incident from the utility side or wildland fire side.
- APS has also developed a recloser strategy during elevated fire conditions. Any reported outages in their lines will reach a trigger point and the line will not be re-energized again until a fire mitigation specialist has given approval to do so.

Carefree

- Carefree has a community outreach program that encourages homeowners to create defensible spaces around their homes; holds community meetings each spring raising awareness about the WUI problem; and uses mailers and social media throughout the year to keep the topic in the minds of the residents.
- The fire department provides wildland safety assessments for individual homeowners upon request throughout the year.

Chandler

- Wildland fire starts are down significantly due to education and outreach.
- Chandler has purchased a brush truck to replace an aging Type 6 brush truck. The new truck will meet or exceed Type 6 standards and will be in service by the end of 2020.
- Chandler opened another fire station in 2019 (Station 11) to serve the southern area of their City and increase their response capabilities.

Department of Forestry and Fire Management (DFFM)

- DFFM will have substantial financial support available for grants in the next five years for communities who are in need, including State Fire Assistance (SFA) grants, also known as the Wildland Urban Interface Grant Program, which focuses on hazard fuels reduction, information and education, and community and homeowner action. Fire departments, local governments, educational institutions, and non-profit organizations can qualify for SFA grants.

Fort McDowell

- The Verde Fire (2019) prompted the Fort McDowell Cultural Resources department to develop maps of the culturally sensitive areas in order to protect them from wildland fire.

Gilbert

- Gilbert, due to being well built out, does not have the wildland fuels they once did. The riparian areas that occur within Gilbert Town limits are planned, designed, and maintained on a regular basis.

Glendale

- Glendale has installed fire hydrants at the base of the hiking trails in Thunderbird Conservation Park.
- Glendale completed a re-chassis on one of their Type 6 brush trucks in order to increase their response capabilities for wildland fires.
- Glendale has trained approximately 40 personnel who have completed their wildland certification, and can now put together an All-Hazard team, if needed, with those individuals.

Goodyear

- Goodyear obtained two Type 6 trucks and one Type 3 engine in order to increase their response capabilities for wildland fires.

- Goodyear has updated their building codes to include fire resistant materials, as well as sprinklers on any construction over 5000 square feet.
- Goodyear conducts a variety of preparedness outreach via social media and Firewise brochures are mailed to approximately 130 properties in the WUI.
- Goodyear held two events with Estrella Mountain Ranch to educate the community about living in the WUI.
- Crews attend homeowner association (HOA) meetings in Goodyear to educate individuals about Firewise.

Mesa

- Due to the Superstition Fire (2018), a request came in for a foam truck, and Mesa is in the process of rebuilding one to have it ready by the summer of 2020.

Queen Creek

- Because of recent growth, Queen Creek has added additional resources to aid in fire suppression and emergency response, including two fire stations and their associated personnel.
- Queen Creek conducts public outreach and utilizes the County's informational brochures at Town Hall events.

Rio Verde

- In Rio Verde, the Trilogy community is working to become a Firewise community.
- Various communities in Rio Verde use Firewise Day to discuss, educate, and develop plans for fuel reduction and prevention and loss mitigation.
- The Rio Verde Fire Department utilizes the Nextdoor application to inform their residents about important updates for their community.

Rural Metro

- Rural Metro has two HOAs who are working towards becoming Firewise communities.

Salt River Pima-Maricopa Indian Community (SRPMIC)

- SRPMIC has many Firewise programs in place, as well as programs related to defensible space.
- SRPMIC is building several wildland fire teams, including a medic team, hand crew, and two engine bosses, among others.
- SRPMIC has purchased a Type 4 truck and is looking at Type 3 engine as well. They have four trucks identified specifically for wildland deployment teams, which they purchased through a grant, and two trucks for emergency management teams that will work within the Southwest region.

Scottsdale

- Strong public education activities have resulted in the Ancala West community receiving the first official Firewise Community certification in Maricopa County. Nine other Scottsdale communities have also earned certification over the past five years. The Scottsdale Fire Department has met with several more local homeowner organizations and master-planned communities interested in Firewise certification.

- WUI meetings with individual homeowners and the many HOAs living next to the open preserve areas have resulted in greater community awareness of hazards, a considerable number of fuel management activities and creation of defensible space.
- The Scottsdale Fire Department managed the placement and update of roadside Fire Danger signs. During Extreme conditions, the Streets Department will also stage temporary, illuminated signage as directed by the Fire Department. Alert and warning messaging were also delivered through social media, radio, print, and television.
- The Scottsdale FD regularly conducts WUI fire training for its full-time firefighters, and all fire apparatus are outfitted for initial WUI fire attack.
- Scottsdale has increased their WUI resources, which now includes one 2,500-gallon water tender; four Type 6 brush trucks; one Type 3 engine, eighteen Type 1 engines, one four-wheel drive UTV outfitted with a brush pump and water tank, two four-wheel drive UTVs, and one wildland cache/support truck with additional hand tools, hoses, and adaptors. Firefighters are issued National Fire Protection Association (NFPA)-compliant PPE, Generation 2 shelters, and portable radios. The department increases daily staffing during the wildfire season to include staffing roving Type 6 brush trucks and a hand-crew.
- Scottsdale is implementing Community Emergency Notification System (CENS) and Integrated Public Alert and Warning System (IPAWS) in order to improve dispatch and alerting capabilities by establishing a community emergency alert system. The County and local communities will continue to jointly investigate an emergency contact automatic phone redial system for emergency public communication.
- Scottsdale FD was the first department in Arizona to complete the International Association of Fire Fighter's (IAFF's) "Responding to The Interface" course. This training program is designed to provide firefighters and company officers a consistent basic understanding of safety, command and control, and strategy and tactics to use when defending structures from a wildland fire (defensive strategy), or when suppressing a wildland fire in and around structures (offensive strategy).
- All Scottsdale firefighters have completed S-130/S-190.
- The Scottsdale FD routinely trains with Automatic/Mutual Aid partners and participates with Central Arizona Wildland Response Team (CAWRT).

Sun City

- Sun City has a Type 6 truck and 16 members on a wildland fire team.

Surprise

- Surprise has obtained a UTV for use where response by a Type 3 engine or Type 6 truck is limited.

Wickenburg

- Wickenburg has increased public education and involvement and has had a rise in Firewise community activity.
- The Wickenburg Fire Chief has worked diligently on getting a statewide mutual aid agreement up and running.

III. ACTION RECOMMENDATIONS AND IMPLEMENTATION

A. Action Recommendations for Wildland Fuel Modification

The Core Team reviewed the Action Recommendations and Implementation developed for the 2010 MCCWPP and 2014 MCCWPP Update and decided that for the 2019 MCCWPP Update that the action recommendations should be reevaluated and revised based on the Core Team's current goals and priorities. Therefore, during the 2019 Core Team Meetings, the jurisdictions and agencies that attended collaboratively discussed their needs, goals, and priorities for the next five years, and beyond, and developed updated action recommendations that are necessary to meet the overarching goals and objectives of the MCCWPP. Table 3-1 below reflects the updated action recommendations. These recommendations are intended to reduce structural ignitability, improve fire prevention and suppression, and enhance public outreach and are based on the wildfire threat, wildfire effects, and wildfire risk assessment conducted by the Core Team. At the end of each year, projects implemented from these action recommendations will be monitored for effectiveness in meeting MCCWPP objectives. The Core Team is committed to working toward implementation of the 2019 Action Recommendations presented below through 2025.

Table 3-1. Action Recommendations for Wildland Fuel Modification, by TMU

TMU(s)	Location and Description	Project Partners	Estimated Treatment Costs
FMD1, RV1, RV2, RV3	Lands in the Fort McDowell Indian Reservation, as well as lands surrounding the community of Rio Verde east to the TNF boundary, and lands surrounding the community of Goldfield Ranch north and south of State Route 87.	Fort McDowell FD, Goldfield FD, Rio Verde FD, TNF, and MCDEM	Total of 6,850 high-risk acres ¹ = \$2,397,500; \$479,500/year for 5 years (FY 2020-2025). Estimate based on \$350/acre average cost.
BE4, MA10	Lands east of the City of Glendale within and adjacent to the White Tank Mountain Regional Park and Skyline Regional Park.	Buckeye FD, BLM, DFFM, and MCDEM	Total of 3,515 high-risk acres = \$1,230,250; \$246,050/year for 5 years (FY 2020-2025). Estimate based on \$350/acre average cost.
SU1, SU2	Lands northeast of the White Tank Mountain Regional Park and northwest of AZ Loop 303.	Surprise FMD, BLM, DFFM, and MCDEM	Total of 2,389 high-risk acres = \$836,150; \$167,230/year for 5 years (FY 2020-2025). Estimate based on \$350/acre average cost.
MA11, RV1	Lands surrounding the community of Rio Verde east to the TNF boundary, as well as lands within and north of McDowell Mountain Regional Park.	Rio Verde FD, SRP, Fort McDowell Indian Reservation, TNF, and MCDEM	Total of 1,829 high-risk acres ¹ = \$640,150; \$128,030/year for 5 years (FY 2020-2025). Estimate based on \$350/acre average cost.
EM1, PE5, SC1, SU3	Lands within and surrounding Sun City, including adjacent lands in the cities of El Mirage, Peoria, and Surprise.	Sun City FD, El Mirage FD, Peoria FD, Surprise FMD, BLM, DFFM, and MCDEM	Total of 1,044 high-risk acres = \$365,400; \$73,080/year for 5 years (FY 2020-2025). Estimate based on \$350/acre average cost.
BE2	Lands northwest of the White Tank Mountain Regional Park and Sun Valley Parkway.	Buckeye FD, DFFM, BLM, and MCDEM	Total of 703 high-risk acres = \$246,050; \$49,210/year for 5 years (FY 2020-2025). Estimate based on \$350/acre average cost.
GY3	Lands south of the City of Goodyear along the western boundary of Estrella Mountain Regional Park, including the Gila River.	Goodyear FD, BLM, DFFM, and MCDEM	Total of 612 high-risk acres = \$214,200; \$42,840/year for 5 years (FY 2020-2025). Estimate based on \$350/acre average cost.
WT1, PE1	Lands within and surrounding the community of Wittmann, as well as lands north and south of SR 74, northwest of the City of Peoria.	AFMA, BLM, DFFM, and MCDEM	Total of 253 high-risk acres = \$88,550; \$17,710/year for 5 years (FY 2020-2025). Estimate based on \$350/acre average cost.

TMU(s)	Location and Description	Project Partners	Estimated Treatment Costs
LP1	Lands within the City of Litchfield Park.	Litchfield Park FD and MCDEM	Total of 164 high-risk acres = \$57,400; \$11,480/year for 5 years (FY 2020-2025). Estimate based on \$350/acre average cost.
PV1	Lands within the Town of Paradise Valley.	Paradise Valley FD and MCDEM	Total of 133 high-risk acres = \$46,550; \$9,310/year for 5 years (FY 2020-2025). Estimate based on \$350/acre average cost.
WB1, WB2	Lands within and surrounding the City of Wickenburg and the Hassayampa River.	Wickenburg FD, BLM, DFFM, and MCDEM	Total of 33 high-risk acres = \$11,550; \$2,310/year for 5 years (FY 2020-2025). Estimate based on \$350/acre average cost.

Table Note: Total acres to be treated during the life of the plan (2020-2025); acres estimated to be treated will be based on site-specific analysis, which will determine actual acres available for treatment in each area. Verification of actual cost will be needed based on site conditions.

¹This action recommendation includes high-risk acres in TMU RV1, which are also included in one other action recommendation in the table.

B. Core Team Identified Action Recommendations for Protection Capability, Reduced Structural Ignitability, and Promoting Community Involvement through Education, Information, and Outreach

The Core Team and other agencies have worked collaboratively to evaluate, maintain, and—where necessary—upgrade community wildfire preparation and response facilities, capabilities, and equipment. The Core Team has also implemented public outreach and education programs for residents to heighten awareness and understanding of the threat that wildland fire poses to the communities. Table 3-2 lists the 2019 updated action recommendations proposed by the Core Team for consideration by individual fire departments and districts for increased protection capability, reduced structural ignitability, and promoting community involvement through education, information, and outreach.

Table 3-2. Action Recommendations for Protection Capability, Reduced Structural Ignitability, and Promoting Community Involvement through Education, Information, and Outreach

Project Partners	Project Type	Specific Recommendation	Estimated Costs	Timeline
AFMA, MCDEM	Outreach	Utilize Ready, Set, Go! program.	\$500	5-Year 2024
AFMA	Infrastructure	Purchase and install four digital Variable Message Signs (Wittmann and Tonopah).	\$20,000	5-Year 2024
	Equipment	Purchase two 10,000-gallon water tanks (Wittmann and Tonopah).	\$30,000	5-Year 2024
	Equipment	Purchase a Wildland UTV.	\$30,000	5-Year 2024
	Equipment	Purchase a Type 6 brush truck.	\$80,000	5-Year 2024
Fountain Hills FD	Infrastructure	Purchase and install fire danger signs.	<i>To be determined</i>	5-Year 2024
Glendale FD	Equipment	Purchase a Type 3 engine.	\$350,000	5-Year 2024
	Equipment	Purchase a 2,500-gallon water tender.	\$180,000	5-Year 2024
Goodyear FD, MCDEM	Administrative	Test and implement IPAWS.	<i>To be determined</i>	5-Year 2024
Goodyear FD	Infrastructure	Purchase and install fire danger signs.	<i>To be determined</i>	5-Year 2024
Paradise Valley FD	Equipment	Purchase a Type 1 engine.	\$400,000	5-Year 2024
	Equipment	Purchase a Type 6 brush truck.	\$80,000	5-Year 2024
	Infrastructure	Purchase a 10,000-gallon water tank.	\$15,000	5-Year 2024

Project Partners	Project Type	Specific Recommendation	Estimated Costs	Timeline
Scottsdale FD	Equipment/ Outreach	Purchase 1 or 2 rolling dumpsters, wrapped in fire prevention advertising, for permanent green waste disposal.	<i>To be determined</i>	5-Year 2024
	Outreach	Expand outreach for residential treatments to reduce structural ignitability through mailers, presentations, and promotional materials.	<i>To be determined</i>	5-Year 2024
	Outreach	Expand Ready, Set, Go! program.	<i>To be determined</i>	5-Year 2024
SRPMIC	Equipment	Purchase a Type 3 engine.	\$275,000	5-Year 2024
Sun City FD	Equipment	Purchase a UTV for wildland work.	\$30,000	5-Year 2024
	Equipment	Purchase a Type 1 engine.	\$400,000	5-Year 2024
Surprise FMD	Equipment	Replace a Type 1 tactical dual-axle water tender.	\$600,000	5-Year 2024
	Equipment	Purchase a new Type 1 water tender.	\$400,000	5-Year 2024
	Personnel	Complete annual wildland training for all department firefighters.	\$2,500	5-Year 2024
	Personnel	Obtain a Community Risk Reduction Specialist.	\$75,000	5-Year 2024
	Outreach	Expand outreach for residential treatments through mailers, presentations, fire adaptive communities plan, and fuel management plan for needed communities.	\$10,000	5-Year 2024
Tolleson FDs	Equipment	Purchase a Type 6 brush truck.	\$80,000	5-Year 2024

Table Abbreviations: FD = Fire District/Department; MCDEM = Maricopa County Department of Emergency Management; IPAWS = Integrated Public Alert and Warning System; UTV = utility task vehicle.

During the 2019 Core Team meetings, the attendees discussed their individual department/district goals, priorities, and recommendations for fuel reduction, reduced structural ignitability, and community involvement. The following information is a summary of the discussions that took place and include some of the information utilized to develop the recommendations in Table 3-1 and Table 3-2.

1. Core Team Goals, Priorities, and Recommendations for Fuel Reduction, Reduced Structural Ignitability, and Community Involvement

Arizona Fire and Medical Authority (AFMA)

- The area around Wittman, AZ is the main priority for AFMA going forward. Salt Cedar is an issue within this area and AFMA would like to conduct a fuel reduction project along the wash bottom near Nadaburg Elementary School (approximately in the area of TMUs WT1 and PE1).
- AFMA would like to increase their community outreach, including utilizing Ready, Set, Go!, as it is an easy system to roll out.
- AFMA would like to fund and install fire danger signs in Wittmann and Tonopah, AZ. These fire danger signs could also be installed in areas of high off-highway vehicle (OHV) use.
- AFMA would like to hold additional public meetings in order to provide additional public education regarding wildland fire prevention.
- Due to the life expectancy, AFMA would like to purchase a Type 6 brush truck.

- AFMA has seen the need for a wildland UTV that would allow the wildland crews to access the fire in very rugged and remote areas, where it has been difficult to get a brush truck to, the UTV would provide for quick initial attack response capabilities.
- Due to the lack of water in the areas of both Wittmann and Tonopah, AFMA would like to purchase two 10,000-gallon tanks for those WUI areas to assist with increased access to water when fighting the fire.
- AFMA would like to partner with Perryville Wildland Crews and perform fuels mitigation activities in the wash close to Nadaburg School.

Arizona Public Service (APS)

- APS would like to continue to partner and collaborate with all of the local jurisdictions and agencies.

Buckeye

- Buckeye identified an area of concern near Sun Valley Parkway where it runs east/west around the water treatment plant. They want to expand the water treatment plant and to do so, the wash nearby will need to be cleared. In addition, communication towers are planned for this area as well (approximately in the area of TMU BE2).

Carefree

- The Town's main focus for the next few years will be to continue an ongoing community outreach program that encourages homeowners to create defensible spaces around their homes. This has been a successful program and we continue to see property owners creating the desired defensible spaces. Carefree holds community meetings each spring raising awareness about the urban interface problem. Carefree's field maintenance crews maintain medians and town easements on a regular basis. In addition, mailers and social media are used throughout the year keeping the topic in the minds of the residents. The fire department provides wildland safety assessments for individual homeowners upon request throughout the year.

Chandler

- Due to many people having second homes in wooded areas, Chandler would like to continue and expand community outreach through social media.

Department of Forestry and Fire Management (DFFM)

- For DFFM, the northwest portion of Maricopa County is likely going to be the priority for next few years, and will include more fire prevention and education.
- The Hassayampa Preserve will also be a priority, in order to acquire funding for work on hazardous fuels and urban forestry due to the years of growth that haven't been dealt with.
- DFFM has more funding available for hazardous fuels reduction and invasive plant treatments than ever before. Any jurisdictions/agencies that are interested should contact DFFM.
- DFFM, as the signatory on CWPPs, has \$600,000 in funding to help communities with CWPPs across the state.

Fort McDowell

- Fort McDowell is working with BIA to conduct hazardous fuel reductions and invasive plant treatments near the Verde River riparian corridor (approximately in the area of TMU FMD1).
- Fort McDowell will be using their maps of culturally sensitive areas to begin thinning fuels around those areas to protect the cultural resources (approximately in the area of TMU FMD1).
- Fort McDowell would like to construct fuel breaks to tie into the Rio Verde and Goldfield Ranch fuel breaks that currently exist (approximately in the area of TMUs RV1, RV2, and RV3).

Fountain Hills

- Fountain Hills will be working on revising and updating their maintenance plans.
- Fountain Hills would like to work with their streets department to update their aging fire danger signs.
- EPCOR Water has a water tank in the McDowell Sonoran Preserve that may require some fuel thinning or removal around its boundary.

Gilbert

- Gilbert will continue education and outreach for outdoor recreationists through informational pamphlets provided by the County.

Glendale

- Glendale is acquiring land near the White Tank Mountain Regional Park and will need to determine what kind of fuel treatments may need to occur there (approximately in the area of TMUs MA10 and BE4).
- Glendale would like to purchase a Type 3 engine and a 2,500-gallon water tender specifically for the west side of Glendale where they have annexed additional land.
- As part of individual firefighter training, Glendale would like to continue red card certification.

Goldfield Ranch

- The main priority for Goldfield Ranch is to become a Firewise community.
- Goldfield Ranch would like to construct a fuel break around the entire perimeter of the community (approximately in the area of TMUs RV2 and RV3).

Goodyear

- Goodyear would like to open an additional fire station in Estrella Mountain by the end of 2020 to enhance fire response in that area.
- Goodyear would like to continue fuels reduction in and around Corgett Wash (approximately in the area of TMU GY3).
- Goodyear would like Estrella Mountain Ranch to become a Firewise community.
- Similar to Peoria's Car 1919 Program, Goodyear would like to create a program where they respond to all wildland fires in the area, with a dedicated and trained staff.
- Goodyear would like to add fire danger signs to some of their roadways.
- For rapid public notification, Goodyear would like to test and implement IPAWS.

- Goodyear will continue community outreach to ensure they are educated and prepared for the event of a wildland fire.

Litchfield Park

- The City of Litchfield Park began will continue fuel reduction on the 20-acre Rancho La Loma property by clearing vegetative fuels within a 30-foot defensible space around structures and reducing hazardous fuels throughout the 20-acre property (approximately in the area of TMU LP1).

Mesa

- Mesa will be conducting public outreach regarding evacuation plans to ensure the public is aware and educated if an emergency were to arise.
- Additional public outreach in Mesa will include pushing Firewise out to the communities in Mesa and utilizing informational pamphlets that have already been created.

Paradise Valley

- Paradise Valley will continue their mapped wash project when their geographic information system (GIS) is up and running.
- The engines in Paradise Valley are beginning to reach their life expectancy, so the Town would like to purchase new a new Type 1 engine, Type 6 brush truck, and a 10,000-gallon tanker.
- Due to Mummy Mountain, portions of Camelback Mountain, and Silver Mountain being within their jurisdiction, Paradise Valley would like to reduce hazardous fuels in these locations (approximately in the area of TMU PV1).

Queen Creek

- Queen Creek will focus on a recent state land acquisition and evaluate what is out there.
- Queen Creek will conduct community outreach to the foothills near the San Tan Mountains as well as the areas near GRIC.
- Queen Creek used to have a member on the Southwest Type II Incident Management Team, but no longer do, and would like to find a new one.

Rio Verde

- Rio Verde would like to find a Firewise representative for the Trilogy community.
- Rio Verde would like to conduct fuel reduction projects around the Trilogy community (approximately in the area of TMU MA11).
- Working with TNF, Rio Verde would like to clear hazardous fuels around their eastern boundary (approximately in the area of TMU RV1).

Salt River Pima-Maricopa Indian Community (SRPMIC)

- SRPMIC would like to see a countywide messaging campaign that all the agencies and jurisdictions can embrace and use.
- SRPMIC would like to expand upon their current firefighter training and increase interagency communication.

- SRPMIC would like to continue fuels reduction projects as they are identified and deemed necessary, as well as build upon their available resources for responding to wildland fire.

Salt River Project (SRP)

- SRP identified an area near Rio Verde along Dynamite Road that has a significant load of hazardous fuels along the roadway and near the electrical utilities (approximately in the area of TMUs MA11 and RV1).
- SRP is beginning to do increased fuel reduction work along their power lines, beginning with the high-voltage corridors.
- SRP is looking into developing a fuels reduction plan for their electrical infrastructure and facilities.
- SRP is willing to work with any jurisdictions and agencies to do what they can to help support fuels reductions.

Scottsdale

- Scottsdale would like to develop a task force for a central, coordinated approach to the WUI and all the projects they do (to include Streets, Parks, and Solid Waste Departments).
- Scottsdale would like to purchase 1 or 2 rolling dumpsters, wrapped in fire prevention advertising to use as permanent green waste disposal sites.
- Scottsdale noted that indigenous versus non-indigenous plant clearing is a priority in parts of their jurisdiction.
- Scottsdale is developing a WUI training for McDowell Sonoran Preserve stewards.
- Currently, Scottsdale has 20 communities on the Firewise waiting list, and plan to complete the process for the ones closest to the McDowell Sonoran Preserve first.
- Scottsdale would like to expand the use of current public information tools for residential treatments to reduce structural ignitability. This will be accomplished through informational mailers to homeowners, presentations by local fire departments and districts, and the development of specific promotional materials by Maricopa County.
- Scottsdale would like to expand their Ready, Set, Go! program in order to get exposure to a larger Scottsdale audience. Firewise includes Ready, Set, Go! as a training tool, and it could be expanded with more Firewise efforts.

Sun City

- The main priority for Sun City is to reduce hazardous fuels in the river bottoms surrounding the City, and this would need to be coordinated with Surprise and El Mirage (approximately in the area of TMUs EM1, PE5, SC1, and SU3).
- Sun City would like to purchase a UTV dedicated to reducing fuels in the river bottoms, which would have firefighting capability as well.
- Sun City would like to purchase a Type 1 engine.
- Sun City would like to look into contracting the DOC crews to help with fuel reduction projects.

Surprise

- Surprise would like to replace their Type 1 water tender and purchase an additional Type 1 water tender.
- Surprise would like to expand their wildland fire team (currently 12 members) to 20 members, and provide additional training for emergency medical services.
- Surprise will be continuing their contract with the DOC crews to mitigate fuels around the City.
- Surprise would like to develop a Firewise program for areas in the northwest of the City boundaries where significant expansion is occurring to provide education to the residents in that area.
- With the expansion of the City, Surprise would like added training, not only for the wildland team, but for all members to get red card certification. Additionally, as the department grows, making sure each department member completes annual training will require a more detailed plan.
- Surprise would like to expand the use of current public information tools for residential wildland risk assessment including a fuel management plan and fire adaptive communities plan. This will be accomplished through informational mailers to homeowners, collaboration by local fire departments and districts, and utilizing public education materials from Maricopa County.
- Surprise would like the addition of a wildland command specialist (WCS) that will have the ability to respond to immediate threats and act in a Senior Advisor position within the Incident Management Team on incidents. The WCS will be an extension of Peoria's C1919 and identified as C3019 in the Phoenix Fire Alarm Computer Aided Dispatch system.
- Over the next five years, Surprise has made it a priority to collaborate with other regional partners in the reduction of hazardous fuels beneath the Grand Avenue bridge over the Agua Fria River, where key infrastructure and adjacent communities are at risk (approximately in the area of TMUs SU1 and SU2).

Wickenburg

- Over the long term, Wickenburg has made it a priority to reduce hazardous fuels along the Hassayampa River and the Hassayampa River Preserve (approximately in the area of TMUs WB1 and WB2).
- The Wickenburg Public Works department is putting together a flood mitigation plan near Sols Wash, and part of the plan is to thin the vegetation as well, which will help with prevention in the long run.
- Wickenburg would like to use and expand upon the wildland fire training that their Hassayampa Wildland team has received to support the surrounding departments, who might not have as much training, to help them get the training they need.

Tolleson

- Tolleson would like to purchase a Type 6 truck.

IV. MONITORING PLAN

Monitoring is essential to ensure that the MCCWPP goals are met. The MCCWPP administrators, local fire departments and districts, MCDEM, DFFM, TNF, and BLM agreed to monitor the progress of the 2010 MCCWPP action recommendations to determine the effectiveness of completed and ongoing projects within and adjacent to the WUI. Effective monitoring of the MCCWPP and documentation of projects and goals achieved allows for a cohesive CWPP and assists in determining future projects that are in line with the goals and objectives of the MCCWPP.

The CWPP Working Group is tasked with identifying appropriate grant and other funding opportunities necessary to implement the action recommendations of the MCCWPP. Grant information should be routinely searched to identify updated grant application cycles and requirements.

The Maricopa County Annual Report form, which is located in Section 5 of the 2010 MCCWPP, is updated and presented in Table 4-1. The Annual Report form outlines the performance measures that the MCCWPP Working Group uses to assess MCCWPP performance against goals for any planning year or span of years. In addition to monitoring the listed performance measures, the MCCWPP administrators assess the current status of wildland fuel hazards and include any new or developing issues not covered by the 2010 MCCWPP. As new issues arise, recommendations to address needs are identified and the MCCWPP is updated, as necessary, to meet its overarching goals.

Table 4-1. Monitoring Plan

Goal	Performance measure
Improve fire prevention and suppression	<p>Reduction of wildland fire occurrence and acres burned (unplanned) in the WUI:</p> <p><u>Fire response equipment obtained</u></p> <p>Completed</p> <ul style="list-style-type: none"> • Type 6 brush truck acquired for use in Carefree and Cave Creek sub-WUIs • Type 6 brush truck acquired for use in Sun Lakes sub-WUI • Chandler has purchased a Type 6 brush truck to replace an aging Type 6 brush truck • Glendale completed a re-chassis on one of their Type 6 brush truck • Goodyear has obtained two Type 6 trucks and one Type 3 engine • SRPMIC purchased a Type 4 truck • Scottsdale has acquired a 2,500-gallon water tender; four Type 6 brush trucks; one Type 3 engine, eighteen Type 1 engines; one four-wheel drive UTV outfitted with a brush pump and water tank; two four-wheel drive UTVs; and one wildland cache/support truck • Surprise has added a Type 3 engine, Type 6 truck, and a UTV to use when engine access is limited <p>Priorities Planned for 2020</p> <ul style="list-style-type: none"> • Glendale plans to purchase a Type 3 engine and a 2,500-gallon water tender • Goodyear would like to implement a program similar to Peoria's Car 1919 program • Paradise Valley plans to purchase a Type 1 engine, Type 6 brush truck, and a 10,000-gallon tanker • SRPMIC plans to purchase a Type 3 engine • Sun City plans to purchase a Type 1 engine and a UTV for wildland work • Surprise plans to replace their Type 1 tactical water tender and purchase a new Type 1 water tender • Tolleson plans to purchase a Type 6 brush truck • Continuation of obtaining fully functional Type 6 engines and Type 1 engines for wildland fire response by local fire departments and districts <p><u>Effectiveness monitoring of fire prevention and suppression will include the following:</u></p> <p>Acres burned and degree of severity of wildland fire</p> <ul style="list-style-type: none"> • Ongoing <p>Percentage of wildland fire controlled on initial attack</p>

Goal	Performance measure
	<ul style="list-style-type: none"> • Ongoing <p>Number of homes and structures lost to wildland fire</p> <ul style="list-style-type: none"> • Ongoing <p><u>Additional water sources developed in key areas</u></p> <ul style="list-style-type: none"> • Ongoing <p><u>Consistent fire training in use</u></p> <p>Completed</p> <ul style="list-style-type: none"> • Glendale has trained approximately 40 personnel who have completed their wildland certification • Scottsdale regularly conducts WUI fire training for all of its full-time firefighters • Surprise has added training for all department firefighters to complete annual wildland training <p>Training Planned for 2020</p> <ul style="list-style-type: none"> • SRPMIC would like to expand on their current firefighter training • Wickenburg would like to expand on the wildland fire training of the Hassayampa Wildland Team <p><u>Wildland firefighter PPE acquired as needed</u></p> <ul style="list-style-type: none"> • Ongoing • Scottsdale firefighters are issued NFPA-compliant PPE and second-generation shelters
Reduce hazardous vegetative fuels	<p>Effective treatment of high-risk areas by acre:</p> <p><u>Acres treated to acceptable fuel levels within priority treatment management units through any fuel reduction measures, including prescribed fire</u></p> <ul style="list-style-type: none"> • Fuels mitigation began in Wittmann, AZ • APS continuation of DSAP work • Buckeye has treated a total of 60 acres of hazardous fuels • DFFM treated a total of 306 acres of hazardous fuels in the WUI between 2016 and 2019 • GRIC treated a total of 101.5 acres of hazardous fuels • Goldfield completed a 500-acre fuel reduction project with Fort McDowell • Goodyear reduced hazardous fuels in Corgett Wash • Firewise grant for fuel reduction in the community of Las Sendas is obtained • Queen Creek reduced hazardous fuels near the Ocotillo Road Bridge • Rio Verde has worked to build a fuel break around approximately 75% of their boundary • Continuation of SRPMIC fuel reductions of salt cedar infestations near the TNF • In Scottsdale, approximately 2,906 acres received defensible space/fuel management treatments immediately adjacent to an estimated 2,423 properties • Tempe has treated 18 acres of hazardous fuels in the LoPiano Mesquite Bosque
Restore watershed health	<p><u>Acres of fuel reduction or watershed enhancement treatments that meet restoration treatment guidelines for riparian habitats:</u></p> <p>Coordination with and support of DFFM, ASLD, TNF, and BLM in implementing and determining social, economic, and environmental effects of riparian restoration treatments (Treatments 7 and 9, see Table 3.1 in Mitigation Plan).</p> <p><u>Acres of saltcedar-invaded riparian areas identified and undergoing restoration treatments</u></p> <ul style="list-style-type: none"> • Wash Channelization in Queen Creek • Fuel reduction in riparian areas in Rio Verde and Tonto Verde • Paradise Valley fuels reduction in washes • Fountain Hills fuel reduction in Ashbrook and Balboa Washes • Additional salt cedar invasion areas treated within the WUI by all cooperators
Promote community involvement	<p>Initiation of public outreach programs:</p> <p><u>Countywide community MCCWPP Working Group initiated</u></p> <p>Completed in 2011</p> <p><u>Public outreach programs and promotions implemented to enhance volunteer efforts to reduce hazardous fuels</u></p> <p>Completed</p> <ul style="list-style-type: none"> • Initiated in Rio Verde • Carefree has a community outreach program • Goodyear conducts a variety of preparedness outreach • Queen Creek conducts public outreach • Rio Verde fire department utilizes the NextDoor to inform residents updates • SRPMIC has initiated Firewise programs

Goal	Performance measure
	<p>Additional public information and outreach programs established</p> <ul style="list-style-type: none"> • Scottsdale has expanded the use of public information tools through informational mailers to homeowners, presentations by local fire departments and districts, and the development of specific promotional materials by Maricopa County <p><u>Number and areas (community or dispersed residents) of private landowners supporting and implementing fuel reduction projects</u></p> <ul style="list-style-type: none"> • Certified Four Firewise communities • During 2020-25 Trilogy community to become a Firewise community • During 2020-25 Rural Metro's two HOAs to become Firewise communities • Additional Firewise communities certified <p><u>MCDEM and local fire departments and districts developed and implemented evacuation plans for identified high-risk areas</u></p> <ul style="list-style-type: none"> • Ready-Set-Go! is being implemented <p>Additional evacuation plans developed and implemented</p> <ul style="list-style-type: none"> • AFMA to increase community outreach utilizing Ready, Set, Go! • Goodyear to test and implemented IPAWS • Scottsdale to expand their Ready, Set, Go! program <p><u>Roadside fire-danger warning signs in English and Spanish installed at strategic points within the WUI</u></p> <ul style="list-style-type: none"> • Signage in Rio Verde <p>Additional fire warning signs established</p> <ul style="list-style-type: none"> • AFMA to installed fire danger signs • Fountain Hills to update aging fire danger signs • Goodyear to install fire danger signs along some roadways <p><u>Green-waste disposal and processing site secured and operational</u></p> <ul style="list-style-type: none"> • Available since 2011 • In place in the Rio Verde FD <p>Additional Green Waste Disposal Sites developed</p> <ul style="list-style-type: none"> • Scottsdale to acquire rolling dumpsters, wrapped in fire prevention advertising, to use as permanent green waste disposal sites <p><u>Fire-awareness articles printed in local newspapers</u></p> <ul style="list-style-type: none"> • Number of articles published in local or national newspapers to promote fire awareness <p><u>Fire-safety awareness program, posters, and information available in public places</u></p> <ul style="list-style-type: none"> • Initiated in 2011 • Public service announcements concerning wildfire threat and preparedness to be developed in 2020-25 with assistance from DFFM, BLM, TNF, and Maricopa County
Encourage economic development	<p>Wood-products industry growth and diversification to use all sizes of material removed by fuel-reduction treatments:</p> <p><u>Number of value-added wood products developed by the community</u></p> <ul style="list-style-type: none"> • None to date <p><u>Number of new markets (local firewood sales) for local products created</u></p> <ul style="list-style-type: none"> • None to date

APPENDIX A. CUMULATIVE RISK LEVELS, BY PERCENTAGE OF EACH COMMUNITY WUI

Cumulative Risk Levels, by Percentage of Each Community WUI							
Maricopa County CWPP Community Sub-WUI	High Risk (%)	Acres	Moderate Risk (%)	Acres	Low Risk (%)	Acres	Total Acres
Aguila	0	0	17	728	83	3,692	4,420
Apache Junction							3,239*
Wickenburg	<1	34	34	12,837	65	24,338	37,209
Circle City/Morristown	<1	42	45	23,029	55	28,648	51,719
Buckeye	2	6303	66	190,471	32	92,722	289,497
Peoria	3	3,994	44	69,920	53	82,569	156,483
Chandler	1	568	29	12,317	70	30,356	43,241
Tonopah Valley	1	601	72	69,087	27	26,180	95,868
El Mirage	3	228	19	1,392	78	5,709	7328
Buckeye Valley	0	0	73	56,010	27	20,692	76,703
Gila Bend	1	1,015	73	65,602	26	23,719	90,336
Harquahala	1	1,247	74	91,175	25	31,015	123,436
Goodyear	1	998	70	112,438	29	47,723	161,159
Youngtown	1	8	25	374	74	1,123	1,503
Gila River Indian Community	24	42,324	53	94,066	23	39,725	176,114
Phoenix	5	18,568	44	157,858	51	185,007	361,433
Cave Creek	0	0	52	16,437	48	15,122	31,560
Sunflower	18	4,536	65	16,033	17	4,252	24,820
Scottsdale	4	5,642	58	72,237	38	48,307	126,185
Tempe	<1	5	13	3,062	87	20,832	23,989
Rio Verde	18	5,740	58	18,744	24	7,616	32,100
Mesa	3	4,012	40	46,981	57	67,805	118,798
Gilbert	<1	191	29	14,013	71	34,228	48,432
Guadalupe	0	0	1	10	99	689	699
Queen Creek	1	254	36	9,032	63	15,895	25,181
Carefree	<1	37	67	3,952	33	1,938	5,927
Paradise Valley	1	133	51	5,409	48	5,037	10,579
Fountain Hills	1	116	63	7,836	36	4,563	12,515
Salt River Pima-Maricopa Indian Community	5	2,968	57	32,475	38	21,866	57,309
Avondale	6	2,585	63	27,968	31	13,983	44,537
Litchfield Park	7	164	31	659	62	1,360	2,183

Cumulative Risk Levels, by Percentage of Each Community WUI

Maricopa County CWPP Community Sub-WUI	High Risk (%)	Acres	Moderate Risk (%)	Acres	Low Risk (%)	Acres	Total Acres
Glendale	4	2,199	25	15,666	71	43,882	61,747
Fort McDowell Indian Community	11	2,834	42	10,355	48	11,937	25,126
Surprise	3	2,670	63	48,967	33	25,898	77,535
Sun City	1	120	9	726	90	8,254	9,100
Sun City West	7	1310	46	8004	47	8203	17,517
Sun Lakes	5	210	29	1,121	66	2,533	3,864
Tonto Hills	11	55	19	87	70	338	480
Tolleson	<1	11	69	2,727	30	1,230	3,967
Wittmann	1	189	91	14,547	8	1,308	16,044
New River	5	3,769	45	36,469	50	40,568	80,807
Management Area 1	2	816	78	27,502	20	7,116	35,433
Management Area 2	2	1,385	84	60,714	14	10,110	72,209
Management Area 3	0	0	72	37,765	36	19,006	52,771
Management Area 4	0	0	72	19,636	28	7,677	27,313
Management Area 5	0	0	74	21,261	26	7,514	28,775
Management Area 6	<1	70	57	50,048	42	36,691	86,810
Management Area 7	0	0	84	18,934	16	3,655	22,589
Management Area 8	0	0	78	44,611	22	12,791	57,402
Management Area 9	1	322	38	17,129	61	27,541	44,992
Management Area 10	3	1,197	82	37,155	15	6,547	44,898
Management Area 11	1	513	79	31,179	20	7,730	39,422
Management Area 12	2	270	49	11,118	49	11,095	22,483
Total*	4	120,252	57	1,749,492	39	1,202,717	3,072,461

Source: Logan Simpson Design Inc.

*Treatment areas not equal to area risk assessment due to data-rounding errors.

APPENDIX B. IDENTIFIED TREATMENT MANAGEMENT UNITS

Identified Treatment Management Units									
Treatment Management Unit	Map ID	Risk Value	Location and Description	Recommended Treatment ^a	Total Acres	Federal Acres	State Trust Acres	Nonfederal Acres	Tribal Acres
Avondale	AD1	M	City of Avondale north and south of I-10	1,2,3,4,7,9	25,856	424	3,861	21,388	184
	AD2	M	Lands south of AD1, including portions of Estrella Mtn. Park	1,2,3,8	8,958	2	2,631	2,273	6,325
Aguila	AG1	L	Lands immediately west of Wickenburg boundary	1,2,3,8,9	4,760	0	4,271	490	0
Apache Junction ^b	AJ1	L	Municipal boundary of Apache Junction in Maricopa County	1,2,3	3,329				
Buckeye	BE1	M	Lands in the NE corner of the municipal boundary	1,2,3,4,7,8,9	56,203	13,989	4,341	37,368	0
	BE2	M	Lands north of, and adjacent to, west boundary of White Tank Mtn. Regional Park	1,2,3,4,7,8,9	48,435	1,672	14,469	32,295	0
	BE3	M	Lands NE of community center	1,2,3,4,7,8,9	41,963	1,843	6,261	33,859	0
	BE4	M	Lands NE of town and south of White Tank Mtn. Regional Park	1,2,3,7,9	40,655	10,861	10,546	19,248	0
	BE5	L	Lands SW of town and north of Gila River, including Palo Verde Nuclear Generating Station	1,2,3,6,8	23,306	0	1,740	21,566	0
	BE6	L	Lands SE of town, north of Gila River	1,2,3,8	25,684	0	1,257	24,427	0
	BE7	L	Lands SE of town, including Gila River	1,2,3,4,5,6, 7, 9	28,798	5,289	1,511	21,998	0
	BE8	M	Lands south of Buckeye Hills Regional Park within and east of Gila River	1,2,3,4,5,6, 7, 9	25,818	7,182	4,727	13,909	0
Buckeye Valley	BV1	M	Lands west of the town of Buckeye adjacent to Hassayampa River	1,2,3,4,5,6, 7, 8,9	36,681	357	12,133	25,191	0
	BV2	L	Lands SE of Buckeye adjacent to north boundary of Buckeye Hills Regional Park	1,2,3,4,5,6, 7, 8,9	13,329	1,746	78	11,505	0
	BV3	M	Lands west of Buckeye Regional Park, including Gila and Hassayampa River confluence	1,2,3,4,5,6, 7, 8,9	26,893	11,304	5,980	9,609	0

Identified Treatment Management Units

Treatment Management Unit	Map ID	Risk Value	Location and Description	Recommended Treatment^a	Total Acres	Federal Acres	State Trust Acres	Nonfederal Acres	Tribal Acres
Cave Creek	CC1	M	Town of Cave Creek, Cave Creek Recreation Area, north to TNF boundary	1,2,3,4,5,8	24,043	2,718	8,556	12,769	0
	CC2	L	Lands NE of Cave Creek to TNF boundary	1,2,3,4,5, 8	7,551	2,424	676	4,452	0
Circle City/Morristown	CCMT1	L	Town of Circle City/Morristown and immediate surrounding lands	1,2,3,4,5, 8	52,608	9,100	28,723	14,785	0
Carefree	CF1	M	Town of Carefree and immediate surrounding lands	1,2,3,4,5, 8	5,927	0	79	5,849	0
Chandler	CH1	L	Municipality of Chandler	1,2,3	43,241	0	90	43,151	0
El Mirage	EL1	L	Municipality of El Mirage	1,2,3	7,328	66	3	7,259	0
Fountain Hills	FH1	M	Town of Fountains Hills	1,2,3,4,8	12,515	0	0	12,486	29
Fort McDowell Indian Community	FMD1	M	Tribal trust lands of Fort McDowell Indian Community	1,2,3,4,7,8,9	25,126	76	42	152	24,855
Gila Bend	GB1	M	Lands SE of Gila Bend south of I-8	1,2,3,4,5,8	20,877	12,719	1,306	6,852	0
	GB2	M	Lands NE of Gila Bend north of I-8	1,2,3,4,5,8	11,886	4,073	6,445	1,368	0
	GB3	M	Lands NW of Gila Bend, primarily agricultural lands	1,2,3,5,7,8,9	11,393	1,265	1,746	8,159	224
	GB4	M	Lands in western municipal boundary of Gila Bend and north and south of I-8	1,2,3,5,7,8,9	30,441	8,895	2,424	18,938	184
	GB5	M	Lands north of Gila Bend along SR 85 corridor	1,2,3,5,7,8,9	17,508	6,245	3,601	7,662	0
Glendale	GD1	L	Lands on western municipality boundary	1,2,3,7,9	25,797	2,253	196	23,349	0
	GD2	L	Lands in eastern municipality, including SR 60 and SR 303 corridors	1,2,3,7,9	16,924	0	60	16,864	0
	GD3	L	Lands north of city center, north along the municipal boundary to SR 101	1,2,3,7,9	19,027	10	952	18,064	0
Gilbert	GIL1	L	Municipality of Gilbert	1,2,3,7,9	48,432	2	61	48,369	0

Identified Treatment Management Units

Treatment Management Unit	Map ID	Risk Value	Location and Description	Recommended Treatment^a	Total Acres	Federal Acres	State Trust Acres	Nonfederal Acres	Tribal Acres
Gila River Indian Community	GRIC1	M	Tribal lands adjacent to Gila River, NW of St. Johns	1,2,3,5,6,7,8,9	26,135	0	40	854	25,251
	GRIC2	M	Tribal lands west of St. Johns on east-facing slopes of Estrella Mtns.	1,2,3,5,6,7,8,9	24,827	11,962	3,241	674	8,950
	GRIC3	H	Community of St. Johns and surrounding Gila River riparian corridor	1,2,3,5,6,7,8,9	13,596	0	14	102	13,480
	GRIC4	M	Lands SW of St. Johns, along Gila River to Pinal County east to I-10 corridor	1,2,3,5,6,7,8,9	37,211	626	3	518	36,064
	GRIC5	M	Lands north of Beltline Road to north boundary of GRIC	1,2,3,5,6,7,8,9	17,712	0	0	0	17,752
	GRIC6	H	Lands along SR 347 east and west of I-10 corridor to the tribal boundary	1,2,3,5,6,7,8,9	18,426	0	0	0	18,426
	GRIC7	M	Lands east of I-10 corridor south of Maricopa County along Gila River riparian corridor	1,2,3,5,6,7,8,9	40,947	234	0	1,057	39,656
Guadalupe	GU1	L	Municipality of Guadalupe	1,2,3	699	0	0	699	0
Goodyear	GY1	L	Lands at the north municipal boundary north of I-10 corridor	1,2,3	12,223	0	1,572	10,651	0
	GY2	L	Community of Goodyear south of I-10 corridor	1,2,3	13,824	0	101	13,723	0
	GY3	M	Lands south of the city of Goodyear along west boundary of Estrella Mtn. Regional Park, including the Gila River	1,2,3, 4,7,9	15,674	530	734	14,410	0
	GY4	M	Lands south of the city of Goodyear, including portions of Estrella Mtn. Regional Park and Gila River	1,2,3, 4,7,9	14,453	137	8,765	5,552	0
	GY5	M	Lands south of Estrella Mtn. Regional Park to the municipal boundary, including the community of Mobile and SR 238	1,2,3, 4,7,9	105,808	52,477	12,703	40,362	266

Identified Treatment Management Units

Treatment Management Unit	Map ID	Risk Value	Location and Description	Recommended Treatment^a	Total Acres	Federal Acres	State Trust Acres	Nonfederal Acres	Tribal Acres
Harquahala Valley	H1	M	Lands on eastern boundary of WUI along I-10 corridor	1,2,3,4,5,8	61,838	21,038	18,033	22,767	0
	H2	M	Lands south of I-10 corridor, including Harquahala Valley and Centennial Wash	1,2,3,4,5,8	63,240	8,735	7,045	47,460	0
Litchfield Park	LP1	L	Municipality of Litchfield Park	1,2,3	2,183	0	0	2,183	0
Management Area 1	MA1	M	Open lands in NW portion of WUI	1,2,3,4,5,8	36,177	8,717	1,823	25,638	0
Management Area 2	MA2	M	Lands north of I-10 corridor, west of Buckeye city limits	1,2,3,4,5,8	72,563	7,956	6,150	58,457	0
Management Area 3	MA3	M	Lands to east, primarily south of Harquahala Valley and east of Tonopah	1,2,3,4,5,8	53,536	20,605	8,442	24,489	0
Management Area 4	MA4	M	Buckeye Hills Regional Park and surrounding lands west of SR 85	1,2,3,4,5,8	27,753	19,437	6,483	727	0
Management Area 5	MA5	M	Lands south of Buckeye/Arlington Valley along Gila corridor to north of Gila Bend	1,2,3,4,5,8	29,581	14,052	1,167	14,362	0
Management Area 6	MA6	M	Developed lands west of Gila Bend municipal boundaries along I-8 corridor	1,2,3,4,5,8	89,003	26,752	6,808	55,444	0
Management Area 7	MA7	M	Lands adjacent to Santa Cruz River, south of Gila/ Santa Cruz River confluence	1,2,3,4,5,7,8,9	23,456	11,524	3,086	8,846	0
Management Area 8	MA8	M	Lands north of I-8 along Santa Cruz River corridor to south of SR 238	1,2,3,4,5,7,8,9	58,727	38,271	1,480	18,976	0
Management Area 9	MA9	L	Lands north of I-8, west of the Santa Cruz River, north to the GRIC boundary	1,2,3,4,5,8	46,440	42,415	2,052	1,970	3
Management Area 10	MA10	M	White Tank Mtn. Regional Park	1,2,3,4,5,8	44,898	0	40,826	4,026	0
Management Area 11	MA11	M	McDowell Mtn. Regional Park	1,2,3,4,5,8	39,953	5,945	20,892	13,095	21

Identified Treatment Management Units

Treatment Management Unit	Map ID	Risk Value	Location and Description	Recommended Treatment^a	Total Acres	Federal Acres	State Trust Acres	Nonfederal Acres	Tribal Acres
Management Area 12	MA12	L	Lands at SE WUI boundary, including portions of San Tan Mtn. Regional Park	1,2,3,4,5,8	22,940	6,617	729	15,579	16
Mesa	ME1	L	City of Mesa south of SR 202/SR 87 to SR 60	1,2,3,4	49,838	126	949	48,252	511
	ME2	M	Lands east of Mesa south of SR 87, including SR 202 corridor	1,2,3,4,5,8	38,318	6,708	4,417	26,945	247
	ME3	M	Lands SE of Mesa north of Queen Creek, including SR 202 corridor	1,2,3,4,5,8	32,165	0	5,239	26,627	0
New River	NR1	L	Lands east of I-17 corridor, adjacent to Cave Creek Recreation Area, north to TNF boundary	1,2,3,4,5,8	41,375	8,739	24,253	8,383	0
	NR2	M	Lands immediately west of I-17, north of the community to New River to the WUI boundary	1,2,3,4,5,8	6,283	2,532	3,521	229	0
	NR3	M	Lands south of the community of New River to north of SR 74	1,2,3,4,5,8	8,859	172	1,937	6,750	0
	NR4	M	Lands north of New River, west of I-17 at Yavapai County boundary	1,2,3,4,5,8	6,158	5,173	78	907	0
	NR5	L	Lands NE of New River, west of I-17	1,2,3,4,5,8	19,512	10,074	5,232	4,206	0
Peoria	PE1	L	Lands north and south of SR 74, northwest of the community of Peoria	1,2,3,4,5,8	31,071	3,366	14,376	13,329	0
	PE2	L	Lands north and south of SR 74, north of the community of Peoria	1,2,3,4,5,8	68,295	23,123	19,382	25,790	0
	PE3	M	Lands north and south of SR 74, east of PE2, north of the community of Peoria	1,2,3,4,5,8	23,794	1,314	11,699	10,780	0
	PE4	M	Lands north and south of SR 74, south of PE3, north of the community of Peoria	1,2,3,4,5,8	11,882	180	844	10,859	0
	PE5	L	City of Peoria	1,2,3	22,323	2	588	21,733	0

Identified Treatment Management Units

Treatment Management Unit	Map ID	Risk Value	Location and Description	Recommended Treatment^a	Total Acres	Federal Acres	State Trust Acres	Nonfederal Acres	Tribal Acres
Phoenix	PHX1	L	North of I-10/I-17 junction, east of Tolleson, west of I-17 north to the community of New River	1,2,3,4,5,8	91,637	2,419	34,608	54,610	0
	PHX2	M	South of Tolleson to South Mtn. Regional Park, including Gila River	1,2,3,4,5,6,7,9	68,295	23,123	19,382	25,790	0
	PHX3	M	South Mtn. Regional Park north of I-10 corridor	1,2,3,4,7,9	60,070	10	12,144	47,915	0
	PHX4	L	North and west of I-17 corridor to north of Cave Creek Road	1,2,3,4,7,9	158,978	819	33,766	124,393	0
Paradise Valley	PV1	L	Municipality of Paradise Valley	1,2,3	10,579	0	0	10,579	0
Queen Creek	QC1	M	Municipality of Queen Creek	1,2,3,5,8	25,457	0	1,547	23,910	0
Rio Verde	RV1	M	Lands north and east on Fort McDowell Indian Community	1,2,3,4,5,6,7,9	10,413	9,098	0	1,301	14
	RV2	L	Lands east of Fort McDowell Indian Community, east of Verde River, north of SR 87	SR 87 corridor to vicinity of Four Peaks Road	5,802	1,552	0	4,205	44
	RV3	M	SR 87 corridor, NE of Verde River	1,2,3,4,5,6,7,9	9,979	8,462	0	1,506	11
	RV4	M	SR 87 corridor to vicinity of Four Peaks Road	3,4,5,8	7,709	7,709	0	0	0
Scottsdale	S1	M	Lands east of Carefree to the TNF boundary to the north and east WUI boundary	1,2,3,5,8	42,332	9,269	13,136	19,926	0
	S2	M	Lands north of Salt River Pima-Maricopa Indian Community and SR 101 corridor	1,2,3,5,8	41,252	0	3,410	37,843	0
	S3	M	Lands adjacent to west boundary of McDowell Mtn. Regional Park and Fountain Hills	1,2,3,5,8	21,467	0	4,603	16,864	0
	S4	L	City of Scottsdale	1,2,3	21,607	62	538	20,144	863
Sun City	SC1	L	City of Sun City	1,2,3	9,100	0	0	9,100	0
Sun City West	SCW1	L	City of Sun City West	1,2,3	17,517	378	3,793	13,346	

Identified Treatment Management Units

Treatment Management Unit	Map ID	Risk Value	Location and Description	Recommended Treatment^a	Total Acres	Federal Acres	State Trust Acres	Nonfederal Acres	Tribal Acres
Sunflower	SF1	M	SR 89 corridor north of Four Peaks Road	2,3,4,5,8	6,901	6,871	0	30	0
	SF2	M	SR 89 corridor immediately south of Sunflower	2,3,4,5,8	6,633	6,408	0	225	0
	SF3	M	Community of Sunflower	2,3,4,5,8	6,954	6,779	0	175	0
	SF4	H	Sunflower along Sycamore Creek	3,4,5,6,7,8,9	1,320	1,320	0	0	0
	SF5	M	Lands NE of Sunflower, east of SR 87	2,3,4,5,8	5,079	4,868	0	211	0
Sun Lakes	SL1	L	Community of Sun Lakes	1,2,3	3,864	0	0	3,859	4
Salt River Pima-Maricopa Indian Community	SRPMIC 1	M	East of Scottsdale boundary along Gila River	1,2,3,7,9	11,884	0	6	467	11,411
	SRPMIC 2	L	East of Scottsdale boundary, north of Gila River	1,2,3	7,592	0	0	0	7,592
	SRPMIC 3	M	East of Scottsdale boundary, north to the north SRPMIC boundary	1,2,3	7,165	0	0	104	7,061
	SRPMIC 4	M	Northern SRPMIC boundary	1,2,3	10,716	0	0	244	10,472
	SRPMIC 5	M	SRPMIC southern boundary, east along Gila River to east boundary and adjacent lands	1,2,3,7,9	20,200	3,326	0	1,443	15,431
Surprise	SU1	M	NE of the city of Surprise along the US 60 corridor, including Trilby Wash Basin	1,2,3,5,7,8,9	32,117	254	11,558	20,306	0
	SU2	M	Lands NE of the city of Surprise along US 60 corridor	1,2,3,5,8	20,455	0	3,476	16,978	0
	SU3	L	City of Surprise	1,2,3	24,964	0	97	24,867	0
Tempe	T1	L	Municipality of Tempe	1,2,3	23,898	84	555	23,260	57
Tonto Hills	TH1	L	Tonto Hills subdivision	1,2,3	480	39	0	442	0
Tonopah Valley	TO1	M	Lands south of I-10, east of community of Tonopah, adjacent to Palo Verde Nuclear Generating Station	1,2,3,4,5,8	49,982	6,863	8,225	34,894	0
	TO2	M	Tonopah Valley, including community of Tonopah south of I-10 corridor	1,2,3,4,5,8	47,235	22,824	7,281	17,130	

Identified Treatment Management Units

Treatment Management Unit	Map ID	Risk Value	Location and Description	Recommended Treatment^a	Total Acres	Federal Acres	State Trust Acres	Nonfederal Acres	Tribal Acres
Tolleson	TOL1	M	Community of Tolleson	1,2,3	3,967	0	3	3,964	0
Wickenburg	WB1	L	City of Wickenburg, Hassayampa River, and lands immediately west	1,2,3,4,5,7,8,9	26,927	1,078	11,818	14,030	0
	WB2	M	City of Wickenburg and lands immediately west	1,2,3,4,5,8	11,457	1,491	4,686	5,280	0
Wittmann	WT1	M	Lands surrounding the community of Wittmann	1,2,3,4,5,8	16,044	0	3,375	12,669	0
Youngtown	YT1	L	City of Youngtown	1,2,3	1,503	0	24	1,479	0

Note: L = low, M = moderate, H = high.

^a See Appendix C for recommended treatments.

^b Apache Junction is included in the 2018 Pinal County CWPP.

APPENDIX C. FUEL MODIFICATION AND TREATMENT PLANS

Fuel Modification and Treatment Plans										
Treatment No.	1 Developed private parcels <2 acres				2 Undeveloped private parcels or single-structure parcels >2 acres		3 Grassland firebreaks		4 Oak/pinyon/juniper and shrublands within the WUI	
Treatment Category	Zone 1 (0–10 feet from structures)	Zone 2 (10–30 feet from structures)	Zone 3 (30–100 feet from structures)	Zone 4 (100–600 feet around home)	Slopes <20%	Streambeds, channels, and slopes ≥20%	Slopes <20%	Slopes ≥20%	Landscape treatment outside firebreaks	Firebreaks
Vegetation	Remove ladder fuels by pruning the lower third of trees or shrubs up to a maximum of 10 feet to reduce flammable vegetation. Remove and destroy insect-infested, diseased, and dead trees and shrubs. Grasses and forbs may be cut with a mower to a 4-inch stubble. Remove dead plant material from ground; prune tree limbs overhanging roof; remove branches within 10 feet of chimney; remove flammable debris from gutters and roof surfaces.	Remove ladder fuels by pruning the lower third of trees or shrubs up to a maximum of 10 feet; remove and destroy insect-infested, diseased, and dead trees. Create separation between trees, tree crowns, and other plants based on fuel type, density, slope, and other topographical features. Reduce continuity of fuels by creating a clear space around brush or planting groups. Grasses and forbs may be cut with a mower to a 4-inch stubble. All snags and vegetation that may grow into overhead electrical lines, other ground fuels, ladder fuels, dead trees, and thinning from live trees must be removed.	Remove ladder fuels by pruning the lower third of trees or shrubs up to a maximum of 10 feet; remove and destroy insect-infested, diseased, and dead trees. Maximum density of trees (whichever is greater: 60 BA at 80–100 trees/acre or average density of 100 trees/acre). Grasses and forbs may be cut with a mower to a 4-inch stubble.	For natural areas, thin selectively and remove highly flammable vegetation. Carefully space trees; choose Firewise plants. ^a	Remove ladder fuels by pruning the lower third of trees or shrubs up to a maximum of 8 feet; remove and destroy insect-infested, diseased, and dead trees. Maximum density of trees (whichever is greater: 60 BA at 80–100 trees/acre or average density of 100 trees/acre) See fuel modification plan (this section) developed to promote riparian health, to prevent spread of fire to adjacent property, and to create defensible space with considerations for wildlife and groundwater protection. Single structure or structures on parcels exceeding 2 acres should include Treatment 1 in proximity to structures and Treatment 2 for remaining acres.	Remove dead, diseased, and dying trees. Fell dead trees away from stream channels with defined bed and banks. Areas should be hand-thinned and hand-piled; inaccessible areas may be treated with periodic Rx. Develop fuel modification plan (this section) for treatments.	Grassland types may be mechanically treated, including mowing, chopping, or mastication, to reduce or remove vegetation or may be grazed to a stubble height. Ensure that removal of vegetation within a designed firebreak of >1 chain (66 feet) in width and length is sufficient to protect federal, state, or private land values. Fuel reduction treatments within grassland vegetation types may include multiple-entry burns to maintain stand structure and reduce fine fuels. Trees and shrubs >8 inch drc should be thinned to a variable distance of 15–35 feet between trees. Trees and shrubs <8 inches drc should be removed. Mechanical/chemical or grazing treatment may be used to maintain firebreaks on private lands. See the fuel modification plan (this section) developed to prevent spread of fire to adjacent property and to create defensible space with considerations for wildlife and groundwater protection.	Same as for slopes <20%. Fuel treatments may require hand-thinning and hand-piling or grazing in steep slopes. Rx may be used to reduce high fire potential (see Treatment 5). Designated firebreaks may be increased to no more than 2 chains in steep slopes where herbaceous (fine fuels) and subshrub species fuel loads increase to pretreatment levels within 3 years. See fuel modification plan (this section) developed to promote forest health, to prevent spread of fire to adjacent property, and to create defensible space with considerations for wildlife and groundwater protection.	Spacing may be variable with a 20- to 35-foot minimum to promote (1) wildlife habitat while breaking horizontal fuel loading, which allows for patches of closely spaced trees for adequate cover, and (2) other habitat components while incorporating openings to increase herbaceous forage production, to maximize edge effect, and to promote fire-resilient stands. Mechanical thinning and Rx (see Treatment 5) can be used to reduce vegetative fuels and move stands toward potential natural vegetation groups as described in the <i>FRCC Interagency Handbook</i> (FRCC Interagency Working Group 2005a) or grazed to like conditions. All trees >10 inches drc will be targeted as “leave trees” unless removal is necessary to achieve the desired spacing.	Woodland and shrub trees <8 inches drc will be thinned to a spacing of 15 feet between trees, or Rx will be applied to achieve like conditions. Shrub and tree trunks will be severed <4 inches from the ground. Mechanical treatments, such as crushing, chipping, mastication, and Rx, may be used to create open stands that produce flame lengths of ≤4 feet to minimize crown-fire potential and to produce vegetative fuel conditions conducive to suppression action. Herbaceous and subshrub understory may be mechanically treated, including mowing, chopping, and masticating, or grazed to limit fine-fuel loading while protecting soil integrity from rainfall runoff.
Slash	Remove or reduce natural flammable material 2–4 feet above the ground around improvements. Remove vegetation that may grow into overhead electrical lines, ladder fuels, and dead trees. Thinning from live trees must be removed (chipped, etc.). Remove all leaf litter to a depth of 1 inch.	Control soil erosion from small waterflow channels by using rock or noncombustible velocity-reducing structures. Remove all leaf litter to a depth of 1 inch.	Same as Zones 1 and 2.	Slash may be burned, piled and burned, or chipped and removed. Slash from grassland treatments may be burned, removed, masticated, turned, or grazed for like treatment.	All slash, snags, and vegetation that may grow into overhead electrical lines; other ground fuels; ladder fuels; dead trees; and thinning from live trees must be removed, mechanically treated (chipped, etc.), or piled and burned along with existing fuels.	Clean dead and down debris in channels where debris may be mobilized in floods and thus create downstream jams. Some slash and debris can be scattered and retained in small, ephemeral streambeds in which slash can help retain runoff and sediment and provide headcut stabilization.	Slash from grassland treatments may be burned, removed, masticated, or turned (disked).	Same as for slopes <20%; however, slash may be hand-piled and ignited with Rx as the primary slash reduction treatment.	Slash may be burned, piled and burned, or chipped and removed. Slash from grassland treatments may be burned, removed, masticated, or turned.	Slash may be burned, piled and burned, or chipped and removed. Slash from grassland treatments may be burned, removed, masticated, or turned.

Continued

Fuel Modification and Treatment Plans						
5 Prescribed fire		6 Escape and resource transportation corridors (federal and nonfederal lands)	7 Riparian areas (federal, nonfederal, and private lands)		8 Conditional suppression areas (federal and nonfederal lands)	9 Saltcedar removal for restoration purposes (federal and nonfederal lands)
Treatment No.						
Treatment Category	Federal, state, or private lands	Federal, state, or local government where designated as escape route	Federal or state lands	Firebreaks on private lands	Federal, state, or private lands	Federal, state, or private lands
Vegetation	<p>Rx will be used as a tool to accomplish specific resource management objectives in accordance with ASLD, ASFD, CNF, TNF, and/or BLM standards and guides.</p> <p>Rx on federal land is authorized if part of an approved Rx burn plan. As additional areas within the WUI are identified, Rx may be used as a treatment tool provided that a wildland fire implementation plan is in effect and that all conditions set forth have been met.</p> <p>Rx can occur at low, moderate, and high intensity. High-intensity fire will be used to create openings by removing all aboveground vegetation.</p>	<p>Reduce fuel loading by thinning trees <10 inches drc. Reduce trees to 15-foot spacing. Shrub and tree trunks will be cut no less than 4 inches from the ground. Stands will be variable across the landscape, such as retention of bands of higher-density vegetation with sufficient understory to maintain functionality of important wildlife movement corridors in areas of low structure density.</p> <p>Mechanical treatments may include chipping, piling and burning, or removal and Rx in the project area.</p> <p>Trees may be left in clumps with fuel ladders removed from below. Dead, diseased, and dying trees of all sizes will be emphasized for removal. Some trees >8 inches drc may be cut to reduce safety hazards or when needed to reach desired 15-foot spacing.</p> <p>Escape and resource transportation corridors may serve as firebreaks in all vegetative types.</p> <p>Firebreaks for each vegetative type, as described in this table, would be implemented at appropriate distance from the centerline of the escape and resource transportation corridors to produce fire-resilient stands and to enhance evacuation and response access.</p> <p>Emphasis will be placed on removing nonnative and flammable species.</p> <p>Grasses and forbs may be cut with a mower to 4-inch stubble.</p>	<p>Riparian treatments will be limited in scope. The majority of riparian areas that fall within the WUI boundary will be avoided unless deemed a fuel hazard.</p> <p>Clearing or cutting of any material by mechanized equipment within 10 feet of any stream on federal land may be prohibited to prevent the risk of accelerating erosion.</p> <p>Treatments may include some overstory removal of deciduous riparian trees and shrubs in areas where encroachment has increased heavy woody fuels (emphasizing removal and control of saltcedar and other invasive trees).</p> <p>Treatments will emphasize nonnative species. Snags >8 inches may be retained. All presettlement trees, including snags, will be targeted for retention.</p> <p>Restricting the removal of the vegetative overstory in the riparian areas to the period of October 15–March 31 will prevent the disturbance of any nesting by neotropical migrant bird species, including the southwestern willow flycatcher. Fuels reduction should occur October 15–March 31 in riparian areas, as long as fire danger is not extreme.</p> <p>Emphasis will be placed on removing species listed in Appendix E of the 2010 MCCWPP.</p>	<p>Private land treatment should use hand tools, chain saws, or mowers. Dead vegetation and slash should be removed. Ladder fuels, including limbs and branches, should be removed up to a maximum of 8 feet aboveground.</p> <p>All mechanized equipment must meet state and local fire-department/district standards. Perform treatments October–March annually. Treatment of annuals may be best when annuals are green.</p>	<p>This prescription includes lands with desert shrub/scrub vegetative types in which no fuel modification treatments have been identified as necessary to provide protection from wildland fire. The threat from catastrophic wildland fire is low or nonexistent. This includes areas in which fire never played a historical role in developing and maintaining ecosystems. Historically, in these areas, fire return intervals were very long. These are areas in the WUI in which fire could have negative effects unless fuel modifications take place. These include areas in which the use of fire may have ecological, social, or political constraints and areas in which mitigation and suppression are required to prevent direct threats to life or property. Wildland fire growth within these areas will be monitored for private-property, ecological, and cultural threats before initiating suppression. Agency and fire-department/district policy provisions will determine suppression response.</p>	<p>Areas of monotypic saltcedar or in mix with mesquite or other riparian tree species may be treated mechanically or chemically or by controlled burning and reburning to reduce stem density, canopy, and excessive fuel loading. Mechanical removal for saltcedar by cutting below the root collar during November–January is preferred. Mechanical whole-tree extraction has achieved as high as 90% mortality on initial treatments and may be considered a preferred treatment. Low-volume oil-based herbicide applications in late spring through early fall would be considered for controlling small plants (<2 inches drc). Low-volume cut-stump herbicide applications will be considered in combination with mechanical treatment. Preferred phenological stage for burning is peak summer months and postavian breeding months. Black lines and appropriate headfires should be initiated depending on site-specific vegetative and burning conditions. Maintenance, revegetation, restoration, and monitoring should follow as needed for each treatment area.</p>
Slash	<p>Slash, jack piles, and down logs may be burned as appropriate in consideration of local conditions and distance from private property. Pile or Rx can be used to remove fuel from private land as designated. Snags and down woody material may be retained in areas where fire resilience is not compromised.</p>	<p>Snags, slash, and down logs will be removed in proximity to private land. Pile burning or Rx can be used to remove fuel. Snags and down woody material may be retained in areas where fire resilience is not compromised. Vehicle pullouts should be planned in appropriate numbers and locations where vegetation, slope, and terrain permit.</p>	<p>After removal of heavy woody fuels, fine fuels may be maintained by cool-season low-intensity Rx that moves slowly downslope or into prevailing winds to midslope. Large down woody material and snags (≥12 inches) may be retained in riparian areas.</p>	<p>Fuel treatments and woody material removal will occur on existing roads. Cool-season low-intensity Rx may be used for maintenance of fine fuels. Pile or jackpot burning will not occur in ephemeral, intermittent, or perennial stream channels.</p>	<p>Response will be full suppression when firefighter and public safety, property, improvements, or natural resources are threatened.</p>	<p>Created slash will be made available for woody biomass use. If not used for wood-related products, slash will be piled with preexisting fuels and burned, or otherwise used for soil stabilization. Disturbed areas should be immediately revegetated with a native plant community that contains no invasive species and meets other land use objectives, such as wildlife habitat enhancements or recreational-use benefits.</p>

Note: BA = basal area, Rx = prescribed fire, drc = diameter at root collar.

^aList of Firewise plants can be found in the Firewise literature listed in Appendix C of the 2010 MCCWPP, Educational Resources.