

# Greater Flagstaff Area

## Community Wildfire Protection Plan

2<sup>nd</sup> Revision July 2018



Photo Credit: True Brown, U.S. Forest Service, Coconino National Forest



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# GREATER FLAGSTAFF AREA COMMUNITY WILDFIRE PROTECTION PLAN

## OUR PURPOSE

In the summer of 2017, the Greater Flagstaff Forests Partnership (GFFP) and Ponderosa Fire Advisory Council (PFAC) initiated a project to “review” the **“Community Wildfire Protection Plan (CWPP) for Flagstaff and Surrounding Communities in the Coconino and Kaibab National Forests of Coconino County, Arizona.”** First approved in 2005, and then revised in 2012, this second CWPP review is designed to assess the status of implementation activities and evaluate progress towards desired goals. Although not required per the authorizing legislation (Healthy Forest

Restoration Act of 2003 - HFRA), nor by the CWPP itself, this was intended to analyze activity within the CWPP area that addressed goals or was influenced by the plan, and to develop a report for local government and land management agencies on findings - it was not designed to revise the text or intent of the CWPP. Primary emphasis was placed on summarizing treatment activity to date and reviewing the “Improved Protection Capabilities” section included on pages 40-43 of the Plan.

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## INTRODUCTION

The Greater Flagstaff Area Community Wildfire Protection Plan was approved by the Arizona State Forester, Coconino County, City of Flagstaff, and Ponderosa Fire Advisory Council (representing local fire departments and fire districts) in January of 2005. Jointly developed by the GFFP and PFAC, the plan covered a 939,736-acre area centered on Flagstaff. Working closely with US Forest Service staff and the NAU Forest Ecosystem Restoration Analysis (Forest ERA) program, the CWPP was designed to address the following Goal, Objectives and Principles (quoted from the CWPP):

### GOAL

**To protect Flagstaff and surrounding communities, and associated values and infrastructure, from catastrophic wildfire by means of the following:**

- An educated and involved public;
- Implementation of forest treatment projects designed to reduce wildfire threat and improve long term forest health, in a progressive and prioritized manner; and
- Utilization of Firewise building techniques and principles.

## OBJECTIVES

- Create a healthy and sustainable forest and protect communities by implementing forest treatments designed to reduce the threat of catastrophic wildfire.
- Engage the public by providing opportunities in both preparedness and mitigation efforts.
- Support efforts to establish effective and sustainable methods to utilize small-diameter wood and other forest biomass.
- Promote Firewise building materials and construction techniques, as well as creation and maintenance of defensible properties and neighborhoods.
- Attract necessary funding (appropriations, contracts, donations, grants, etc.) to successfully reduce fire threat.



Credit: Andrew Hostad, U.S. Forest Service, Coconino National Forest

## PRINCIPLES

**Fuel Management:** Reduction of target hazardous fuels is based upon known fire risk, fire behavior, and threats to values-at-risk.

**Social and Political:** Social and political concerns play a major part in defining treatments and their locations.

**Operational:** Due to financial, infra-structure, and personnel constraints, emphasis must be placed on strategically located fuel treatments designed to protect key values-at-risk, and that can serve as anchor points for larger, landscape-scale treatments.

**Ecosystem:** Reduction of hazardous fuels should be integrated with overall ecosystem conservation, restoration and management goals.

**Economic:** Implementation and maintenance of fuel treatment benefits greatly outweigh their costs because they: save money by avoiding suppression expenditures, rehabilitation costs, and compensation for property damage; are an investment in protecting firefighter and civilian lives; present new opportunities for rural economic development; and may help address issues related to the availability of homeowner's insurance in fire prone forest ecosystems

**Ethical:** The continuing decline in forest health and the increasing probability of catastrophic fires, and their potential impact on the greater Flagstaff region, is a reality. The need to act now to restore forest health and reverse this dangerous downward spiral is of utmost importance.



CWPP's have been developed for three adjacent areas – the Williams area in 2005 (west), the Blue Ridge area in 2010 (southeast), and Yavapai County (south) in 2011. Authorized by the Healthy Forests Restoration Act of 2003, these plans formed the basis for community wildfire protection

planning as implemented through fuel reduction and forest restoration treatments on public lands, through private land treatments, through various emergency planning and management efforts, and through extensive public outreach and education efforts.

The Greater Flagstaff Area CWPP can be found on the GFFP website: [www.gffp.org](http://www.gffp.org); The City of Flagstaff Fire Department Wildland Fire Management Division website: [www.flagstaff.az.gov/132/Wildland-Fire-Management](http://www.flagstaff.az.gov/132/Wildland-Fire-Management); and The Arizona Department of Forestry and Fire Management website: [www.dffm.az.gov](http://www.dffm.az.gov).

## TREATMENT ACTIVITY

Significant treatment activity has been ongoing under various programs for addressing public and private land throughout the CWPP area since 1996. GFFP has maintained and periodically updated a “treatment map” for a large portion of the CWPP area, which provides the best overview of accomplishments to date (<http://gffp.org/treatment-map/>).

The current treatment map was last updated in 2014. Since then, efforts have been made to continue to update the map. Recently, Coconino County Emergency Management has agreed to facilitate tracking and mapping treatments within the CWPP and an updated map is forthcoming.

Future activity in the area includes continuation of fuel reduction and forest health treatments through the Arizona Department of Forestry and Fire Management, GFFP, City of Flagstaff, Fire Districts, and other local, non-federal projects, and treatments under projects with approved NEPA and “shelf stock” associated with the Four Forest Restoration Initiative (4FRI) first analysis area on federal land, as well as the Flagstaff Watershed Protection Project.

Twelve Firewise sites have been established.



Credit: Ian Horvath, U.S. Forest Service, Coconino National Forest

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## IMPROVED PROTECTION CAPABILITIES

This section of the CWPP is included below with information on the status of the 20 items identified. For several years after approval of the CWPP, a local “review team” tracked the activities. The results of these

unpublished reports are included in this updated review. The 20 “activities and efforts” are identified verbatim from the plan (*in italicized and bold text*) and then their “Status” is updated.

**Activity 1. Survey existing neighborhoods. Identify, map, and prioritize neighborhoods for neighborhood-wide home ignitability reduction.**

**Status:** Completed for City of Flagstaff in 2005 and updated in 2008; local fire districts addressing other areas – Highlands, Summit, Pinewood, Mormon Lake, Sedona; systematic approach to areas not covered should be considered. The Arizona Wildfire Risk Assessment Portal (AZWRAP), supported by the Arizona Department of Forestry and Fire Management, is available for awareness of wildfire issues across the State. AZWRAP is a suite of applications for the public, private landowners, response agencies, hazard mitigation planners and wildland fire managers. AZWRAP provides baseline information needed to support mitigation and prevention efforts across Arizona.

**Activity 2. Establishment of a regional fuels crew. This would involve many different partners and require sufficient funding. Principle among the partners would be PFAC members, but it could also involve NAU-ERI and GFFP as well. The consolidated crew, larger than current separate efforts, would be under single leadership with standardized training, equipment, and treatments standards. In addition to mitigation and prevention efforts, the crew could be available within the local area for fire suppression needs throughout the year.**

**Status:** Arizona Department of Forestry and Fire Management crews, the Flagstaff Fire Department crew and the Regional Fire District’s Fire and Fuels program (Bear Jaw Interagency Fire and Fuels Crew) continue their activities on private, state, county, city, and federal lands. Since establishment, these crews have grown in size, capacity, ability and qualifications.

**Activity 3. Increased public education activities: Utilization of new outreach methods to prepare the community to receive fire. Currently, there are a number of education initiatives and outreach methods underway by area partners. These include public meetings, presentations to service clubs, civic organizations and homeowner associations, media notices, periodic workshops and symposia, development/distribution of material, and participation in community events such as the Forest Festival, Science In-The-Park, and the County Fair. Future activities might include involvement in the Northern Arizona Home Show, public service announcements, airing of informational videos on Public Access TV and public service announcements on commercial TV, recognition of Firewise communities by the national Firewise program, and development and maintenance of a joint-agency website devoted to this issue.**

**Status:** Multiple approaches continue to be utilized, including newspaper articles and inserts, field trips, web pages, staffed booths at public events, etc.; Firewise USA process is very active, there are currently 12 Firewise sites in the CWPP area; outreach at Festival of Science continued; “Yellow Belly Ponderosa” developed & presented to middle schools; 4FRI project generating new interest; significant interest in forest treatments and potential cost sharing options following Hardy & Schultz fires locally and Wallow Fire in White Mountains; Flagstaff Omnibus Survey indicating public acceptance of forest treatment and use of prescribed burning. A Fire and Forest Management interpretive trail signage and model Firewise cabin were installed at the Arboretum at Flagstaff in 2007.

New approaches are being sought and utilized as possible. These include: the expanded use of social

media (Facebook, Twitter, etc.) and other online resources by many area partners; Harvesting Methods Open House; annual national Wildfire Preparedness Day activities; Community forest forums.

**Activity 4. Develop/adopt/implement Legislation & Appropriations (State/Federal) – Adequately fund and/or support, with sufficient oversight to ensure proper and timely application. Items of current interest include:**

#### **FEDERAL**

**National Fire Plan** (particularly those areas having to do with assistance to local government via the State Fire Assistance grants and other mechanisms).

**Status:** Continue coordination, including with Western Governors Association

**Healthy Forests Restoration Act** (chiefly to ensure professional planning and an increased level of forest treatment implementation, tied to appropriate plans).

**Status:** No appropriations approved; several Coconino NF projects done under HFRA; 4FRI partially resulted from this.

**Forest Landowner Enhancement Program** (a highly effective forest treatment cost-share program for private landowners).

**Status:** FLEP was in existence until 2007. Private lands forestry assistance is still available through Wildland Fire Hazardous Fuels (WFHF) grants, State Fire Assistance (SFA) grants and other programs.

**Ecological Restoration Institute of Northern Arizona University** (provides the scientific foundation and academic credibility to our efforts, as well as a source of student interns and seasonal employees).

**Status:** The ERI continues to serve assist land management agencies by providing comprehensive focused studies, monitoring and evaluation research, and technical support to bolster the meaningful application of scientific knowledge necessary to most appropriately restore forests and protect forested communities.

**Local Community Partnerships/Collaboratives** (provide interface for federal agencies to address community needs).

**Status:** Several efforts here: The collaborative Flagstaff Watershed Protection Project was developed and approved by voters in 2012 to provide \$10M of municipal funding for forest treatments on Federal, state and city owned lands; Greater Flagstaff Forests Partnership continues to engage the community in restoration and risk reduction activities. GFFP also became a Hub organization of the Fire Adapted Communities Learning Network in 2013 to learn from and share information with partners across the nation; in 2015 the Salt River Project (SRP) and National Forest Foundation (NFF) initiated the Northern Arizona Forest Fund to invest in ecological restoration of several key watersheds crucial to supplying water to metropolitan areas in AZ; Four Forest Restoration Initiative and associated Collaborative Forest Landscape Restoration Program; Currently the City of Flagstaff is considering future implementation of a Payment for Ecosystem Services type approach that will add a small fee to utility bills that will be used to fund additional forest treatments and maintenance of FWPP treatment areas.

#### **STATE**

**Implementation of HB 2549**, comprised of the following five actions:

- *Healthy Forest Enterprise Assistance Program (Incentives for wood-based businesses)*
- *State Forester (establishes office w/associated duties)*
- *Biomass Energy (Directs State to purchase)*
- *Urban-Wildland Fire Safety Committee (establishes 12-member committee w/associated duties)*
- *Interface Code (Permits adoption of code, per Wildland Fire Safety Committee)*

**Status:** Completed legislative action.

***Revise the current Environmental Portfolio Standard*** (AZ Corporation Commission) to eliminate the expiration date, include a larger total percentage of renewable energy, and emphasize use of biomass energy production.

**Status:** New Renewable Energy Standard & Tariff (REST) rule approved in 2006; no revisions requested or anticipated since adoption; utilities striving to reach targets; American Recovery & Reinvestment Act (ARRA) grant funding secured for biomass studies in 2009.

**Activity 5. *Recruitment of small-diameter, sustainable wood-based industry.*** Utilization of the large amounts of biomass that must be removed from area forests is critical to success. This issue is covered elsewhere in this Section (See Utilization).

**Status:** There have been ongoing efforts to implement biomass utilization projects. Numerous biomass utilization opportunities exist. A feasibility study is in progress at Camp Navajo for electrical generation. Northern Arizona University is conducting a study for biomass utilization. The Salt River Project (SRP) has experimented with slash from the Flagstaff Watershed Protection Project (FWPP) for a **biomass generation study** to test efficiencies in co-fired coal and biomass burning to produce electricity. A large biomass composting facility was recently permitted by Coconino County. AZ DFFM experimented with new harvesting equipment and techniques to harvest and transport biomass from forest restoration treatments in pinon/juniper forests. The City of Flagstaff experimented with the use of ground slash for use as alternative daily cover at the landfill. The Ecological Restoration Institute is looking for opportunities to partner with various organizations in establishing a wood products industry cluster in various locations closer to the westside of the 4FRI project area (e.g., **Centennial Forest**). Industry from outside the area continues to look at the Northern Arizona “wood basket” for new opportunities, ranging from new mills to biomass processing for potential bio-char production.

**Activity 6. *Fire District formation.*** Some outlying homes within the CWPP are outside existing fire districts. Owners within these areas should seriously consider formation of Fire Districts – via the County – to facilitate emergency response, prevention, and mitigation efforts.

**Status:** While formation of new Fire Districts is still a viable option for emergency services, populations may be better served by annexation into existing Fire Districts. Legislative measures have made creating new Districts less appealing, while encouraging annexations, mergers and consolidations. The Summit Fire District has entered into Joint Management Agreement with the City of Flagstaff Fire Department. The Mormon Lake Fire District annexed portions of private land between Mormon Lake and Stoneman Lake Road. The Highlands Fire District provides contracted Fire Service to the Flagstaff Ranch Fire District and provides Management Services to the Mormon Lake Fire District through an intergovernmental agreement. The future of emergency services in the CWPP area will require much more regionalization into the future.

**Activity 7. *Incorporation of CWPP into on-going activities and established land-management and agency plans.*** Both PFAC and the GFFP intend to utilize this document to prioritize actions, secure funding, coordinate activities, implement treatments, and monitor desired outcomes. The CWPP also provides guidance to private citizens in their effort to reduce their exposure to wildfire.

**Status:** The CWPP has been utilized as support to justify Western Bark Beetle and Wildland Fire Hazardous Fuel grant applications submitted by GFFP, DFFM, and the City of Flagstaff. CWPP treatment strategies are incorporated into 4FRI and the Flagstaff Watershed Protection Project planning and project design. Coconino County has completed and recently updated the County’s Emergency Management Plan as well the Multi-Jurisdictional Hazard Mitigation Plan with references to this CWPP.

**Activity 8. *Identification of additional resource and equipment need.*** Individual agencies are responsible to provide appropriate administration and planning for their respective organization. In addition, and to facilitate joint discussion and interoperability, PFAC, on an annual basis and with any needed assistance

*from GFFP, will host a multi-party discussion of current fire response capability within the CWPP area. Centered on the goal of reviewing and revising the PFAC Operations Plan (Appendix 4), the discussion will include all facets of fire management resources and other topics that may be appropriate.*

**Status:** PFAC continues to be a model organization supporting wildfire suppression, prevention, training, and mitigation efforts. The By-Laws and Operations Plan for PFAC have recently been revised, streamlining efforts for multi-jurisdictional efforts. Many local fire agencies are members of the Coconino County Wildland Resource Group (CCWRG). CCWRG is one of 15 such groups organized by the AFCA/DFFM joint committee to dispatch resources to wildfire incidents across the state, as well as out of area. AZ DFFM has assisted a number of local agencies to acquire fire apparatus through the Federal Excess Property Program, thereby increasing capacity to respond.

**Activity 9. Funding.** *This plan, and implementation of the identified activities, is intended to demonstrate our intent to implement and provide general information to appointed and elected officials and grant-funding organizations and agencies. Our coordinated effort to protect the greater Flagstaff community is a key ingredient to attracting additional funding to further implementation efforts.*

**Status:** The CWPP has been utilized to demonstrate the necessity of funding for project planning, implementation and monitoring. Cost-share funding; GFFP funding from Flagstaff and Coconino County; additional funding for DFFM: funding from the Resource Advisory Committee (RAC) created for Coconino NF to fund specific programs; initial 4FRI funding within USFS secured for project planning, NEPA analysis and development of first analysis area; Collaborative Forest Landscape Restoration Program (CFLRP) funding for 4FRI implementation. Funding for these and many other projects have utilized the CWPP as a supporting document.

**Activity 10. Wood distribution networks.** *Creation of a steady “wood-pipeline” will not only benefit those who receive the wood, but also assist in reducing fire threat in our area by removal/utilization of excess small-diameter trees.*

**Status:** The organizations with established programs have been engaging multiple charitable organizations to distribute fire wood to those in need. This is an ongoing effort and provides one of the most viable and accepted avenues for use of biomass created from fire mitigation efforts.

**Activity 11. Adoption/implementation of the Coconino County Multi-Jurisdictional Hazard Mitigation Plan (MJHMP) and the Coconino County Emergency Management Plan (EMP).** *Wildfire has been identified as one-of-five priority hazards within the County. The MJHMP, upon approval by the Federal Emergency Management Agency (FEMA) opens-the-door for pre-disaster mitigation funding and facilitates post-disaster mitigation and recovery efforts. The all-risk EMP, currently under development, will ensure consistency in emergency prevention, mitigation, response (including evacuation protocols), and recovery efforts throughout the entire county.*

**Status:** These plans have been completed and adopted; both plans have undergone review and revision in 2016. Efforts to train individuals and adequately staff the Emergency Operations Center have been successful and continue.

**Activity 12. PFAC Operations and Smoke Management Plans** – *On an annual basis, a review and revision of each plan will occur.*

**Status:** The PFAC Operations Plan is reviewed on an annual basis by the general membership of PFAC. The primary focus of plan updates has been focused on Dispatching models and the Communications Plan. The PFAC Smoke Management Plan is inactive but involved agencies coordinate with ADEQ to responsibly manage smoke from prescribed fire.

**Activity 13. Development of a PFAC Prevention Plan.** *On an annual basis, a comprehensive prevention plan, using and incorporating the existing Coconino National Forest plan as a template (see Appendix 7), will be developed to coordinate activities, messages, etc.*

**Status:** Rather than develop an independent PFAC Prevention Plan, the PFAC agencies utilize the



Coconino National Forest Prevention Plan (currently being revised) in a coordinated prevention effort.

**Activity 14. Adoption and enforcement of appropriate codes throughout the Greater Flagstaff Area.** *Such action will ensure consistency on fire resistive construction, access, water, and addressing requirements, hazard fuel mitigation efforts, etc.*

**Status:** The International Wildland Urban Interface Code (IWIC), modified to the local environment, was adopted by City of Flagstaff in 2008, and the City's Land Development Code was revised in 2011; Sedona adopted the 2003 International Urban Interface Code in 2007; the Coconino National Forest is currently reviewing its open burning restriction regulations and policy; Coconino County has adopted a County Wildfire Defense Ordinance which has been revised and approved in 2017.

**Activity 15. Implement an appropriate monitoring program.** *Designed to track both accomplishments and effects of treatments, this will lend credibility to the effort and provide information necessary for the adaptive management of the plan. Perhaps this could be a project for an interested student or volunteer.*

**Status:** Some activity through GFFP Monitoring & Research Team, including NFF funding to monitor fire behavior under several treatments, pre-treatment forest structure monitoring at Partner Mark sites in Mountainaire Project area, report generated on conducting Partner Mark at site north of fire station in Mountainaire; fire modeling project by GFFP and NAU School of Forestry on Flagstaff Airport treatment units; extensive Aberts squirrel monitoring on GFFP and other local treatment sites; Flagstaff Omnibus survey results for social monitoring; implementation monitoring on USFS treatments; 4FRI has initiated monitoring via a Multi-Party Monitoring Board under the first analysis area; FWPP completed the second revision of the "FWPP Monitoring Plan" in 2018.

**Activity 16. Support the USFS in the following:**

a) *Encouraging development and use of a Wild Fire managed for resource objectives where applicable in appropriate wildland areas.*

**Status:** The Coconino NF plan is currently under revision; approximately 60% of forest is open to utilizing wildfire as a tool to improve forest health. AZ DFFM has begun following suit, allowing wildfire to be utilized as a tool to improve forest health.

b) *Application of the Appropriate Management Response for area wildfires.*

**Status:** "Appropriate management response" is a term no longer used, wildfire response, as supported in the National Cohesive Strategy, is conducted in a safe and effective manner.

c) *Planning, preparation, and implementation of prescribed fire projects.*

**Status:** Prescribed fire application and use increasing; implementation of 4FRI will increase the use of Rx fire. There has been and will continue to be increasing prescribed fire use across the CWPP jurisdictions. As the application and use of fire increases as expected, a focused proactive outreach effort related to smoke is recommended to ensure public acceptance remains strongly supportive.



## OTHER ACCOMPLISHMENTS

In addition to the activities highlighted above that are tied directly to the CWPP, several other actions have occurred that are related to the Intent, Goals, Objectives, and Principles of the CWPP:

- 1) Annual PFAC Operations Drill held each Spring, in conjunction with Coconino County Emergency Management.
- 2) Acres of wildfire utilized for improving forest health has increased.
- 3) Potential catastrophic effects of the Slide Fire were mitigated through prior thinning and burning efforts.
- 4) The GFFP received the Two Chiefs Award for 2015.
- 5) City of Flagstaff passed a \$10 million bond effort to fund treatment of the Flagstaff Watershed Protection Plan Project.
- 6) In 2017, FWPP celebrated its 5-year milestone with partners, held at Mother Road Brewing Company, which illustrated the critical link of water to the forest.
- 7) 4FRI first EIS completed.
- 8) NAZ Zone Restriction Coordination calls held each Spring.
- 9) GFFP was invited to become a member and hub organization of the national Fire Adapted Communities Learning Network.
- 10) DFFM hosted the first annual Wildland Urban Interface and Firewise Summit in 2015.
- 11) FWPP received recognition as the People's Choice winner of Rare's national "Reducing our Risk" contest.
- 12) Partners including the TNC, USFS, DFFM and City of Flagstaff have experimented with a digital GPS enabled tablet approach to tree marking and



Credit: Eric Betz, Arizona Daily Sun



Credit: Brady Smith, U.S. Forest Service, Coconino National Forest



Credit: Mark Brehl, Arizona State Forestry Division



Credit: Department of Forestry and Fire Management, Facebook

harvesting to help reduce site prep time and expenses.

- 13) Coconino County established and hired a new position in 2018, "Forest Restoration Director.

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## RECOMMENDATIONS

In general, this review indicates that since approval of the CWPP in early 2005: fuel reduction and forest restoration treatments have been designed and implemented at a steady, if not increasing, pace; most of the activities identified under "Improved Protection Capabilities" have been accomplished and/or addressed; public understanding of and participation in CWPP related actions has increased; the shift to larger scales of project planning advocated in the CWPP have been

manifest in the 4FRI and Collaborative Forest Landscape Restoration Program (CFLRP) projects.

However, there are several issues and opportunities that were not covered in the CWPP and/or have become apparent since CWPP development that need to be highlighted and addressed. The appropriate mechanism for addressing these concerns is not envisioned, but they need to be incorporated into current and future planning.

- 1) Plan and implement community education outreach and hazard mitigation treatments.
- 2) Focus on prescribed fire treatments on non-federal lands (private/state), with the twin goals of neighborhood protection and ecological benefit.
- 3) Engage with the USFS and the AZ DFFM on cross boundary landscape-scale planning and implementation.
- 4) Focus on cross jurisdictional wildfire prevention, outreach, and education.
- 5) Develop outreach and education leading to increased acceptance of smoke produced by prescribed fire.
- 6) Continue to support implementation of FWPP and potential City funding that will continuation of forest treatments and maintenance of these treatments.
- 7) Increase the suppression response capacity for safe and effective suppression.
- 8) Develop forest products-based business.
- 9) Increase strategically placed aggressive fuels treatment projects.
- 10) Provide a forum for information sharing and collaboration.





Credit: Deborah Lee Soltesz, U.S. Forest Service, Coconino National Forest



Credit: U. S. Forest Service, Coconino National Forest