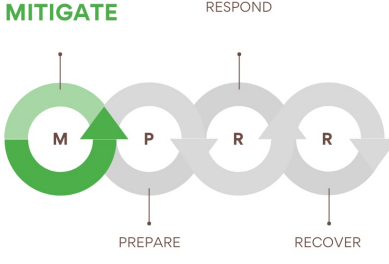
COMMUNITY WILDFIRE MITIGATION POCKET GUIDE

April 2021



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MITIGATION POCKET GUIDE: 2021 FIRST EDITION

This guide provides valuable guidance for wildfire mitigation professionals in an easy to use, portable format. You'll find strategies, tactics, phases, checklists, templates, and methods that empower stakeholders to take action, and strengthen the effectiveness of partnerships that improve community wildfire resilience. Contents are informed by social science research and decades of hands-on experience.

Visit https://co-co.org/mitigation-best-practices-toolbox/ for more information and additional resources.

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THE MITIGATION INFRASTRUCTURE

Most communities recognize the need to mitigate fire risk and want to take action but don't always have the ability to move mitigation forward.

Local mitigation efforts must overcome daunting challenges, such as a lack of resources, investments, training, workforce and reliable funding sources. The effects of wildland fire on communities have become more, frequent, and far-reaching. Increased development in the wildland urban interface (WUI) means higher wildfire risk and more suppression needs, costing billions every year. A comprehensive approach to preparedness and mitigation is an effective way to address increasing suppression costs and reduce risk to communities.

Mitigation happens at all levels – local, state, tribal, and federal. Individuals, communities, and organizations working together to share and leverage resources and build partnerships are the keys to success.

WHAT IS WILDFIRE RISK MITIGATION?

- The effort to reduce potential loss or damage to life, property, and public/ecosystem health from a wildfire event.
- This Mitigation can impact existing and future conditions, and pre-and post-disaster environments. It is accomplished through fuels management activities, structure hardening regulations, local ordinances, incentives, land use planning, and building practices.

WHY IS MITIGATION IMPORTANT?

Undertaking wildfire mitigation in the wildland urban interface can reduce or eliminate the risk of damage caused by wildfire to the human environment (homes, neighborhoods, communities) and to the natural environment (wildlife, watersheds, ecosystems). These actions offer multiple benefits including:

- Contributing to firefighter and public safety by reducing fuels and lessening the risk of structures igniting.
- Creating communities that are more resilient by reducing loss of life and property damage.
- Allowing individuals and communities to minimize post disaster disruptions and recover more rapidly.
- Lessening the financial impact on individuals, communities, and society.
- Enhancing other important values such as ecological benefits and aesthetics.

THE MITIGATION LEADER

A key element of successful wildfire mitigation is the presence of a competent and confident leader who that empowers residents, stakeholders, and partners to take action.

The Mitigation Leader can:

- **Identify** key mitigation needs and barriers to action (which is rarely lack of information or knowledge) for a particular community.
- **Prioritize** activities that reduce mitigation barriers.
- **Use Resources wisely.**
- **Facilitate** communication and activities amongst different stakeholders.
- **Communicate** clearly and concisely using common sense, understandable language, and using a whole-community approach.
- **Resolve conflict** through active listening and understanding.

MITIGATION GUIDING PRINCIPLES

One size does not fit all. Adjust your strategies according to community demographics and local values.

Engage

- Engagement is a *two-way process*. It is neither completely top down (experts providing instruction) nor bottom up (stakeholders seeking help).
- Work to *engage the whole community*. Provide accessible information in the appropriate languages and formats (including American Sign Language).
- *Tailor* your approach to the communities you serve.
- *Minimize* the use of jargon or acronyms.
- *Encourage* people to take action on their own property and support other neighborhood mitigation activities.

Communicate in Person

- Build trust-based relationships by engaging in face-to-face meetings and conversations. The most effective way to change behavior is through "active" communication that focus on listening to understand before seeking to be understood. When meeting with property owners, always listen first.
- Seek to understand individual motivations, concerns, and needs in relation to wildfire.

Focus Where ROI is Highest

- *The audience for mitigation is not the general public, but those at highest risk.*
- Focus limited resources on the areas at the highest level of risk first.
- If capacity is limited, minimize generalized outreach to all. Strategic and consider potential return on investment. Significant effort to minimally reduce risk in a high-risk area may have less impact overall than less intensive work to effectively reduce risk in a moderate risk area.
- Incremental efforts can be a good way to help people accept the idea of mitigation, begin to create a social norm of mitigation, and provide visual evidence of what effective mitigation looks like—all of which can increase mitigation behaviors.

Build Partnerships

- Partnerships are the only way to collaboratively complete landscape level work across boundaries and jurisdictions.
- Consider who is not at the table that has a role in wildfire mitigation. Invite these individuals and organizations to support the effort.
- Engage with your local or state emergency preparedness coordinators.
- Ask for help and assistance.

Make Mitigation Support Accessible to All Populations

- Communities are composed of diverse residents which include different languages, socio-economic backgrounds, access ability, functional needs, cultural backgrounds, and more. Successful mitigation is shared by all; work to be inclusive in your process from planning to implementation.
- Work together with community organizations, advocates, and stakeholders from historically excluded and under-represented groups to create inclusive and equitable approaches. The same wildfire mitigation approach/ program is unlikely to work in every community.
- Include translation and interpretation services in your mitigation planning, budget and activities.
- While wildfire risk is shared by all residents, its impacts are often borne disproportionately by people of color.

Leverage Resources

- Bundle funding from various sources to cover large projects.
- Homeowners must be a part of the equation, and their roles may vary by community and homeowner. When and where appropriate, require an investment of labor, time or financial resources.
- Share equipment with partners.
- Recruit volunteers, such as church groups, community work parties, youth groups, and national volunteer organizations to complete mitigation projects.

Focus on Outcomes over Outputs

Outcomes is the way a thing turns out – a consequence. An Output is the amount of something produced.

- **Examples of Outputs:**
  Home assessments, Maps, Completed Community Wildfire Protection Plans, Partnerships developed
- **Example of Outcomes:**
  # of hardened homes, # of acres treated, # of defensible spaces created
- **Example Outcome Statement:**
  A more resilient and prepared community, less likely to have adverse impacts from a wildland fire and more capable of withstanding the impacts that do occur.

If practices (outputs) do not lead to community wildfire risk reduction (outcomes), eliminate that investment. Examples of ineffective practices include:

- Relying on postcards and literature handouts to engage people
- On-call chipper programs in areas with little nee
- Conflating social media with "engagement"
- Relying on attendance at meetings as a sign of engagement (or lack thereof)

Be Knowledgeable

- Know your community risk, unique barriers to mitigation, and available options to overcome them. Be prepared to respond with solutions when these barriers are raised. Know when to say you do not know enough

about a subject. Be honest about your ability.

- Continue your training to increase your skills.
- Identify alternative individuals you can direct people to when discussing topics outside of your personal expertise.

Stay Strategic, Selective, and Focused

- Take the time to understand your community, its specific challenges and needs. Identify a range of potential mitigation activities and prioritize ones that both reduce wildfire risk and meet additional community needs. Such efforts are more likely to elicit a positive response.
- Don't attend or participate in everything that comes up. Make decisions based on the desired outcome.
- Learn from others. Identify aspects of other successful programs and projects that are a fit for your community. Share these successes with your stakeholders to motivate risk reduction activities. *Be Flexible and Adapt.*
- Adjust programs as conditions and/or needs change.
- Review programs annually to highlight areas of improvement.
- Learn lessons and strive to do the best you can.

Check Your Assumptions

- Everyone makes assumptions about why a community or individual may not be mitigating. The reality is that barriers to mitigation vary widely. Commonly held perceptions often do not hold up to deeper scrutiny.

This is why interactive communication and listening is a key part of effective engagement.

- Don't assume that no action has yet been taken in your community. Studies consistently show that residents are taking at least some action. Mitigation professionals can help evaluate those actions and provide the support needed to build on them.

Safety

As a mitigation professional you will be meeting with new people and accessing unfamiliar places. It is your responsibility to be prepared.

- Always inform your leadership where you are going and when.
- If meeting with a new resident or partner, go with someone else you trust. When possible, call beforehand to confirm the meeting time and place.
- Have a check-in, check-out procedure.
- Create a Job Hazard Analysis (JHA) for all activities. *Template: https://www.fs.fed.us/eng/pubs/htmlpubs/htm09672814/pdf/jha.pdf*

- Have a contingency plan:
  Ensure your vehicle is in good repair;
  Have a break-down kit to be prepared for vehicle emergencies;
  Have a first aid kit and know how to use it to be prepared for medical emergencies;
  Assess communications. No cell phone reception? How will you let someone know you are in trouble?

- Be situationally aware:
  Review the weather prior to departing;
  Assess and understand where you are going by reviewing maps and other information;
  Pay specific attention to those you pass along the way, follow your organization's risk awareness practices;
  If something makes you uncomfortable, do not engage. Go with your gut.

WILDFIRE HAZARD

There is a distinction between Risk and Hazard. Hazard refers to conditions that would lead to worse outcomes IF a fire occurs. Risk is the Hazard plus likelihood of a fire actually igniting and reaching the hazard.

When traveling to a community or residential area review the following hazard factors.

Wildfire Hazard Situational Awareness

Overall Fuel Characteristics

- *Substantial amounts of cured or curing fine fuel/continuous*
- *Heavy dead and down woody debris*
- *Tight crown spacing (< 20 ft.)*
- *Unusually low live and dead fuel moisture values (locally defined)*
- *Special conditions*
- *Efficient firebrand sources*
- *Numerous snags*
- *Fine fuels and understory*
- *Insects and diseases*
- *High dead-to-live ratio*

Topography

- *Steep slopes (> 45%)*
- *Chutes/chimneys/passes/saddles*
- *Box and narrow canyons*

Fuels Surrounding Structures

- Zone 1 (0-5 ft.)
  Fuels within this zone?
  Flammable mulch
- Zone 2 (5-30 ft.)
  Crown spacing (horizontal)
  Laddering potential (vertical)
  Watered and/or managed yard
- Zone 3 (30-100 ft.)
  Crown spacing (of flammable trees)

Built Environmental Factors

Community and Neighborhood

- Overall Community Hazard Characteristics
  Density of homes
  Size of parcels
  Percentage of homes mitigated
  Quality of mitigation
  Structures at risk. Ingress and egress
  Signage
  Proximity to suppression resources
  Water sources
  Safety zones
- Community awareness
  High - low level of awareness

Structures

- *Roof type*
- *Siding type*
- *Overall construction quality*
- *Decks, fences, other flammable attachments*
- *Vents*
- *Accumulated debris on and around*
- *Firewood, deck furniture, propane tanks*
- *Proximity to accessory buildings and nearest neighbor*

FACILITATION

The mitigation professional must be a skilled facilitator. A facilitator is a guide or a navigator.

- Arrive on time.
- Make introductions and get to know people's names.
- Set the ground rules for the discussions, time frames, agenda and expectations.
- Understand your audience. Get to know their values and concerns.
- Understand and clearly articulate the goals and objectives of mitigation work.
- Keep the goals in mind and keep moving towards the overall outcomes – wildfire risk reduction.
- Encourage participation through open discussion and brainstorming.
- Make arrangements for inclusive communication. Provide interpretation services, closed-captioning, and high-contrast visual materials as necessary.
- Be objective and encourage consideration of other points of view.
- Discuss how we are all in this together and ways that people and organizations might help each other
- Allow for debate and questions. Focus on the outcomes.
- Always thank everyone for their time.
- Close the loop. Explain next-steps, action items, how you plan to work to support these items, and what the expectations are.

CONFLICT RESOLUTION

The mitigation professional will sometimes need to confront conflict in their work. When confronting conflict consider the following:

Accept Conflict

Do not avoid conflict. Conflict will arise and when pushed off it will only grow, creating animosity, resentment, and alienation.

Understand the Conflict

- Know the parties involved and their concerns.
- Ensure you understand the conflict by asking clarifying questions and rephrasing what has been said. *"Let me make sure I understand what you are saying. You are frustrated/ upset about _____because of_____."*
- Ask yourself:
  What do I want to be the outcome?
  What do I need to achieve this outcome?
  Ask about the other parties involved:
  What are the motives and the interests of the parties involved?
  What do they want?
  What do they need?
  Think empathetically. How would you feel in their situation?

Communicate With All Parties

- Listen to all parties involved in the conflict. Do not interrupt.
- Do not react to emotional outbursts. Apologize if necessary.
- Speak honestly about yourself, not the other parties. If you are hurt, let people know. This shows vulnerability

and works to build trust.

- Do not assign blame. Discuss the problem, not the person.
- Do not let anyone monopolize the conversation. Everyone must have fair and equitable time to state their concerns and beliefs.
- Make decisions easier by being strong with your beliefs but open to other's views.
- Forgive and move on.

Brainstorm possible resolutions

- Focus on the points of agreement and the positives of the discussion or conflict. What do the parties agree upon?
- Build trust by asking for ideas to a resolution.
- All ideas and solutions are fair and must be considered. Allow numerous approaches from all parties.
- Do not criticize the ideas that are raised.
- Seek win-win solutions.

Choose the best resolution

- Assess the ideas and present the solutions that are win-win.
- Allow parties to support the solution.
- Be democratic but ensure the solution leads to the desired outcome.
- Work to make the solution theirs, not yours.

Bring in a Mediator: When conflicts cannot be resolved consider inviting a third-party mediator to support a resolution.

COPING WITH STRESSFUL SITUATIONS

When An Individual is:

- Dominating the discussion
  Stop the person, summarize comments and ask others for their input.
  Ask people who are not saying much what their thoughts are.
  Give everyone time limits.
  Call attention to the agenda and time frames.

Inserting Personal Agendas:

- Ask the individual to relate what they are describing or discussing to the current topic.
- Acknowledge the comment and move on.
- Give everyone time limits. Include the need to stay on topic in the ground rules and refer back to this point.
  "I appreciate that idea but that is not directly relevant to the topic we are here to discuss"

Talking Off the Subject:

- Ask the person to relate what they are discussing to the agenda.
- Place the point in a "bin" by writing on the board. Note that if there is time it may be discussed or that there may be a need to discuss at another time.

Having Side Conversations

- Invite the participants to share what is being discussed.
  Be careful with this, the goal is not to call them out but to invite them to the main conversation.

- Ask them to stop and focus.
- Ask them to join the group discussion.
- Move closer to the people having the side conversation to show you are aware.

Being Constantly Negative or Presenting a Hostile Demeanor:

- Acknowledge their point of view.
- Point out that being outcome-focused requires a solutions-oriented approach.
- Explain that the work is challenging, but they are invited to help with the challenge.
- Ask what they do think is positive about the program, project or subject being discussed.

Attacking, Criticizing or Picking Arguments

- Stop all arguments immediately.
- Ask participants how they would like the group to resolve the conflict.
- Describe what the person is doing and refocus the conversation on the goals and objectives.
- If this activity continues, ask the participant(s) involved to have a follow-up conversation in private to better understand the confrontation.

Not Showing Up

- Contact the person outside of the meeting either in-person or with a phone call.
- Let the person know you have noticed they have been less present lately, and you wanted to check-in.
- Listen to what they have to say. Work to find a way for them to participate in the process that fits their needs. Perhaps they are still interested but the meeting time is not working for them or their family.
- Seek solutions that keep them engaged in the process.
- Note that you need their help to make progress to work toward the group's goals and that you appreciate their work.

BUILDING CAPACITY

Capacity is the all-important "infrastructure" that supports and shapes organizations into sustainable, efficient, and effective change agents. Capacity-building enables organizations and their leaders to develop competencies and skills in the delivery of a service.

When seeking to increase capacity it is important to understand what assets your community already has in place.

Consider:

- Individual*: skills, talents, abilities, and community/connections.*
- Associations*: homeowner associations, volunteer organizations, labor unions, community organizing groups.*
- Institutions*: formal organizations with employees and buildings.*

Capacity Needs Assessment and Action Plan

- Gain Situation Awareness (SA)
  What and where is the risk?
  What mitigation services (assets) are currently available?
  Who is providing these services?
  Where are the gaps?
  Identify "mitigation connectors" within at-risk areas. Often these individuals are referred to as the "spark plugs."

Increase Your Capacity

- Focus on risk reduction activities.
- Stop undertaking activities that provide a minimum return on investment.

- Ask for help. Ask partners, volunteers, and residents to help with activities they can support.
  Home fire risk assessments
  Project coordination
  Mitigation event coordination
  Volunteer time tracking
- Trust your partners.
- Review programs frequently.
  Be nimble: Adjust inefficient programs, services or projects when outcomes are less than desired.
  Adapt: allow flexibility in program design to accommodate rapid changes.
- Use resources judiciously.

Increasing Community Capacity

- *Encourage residents to actively participate.* Providing free, no-labor mitigation services does little to grow mitigation capacity. Provide opportunities for participation in all phases of the work.
- Create opportunities for people to lend a hand. Remember that volunteers can support more than just the heavy lifting. Volunteers can collect and manage data, help with outreach, and support administration amongst other activities.
- Set a positive example. Help adjust attitudes and perceptions by doing work on your property.
- If there are public lands nearby, describe mitigation actions that are taking place there.

- Focus on the positives to get more people to lend a hand
  "We can change the trajectory."
  "Over time, even your incremental actions can lead to positive outcomes. You can help your community by working together with your neighbors to mitigate.
  "Parcels treated together are more effective at changing fire effects, fire behavior, and outcomes."

Mitigation Services, Resources to Consider:

- Chipper services
- Home fire risk assessments
- CWPP location (website)
- Forestry Contractors

WORKING WITH VOLUNTEERS

Volunteers increase capacity. When working with volunteers, it is important to develop policies and procedures to support safe and enjoyable volunteer programs and projects.

Volunteer Day Standard Operating Procedures:

Upon arrival at the work site:

- Introduce staff, owners, leadership
- Provide organization details:
  Who are they working for
  Project details
  Goals and objectives
- Explain the work to be done
- Review schedule, including breaks and end time
- Safety Talk
  Provide a general safety overview
  Tool use
  Emergency response plan
- Provide direct guidance and be available to answer questions throughout the event.
- Pay special attention to the health and welfare of volunteers. They may not be familiar with the location, altitude, weather, and work.
- Take frequent breaks and encourage the volunteers by announcing "water break."

- At the end of the event highlight what was accomplished and thank everyone.
- Conduct an After-Action Review to discuss what was planned, what went well, and what could have been enhanced?
- If working in remote areas, conduct a final headcount before volunteers depart to ensure accountability.

COMMUNITY ENGAGEMENT

Communication Techniques

Connecting with people is essential for effective community risk-reduction actions. There are many ways to communicate and connect. The key is knowing when to use each communication approach.

- *Active communication* is face-to-face engagement and two-way communication based on questions and answers. Both parties are highly involved, and both come away with a better understanding of the issues discussed. Active communication leads to action.
- *Passive communication* is second-hand communication, such as brochures, news releases, articles, or websites. Passive communication is not as effective at moving people to action but helps point people to resources (such as meeting details, how to apply for funding, or whom to contact for help). Passive techniques may also be used when trying to reach a broader audience.

ENGAGEMENT BEST PRACTICES

Making First Contact

Making contact is the first step to engaging residents and communities. Follow these guidelines to get more people involved in your mitigation work.

- Share your organization's resources, services, and tools with partners. These partners can increase awareness of your mitigation services and reach members of the community with whom you are not connected.
- Determine the audience. Know the community where you are working and adjust your communication approaches accordingly.
  What do they already know about fire and fire management?
  What aspect of the fire risk is of most concern to them? Smoke? Home loss? Habitat loss?
  Are they concerned that mitigation activities could negatively impact certain values?
  Understand the social and political environment to discern the best way to approach different groups.
- Attend and present at a range of community meetings (HOA, Realtors, non-profit, etc) and, when possible, collect contact information.
- Follow-up with a phone call, email, or site visit soon after making first contact. Take advantage of the resident's interest and act swiftly to engage.
- Make mitigation noise in neighborhoods by using a chipper and running chainsaws.

- Always have someone on hand to speak with individuals as they look on.
- During and after wildfires are great opportunities for getting people's attention. Use these teachable moments to increase activity. However, remember that these contacts are more likely to lead to action when the message has been present long before an event.
- Avoid using jargon or acronyms.
- Always have business cards available. In high priority areas, collect names and contact information from interested parties.

Seek opportunities for one-on-one interaction with landowners and property managers who have authority to reduce risk.

- Personal connections allow us to talk about the value of mitigation, explain why homes burn, and detail how property owners can help themselves.
- *Listen to the resident's concerns.* Strive to understand the social context of the risk.
- *Empower trusted authorities* who already have a relationship with residents; community service organizations, fire personnel, forestry professionals, friends, neighbors, relatives, mitigation specialists to meet with residents.
- When asking volunteers to help with face-to-face engagement activities, train them to ensure they provide the correct mitigation guidance.

- Provide open, honest, accurate, and reliable information.
- Know how much fuel reduction costs in your area. Be familiar with cost-share programs and other assistance programs.
- Meet on-site whenever practical. Get outside for a walk around a home during a neighborhood or community meeting.

PARTICIPATING IN COMMUNITY MEETINGS

Only attend meetings that engage your mitigation audience.

Be selective. You will likely be unable to attend every meeting to which you are invited. Your time is valuable. The goal must be to invest in activities that lead to concrete action.

Before agreeing to attend a meeting, ask yourself:

- Is the meeting likely to result in meaningful first-contact opportunities?
- If you have been asked to present, will the time allotted allow you to sufficiently discuss the problem and present solutions?
- Will your attendance lead to mitigation actions?
- Are you the right person to attend this meeting? Or do you have a partner that may be better positioned to reach this community?

Facilitating Community Meetings

Remember to be inclusive.

Consider whether you need an interpreter (either American Sign Language or spoken language). If you will need an interpreter, try to work with someone who is familiar with wildfire mitigation terms or share some basic information with them ahead of time for seamless interpretation.

- Fully define Leader's Intent. What are the goals and objectives of the meeting or your participation?
- Identify actions.

- Take names. Follow-up with people if they are in high-risk areas or if they can provide resources to help a larger area.
- Whenever possible, take the meeting outdoors. Walk around a home (or several homes) to discuss why the home is or isn't at high-risk from wildfire. Discuss what types of mitigation work could or should be done. When deserved, be sure to praise the homeowner(s) for their actions.

CELEBRATING SUCCESS AND SHARING THE STORY

Make sure to thank those that have taken actions to reduce risk, volunteer, spread the word or advocate for mitigation!

When celebrating success remember:

- The goal of mitigation is to reduce risk. *Acknowledge actions and individuals when real progress is made. Focus recognition on communities or homeowners who show significant progress in on-the-ground mitigation and risk reduction.*
- Presenting awards and public recognition is a great way to honor volunteers.
- Handwritten thank you notes, and small gestures can go a long way.

Social Media

- Identify the intended outcome:
  Are you attempting to raise awareness, share information or resources, highlight successes, or something else?
  Do not use social media as a replacement for engagement.
- Use existing and partner websites to share information.
  Creating/maintaining websites and/or social media platforms can be time consuming.
- Understand your audiences. Identify who the audience is and sculpt the message to this audience.
  Examples of audiences: Moderate to high-risk areas, Leaders, Funders, Partners
- Be consistent, helpful and relevant.
- Use common, easily understandable language.

- Vary what stories you share. *Highlight people, places, and projects.*
- Provide materials or visuals in multiple languages where appropriate
- Use visuals and maps to tell stories
- Be honest and transparent. *If the project could have been better, acknowledge that.*
- Take advantage of teachable moments to share information. (Smoke in the air, nearby wildfires or in the news, visible projects in the area, etc.)

PARTNERSHIPS

"Substantive and durable conservation success arises when community members from many backgrounds come together from day one to shape a common sense of place and develop a future vision grounded in respect for diversity of perspective. Such trust is the foundation for creating an open0source arena for dialogue and information exchange – a place where we work together in true collaboration to find common ground, a safe place where participants can change their perspectives, a platform that purposefully fosters a continual re-earning of mutual trust."

(M. Whitfield, speech for Network for Landscape Conservation, 2018)

Creating Partnerships

Partnerships *increase capacity.* The problems presented by wildfire are far too large for any one person or organization to manage alone.

- Identify the hazards / risks and the potential partners.
- Convene partners.
- When developing a wildfire mitigation partnership, consider including the following:
  Community organizers, Local health districts, Labor unions, Fire departments, City, County, State, and Federal officials, State forestry officials, Friends groups, Local influencers, Contractors, Forest product industry, Subject matter experts, Researchers, Universities, Community members, Volunteer resource groups (scouts, rotary, faith based, etc.), Retired natural resource professionals, Congressional representatives, Homeowners (individuals and HOAs), Utilities and water providers, Transportation (roads, railroads, etc.),

Insurance companies, Business owners, Planning and zoning officials, Non-governmental organizations, Land Trusts

Outline the vision and the mission

Vision summarizes your dream for the future. The *Mission* defines that the partnership plans to do and why. Think with the end in mind. What are the desired outcomes and goals?

Describe why you need a partnership to accomplish the goals and the needed resources and relationships.

Identify the barriers and how the partnership will overcome them.

Coordination, Cooperation, Collaboration.

Describe how the partnership will function, identify the structure of the partnership.

Consider the governing structure, identify the ground rules. How will work be distributed?

Maintaining Partnerships

Design a maintenance plan. Conduct frequent review of the accomplishments, participation, challenges, barriers, short and long-term plans. Encourage feedback and frequent communications.

Indicate how the group will assure the 6 R's for maintaining engagement of all participants:

- **Recognition:** *People want to be recognized for their contributions.*
- **Respect:** *People want their values, culture, ideas, and time to be respected and considered in the organization's activities.*

- **Role:** *People want a clearly defined role in the coalition that makes them feel valuable and in which they can make a contribution.*
- **Relationships:** *People want the opportunity to establish and build networks both professionally and personally for greater influence and support.*
- **Reward:** *People expect the rewards of participating in a collaborative partnership to outweigh the costs and to benefit from the relationships established.*
- **Results:** *People respond to visible results that are clearly linked to outcomes that are important to them and that they can clearly link to their participation in the coalition.*

Partnership Best Practices

- *Make sure engaged people are at the table.*
- *Do not let a lack of participation slow the process of building collaborations.*
- *Mutually agree that mitigation is the desired outcome.*
- *Respect differing opinions.*
- *Follow through on commitments. Be reliable and persistent.*
- *Set specific, mutually developed short and long-term goals and objectives.*
- *Focus on outcomes.*
- *Share the work. Don't just talk about mitigation or plan it. DO IT!*
- *Be consistent:*
  Select a spokesperson.
  Develop talking points and FAQs.
  Agree upon common language.
- *Plan mitigation actions together, looking for good cross-boundary projects and opportunities to share personnel, equipment, and funding.*
- *Make it official: Select a chair, take minutes, choose ways to communicate between meetings, set a regular meeting schedule, and set clear expectations.*

COMMUNITY WILDFIRE PROTECTION PLANS

Definition: *A Community Wildfire Protection Plan (CWPP) identifies and prioritizes areas for hazardous fuel reduction treatments and recommends the types and methods of treatment on federal and non-federal land that will protect one or more at-risk communities and essential infrastructure and recommends measures to reduce structural ignitability throughout the at-risk community.* (National Wildfire Coordinating Group Glossary)

The two key features of a CWPP:

- Identification of the WUI area.
- Provide recommendations and prioritization of treatment areas.

CWPP should be developed collaboratively and include:

- *An assessment of wildfire risk.*
- *A plan to reduce hazardous fuels.*
- *A plan to reduce structure vulnerabilities.*
- *A method to share CWPP findings and recommendations.*
- *A response component.*
- *A maintenance plan for projects and for the plan itself.*

CWPP Best Practices

- *Determine the scale of the CWPP.* Is it for a county, fire district, or neighborhood?
- Think about what you are trying to accomplish and *pick a scale at which you think you will be able to achieve impact.*
- *Develop CWPPs collaboratively* with all stakeholders, especially property owners. Only when a community participates in the planning process can it become part of the solution. When people participate in developing a CWPP they gain a better understanding of risk and mitigation. They are then more likely to help implement solutions.
- *Personally invite key stakeholders to participate*, including traditionally excluded or under-represented groups, community organizations, public health districts, fire departments, federal and state land managers, community leaders, large-tract property owners, residents who have shown interest in community wildfire risk reduction, environmental/recreation/wildlife groups, the timber industry, elected officials, and policy makers.
- *Make sure you have representation from the three entities required to sign the finished CWPP*: the relevant government (city or county), local fire department(s), and state forestry agency.
- When drafting a CWPP, *pay close attention to the assets that are important to communities,* such as: Recreation Sites; Aesthetics and Viewsheds; Wildlife Habitats; Homes; Infrastructure; Watersheds and Water Resources

- *Identify high and medium (moderate) community wildfire risk* specifically and clearly on a map that is widely distributed.
- When developing the list of recommended actions, be able to answer these six questions:
  Who will implement the CWPP?
  What are the plan's key projects?
  When will the proposed mitigation work take place?
  Where will the work be done?
  How will defensible space, home hardening, landscape-scale fuel treatments, and other recommendations be accomplished?
  How will this work be maintained over time?
- *Ensure that the CWPP relates to, strengthens, and enhances other plans within the community.* Such plans could include all-hazard plans, comprehensive plans, fire management plans, building codes, evacuation plans, and other community development frameworks.
- Include components of mitigation/fire adaptation along with suppression and recovery strategies *to help communities cope before, during, and after fires.*
- *Ensure public awareness of the CWPP* by engaging residents in high-risk areas and communicate accomplishments as projects are completed.
- *Plan for maintenance* and evaluation of CWPP.

CWPP Updates

It is always preferable to update or amend an existing CWPP rather than creating a new one. But when considering an update, ask yourself:

- *Why is the update needed?*
- *What has been accomplished since the original document was drafted?*
- *What has changed?*

The answers to these questions can help determine if an update is really needed.

To learn more visit the U.S. Forest Service, Northern Research Station, Best Management Practices for Creating a Community Wildfire Protection Plans https://www.nrs.fs.fed.us/pubs/gtr/gtr_nrs89.pdf

MEDIA INTERVIEWS

Modified from the Incident Response Pocket Guide, National Wildfire Coordination Group

- Be prepared. *Know the facts. Develop a few key messages and know how to deliver them.*
- Understand why you are being interviewed.
- Prepare responses to potential tough questions. *If possible, talk to reporter beforehand to get an idea of subjects, direction, and slant of the interview.*
- Be concise. *Give simple answers (10 to 20 seconds). When you're done, be quiet. If you botch the answer, simply ask to start again.*
- Be honest, personable, professional, and presentable.
- Remove sunglasses and hats.
- Stay calm and relaxed. *Take a big breath.*
- Look at the reporter, not the camera.
- Pay close attention to your body language.
- Don't fidget.
- NEVER talk "off the record," exaggerate, or try to be cute or funny.
- DON'T guess, speculate or say "no comment." Either explain why you can't answer the question or offer to track down the answer.
- DON'T disagree with the reporter. Instead, tactfully and immediately clarify and correct the information.
- DON'T speak for other agencies or offices.
- DON'T use jargon or acronyms.

- Use simple language. *If the idea or concept is complex plan to explain it.*
- Limit distractions. *Turn your radio down and shut your ringer off.*
- Say 'thank you.'

MITIGATION TALKING POINTS, RECOMMENDATIONS, AND CONSIDERATIONS

The Importance of Individual Action

There are no guarantees, but proper mitigation can greatly reduce the odds your property will have significant damage.

Small actions can have large results. Explain the science behind home hardening and defensible space.

Forestry Concepts: Ecology and Aesthetics

Fire once played a very important role helping to keep diseases, insects, and overcrowding in check. Fire has been excluded and the forests are out of balance. Well-planned and executed projects can restore the forest to a healthier condition which is good for the ecology and wildlife of the area. Forest management activities can be aligned with the aesthetic needs of an owner.

Highlight local demonstration areas that you can show property owners.

Common Points of Protest:

"Mitigation is hard work"

Possible Solutions:

- Work Smarter not Harder.
- Take the time to plan out the work
- Mitigate when temperatures are cooler.
- Coordinate with local volunteers that may be able to help.

- Make it fun. Turn it into an exercise and/or engage your family to help.
- Host work parties to help them get work done.
  Working together can create a greater sense of community. Much like the barn raisings of old, numerous people must come together to work towards the common goal of more resilient and safer communities.
  When the work is completed, have a potluck event to celebrate the accomplishments.
- Contact volunteer organizations or student groups who may be interested in providing work parties for those without resources.
- Seek service groups looking for projects; church organizations, scout groups, and nonprofits often provide volunteer resources.
- Hire a reputable forestry contractor to do the work.

"Mitigation is expensive "

- There are simple, inexpensive steps you can take to make your home more fire resistant. Start with the "low hanging fruit," such as clearing debris from the roof and gutters, maintaining your yard, and trimming overhanging branches. Start small and expand over time.
- Numerous funding opportunities are available to reduce the financial burden. Have a list of potential funding resources available.
- Considering that your home is likely the largest investment you will ever make, maintenance of the house and the surrounding land ensures you are nurturing that investment.

MITIGATION EVENTS

Mitigation events include chipper days, slash hauling, community cutting/thinning projects, general landscape clean-up days, creation of defensible space around a public structure or in a park, and many other activities.

Mitigation events are a great way to motivate people to get involved and take action. They create results on-the-ground but also provide opportunities for "first contact" between mitigation specialists and residents who may not already be engaged.

Slash removal is commonly considered a barrier to mitigation. There are numerous ways to overcome this barrier, including:

- *Encourage residents to pick up the slash and haul it to a common location for contractors or community members to chip or burn when it's safe to do so.*
- *Ask residents to put slash at the end of their driveway for a contractor to chip.*

Mitigation Events Best Practices

Plan mitigation events collaboratively with residents.
Example: Residents haul brush to the curb and the fire department does the chipping and removal.

Require residents to participate in planning and completing the project.
Example: The community or neighborhood leader promotes and coordinates the event, manages the work site and volunteers, and collects project outcome data.

Plan for safety.

- Provide safety training and personal protective

equipment (goggles, chaps, ear protection, etc.).

- Ensure equipment operators are qualified.
- Limit mitigation events to 3 to 6 hours. People who are not accustomed to this type of work can find it very strenuous.
- Do tree felling the day prior to a general volunteer mitigation project.
  There are always more "slash haulers" than cutters, so it can be hard to stay ahead of the haulers.
  Provides for safer working conditions.
- Understand the legal limitations and ramifications.
  Review your insurance coverage and ensure you are adequately protected.
  Require participants to sign a liability release.

Have the residents do as much of the work as possible.

- The more people are invested in the work, the more likely they are to maintain it after the project is completed. Recognize there are different ways for individuals to contribute to wildfire mitigation.
- Require an in-kind or cash match from homeowners receiving mitigation support.

Schedule events to maximize participation.

- Encourage communities to schedule and host events frequently and with plenty of notice.
  This establishes mitigation as an ongoing activity. Residents are more likely to begin work each summer if they know there will be a chipper available on the second Saturday in July or the first Saturday in August.

- Planned events attract partners. For example, contractors may donate services with the potential to expand their client base.

Establish a minimum number of residents in an area who will participate before you commit to a mitigation event.

Work the crowd, take names and contact information of everyone who participates, make first contact, and promise to follow-up.

Encourage people to host/attend a follow-up event, such as a potluck or BBQ. Nothing brings people together like food! It's also a great time to thank participants for their efforts.

Tree Felling Operations

Reprinted from the Incident Response Pocket Guide

Assess the situation, complete a hazard analysis, and establish cutting area control.

Situation Awareness

- *Evaluate tree characteristics*
- *Determine soundness or defects*
- *Analyze the tree base*
- *Check surrounding terrain*
- *Examine work area*

Hazard Assessment

- *Overhead hazards*
- *Ground hazards*
- *Environmental hazards*
- *Mental/physical hazards*

Felling Operation Controls

- *Use a lookout to help control felling area*
- *Check for nearby hazard trees (domino effect)*
- *Assess lean(s) and lay*
- *Swamp out base and escape route*
- *Brief swamper (role/responsibility)*
- *Face tree with adequate undercut*
- *Give warning yell*
- *Maintain holding wood and stump shot*
- *Frequently look up while cutting*
- *Use proper wedging procedure*
- *Use established escape route*
- *Analyze stump for lessons learned*

MITIGATION NUDGING

The concept of a nudge is simple. A nudge is an approach that steers people in a direction but allows them to make their own decision.

The following guidance has been adapted from:
http://nrs.harvard.edu/urn-3:HUL.InstRepos:16205305

- Keep the process simple.
  Allow residents to easily sign up for mitigation programs and support. The easier the process the more likely people will engage.
- Use the concept of social norms.
  Emphasize that most people in the neighborhood or community are working to reduce risk. Note when a resident's neighbor has done the work.
- Reduce "friction" that minimizes a resident from acting by informing residents of the services available:
  flexibility of scheduling home assessments, the curb-side chipper program, or the slash site just down the road.
- Disclose the reality of the concern including the ecological role of fire, potential negative impacts on the environment and the local economy, and the challenges and reality of fire response.
- Seek commitment.

When people make a commitment to action, they are more likely to follow-through on the desired behavior. Seek to illicit implementation intentions. Ask them about their plan and timeline.

- Recognize that wildfire risk mitigation needs to fit into people's everyday lives. Acknowledge that the work can be completed incrementally, in harmony with their other activities goals and desires.

Comprehensive Structure Assessment Visits

Structure Assessment visits are one-on-one interactive opportunities between community mitigation specialists and property owners. These interactions are often the first active step in moving property owners to take mitigation action.

Structure Assessment visits are important because they:

- *Identify specific vulnerabilities.*
- *Identify residents' specific risk reduction concerns and barriers to action*
- *Tailor solutions to the resident.*
- *Help create relationships built on trust.*

Structure Assessment Visit Best Practices

Be strategic about home visits, especially if time is limited. Although it makes sense to prioritize visits in higher risk areas, visits in lower risk areas you haven't worked in can be a good way to get a sense of the issues and concerns in that area. If the homeowner is motivated, the visit might create a demonstration site for the neighborhood.

Before:

- Determine a minimum number of site visits to schedule in a locale to make good use of your time.

- Work collaboratively with partners to conduct site visits and share resulting information. A resident may not be comfortable with you, particularly if you are uniformed personnel. But they may be comfortable with one of your partners.
- Consider who will be the best messenger.
- Develop site visit training to ensure that all partners are conducting site visits and providing advice in a consistent manner.
- Create a plan that guides property owners or residents in their efforts to get mitigation done.
- Set up a centralized tracking tool
  (template link/QR code)
  This will help to:
  Track location of visits
  Track needed re-engagement times
  Track property owner's progress

During:

- Listen first.
- Focus on the "Front door to Forest" concept. Discuss the home ignition zone, defensible space, forest and fuels, larger community, and surrounding landscapes.
- On-site discussions with property owners are the preferred method for establishing trust in an informal way. These conversations provide a unique opportunity to relay site-specific recommendations about wildfire risk, including structure ignition potential and defensible space. You will also gain valuable insights about the property owner's lifestyle, values, sensibilities, and

understanding of wildfire risk.

- To influence behaviors, present information in a relatable and understandable way. Effective engagement requires building rapport while empowering self-confidence so that residents are willing to begin addressing risks independently.
  Example: If the property has numerous bird feeders and birdhouses, discuss potential negative impacts wildfires can have on the avian population or how a healthy forest can increase wildlife habitat.
- Give credit where credit is due by acknowledging actions that residents have already taken to reduce risk.
- Discuss how wildfire impacts a building (embers). Point out specific vulnerabilities and how they could be mitigated.
- Discuss the challenges with fighting fires, and the fact that firefighting resources may not be available to provide protection to all structures during a wildfire.
- Be clear about what residents need to do and provide rationale for those actions. Be specific about how an individual action reduces risk.
  Be prepared with resources such as contractor lists and cost-share program opportunities to help residents take action.
  Identify specific fuels for removal on a map or by marking them with paint.
  Identify structure hardening actions.
  Point out specific opportunities where mitigation can most easily be done.
  Leave the property owner with a specific written action plan.

- At the end of the one-on-one visit, ask for a commitment to action.
- Seal a commitment with a handshake. While non-binding, the concept "my word is my bond" resonates with many residents in regions with high wildfire risk.
- Suggest how and when the promised action can occur and how you can help make it a reality.

After the Visit

- Determine what will be done with the Structure Assessment visit report once completed. Simply conducting the site visit and filing the information away is unlikely to lead to meaningful mitigation.
- Plan to follow-up with the property owner or resident.
- Follow-up may include providing additional resources, such as:
- Contractor lists.
- Brush / Slash disposal options.
- Funding opportunities.

MITIGATION FUNDING

Inadequate funding for mitigation work is cited as a common barrier. Use these best practices when seeking funding, using funding resources, and engaging residents.

Seeking Mitigation Funding

Don't chase funding at the expense of your mission or capacity to accomplish effective risk reduction activities.

- Know the requirements and limitations of funding.
  Example: You cannot match federal funding with federal funds.
- Understand the cost of doing business.
- Take training if necessary. Understand the "color" of money.
  Example: There are restrictions on how some funds can be spent.
- Know the timeline for a grant and DO NOT spend money before it is authorized.
- Create a grant reporting timeline and meet the deadlines.
- Have a plan for meeting your match with each reimbursement request. Develop financial management safeguards and procedures.

Develop services to identify and support vulnerable populations.

First - Listen! When working with vulnerable populations there may exist some added barriers or cultural differences. Distrust of authorities, limited access to the internet are just a few examples. Understanding the barriers to inclusion and participation is the first step.

- Focus investments on high-risk areas adjacent to low income developments
- Understand the specific limitations and barriers within vulnerable populations and adjust tactics accordingly
- An inability to make investments of time or money
  Provide volunteer support services, reduce or remove cost share requirements
- Mobility limitations
  Develop evacuation plans
  Focus ingress and egress treatments in areas that service these populations and developed areas
- Language barriers
  Provide information in other languages
- Adjust financial assistance programs by reducing and/or eliminating matching requirements
- Partner with local social service organizations to integrate wildfire mitigation into their programs
- Identify volunteer resources to complete mitigation

Using Mitigation Funding in Sustainable, Efficient, and Effective Way

- Where feasible, require cash investment or work hours from property owners
  In some communities, a 50% match of the total project cost, even if the grant only requires a 25% match, is feasible for the residents. This large match stretches dollars and increases property owner or resident buy-in. In other communities, this degree of match is not possible. Consider a sliding scale to help the community mitigate within their means. Where appropriate, require sweat equity work from property owners.

- Develop sustainably funded programs and projects
  Example: Create a chipper program that has a mosaic of funding sources, including municipal and grant support. Multi-year funding will help sustain the program.
- Bundle two or more funding sources into one project.
- Work with others who are doing mitigation work (e.g., a utility company) and use their investment as a match on adjoining private-land mitigation.
- Ask a fiscal sponsor to lower their indirect cost rate and dedicate the remainder as a cash match.
- Look for opportunities to reduce costs.
- Get landfills to waive tipping fees.
- Use locally available materials, like native rocks in hardscaping.
- Use the right tools for the job and consider alternatives.
  Can the landowner burn vegetation piles rather than chipping? Do you really need an arborist (generally more expensive) for the full treatment?
- Develop "do not exceed" rates for mitigation projects with residents.

MITIGATION ACCEPTANCE AND BEHAVIOR CHANGE

Not everyone will mitigate right away. People differ greatly in their level of risk tolerance, abilities, and readiness to try something new. It is essential to understand what motivates people to take action. According to the Diffusion of Innovation theory, as people are given new information, guidance, and recommendations, they fall into five categories:

- Innovators
  Individuals who want to be the first to do something. They jump on-board early, follow guidance, or even go it alone to reduce risk. Engage these individuals early as they may be able to recruit others.
- Early Adopters
  These individuals need the facts, resources, and tools to make careful decisions. They are often opinion leaders within your community and can influence others. Empower these individuals to share the importance of mitigation and its benefits with those in their sphere of influence.
- Early Majority
  Rarely the leaders within a community, they want to see how the mitigation project looks, and how it impacts their values and perceptions. Often, these individuals adopt the practice before others. Work with these individuals to highlight the widespread adoption of mitigation practices; this will help reach the late majority.

- Late Majority
  The "Dubious and Doubtful".They only adopt a practice after the majority of individuals have tested it or completed the work. Highlighting success stories, providing opportunities to examine previously mitigated properties, and focusing on the effectiveness of specific mitigation actions may help engage this group. Emphasize that most people in the neighborhood or community are working to reduce risk.
- Unlikely to Adopt
  This group of individuals are the last to participate and potentially never will. If a community's culture shifts to a mitigation-focused community, these individuals may adopt the practice after it has been proven or becomes a cultural norm/tradition. Be careful not to assume all those who have not mitigated fall into this category. This category is composed of those who have the information and the resources, necessary to act but are choosing not to do so. This category does not include those who have not effectively reached or do not have sufficient resources to act.

STRUCTURE HARDENING

The materials, design, and overall construction of a structure play a large role in the likelihood of wildfire survival.

Hardening means modifying a structure to make it more resistant to ignition from direct flame contact,radiant and convective heat, and embers that may fall on or near the home.

Hardening creates a structure that is less vulnerable to ignition without fire department intervention.

(Quarles, Stephen L., Vlachovic, Yana, Nakamura, Gary M, Nader, Glenn A., and Michael J. De Lasaux. Home Survival in Wildfire-Prone Areas: Building Materials and Design Considerations. University of California Agriculture and Natural Resources. Publication 8393. (2010).)

Structure Hardening:

Roof:

- *Roofs are highly vulnerable to wildfire ignition. Class A roofing assembly is highly recommended.*
- *Pay special attention to any interfaces between horizontal and vertical surfaces (juncture between roof and exterior walls) and consider utilizing noncombustible flashing in locations where ember collection is likely.*
- *Skylights typically cover a small portion of the roof, but they can still provide an entry point for wildfire. Investigate the skylight's material to ensure that the skylight is glass. If plastic, change to a glass version. Remove accumulated debris from and around skylight.*

- *Remove all accumulated debris from and around the chimney structure. Ensure the chimney has a spark arrestor screen that is heat and corrosion resistance equivalent to 19-gage galvanized steel or 24-gage stainless steel with diameter not larger than ½ inch.*
- *Fill or plug gaps that occur between roof covering and roof decking.*
- *When the roof is complex (dormers, valleys, etc.) ensure that all accumulated debris has been removed.*

Gutters

- *Clean vegetative debris from gutters on a regular basis.*
- *Consider updating plastic or vinyl gutters to metal.*

Eaves

- *If open eaves are present, recommend closing in the eaves.*

Vents

- *Attic, soffit, roof, gable crawl space, and all other vents should be screened with 1/8" metal screening.*
- *Consider replacing vents in particularly vulnerable areas with low-profile metal vents.*

Windows

- *Windows are particularly vulnerable to the extreme heats posed by nearby fire.*
- *When windows break, homes are exposed to extreme wildfire hazards.*
- *Recommend Dual pane windows. These have become a standard of modern construction.*
- *Utilize tempered glass panes.*
- *Window frames should be composed of a noncombustible material*

or, if not possible, incorporate a metal sub-frame to help the window frame retain its shape when exposed to increased heat.

Siding, Openings, and Walls

- *Utilize noncombustible or ignition-resistant materials such as fiber-cement board, stucco, masonry/brick, stone, or heavy timber construction.*
- *Please keep in mind that while these materials are resistant to ignition, they need to be assembled in such a manner that there is no exposure (heat or embers) to combustible materials that may lie behind these materials. Gaps may expose sheathing, or other combustible materials, which are vulnerable to ignition.*
- *Keep garage doors free of holes or gaps between the door and the floor.*

Decks

- *Keep decking clear of debris.*
- *Remove all combustibles from under decks.*
- *Consider non-flammable deck posts or alternatively, use non-combustible materials for a minimum of 8" from the ground.*
- *Keep decks in good repair. A dry and/or rotten deck is more susceptible to fire.*
- *Consider using ignition-resistant decking materials when possible.*
- *Enclose the underside of the deck to keep debris from blowing underneath.*

Low-Cost Recommendations

- *Focus on roofs and gutters by routinely removing debris.*
- *Install window screens w/noncombustible mesh.*
- *Remove vegetation and debris from decks.*
- *Install local, noncombustible hardscaping around the perimeter of the structure.*
- *Do not store combustible materials (firewood, lumber, etc.) under the deck.*
- *Enclose decks and install noncombustible material under decks.*
- *Enclose vents, soffits, chimney or chimney/stovepipe openings with ⅛" metal mesh screening.*
- *Install weather stripping around garage doors to stop embers from entering the garage, where combustible materials are often stored.*
- *Install metal spacers between wood fences/gates and the structures they abut.*
- *Ensure that the start of exterior siding is a minimum of 6" above the ground.*
- *Install a noncombustible barrier on fences that abut structures.*

Higher Cost Recommendations

- *Install Class A fire-rated roofing.*
- *Replace combustible decking and siding with ignition-resistant materials. Avoid untreated wood and vinyl siding. Replace combustible siding with ignition-resistant materials.*
- *Replace single-pane windows with dual or multi-pane windows, preferably with tempered glass.*
- *Replace combustible fences with noncombustible materials.*
- *Replace vinyl/plastic gutters with metal.*
- *Box in all open-eave construction.*

DEFENSIBLE SPACE

Defensible Space describes an area about 100 feet from the structure home where combustibles have been removed or altered to reduce wildfire risk. The distance may be increased to 150-200 feet if the structure is in steep terrain.

"Embers are the primary cause of home ignitions. Structures are fuel. If structures don't ignite, homes don't burn, and if homes don't burn, problem solved. This suggests the opportunity for preventing WUI fire disasters by reducing home ignition potential. [It is] a home ignition approach instead of a fire control approach."

– Jack Cohen

Defensible Space (The Zone Approach)

While zone definitions may be different in your area this guide references the Insurance Institute for Business and Home Safety's (IBHS) criteria.

ZONE 1:

0-5 feet from the structure and under the deck (the noncombustible zone).

- *Remove all combustibles and replace with noncombustible material, like rock or pavers.*
- *Remove dead plant materials and regularly maintain this zone.*

ZONE 2

5-30 feet from the structure.

- *Maintain trees and shrubs in well-spaced groupings.*
- *Remove ladder fuels and lower branches.*
- *Regularly mow grass and weeds.*

ZONE 3

30-100 feet from the structure.

- *Create vegetation islands or groupings.*
- *Remove lower branches and ladder fuels.*
- *Maintain trees to provide adequate spacing of the crowns.*

Defensible Space Best Practices

Consider residents' preferences for privacy and aesthetics, but do not compromise to the point that the treatment is ineffective.

Example: A homeowner is sentimental about a tree near their home and doesn't want to cut it. The alternative is to trim the tree, remove ladder fuels under the tree, and harden the structure near the tree.

- Explain the risks and rewards of defensible space and hardening trade-offs
- Prioritize actions, addressing highest risks first.
- Create specific recommendations based on site conditions such as erosion concerns, adjacent properties or overlapping defensible space, community egress, fuel breaks, and safe areas.

Check your local resources for regional local defensible space guidelines.

STRUCTURE TRIAGE AND WILDFIRE MITIGATION

Being able to discuss a structure's risk in association with suppression is helpful when speaking with a resident.

This information is used by fire resources as they make firefighting decisions regarding if they will or will not protect a home or structure. Below are the structure triage descriptions as provided within the Incident Response Pocket Guide.

Pre-incident preparation is the responsibility of the homeowner.

Defensible – Prep and Hold

Determining Factor: Safety zone present

Size-up: Structure has some tactical challenges

Tactics: Firefighters needed on-site to implement structure protection tactics during fire front contact

Defensible – Standalone

Determining Factor: Safety zone present

Size-up: Structure has very few tactical challenges

Tactics: Firefighters may not need to be directly assigned to protect structure as it is not likely to ignite during initial fire front contact

However, no structure in the path of a wildfire is completely without need of protection. Patrol following the passage of the fire front will be needed to protect the structure

Non-Defensible – Prep and Leave

Determining Factor: NO safety zone present.

Size-up: Structure has some tactical challenges.

Tactics: Firefighters not able to commit to stay and protect structure. If time allows, rapid mitigation measures may be performed. Set the trigger point for safe retreat. Patrol following the passage of the fire front will be needed to protect the structure.

Non-Defensible – Rescue Drive-By

Determining Factor: NO safety zone present.

Size-up: Structure has significant tactical challenges.

Tactics: Firefighters not able to commit to stay and protect structure. If time allows, check to ensure that people are not present in the threatened structure (especially children, elderly, and invalid). Set a trigger point for safe retreat. Patrol after the passage of the fire front will be needed to protect the structure.

LANDSCAPE FUELS TREATMENTS

- Prioritize high-risk areas that impact communities or infrastructure.
- Plan projects with partners, especially residents, whose lives will be most directly affected when/if fire strikes.
  Encourage adjacent property owners to plan mitigation efforts jointly.
  If treatment has a prescribed fire component or pile-burning element, prepare the community for dealing with smoke.
  Encourage feedback.
- Engage property owners and residents from the start. Keep them in the loop by communicating with surrounding landowners before, during, and after the project.
  Include them in the planning process to give them more "ownership" over the effort.
  Including them early will minimize questions, confusion, and concerns.
- To maximize the effect, look for opportunities to "cluster" projects across boundaries.
- Avoid the postage-stamp approach. Small, scattered projects are not as effective in changing fire behavior as larger projects, but are often critical
- Use planned fuels projects to influence neighboring landowners and residents to mitigate by demonstrating what effective treatment looks like and how it can be completed.

- Use the project as a demonstration site to educate the public about risk reduction and the value it provides to promote healthy forests, watersheds, and wildlife habitat.
- Design projects with mutually beneficial outcomes, including:
  Protecting homes and infrastructure.
  Improving watershed conditions.
  Contributing to healthy forest conditions. Note that a healthy forest is more resistant to wildfire, insects, and disease.
- Have a clear plan (and back-up plans) for slash reduction or removal.
- Make a plan to maintain the project over time.

Landscape Treatment Pick List

Mitigation treatments will vary depending on the stand type, property ownership, financial considerations, as well as more physical constraints such as access and slope. The first thing the mitigation specialist should define is the purpose of the treatment. *Is fuel reduction/fire mitigation the most important outcome? Is species rehabilitation or ecological improvement the goal? Or is the treatment a profitable harvest where practices would be performed in a manner that will improve the stand, while also removing the most merchantable specimens?*

Three Methods of Thinning

- Thinning by description, simple mitigation (PXD). The goal here is to remove excess fuel from the stand. It can be done by clearing to a specification. Example: the desired outcome is an even crown spacing of 20 feet, regardless of species.

- Thinning by prescription (PXP). The goal is to either harvest a given size/age class of timber, or attempt to restore the forest to a healthier, more sustainable condition. Prescriptions can be simple. *Example: Remove all Lodgepole pine < 6" DBH. They can also be very specific and complex with multiple stand treatments per unit.*
- Thinning by marking. Foresters will paint dots or slashes on every tree to be removed, eliminating any requirement of discretion on the part of the contractors or volunteers who are doing the actual harvest.

Three Main Approaches to Harvests/Logging

Each approach has limitations and advantages, depending on the practitioner's primary goals.

- Hand Thinning/Falling: *Generally time consuming, labor intensive, and costly. However, it is precise, like a surgeon removing trees from a group with "threading the eye of the needle" skill. It is often the only option when working on steep slopes or areas that lack access for mechanized equipment.*
- Mechanical Harvest: *Generally performed by teams with mechanized harvesters, forwarders, and skidders. Often trees are felled by one operator and forwarded to a landing where all slash is processed, and timber decked for removal. (Whole tree removal). This reduces impact on the ground by concentrating the disturbance to a single (or a few) site(s). Conversely, trees may be harvested and stripped of tops and limbs, where they fall and are ground into the same area as where the tree once stood (selective harvest).*
- Mastication/Hydro-axing: *A method of logging where large machines grind the timber into chips on site. It is quick and generally the least expensive treatment method under most scenarios. It is a high disturbance process and care must be taken*

to avoid damaging the forest floor and potentially forestalling regeneration. Strict rules of operation and limits on acceptable chip depth are required. Consult local State BMP's for these values.

Common Prescription Types

- **Ecological Restoration:** *The primary goal is to benefit the ecosystem and all of its parts. Therefore, a solid understanding of the local ecology is necessary. Trees should be removed to improve the desired species configurations and densities. Careful attention needs to be paid to configurations that reduce pathologies such as insects, rusts, and invasive species. The creation of meadows and openings can be beneficial for wildlife and should also be carefully considered. Retention of dead trees or snags for habitat enhancement is often practiced. See the list below for information on regional/stand type desired conditions.*
- **Fire Mitigation:** *The primary goal of this treatment type is to slow or eliminate the spread of crown fire to a certain specification (typically a 90th percentile fire weather event). The actions required to achieve this are strongly dependent on tree species, slope, and general health of the stand pre-treatment.*
- **Patch Cutting/Clear Cutting:** *There are several reasons the mitigation practitioner may want (need) to perform these cuts. The primary one is disease. An example is in pine stands where the infection level of dwarf mistletoes nears 100%. The only method of eliminating the infection is complete removal of all infected trees, their neighbors (who may only not be showing infection) and creating an appropriate buffer around the infection. Patch cutting is used for monocultural species, such as lodgepole pine, that lack wind-fastness when thinned and need to be left in tight conditions or removed altogether. The patches are localized clear cuts that should be designed to mimic the mosaic pattern of a fire scar.*

Cohort species, such as Douglas fir, found in these patches may be left if the specimens present as healthy enough to survive their release.

- **Lop and Scatter:** *This method is most often applied on remote sites and/or steep slopes. It is also generally a hand-crew technique. All trees are dropped and limbed where they stand. The boles are cut into 8' to 4' chunks and left in contact with the ground. Limbs are cut into pieces and spread loosely, with no slash standing taller than 12" to 18" above the ground. No continuous contact between branch segments or trunk slices is allowed. The material is then left to decay naturally. This is sometimes referred to as "fuel rearrangement," as the aerial fuels are reduced, but overall fuel load of the site is not.*
- **Hybrid Approaches:** *Any or all of these techniques can be mixed or matched to reach the various (and potentially, many) goals of your treatment. It is common to want to create or improve meadows and openings, while also wanting to clear road accesses and promote microclimates within a given landscape.*

WORKING WITH HEAVY EQUIPMENT

- When working around heavy equipment, stay at least 100 feet in front and 50 feet behind the equipment. In timber, distances should be increased to 2½ times the canopy height.
- No one but the operator should ride on the equipment.
- Never approach equipment until you have eye contact with the operator, all implements have been lowered to the ground, and equipment is idled down.
- Avoid working downhill from equipment where rolling material could jeopardize your safety.
- Night work is more dangerous due to reduced visibility. Use headlamp and/or glow sticks so the operator can see you.
- Establish visual and radio communication methods prior to commencing work.
- Communicate all hazards to the operator. Flag power lines, fences and other hazards. Just because you see it does not mean the operator does as well.
- Equipment operators have difficulty seeing ground personnel. Take responsibility for your safety and all those around you.

Working with Woodchippers

PPE Requirements

- Eye Protection
- Ear Protection
- Long Sleeves

- Gloves
- Hardhat

Inspections and Maintenance

- Inspect and maintain chippers in accordance with the manufacturer's specifications.
- Plan to inspect and test the chipper at the start of each work shift to ensure that all parts and safety devices are functioning properly. This should include looking for broken parts, cracks, worn hinges, and missing parts and pins.

Training

- Proper training programs must be in place prior to any chipper work.
- Chipper training programs must cover:
  Correct operations of chipper and safety controls.
  Inspection, checklist, instruction on operations, and maintenance of chipper.
  Proper start-up and shut down procedures.
  Correct use and maintenance of unit.

Chipper Safe Work Practices

- Never reach into a chipper while it is operating
- Always follow the manufacturer's guidelines and safety instructions.
- Workers should be trained on the safe operation of chipper machines. Always supervise new workers using a chipper to ensure that they work safely and never endanger themselves or others.
- Protect yourself from contacting operating chipper

components by guarding the infeed and discharge ports, preventing the opening of the access covers or doors until the drum or disc completely stops.

- Prevent detached trailer chippers from rolling or sliding on slopes by chocking the trailer wheels.
- Maintain a safe distance (e.g., two tree or log lengths) between chipper operations and other work/workers.
- When servicing and/or maintaining chipping equipment (e.g., unjamming), use a lockout system to ensure that the equipment is de-energized.

General Chipping Volunteer Safety Guidelines

- Controls on the chipper will ONLY be operated by trained operators.
- Do not wear loose clothing or any jewelry (including watches) when chipping. Loose items can get caught on the branches and be pulled off or pull you towards the chipper.
- Chippers are loud. Use hand signals to communicate. Operators must review the hand signals and what they mean with the volunteers. Emphasis on recognizing these and being cognizant of hand signal communication is important for safety.
- All volunteers must wear:
  Ear protection
  A hard hat
  Pants and long sleeve shirts
  Closed-toed shoes (Work boots and hiking shoes are best)
- Be conscientious of those around you when picking up or dragging material to the chipper. Sudden movements

with materials in hand can cause injury to others.

- Pay particular attention to the material in the chipper as you bring up your pile. This material is caught in the rollers and can often swing back and forth, and up and down. You do not want to get hit by one of these pieces.
- Chipping can be physically demanding. Use your legs to lift and listen to your body to determine what you can manage safely and efficiently.

For additional resources, rules and safety guidance please visit the OSHA Logging Operations Standard

TRACKING PROGRESS

Wildfire mitigation activities occur over time. It is important to understand successes, gaps, barriers, and challenges to be able to move forward.

Use the acronym S.M.A.R.T to assess what to track.

Specific

- *Who?*
- *What?*
- *Where?*
- *Which?*

Measurable

- *How many?*
- *How much?*

Achievable

- *How was it accomplished?*

Relevant

- *Is this data important to the program?*
- *How does this information help to inform decisions regarding the program or project?*

Time-Bound

- *When?*
- *What was done in six months, one year, two years, etc.?*

What to track

- Contact Information
- Risk Inventory: *Using CWPPs, rapid-risk assessments, GIS data, and other information to develop a database of wildfire risk. How many communities are at risk? How many homes? How many projects and acres have been identified for treatment? Where is the risk (show this visually via GIS)?*
- Mitigation Outcomes: *Measure change on-the-ground. Data includes acres treated (with accompanying shapefiles), homes mitigated, chipping/slash program participants, and volume of slash chipped or burned (cubic yards). What mitigation work is happening on-the-ground? How do we measure it?*
- Take photos of the site before, during, and after a project. *Photos are an efficient and inexpensive way to document progress.*
- Investments:
  Grant funding spent.
  Matching hard dollar funds. Value of hard-match contributions (with copy of paid receipts/invoices).
  In-kind contributions. Value of soft-match contributions (time spent by partners, homeowners, and others).

PHOTO POINT MONITORING BEST PRACTICES

Documentation of your work is important, not only for your clients and funders, but for the future when today's forest statistics will become the conditions of the past. A primary method of quickly documenting before/after conditions is with photo points. If time and funding allow, the collection of stocking data should be seen as a worthy goal for every practitioner.

Photo Points:

Photo points are repeatable locations where you can take before and after photographs of a treatment. It is a best practice to multiple photos from each point and attempt to take both before and after photos at the same time of day, so that lighting conditions are equivalent.

Marking:

Tagging of these locations must be made with the coming disturbance in mind. While it is easy to flag (or paint) a tree to mark your spot, trees will be removed and accidents can happen. You might return and find your tree is gone. GPS recording with an accurate device is suggested and will have multiple benefits in the future. Many foresters will drive a section of rebar into the ground, below the surface, so as not to damage the logging equipment. This is insurance in case the tree or monument chosen is lost. The point can then be found with a metal detector.

Photos:

Take photos at each cardinal direction, using a compass. This allows for repeatable points of view for more accurate

comparison. Use the same camera for both before and after as differing focal lengths can alter the perspective dramatically.

Use a Slate:

Or a white board that can identify the site, date, location, and direction of each photo. This functionally means you need to have 2 persons when collecting photo data or be very flexible.

Protect Your Photos:

Store them in a safe place, if they are digital; consider sharing them with a co-worker on a network drive. Lost 'before' pictures do no one any good, and many funders will rely heavily on these photos as "proof" the work has been completed.

INSURANCE BEST PRACTICES

Insurance concerns: *including dropped coverage, premium increases, required mitigation actions, are becoming more common and residents often have questions.*

- *Recommend resident has enough insurance.* Encourage residents to contact their agent prior to "fire season" for a comprehensive review of their coverages, limits, and deductibles. This is especially important after any significant remodeling or renovation project, such as adding an addition or making structural alterations.
- *Encourage residents to prepare a home inventory and store it in a secure location or online.* This will aid in the claims process in the event of a loss. Many insurance companies have apps and services that can assist with the inventory process. Contact your agent for more information.
- *Residents should ask about the process for replacement of home contents after a wildfire.* Some insurance companies have specific forms that will need to be completed and which require specific information while others use a basic formula. Knowing what your insurance company requires will help residents prepare their home inventory.
- *Encourage residents to get a wildfire risk assessment,* follow the recommendations, and document their actions.
- *Encourage residents to share with their insurance agent photos of any wildfire mitigation work* and details of other mitigation efforts (such as whether their community has completed a CWPP).

COVID-19 GUIDELINES

These guidelines have been taken from cdc.gov.

Because COVID-19 virus circulation varies in communities, these considerations are meant to supplement, not replace, any state, local, territorial, or tribal health and safety laws, rules, and regulations with which gatherings must comply.

Promoting Healthy Behaviors that Reduce Spread

Staying Home When Appropriate

The best way to prevent COVID-19 is to avoid being exposed to SARS-CoV-2, the virus that causes COVID-19. Educate staff and participants about when they should stay home:

- *If they have tested positive with COVID-19.*
- *If they have symptoms of COVID-19.*
- *If they have recently had close contact with a person with COVID-19.*

Hand Hygiene and Respiratory Etiquette

Require frequent hand washing. If soap and water are not readily available, participants can use hand sanitizer that contains at least 60% alcohol and rub their hands until dry.

Encourage staff and participants to cover their mouth and nose with a tissue when coughing and sneezing.

Discourage exchanging handshakes, fist bumps, and high-fives during the event.

Masks

Require the use of masks among staff and participants when physical distancing is difficult or impossible.

Masks are meant to protect other people in case the wearer is unknowingly infected but does not have symptoms.

Cleaning and Disinfection

Clean and disinfect frequently touched surfaces at least daily or between uses as much as possible. For example, door handles, sink handles, hand railings, tools, and equipment, pens, clipboards, and tablets.

Modified Layouts

Limit attendance or seating capacity to allow for social distancing or host smaller events in larger rooms.

Use multiple entrances and exits and discourage crowded waiting areas.

Prioritize outdoor activities where social distancing can be maintained as much as possible.

Offer online attendance options in addition to in-person attendance to help reduce the number of attendees.

EMERGENCY MEDICAL CARE GUIDELINES

This information has been provided directly from the Incident Response Pocket Guide, National Wildfire Coordination Group.

Legality

Do only what you are trained and authorized to do. Keep records of what you do for the patient.

Blood-Borne Pathogens

Use PPE (pocket mask, waterproof gloves, goggles) if contact with body fluids is possible.

Treatment Principles

- Prevent further injury by removing from danger.
- Rapid assessment: Airway, Breathing, Circulation, and life-threatening injuries.
- Thorough exam: Look for method of injury. Check for deformities, contusions, abrasions, punctures, burns, tenderness, lacerations, or swelling.
- Stabilize patient.
- Transport decision: Air or ground extraction.
- Document on-scene observations and treatment (send with patient).

Medical Response Procedures

- All injuries must be reported to direct supervisor.
- In case of medical emergency, contact incident supervisor or communications dispatcher using the Medical Incident Report on page 118.

- Medevac is an incident within an incident. One person needs to become the on-scene incident commander and transfer command later if necessary.
- Identify nature of incident, number injured, patient assessment(s), and location (geographic and GPS coordinates).
- Do not use patient names on the radio.
- Determine transport plan (limited visibility or darkness may delay or negate air transport).

Specific Treatments

The following injuries may merit immediate transport.

Bleeding: Direct pressure, elevate, and tourniquet if the first two actions fail to control extremity bleeding.

Shock: Lay patient down, elevate feet, and keep warm.

Fractures: Splint joints above and below injury. Monitor pulse and sensation before and after splinting the limb.

Head Injury: Stabilize patient's head and neck, maintain airway.

Bee Sting (or other allergic reaction with rash, face or airway swelling, difficulty talking/breathing): If the patient has an epi kit, assist them in using the medication.

Burns: Remove heat source, cool with water, dry wrap, and give fluids if conscious.

Eye Injuries: Wash out foreign material. Don't open swollen eyes. Bandage impaled objects in place, and bandage both eyes if possible.

Heat Stroke: Cool body as quickly as possible.

CPR

Scene Safety: Look for any dangers or hazards.

Determine Responsiveness: Tap on both of the victim's shoulders and shout, "Are you OK?" Look for chest rise and fall. If the patient is not breathing, continue with steps 3 and 4. If the patient is breathing and no spinal injury is suspected, place patient on his/her side. Continue to monitor breathing.

Call for Help: Activate Emergency Response. If possible, obtain an automated external defibrillator (AED).

Chest Compressions: Place the heel of one hand on the center of the victim's chest. Place the other hand over the first and interlock the fingers. Perform compressions at a rate of 100 to 120 per minute, compressing the victim's chest at least two inches. Push hard and fast. *Perform 30 compressions.*

Airway: Open the victim's airway by tilting the head back and lifting the chin. If trauma is suspected and you are trained, use the jaw thrust.

Breathing: If possible, use a barrier device. Place the barrier device over the victim's nose and mouth. Pinch the victim's nose and give two breaths, making the chest rise. If no barrier device is available, perform continuous compressions with no breaks or perform mouth-to-mouth. To perform mouth- to-mouth, pinch the victim's nose and cover the victim's mouth with your mouth. *Form an airtight seal and give two breaths.*

Continue CPR: *Continue alternating 30 compressions and two breaths.* If a second rescuer arrives, one person can perform ventilations and one person can perform compressions. Maintain the same 30:2 ratio.

AED: If an AED arrives, turn the AED on and follow the instructions provided.

Heat-Related Injury

Definition and Symptoms:

A Heat-Related Injury (HRI) is a potentially fatal condition caused by elevated body temperatures from internal heat produced by activity or external environmental heat added to the body that cannot be removed to maintain a normal body temperature.

Symptoms of an HRI may be difficult to recognize and may occur in no particular order. If an individual shows any of the symptoms below they should seek medical attention.

- *Profuse sweating with warm or cool, clammy skin leading to hot dry skin*
- *Muscle cramps and weakness*
- *Dizziness, headache, and irritability*
- *Rapid, weak pulse*
- *Vomiting*
- *Mental status change, as simple as not talking as much*
- *Loss of consciousness*

Steps to take if a HRI is suspected:

- *Cool the body as quickly as possible, then treat other conditions.*
- *Cooling levels will depend on severity*
- *Recovery of high body temperature requires:*
- *Reduction of work output*
- *Removal from sources of heat*
- *Proper nutrition and hydration strategies*

Considerations for mitigation during firefighting activity:

- *Heat stress mitigations are not just a shift-to-shift concept. It is also task-to-task and even a minute- to-minute process.*
- *Ability to handle heat is different between individuals and varies on a daily basis.*
- *Performing physical tasks, such as hiking up hills, is our largest producer of body heat.*
- *Hikes into a fire typically raise your body temperature 1–2 ° F from your pre-hike level.*
- *At elevated body temperatures, risk of heat-related injury has a lesser margin of error.*
- *Maintain low skin temperature when possible, as it allows heat transfer from the body.*
- *Pack weights exceeding 25% of body weight add to the demand of an activity.*
- *Work expectations above physical fitness levels can increase risk of HR*

THE AFTER ACTION REVIEW (AAR)

Assessment and analysis are critical to the overall success of any program or event. Completing the After Action Review is a valuable tool which allows participants an opportunity to share what worked and what did not, and what can be improved upon.

An AAR should be performed immediately after the event with the personnel involved.

- *Reinforce that respectful disagreement is okay.*
- *Keep focused on the what, not the who.*
- *Make sure everyone participates.*
- *End the AAR on a positive note.*

AAR Template

What was planned?

What actually happened?

Why did it happen?

What can we do next time?
(Correct weaknesses/sustain strengths)

CODES AND ORDINANCES

Codes and ordinances can play an important role in community risk reduction in communities that embrace and enforce them.

The most effective codes and ordinances are specifically designed and embraced by the local community to meet specific needs. Without buy-in from residents or understanding of intent, code requirements are often viewed as additional cost/burdens.

WUI codes and ordinances are not for everyone. Many communities will not tolerate regulations or do not have the capacity to adopt, implement, and enforce them.

Codes and ordinances are not a silver bullet but can be a valuable part of your mitigation program. Codes and ordinances require a significant investment in time to develop, maintain, and enforce.

Relevant Codes

The first place to start when working towards adopting a code is to review the Standard codes from the National Fire Protection Agency (NFPA) and the International Code Council. The codes listed below are professionally developed and can act as a guidebook as you develop a locally appropriate WUI standards.

NFPA 1144- Standard for Reducing Structure Ignition Hazards from Wildland Fire

Provides a methodology for assessing wildland fire ignition hazards around existing structures and provides requirements for new construction to reduce the potential of structure ignition from wildland fires.

ICC 2015- International Wildland-Urban Interface Code

This comprehensive wildland-urban interface code establishes minimum regulations for land use and the built environment in designated wildland-urban interface areas using prescriptive and performance-related provisions.

NFPA 1141: Standard for Fire Protection Infrastructure for Land Development in Wildland, Rural, and Suburban Areas

This standard provides requirements for the development of fire protection and emergency services infrastructure to make sure that wildland, rural, and suburban areas undergoing land use changes or land development have the resources and strategies in place to protect people and property from fire dangers, and allow fire fighters to do their jobs safely and effectively.

GOVERNMENT TECHNICAL REPORTS

Government Technical Reports contain useful information on treatments within specific stand types, or ecosystems.

RMRS GTR-390:
Aspen Restoration

RMRS GTR-381:
To Masticate or Not?

RMRS GTR-379:
Limberpine Conservation

RMRS GTR-373:
Ponderosa Restoration

RMRS GTR-361:
Whitebark Pine Restoration

RMRS GTR-352:
Riparian Fuel Treatments

RMRS GTR-294:
Two-Aged Lodgepole Pine Treatments

RMRS GTR-292:
Dry-Mixed Conifer Restoration

ICC 2015:
International Wildland-Urban Interface Code

NFPA 1141:
Standard for Fire Protection Infrastructure

MEASURING RISK WORKSHEET

Once a year determine:

# of acres in your jurisdiction that are at risk = _____

# of structures that need defensible space or home hardening = _____

Use these figures to track outcomes and to plan annual wildfire mitigation work and goals.

In 12 months determine:

# of acres treated in your jurisdiction = _____

# of structures with defensible space or home hardening = _____

Do the math:

Acres treated (_____) divided by acres at risk (_____) X 100 = _____% risk reduction

Structures fully defensible (_____) divided by structures at risk (_____) X 100 = _____% risk reduction

COMMUNITY WILDFIRE RISK ASSESSMENT

A full-blown CWPP is not always necessary. Some communities may benefit from a smaller-scale effort, such as a community assessment or an addendum to an existing CWPP. These types of plans often have fewer or no approval processes and can help residents and community leaders take immediate action.

A Community Assessment is intended to help a community plan for the specific wildfire risks and challenges in that neighborhood without engaging in the in-depth process of developing a Community Wildfire Protection Plan (CWPP).

- The assessment will provide a baseline evaluation of a community that can be used to support community outreach.
- It also serves as a guide for work within the neighborhood.

Community Wildfire Risk Assessment Template

Location Map

Define Community: *Briefly describe the ecosystem, number and style or age of homes, roads, and land uses.*

Wildfire Risk: *Describe how a wildfire is likely to start and spread within the community.*

Wildfire Preparedness Activities: *Describe past and current wildfire preparedness activities in the neighborhood.*

Provide photos and brief descriptions of common strengths and vulnerabilities of the community in the following categories:

- *Access*
- *Home construction and landscaping*
- *Defensible space/fuels*
- *Community fuel breaks and safety zones*
- *Fire suppression resources and challenges*

Evacuation Readiness: *Describe the community and individual household evacuation readiness or needs.*

Plan of Action:

Based on the vulnerabilities and beliefs about fire risk and spread in the community, create a list of achievable actions to reduce the risk and make community members more prepared for wildfire.

Keep in mind the **mitigation continuum**:

- *Assess the risk*
- *Prioritize the projects*
- *Harden structures*
- *Create defensible space*
- *Treat fuels*
- *Track & evaluate Progress*
- *Celebrate successes*

STRUCTURE ASSESSMENT FORM

Adapted from the National Fire Protection Association's Home Ignition Zone Structure Assessment Guide. Find a full template in the end

Include:

- Date of assessment; Assessor Name; Property Address; Resident Name and Contact Info *(Phone, Email, Mailing Address);* Property Owner and Contact Info *(Phone, Email, Mailing Address)*
- Overview of Surroundings
  How is the structure positioned in relationship to severe fire behavior? Type of Construction?
- Chimney to Eaves
  Roof: Noncombustible? Shingles missing? Shingles flat with no gaps? Gutters: Present? Noncombustible? Litter: On roof? In gutters and crevices?
- Top of Exterior Wall to Foundation
  Attic, Eave, Soffit Vents and Crawl Spaces: Flammable material next to or under the structure? Any other nooks and crannies or other small spaces? Combustible materials near or on the structure where walls meet roof or decking surfaces? Windows and Screens: metal screens? Multi-paned windows? Picture windows facing vegetation? Walls and Attachments: Noncombustible? Will they collect litter? Decks: Combustible materials?
- Foundation to immediate landscaped area
  Landscaped (managed) vegetation: separation distances, maintenance, plant selection? Defensible space zones present? Fences? Propane Tanks? Vehicle and RV use and parking, including lawn mowers, etc.?

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