

A FIRE SERVICE LEADER'S GUIDE



This guide is dedicated to the memory of Christina Randall



To Preparing a
Community Wildfire
Protection Plan






Wildland-urban interface (WUI) fires are a growing community problem. In local communities, the fire service has the authority and responsibility to provide for life safety and protection of property. As fire service leaders, along with this operational response, we have the authority and responsibility to work with cooperators and property owners to mitigate wildfire risk. In addition to protecting life and property, wildfire mitigation can also improve firefighter safety as well as help protect at-risk populations, critical infrastructure, cultural sites, and natural resources.

In 2004, the Communities Committee of the Seventh American Forest Congress, Society of American Foresters, National Association of Counties, and the National Association of State Foresters sponsored and developed a handbook entitled *Preparing a Community Wildfire Protection Plan*. (Communities Committee of the Seventh American Forest Congress; Society of American Foresters; National Association of Counties; National Association of State Foresters, 2004) This guide is intended to supplement that handbook, with special considerations for local fire service leaders in communities identified as at-risk of wildfire. While adjacency to public lands (forests, brushlands and grasslands) can impact wildfire risk, there are ways to impact and reduce wildfire risk from within the community as well. This includes a focus on local codes and ordinances, home ignition zones, defensible space, ignition-resistant construction and design standards, as well as hazardous fuels reduction in parks, common-owned areas, and open spaces within the local jurisdiction.

Some reasons for developing a Community Wildfire Protection Plan (CWPP) include:

- ▶ Outline a mitigation and preparedness plan to work toward reducing wildfire risk
- ▶ Establish collaborative relationships with federal and state agencies as well as local stakeholders BEFORE an event occurs
- ▶ Develop a pre-attack plan or WUI tactical map for line personnel to improve firefighter readiness and safety
- ▶ Document planning and projects for garnering grant success



There are many components to a CWPP, including defining clear goals and objectives, displaying current fuel conditions, and outlining what the desired conditions are. Whether a community is categorized as urban, suburban, exurban, or rural, there are measures and opportunities to improve wildfire risk. General guidance for working through the CWPP process includes the step-by-step process as well as some additional considerations for customizing the CWPP to the community. Steps 1-8 below are outlined in the *Preparing a Community Wildfire Protection Plan* handbook, while steps 9-15 are optional, applicable to local jurisdiction, customized for the local community, and implemented in any order:

Step-By-Step Recommendations for Developing a CWPP

1. Convene decision makers	2
2. Involve Federal agencies	2
3. Engage interested parties (such as community representatives)	2
4. Establish a community base map	4
5. Develop a community risk assessment, including fuel hazards, risk of wildfire occurrence, homes, businesses and essential infrastructure at risk, other community values at risk, local preparedness, and firefighting capability	4
6. Establish community hazard reduction priorities and recommendations to reduce structural ignitability	8
7. Develop an action plan and assessment strategy	9
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Additional Considerations

9. Determine Authority Having Jurisdiction (AHJ)	10
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11. Identify acceptable / viable fuel treatment options for the community	11
12. Outline evacuation planning measures	12
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14. Establish post-fire response	12
15. Develop fuel moisture, fire weather and fire danger adjective monitoring procedures	13

CONVENE THE DECISION MAKERS

Consider starting the CWPP process by notifying the local State Forest Service representatives. They can provide guidance and subject matter expertise along the way. Notify organizational leadership to garner support and inform them about the risks to the community posed by wildfire on the front end of the CWPP process. Gaining that understanding and support will bolster political capital in the community in support of developing a CWPP. When meeting with local jurisdictions and fire service leadership, be prepared to answer questions regarding fire history, fire conditions, and areas at-risk. These people will be the signatories, so it is recommended to include them from the start.

INVOLVE FEDERAL AGENCIES

Even though federal agencies might not have authority inside local jurisdictions, it is important to involve them in the CWPP process. A community may have shared boundaries with federal land, and can focus on joint areas of concern near areas with population density. If there is no federal land adjacent, or near, the community, these agencies are still a valuable partner in the process. Federal agencies can provide subject matter expertise on vegetation, fuel treatments, local fire history, and information on grant opportunities.

ENGAGE INTERESTED PARTIES

While a CWPP is intended to outline future actions to mitigate wildfire risk, the implementation of these actions may have an impact on community stakeholders. Whether that impact is positive or negative, involving stakeholders can prevent delays or restrictions to the process. Stakeholders can include a variety of organizations and will be unique to each community. At what point they are pulled into the process may depend on the issues and level of involvement. Not all of the stakeholders will have the same level of participation. For some, participation might simply be information and awareness, others may need to give consent and will need deeper involvement. Before identifying interested parties, it is important to include any potentially affected interests. Carefully consider these issues and impacts, and be sure to incorporate them into the



TIP:

Not every stakeholder needs to be pulled in at the start, and there may be different levels of involvement from each of the stakeholders.



Keep communication open

Notify decision makers:

Fire Chief, Mayor, City Manager, Sheriff, Parks Department Director when park property is included, State Forest Service representative, and/or the County Commissioner

Notify federal stakeholders:

U.S. Forest Service, Bureau of Land Management, Bureau of Indian Affairs, Federal Emergency Management Agency, U.S. Fish and Wildlife Service, or National Park Service

CWPP: smoke or air quality, slope movement or erosion, screening or viewsheds, prescribed fire, wildlife habitat, forest health, outdoor recreation, water quality, and mechanical treatment.

Once you have identified the potential impacts, begin contacting stakeholders that will be directly impacted or influenced by mitigation measures. Next, make considerations for those organizations that may be indirectly impacted, for

example, through water or air quality, or business impact. Consider reaching out to groups that have ownership and authority for land management decisions. As most fire departments are not land management agencies, work may be implemented through stewardship or mutual agreements.

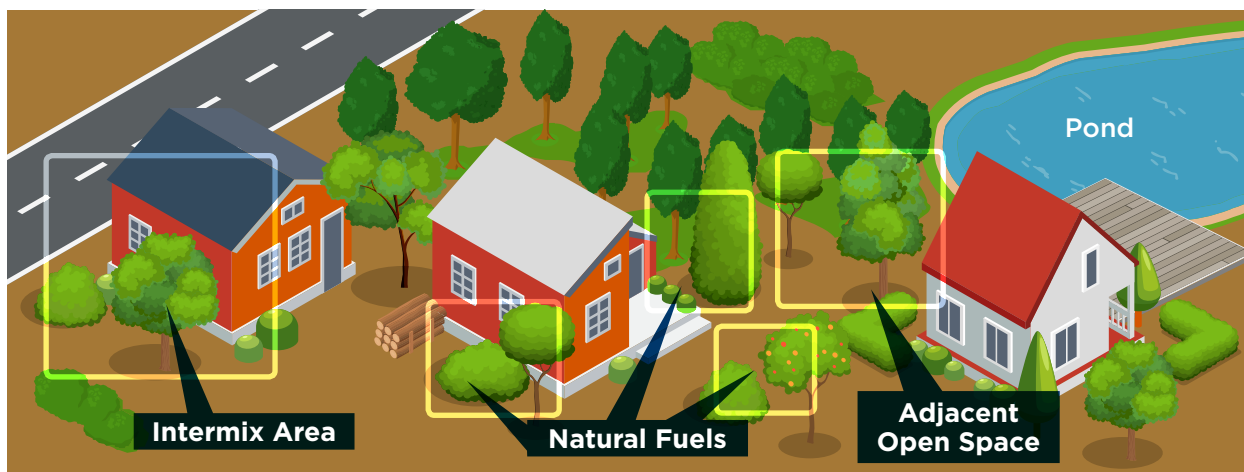
The following is a sample of groups that may be involved in the CWPP process:



Potential Stakeholders in the CWPP Process

- ▶ Homeowner associations
- ▶ Steering committee consisting of individual neighborhood champions
- ▶ Home builders' association
- ▶ Council of neighborhood organizations
- ▶ Private foundations and land trusts
- ▶ Insurance companies
- ▶ Parks and recreation
- ▶ Utilities
- ▶ Environmental conservation groups
- ▶ Realtors or developers
- ▶ Planners
- ▶ Line firefighters
- ▶ County agencies
- ▶ Emergency management
- ▶ Law enforcement
- ▶ Historical society
- ▶ State parks and wildlife
- ▶ Local district state forest service
- ▶ State / county air quality





Wildland-Urban Interface Areas

ESTABLISH A COMMUNITY RISK MAP

Before a community can display the defined WUI on a map, they must define what constitutes WUI. Typically, the WUI is defined as wildland fuels in close proximity to structures, and may include topographic influence. **Areas covered in the WUI can include interface areas, where neighborhoods are directly adjacent to open spaces; intermix areas, homes interspersed with natural fuels; or occluded interface areas, where neighborhoods are isolated or surrounded by areas of natural fuels.**

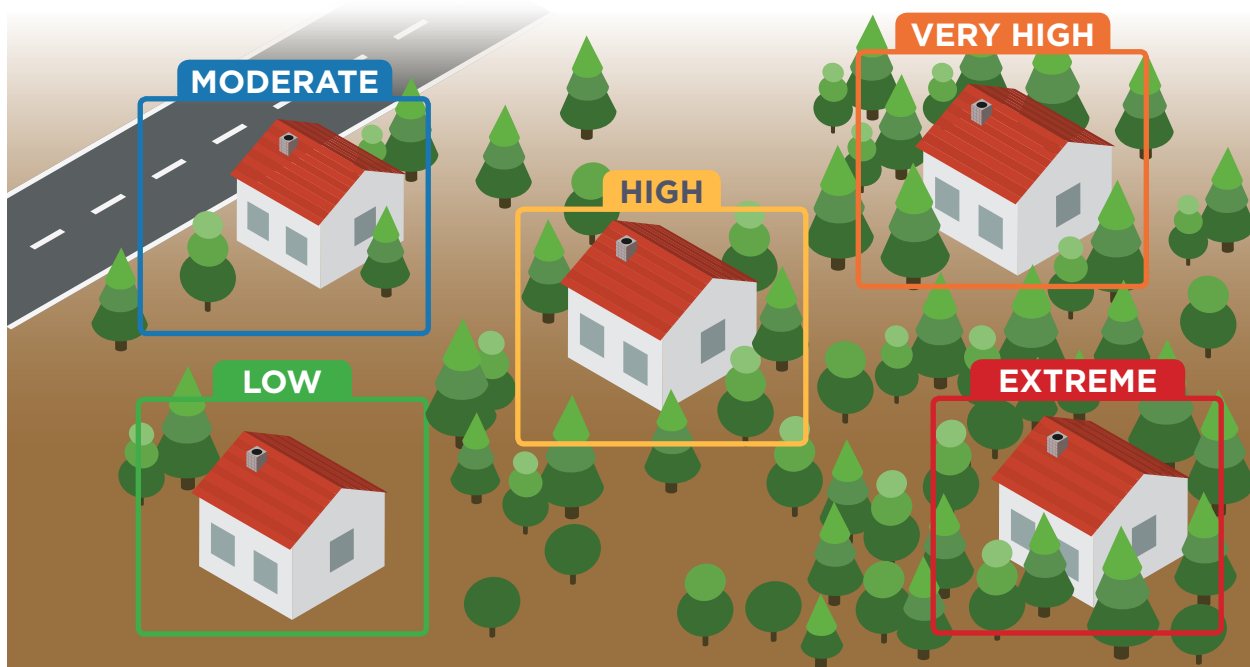
The WUI can include areas where there are natural fuels including timber, brush, or grasses (light flashy fuels). Each of these can pose a different risk to homes, resulting in different severity, frequency, rate of spread and spotting distances. The WUI is not defined only as the concept of a cabin surrounded by trees, but may also include suburban neighborhoods that are influenced by adjacency to hazardous areas. By researching wildfire history, we can determine where fires have occurred in the past and what the fire return interval is. The defined WUI can change as communities build out or annex new areas. Careful consideration for consistency has to be made for determining the defined WUI, as it could impact code enforcement and compliance with local ordinances.



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DEVELOP A COMMUNITY RISK ASSESSMENT

A community risk assessment is an important tool used to engage communities in mitigating wildfire risk. Using a relative risk assessment ranging from low to extreme, residents may have a better understanding of their individual risk. A risk assessment map is not a probability indicator; it simply means that low is better than extreme. It is important to remember that homes with low ratings may be still at risk of wildfire. The probability of losing a structure is based on fire behavior and resource availability, which is determined during the event. Risk assessments are not intended to be used as a decision making tool for operations,



A risk assessment assumes no operational response and simply addresses stand-alone survivability.

but can be planning tools ahead of the event to determine those areas with the highest risk.

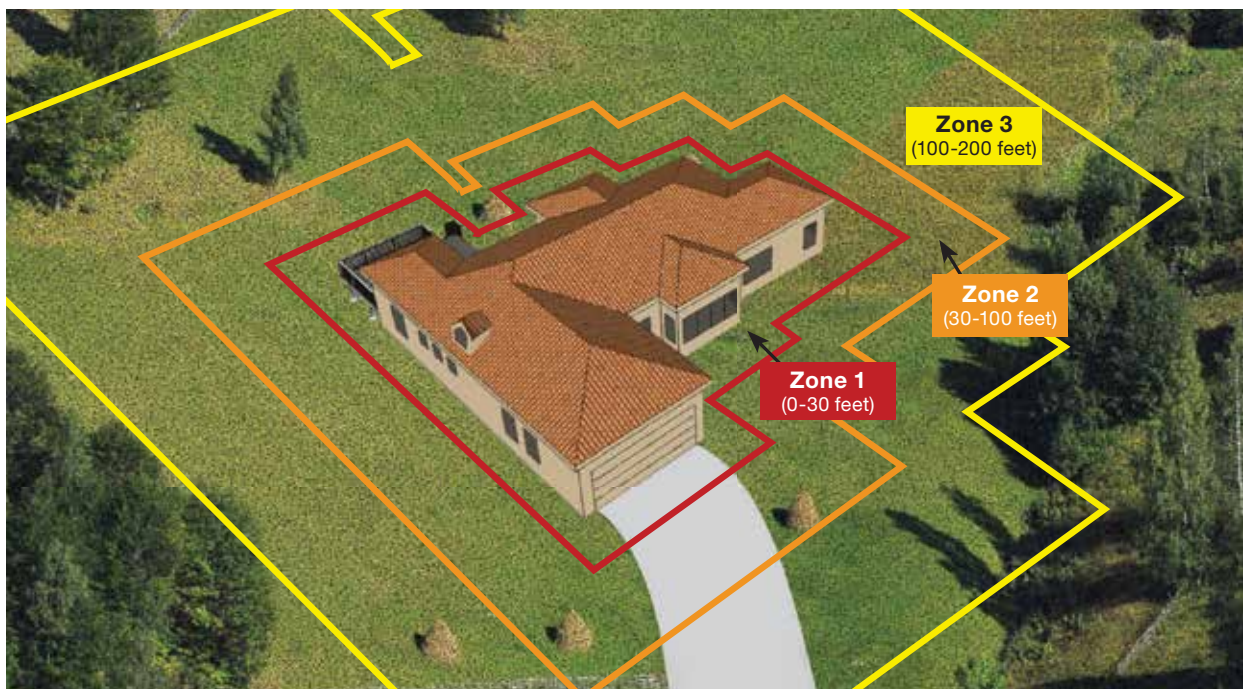
When conducting a local community risk assessment, consider factors that influence risk in the community. These may include structural characteristics, such as roofing, siding and decks, fuel types, slope, aspect, housing density, and any other factors that can influence fire behavior or structure ignitability.

It is important to remember that the risk assessment is intended to help residents understand their wildfire risk and engage them in participation in mitigation measures. One reason to use adjective ratings is using improvement as an incentive: residents can do mitigation work on their property, and have a reassessment to see if their rating improves. Visually, a risk map is effective in demonstrating wildfire risk to residents. A risk map may also help determine those areas that have a higher risk and assist in prioritizing during project planning.

There are several factors that influence fire behavior and risk to structures, presented below. Considering these factors is important to conducting wildfire risk assessment or pre-attack planning for critical businesses and infrastructure.



REMEMBER!
All **communities**
are **unique**,
therefore, so are
their **local risk factors**.



Fuel Conditions for Influencing Wildfire Risk

- ▶ Immediate adjacency to homes (home ignition zones, defensible space, adjacent open spaces)
- ▶ Fuel loading (amount measured in tons per acre)
- ▶ Mortality (% of dead or dying vegetation)
- ▶ Drought/precipitation (fuel moistures)
- ▶ Stand density (number of trees per acre)
- ▶ Arrangement (ladder fuels and crown spacing)
- ▶ Species (timber, brush, grasses and whether they are fire intolerant or fire dependent)

Wildfire Occurrence for Influencing Wildfire Risk

- ▶ Average fire return interval and fire severity - does the community experience high frequency, low severity fires or infrequent, high severity events?
- ▶ Average fire size
- ▶ History of community impact - has the community experienced fatality fires, structural loss/damage or post-fire flooding events?



Identifying Structures/Improvements for Influencing Wildfire Risk

- ▶ Special populations (senior facilities, daycare, hospitals, schools)
- ▶ Housing density
- ▶ Structure spacing (conflagration)
- ▶ Critical utilities (water treatment facility, power plant)
- ▶ Historical/cultural sites
- ▶ Communication sites (E911, radio, television)



Special Community Values for Influencing Wildfire Risk

- ▶ Critical habitat
- ▶ Economic impact (tourism, property values)
- ▶ Visual impact (viewsheds, scenic areas)



Wildfire Preparedness for Influencing Wildfire Risk

- ▶ Operations plan/pre-attack plan (bridge load ratings, street widths, safety zones, water sources, access/egress routes, etc.)
- ▶ Wildland fire training and certifications for responders
- ▶ Mutual aid agreements
- ▶ Aircraft availability
- ▶ International Organization for Standardization (ISO) rating
- ▶ Completed mitigation project areas



- ▶ Identified Ready, Set, Go!, Firewise Communities, and other local outreach programs

ESTABLISH COMMUNITY HAZARD REDUCTION PRIORITIES AND RECOMMENDATIONS TO REDUCE STRUCTURAL IGNITABILITY

The following considerations beyond level of risk are useful criteria for setting priorities when establishing your CWPP:

- ▶ Neighborhood participation and willingness to engage in mitigation efforts - has the neighborhood demonstrated the necessary commitment to meet any grant matching requirements through dollar match or volunteer labor?
- ▶ Permissions to work on impacted properties
- ▶ Fair distribution of mitigation efforts not dependent upon property value
- ▶ Adjacent mitigation efforts increase the effectiveness of local fuels mitigation projects
- ▶ Highly visible project areas can serve as demonstration areas, showing residents that mitigation can maintain the character of the landscape while reducing fire fuels



- ▶ Neighborhood age must be considered – older homes may have shake shingle roofs or mature vegetation that can pose a risk
- ▶ The size of the proposed project - larger treatment areas can drive down the cost-per-acre rather than planning several smaller projects



TIP:

Setting project priorities does not necessarily mean that they have to be completed in a numbered order.

One way to maximize your project effectiveness is to group projects by year, not in a sequential list.

This way, if there are any delays, for example, due to grant funding, weather conditions, or fires, you can tackle another project to prevent overall project delay. This will also allow a community to implement several projects simultaneously. Check local codes and ordinances as they apply in your jurisdiction or to planning zones, such as roofing ordinance or fuels management ordinances, along with homeowner association covenants, prior to setting priorities.

DEVELOP AN ACTION PLAN AND ASSESSMENT STRATEGY

A CWPP is a living document that requires constant reassessment as projects and initiatives are completed. A 5-year plan is a reasonable outline for implementation, tracking, and grant cycles. Having another list of projects in queue outside of the funded projects is recommended in the event of obtaining additional funding through more grant opportunities, donations, mill levy, or funding increase. This is critical in the plan, as it demonstrates to decision makers that the planning process is complete for these areas, but there is a need for continuing mitigation work. Developing a report card will help track progress, as well as determine future needs, heading into the next program cycle. Although tracking can and should include performance measurements and accomplishments, the true test will be the occurrence of a wildfire event. Real world performance of your CWPP will help determine its effectiveness and set priorities for the next program cycle.

FINALIZE THE COMMUNITY WILDFIRE PROTECTION PLAN

1. Distribute the draft version directly to stakeholders, including steering committee and cooperating agencies.
2. Allow plenty of time for review, and be sure to set a deadline for stakeholders to comment on the draft.
3. Follow an open public process for public comment on the plan by posting on internet, and consider sending a press release announcing the comment period, posting a short advertisement in the classifieds of the local paper, and announcing on social media.
4. Host neighborhood meetings in representative locations to review the components of the plan, note updates and changes, provide a status report on grant availability, project implementation and outreach efforts.
5. Anticipate and prepare a response to questions the community might have.
6. Personally reach out and deliver copies to signatories to brief and review the CWPP. Signatories may include the AHJ, Fire Chief, Parks and Recreation, State Forest Service, Mayor or City Manager, depending on level of decision making and funding authority for implementation.

The following steps are additional topics that could be considered in your CWPP. These optional steps will further outline important topics that you can customize to meet your local WUI needs.



DETERMINE AUTHORITY HAVING JURISDICTION (AHJ)

An optional component of a CWPP is working with the AHJ. Determine who the AHJ is for wildfire mitigation and wildfire preparedness in the community. Depending on local laws and agreements, it may be the Fire Marshal, Fire Chief, Office of Emergency Management Director, Mayor or City Manager. Consider researching city/county codes, ordinances, regulations, or meeting with your legal department to determine who has authority. Consideration has to be made not only for municipal boundaries, but also state and county land located within those boundaries, as well as assets that may reside outside of those boundaries but for which you are responsible, such as utilities, watershed, communication towers, etc. With authority comes the responsibility to work with those agencies that have property within local jurisdiction. Authority allows the fire service to address the risk, but does not grant permission to access or treat the property.

Typically, if an agency has authority to respond operationally during a wildfire event, either through ordinance or code, they have a responsibility to

address wildfire risk. Check with organizational leadership regarding existing Memorandums of Understanding, Annual Operating Plans, or other existing plans to determine operational responsibilities and preparedness. If an agency has a responsibility to respond operationally in areas outside of jurisdictional boundaries, then that duty to respond may also extend to mitigation efforts.

REMEMBER!



*Always **obtain written permission** prior to project planning or implementation.*



TIP:

Part of outreach is marketing the mitigation program.

OUTLINE EDUCATION AND OUTREACH EFFORTS

Another optional part of a CWPP is the establishment of a plan for education and outreach, including messaging, choices of media, such as print, social media, or video, and targets of opportunity. These targets of opportunity may include those neighborhoods that have the highest risk, are reaching out for assistance, have demonstrated a willingness to mitigate, or are in an area that has recently experienced a wildfire event. Messaging needs to be consistent and tailored for the unique values and risks of the community. Consider direct communication in-person, including on-site consultations and neighborhood meetings. These are dynamic and can facilitate answering specific questions that a resident might have. They also serve to build trust with the community. Videos are helpful in terms of communicating basic messages, but the ultimate goal is to encourage residents to make contact with the fire department and then engage them to act. Tailor appointments and meetings around resident's work schedules. Get involved with neighborhood events such as clean-up days and volunteer projects.



REMEMBER!
*Print materials
require **regular**
updating*

Consider a folder rather than a booklet so information sheets can be added, removed, or changed as needed. Consider what individuals value about doing mitigation work and what motivates them. Perhaps they like the way it looks, they like the free service, or they truly understand their risk and want to do something about it. In addition to information about mitigation and fuels management, other valuable information may include related

tax incentives, lists of fire resistant plant species, guides to city ordinances, such as open burning, and insurance information.



TIP:

Public education programs such as Community Wildfire Readiness (CWR) and the Ready, Set, Go! Program have free resources to assist your outreach efforts.

Crews and contractors represent the fire department when they are out in the field. Make sure they have contact information and educational material to pass on to residents. Consider placing visible logos on crew shirts, trucks, and equipment so it is clear who is providing the service. Social media and press releases are used for announcing events and

accomplishments, like grant awards, successful projects and unique partnerships. Placing signs near project areas gives residents a contact number for any questions and identifies who the partners are that are working together. Education and outreach is an ongoing effort due to turnover in the community and keeping the issue in front of residents.

IDENTIFY ACCEPTABLE AND VIABLE TREATMENT OPTIONS

Although some treatment options might make the most sense ecologically or for healthy forest conditions, they may not serve as the best option for a community that is densely populated or has other risk considerations. Consider identifying all treatment possibilities and listing any potential issues associated with them, such as cost, smoke impact, slope movement, and other natural resource impacts. These have to be considered, as it is important not to fix one problem and cause another. Some areas may be very restricted as to possible treatment options; however,

there may be areas where you have more latitude to use different options. As the fire service, our duty and mission is to protect life and property, not manage the land or resources. It is important that decision making for reducing wildfire risk is a priority, but done with consideration for ecological issues, forest health and habitat.

With planning and consideration for other resource values (habitat, cultural sites, etc.) mitigation work can be effective WHILE still protecting other resources.

Utilization, disposal and scheduled maintenance on project re-entry can also be included in the CWPP as part of the treatment planning. Address potential solutions and options for inclusion in project planning and cost analysis.



With planning and consideration for other resource values (habitat, cultural sites, etc.) **mitigation work** can be effective WHILE still **protecting other resources**.

OUTLINE EVACUATION PLANNING MEASURES

Determine who has the authority for evacuation in a community; it may be the police department, sheriff's office, office of emergency management or the mayor. Fire evacuation can be involved with setting evacuation trigger points, routes, traffic plans, and staging areas. Whether there is a public plan with posted evacuation routes or educational measures, define those measures prior to the event in the CWPP. Evacuation planning and education can focus on:

Evacuation Planning

- ▶ Become a Ready, Set, Go! community
- ▶ Communication and notification
- ▶ Evacuation kit (content suggestions)
- ▶ Pet, livestock evacuation
- ▶ Practicing evacuation drills (by family or neighborhood)

DEVELOP A PROCESS FOR MONITORING FUEL TREATMENTS

Outline the process for monitoring and tracking fire weather, fuel moistures, and determining the fire danger adjective for the community. Identify the need to install and maintain fire danger signs. These act as a visual reminder to publicize the level of wildfire danger as well as keeping wildfire risk in plain view and in the thoughts of residents.

ESTABLISH POST-FIRE RESPONSE

After a wildfire event, there are several tasks and responses that will ease the process of healing, returning residents to their home and facilitate reconstruction. Some considerations for the CWPP include:

Safety is the first concern for re-entry back in the neighborhood. Residents will be anxious to check on their home. It will be important to work closely with the police department, sheriff's office and utilities to determine when it is safe to return. Be consistent and don't make special dispensations for some people (like family, acquaintances, or politicians).

Post-Fire Response

- ▶ Re-entry into the fire area (utilities, hazards)
- ▶ Notification (fast and accurate)
- ▶ Damage assessment
- ▶ Develop draft language to improve existing code requirements
- ▶ Certificate of occupancy inspections
- ▶ Landscaping guide (fire resistant plants, appropriate use of mulch)

Re-entry needs to be consistent and systematic. Notification should be administered as soon as possible. With drone, aerial photography and social media, the public expects immediate notification. Often times, residents want immediate notification, not coddling or personal compassion; they just want to be delivered the news whether their house made it or not. Damage assessment can be determined using county assessor data, fire department maps and field checks. Preface any count of homes damaged and destroyed with “best information available.” Cursory information may be a windshield field assessment. Many homes may look intact, but may be so damaged on the interior that they are not salvageable, so anticipate numbers changing.



Having draft language to update the existing code is critical, as residents may be more receptive to supporting a code change after the fire. Reach out to homebuilder associations, insurance companies, city council, civic groups and public meetings to garner input and support. With the re-build of homes lost in the fire, facilitating the development review and inspection processes will aid in the recovery. Assign personnel to inspect homes ahead of the certificate of occupancy and provide landscaping guidelines and recommend plant lists to residents before a certificate of occupancy is issued.

CONCLUSION

A CWPP is not set in stone; it will continue to change and grow around community risk levels. Every community has unique values at risk and special hazards as they relate to the residents. It is important to be flexible and continue monitoring and evaluating the effectiveness of the plan. This guide is intended to assist in developing a community-wide plan to address wildfire risk ahead of the event and is by no means all inclusive. Determine the community's needs and customize the plan around them. Research what CWPPs exist and consider reaching out to those communities that have worked through the CWPP process. They can provide some insight regarding successes, challenges and lessons learned. Remember that wildfire risk is a community problem and a shared responsibility between residents and the fire service.

WORKS CITED

Communities Committee of the Seventh American Forest Congress; Society of American Foresters; National Association of Counties; National Association of State Foresters. (2004). *Preparing a Community Wildfire Protection Plan*.

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