



Community Wildfire Protection Plan Evaluation Guide

August 2008

Prepared by Resource Innovations
Institute for a Sustainable Environment
University of Oregon
<http://ri.uoregon.edu>



Community Wildfire Protection Plan Evaluation Guide

August 2008

Prepared by Resource Innovations
Institute for a Sustainable Environment

University of Oregon
<http://ri.uoregon.edu>



UNIVERSITY OF OREGON

RESOURCE
INNOVATIONS

Acknowledgements

Resource Innovations would like to thank the following individuals for assisting in the development and review of this publication:

Rick Alexander, USDA Forest Service – National Fire Plan Office
Doug Crandall, Society of American Foresters
Carol Daly, Communities Committee
Mike DeBonis, Forest Guild
Dave Driscoll, International Association of Fire Chiefs
Alex Dunn, Western Forestry Leadership Coalition
Tom Fry, The Wilderness Society
Wendy Gerlitz, Sustainable Northwest
Jay Jensen, Western Forestry Leadership Coalition
Angie Johnson, Oregon Department of Forestry
Larry Lesko, USDA Forest Service – National Fire Plan Office
Douglas MacDonald, International Association of Fire Chiefs
Tim Melchert, National Interagency Fire Center
Sandy Shaffer, Applegate Fire Plan
Dan Smith, National Association of State Foresters
Joe Stutler, Deschutes County Forester
Victoria Sturtevant, Southern Oregon University
Ann Walker, Oregon Department of Forestry
Ryan Yates, National Association of Counties

Thanks to the Ford Foundation and the Flintridge Foundation for funding the development of this publication, and to Sustainable Northwest for supporting its production and dissemination.

Photos courtesy of the Josephine County Integrated Fire Plan

Draft Table of Contents

I. Introduction	4
Purpose and Benefits of the Guide	4
Policy Background	5
Why Monitor and Evaluate a Community Wildfire Protection Plan?	6
Challenges to Consider	6
How often Should a Plan be Evaluated?	6
II. Evaluating Fire Planning Efforts Nationally	7
III. How to Complete a CWPP Evaluation	8
1. Identify Goals and Objectives	8
2. Identify Changes in the Community and Wildfire Risk	8
3. Review Action Items	8
4. Evaluate Community Wildfire Protection Plan Outcomes	9
5. Conduct Ecological Monitoring	11
6. Update the Community Wildfire Protection Plan and Report on the Evaluation	12
IV. Framework for Conducting the Evaluation	15
Links and Resources	20
Appendix A. Action Item Review Form	21
Appendix B – Survey Examples	22
B.1. Evaluating Collaboration among Community Wildfire Protection Plan Partners	22
B.2. Evaluating Increased Public Awareness and Action	23

I. Introduction

Wildfire threatens many communities across the United States, particularly those located in the wildland urban interface (WUI). Southern California faced widespread fires in 2003 when 742,000 acres burned in San Bernardino, San Diego, Los Angeles, and Ventura counties. These fires resulted in the deaths of 26 people and destruction of 3,361 homes.¹ In 2002, the Biscuit Fire burned nearly 500,000 acres in Josephine County, Oregon, threatened thousands of residents, and cost \$150 million. Also in 2002, Arizona's Rodeo-Chediski wildfires burned more than 460,000 acres and destroyed 426 structures. More recently, eleven people died during the spring of 2006 when wildfires burned more than 691,000 acres in Texas' panhandle and southern plains. Such events have led at-risk communities to assess wildfire hazards and other catastrophes by identifying strategies to decrease their losses and prepare for future events. Under the guidance of the federal Healthy Forests Restoration Act (HFRA), a growing number of municipalities and counties across the United States have developed community wildfire protection plans (CWPPs) to reduce the threat of wildfire.

The Council of Western State Foresters analyzed the progress of states in identifying and protecting communities at risk of wildfire. The Council found that, as of March 2006, 329 CWPPs in western states met the guidelines set by HFRA,² although many more communities have similar plans in place. The report indicated that each state had a varying number of communities at risk and employed different strategies to develop CWPPs. It also showed that CWPPs were adapted to fit needs as determined by local communities or regions. Developing such a plan, however, does not automatically result in decreased wildfire risk. Project partners must enact long-term implementation strategies with monitoring and evaluation guidelines to know whether the plan is meeting a community's intended goals. Numerous agencies and associations have been engaged in developing planning resources for community wildfire protection plans. They include:

- Communities Committee
- International Association of Fire Chiefs
- National Association of Counties
- National Association of State Foresters
- Society of American Foresters
- The Wilderness Society
- USDA Forest Service National Fire Plan Office
- Western Forestry Leadership Coalition

References to the resources developed by these agencies and organizations can be found at the end of this document. Finally, a recent Joint Fire Sciences research project is analyzing the extent to which CWPP planning efforts have been collaborative and the impacts of collaboration on the planning process. This three-year study began in spring 2005 and focuses on collaborative efforts in plans in California, Colorado, Florida, Minnesota, and Oregon.

Purpose and Benefits of the Guide

The purpose of this guide is to assist communities in monitoring and evaluating their Community Wildfire Protection Plans to strengthen future implementation. The steps in this guide outline an effective process for evaluating how well communities have addressed the goals and objectives of their CWPPs and for updating their plans. The Guide recommends collaborative strategies to bring together project partners to conduct the evaluation, gather relevant data, and write the evaluation report.

This evaluation will draw out the experiences and lessons learned in collaborative efforts among community members, local government, municipalities, land management, and state agencies, thereby pinpointing the key accomplishments and challenges facing the community in implementing its fire plan. The benefits of an evaluation may also include the identification of strategies to help communities plan for and reduce the risks of other natural disasters.

Community Guide to Preparing and Implementing a CWPP

This guide contains technical assistance on developing CWPPs, information on forest restoration and wildland fire use, and information about successful land use codes and state ordinances addressing wildfire risk in the wildland urban interface. The guide is a complement to the original guide on **Preparing a Community Wildfire Protection Plan: A Handbook for Wildland-Urban Interface Areas**.

Both documents can be found at: <http://www.forestsandangelands.gov/>

1 J.E. Keeley, C.J. Forthingham, and M.A. Moritz. 2004. "Lessons Learned from the October 2003 Wildfires in Southern California." *Journal of American Forestry* 102 (7): 26-31.

2 Council of Western State Foresters. 2006. *Community Wildfire Protection in the West: A Status Report*.

At a local level, strategies for CWPP monitoring and evaluation may include:

- Only monitor what matters. Partners should identify key goals and objectives and make decisions to monitor what is most important to the long-term sustainability of their CWPP. (Communities may lack resources to engage in a long or complex monitoring process.)
- Tracking accomplishments and identifying the extent to which CWPP goals have been met.
- Examining collaborative relationships and their contributions to CWPP implementation, including existing participants and potential new partners.
- Identifying actions and priority fuels reduction projects that have not been implemented and determining why.
- Setting a course for future actions and updating the plan.
- Evaluating the resources necessary for successful CWPP implementation.
- Identifying needed community and home owner outreach and education programs.
- Assuring a process exists for maintenance and continuation of a CWPP core group.

Broader objectives for CWPP monitoring and evaluation can include:

- Identifying local, state, regional, and national policies and programs that could better support that process.
- Evaluating CWPP contributions to reducing wildfire risk on a local, regional, and national level.

Policy Background

In 2001, the National Fire Plan legislation brought renewed focus on engaging communities in federal wildfire mitigation efforts. The Healthy Forests Restoration Act (HFRA) was passed in 2003 to minimize the destructive impacts of wildfire by allowing communities to shape their own plans for such disasters and to protect local resources. Developing a Community Wildfire Protection Plan is a central piece of this legislation. The CWPP can reflect values and priorities for increasing community capacity, reducing hazardous fuels, and creating awareness about disaster issues.

The HFRA grants communities flexibility to define the wildland-urban interface areas through the development of a CWPP that involves local government authorities, local fire departments, and the state forestry agency. In addition, “HFRA also gives priority to projects and treatment areas identified in a CWPP by directing federal agencies to give specific consideration to fuel reduction projects that implement those plans.”³ Many communities initiated the development of CWPPs because of the prospect of state or federal funding for fuels reduction projects. However, there is not enough federal funding to adequately and effectively address the significant wildfire hazard and need for fuels reduction illustrated in CWPPs across the country.

A CWPP provides a baseline of information and potentially a cadre of shared resources that can make local implementation of a plan successful without relying on federal grant funds. A plan should represent a community’s preferences for emergency management, education and outreach, and fuels reduction activities to effectively lower its wildfire risk. If the goals and objectives are unattainable or require significant funding increases, successful implementation of the plan may prove to be difficult.

Healthy Forests Restoration Act legislation lists three main areas for communities to address and helps policy makers monitor CWPP efforts nationally.

- **Collaboration:** Local government officials, fire agencies, and the state forestry agency must work together with interested parties and the applicable federal land management agency to create a CWPP;
- **Prioritized fuel reduction:** Identifies and prioritizes areas for hazardous fuel reduction and recommends the types and methods of treatment on federal and non-federal land to protect at-risk communities and infrastructure;
- **Treatment of structural ignitability:** Recommends measures to reduce ignitability of homes, businesses, and other structures throughout the at-risk community.

The community may address other issues beyond these criteria, including public education, economic development through stewardship contracting or biomass utilization, and emergency management.

³ From “Preparing a Community Wildfire Protection Plan: A Handbook for Wildland-Urban Interface Areas,” 2004, Society of American Foresters.

Why Monitor and Evaluate a Community Wildfire Protection Plan?

A community develops and implements a fire plan to reduce its risk from wildfire. Given the time, effort, and money dedicated to a CWPP, it is critical to monitor and evaluate the outcome of the plan. Over time, communities grow and change, as do the forests around them. The risk of wildfire to communities will change as they change; the plans and strategies to reduce risk must also change. An effort to monitor and evaluate CWPPs will provide insights to a community and identify whether the plan is on the right track or if there are changes that should be made to the implementation process. The evaluation should closely examine collaborative relationships, fire-related policies, and the plan's ability to achieve intended goals and objectives.

A critical outcome of Community Wildfire Protection Plans concerns the change in fire behavior that occurs because of the number and types of fuels treatments that are priorities identified within the CWPP. The Healthy Forests Restoration Act (Section 102(g)(5)) instructs the USDA Forest Service and DOI BLM to establish a collaborative *multiparty* monitoring, evaluation and accountability process when significant interest is expressed in such an approach.⁴ Multiparty monitoring, which is discussed in greater detail on page 11 of this guide, gives communities the opportunity to assess environmental, social, and economic outcomes related to fuels reduction projects. More information about multi-party monitoring can also be found at: <http://www.fs.fed.us/r3/spf/cfrp/monitoring/index.shtml>.

Challenges to Consider

Many communities may lack the capacity to complete an evaluation of their CWPP. If there are no paid staff members responsible for implementation or oversight of the plan, or core group of responsible volunteers, then resources to conduct an evaluation may be scarce. Local, state, and federal agencies can and should support a community's evaluation of a fire plan by sharing resources and responsibility.

Involvement of project partners in the evaluation is critical in all communities, especially those that have limited capacity. Partners can provide the necessary expertise for evaluating project outcomes and compliance with goals and objectives. Continuous involvement of these partners helps assure long-term relations and communications in developing collaborative projects. Local contacts and familiarity with wildfire and emergency management issues will help in identifying areas where the CWPP should be updated. Putting together a citizen advisory committee, conducting focus groups with local residents, or administering wildfire surveys at community events during the evaluation process can build an understanding of how effectively the plan is reaching the general public.

It is critical to review what has been accomplished and the future of the plan, even if the evaluation is not on a large scale. Posing a few key questions can identify strategies to help the community more effectively implement its plan. This Guide provides a range of indicators and strategies to use for evaluating a plan, but, ultimately, the user of the Guide can adapt and abbreviate the evaluation process to best meet his own needs.

How often should a Plan be evaluated?

The Healthy Forest Restoration Act does not include specific requirements for evaluating and revising Community Wildfire Protection Plans. However, establishing a clear schedule for monitoring accomplishments and evaluating outcomes will ensure a dynamic plan that responds to the needs of the community.

Creating an annual progress report is one way to ensure that accomplishments and challenges are captured throughout the implementation process. A full evaluation may be conducted on a more periodic basis. One consideration is that the Federal Emergency Management Agency requires updates of Natural Hazard Mitigation Plans every five years. Because a CWPP often plays a role in a natural hazard mitigation plan, coordinating the evaluation and updates of the two plans could be beneficial and an efficient use of resources for the community.

Opportunities! Firewise Communities

Many communities across the United States have engaged in the Firewise program and developed and implemented Firewise strategies in their communities, neighborhoods, and homeowners' associations. This Guide can be adapted to evaluate the impacts and benefits of the Firewise program, particularly in the defensible space and structural vulnerability sections.

For more information on Firewise, visit: <http://www.firewise.org/>

⁴ The Healthy Forests Initiative and Healthy Forests Restoration Act Interim Field Guide <http://www.fs.fed.us/projects/hfi/field-guide/web/page16.php>

II. Evaluating Fire Planning Efforts Nationally

Community Wildfire Protection Plans (CWPP) are part of a national effort to improve the health of the nation's forests and reduce wildfire risk to communities. Stakeholder investments of time and money must show results in a way that justifies that investment. Decision makers at a national level (including congressional representatives and agency leaders with the USDA Forest Service, Department of Interior, Federal Emergency Management Agency, and others) are often unable to see the local successes gained from a CWPP and its projects. Data collected from monitoring and evaluating local CWPPs can also be used to evaluate national goals for wildfire risk reduction, such as those included in the Healthy Forests Restoration Act and the Revised 10-Year Implementation Plan (10-YIP)⁵. This can in turn ensure that funding and agency efforts are geared toward successful approaches.



National-level guidance for monitoring and evaluation measures related to CWPPs can be found in the 10-YIP, which includes specific performance measures that are applicable to CWPPs. Performance measures are used to demonstrate results and have measurable indicators of whether a goal has been addressed. Performance measures set the stage for agency accountability and future agency budget processes. The performance measures included in the 10-YIP that are specific to CWPPs include:

- Number and percent of communities at risk covered by a CWPP or its equivalent that are reducing their risk from wildland fire.
- Percent of at risk communities who report increased local suppression capacity.
- Number of green tons and/or volume of woody biomass from fuel reduction and restoration made available for utilization through permits, contracts, grants, agreements, or equivalent.
- Number and percent of wildland urban interface (WUI) acres treated that have been identified in CWPPs or other applicable collaboratively developed plans; the number and percent of non-WUI acres treated that are identified through collaboration consistent with the 10-YIP.
- Number and percent of acres treated, through collaboration consistent with the 10-YIP, identified by treatment category (i.e., prescribed fire, mechanical, and wildland fire use).

Community Wildfire Protection Plan leaders, land management agencies, or a team of project partners can collect data that will help policy makers measure the effectiveness of programs and evaluate whether goals and objectives within HFRA and NFP are being met. The goal of effective monitoring and evaluation will be to learn from successes and failures and target resources and efforts strategically to maximize risk reduction and forest restoration. Local-level monitoring and evaluation efforts are the keys to improving processes at each scale, from local efforts to the national level.

⁴ A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment: 10-Year Strategy Implementation Plan (December 2006). http://www.forestsandangelands.gov/plan/documents/10-YearStrategyFinal_Dec2006.pdf.

III. How to Complete a Community Wildfire Protection Plan Evaluation

A review of key goals, objectives, and action items, with appropriate related program data, will illustrate the strengths and weaknesses of a Community Wildfire Protection Plan. The plan's evaluation can also be designed to illustrate the extent to which the Healthy Forests Restoration Act and other state and local policies have been addressed in the implementation of the plan.

This section provides examples of information that can be used to conduct a CWPP evaluation. The step-by-step process is intended to provide a framework for a community to use to review the existing CWPP, choose appropriate indicators, and obtain information to evaluate programs, document the evaluation, and update the plan. There are five individual steps:

1. Identify Goals and Objectives
2. Identify Changes in the Community and its Wildfire Risk
3. Review Action Items
4. Evaluate CWPP Outcomes
5. Update the CWPP

1. Identify Goals and Objectives

A community can provide a framework to minimize wildfire risks by first establishing goals and objectives and then identifying action items to implement them. These goals and objectives can then serve as the baseline for evaluating the plan's performance.

Does the plan identify goals and objectives related to the following issues, and, if so, how?

What types of issues are addressed through the goals and objectives?

- Partnership and Collaboration
- Risk Assessment
- Fuels Reduction
- Structural Vulnerability Reduction
- Emergency Management
- Education and Outreach
- Others

2. Identify Changes in the Community and Wildfire Risk

A CWPP should describe the local population's characteristics so that it is clear who is at risk and whom the plan is intended to serve. U.S. census data are readily available to describe a community's demographics, which tend to change over time. Reviewing the community profile and determining how it has changed since the plan's implementation may reveal issues that should be addressed in a plan update, such as a growing population or increased development in high hazard areas. An inventory of project partners may provide opportunities to improve existing or build new relationships to assist community capacity efforts.

3. Review Action Items

In general, CWPPs include a list of priority actions related to fuels reduction, public education, and structural ignitability, as well as other potential issues identified through the planning process. A simple step in the evaluation process is to review all action items in the plan, identify accomplishments, challenges, partners, and next steps. Do the actions reflect the plan's goals and objectives? An example of an action-item review form is included below. (A full worksheet is available in Appendix A.) Partners involved with the CWPP can use this form to review the action items in their CWPPs, evaluate whether new actions are needed, re-prioritize existing actions, and identify significant accomplishments or challenges since plan implementation.

3.A. Action Item Review Form

Action Item	Priority	Goal Addressed	Status <i>(completed, in progress, not yet initiated)</i>	Accomplishments	Challenges	Partners Involved	Follow-up <i>(Are new actions needed? funding changes? policy issues?)</i>

4. Evaluate CWPP Outcomes

Perhaps the most critical aspect of a monitoring and evaluation process is identifying the impact of a Community Wildfire Protection Plan in a community. A CWPP evaluation may reveal a variety of outcomes, some anticipated and others that may have been unexpected in the initial planning process. The indicator evaluation processes that are contained in the Guide are intended to help a community gauge the outcomes that have resulted from its CWPP, particularly for the key elements of partnership and collaboration, fuels reduction, and reducing structural ignitability. These forms should be used as a starting point to define which indicators are appropriate for assessing the CWPP.

These indicators provide an example of important areas to review and tools for attaining program data. A community may choose other measures to reflect its own goals and objectives. Evaluating a CWPP may involve gathering information about the number of homes with evacuation plans, the number of acres of defensible space, and partner satisfaction with collaborative efforts. Although the safety of the general community must be a priority, planning and implementation efforts should also account for underserved populations. This might include outreach to low-income residents or special assistance for elderly and disabled residents.

The information needed to evaluate a CWPP may come from emergency management records, community and economic development organizations, land management agencies, and CWPP leaders. Surveys (see examples in Appendix B), interviews, focus groups, public meetings, and stakeholder meetings can also be effective tools to evaluate outcomes such as public awareness or community partnerships. A community can use these resources to review project outcomes and assess compliance with the goals and objectives identified in its plan.

Table 1 on the next page provides a framework to help a community monitor and evaluate its CWPP. The table lists six CWPP goals and a series of questions to monitor and evaluate accomplishments, challenges, and how well goals have been met. For consistency in the type of data collected and reported, communities and agencies may want to work together to ensure that, at a minimum, data are collected to evaluate the 10-YIP measures. Some communities may lack the resources to conduct a full-scale evaluation and may opt to monitor and evaluate select goals or measures. The next chapter of this *Guide* explores each question and indicator for the evaluation and potential data sources.

Tips for Using the Evaluation Guide Framework

After information has been gathered to answer questions and evaluate how well goals have been addressed, community groups can use the information to update actions and adapt their strategies to better address the CWPP goals. This kind of evaluation will help a community celebrate its successes when their accomplishments over a given period of time have become clear. For more ideas, visit the full CWPP Evaluation Guide at: <http://ri.uoregon.edu/programs/CCE/communityfireplanning.html>.

Table 1: Framework for Monitoring and Evaluating a Community Wildfire Protection Plan

CWPP Goal	Monitoring and Evaluation Questions	National Measures*
Partnerships and Collaboration	Who has been involved with CWPP development and implementation?	
	How did the fire-planning process influence CWPP implementation?	
	How has the collaborative process assisted in implementing the CWPP and building capacity for the community to reduce wildfire risk?	HFRA
	Have social service agencies (or groups that might assist low-income and vulnerable populations) been partners in CWPP efforts? If so, how?	
	Have partners involved in the planning process remained engaged in the plan's implementation?	
	Has CWPP collaboration made a difference or had a positive impact on local organizations, neighborhoods, and/or actions?	
Risk Assessment	How has the community changed over time (demographics, residential and commercial development, etc.)?	
	If this is a multi-jurisdictional plan, what is the number and percent of communities at risk with a CWPP in the area?	10-YIP
	Are there new or updated data sources that may change the risk assessment and influence fuels priorities?	
	How is the risk assessment being used to make decisions about fuels priorities or the designation of the wildfire/urban interface boundary?	
	Has the community enacted a wildfire-related ordinance? If so, is it a county, state, or local ordinance?	10-YIP
	What percent of communities at risk also have low-income, vulnerable populations? Are these communities engaged in reducing wildfire risk?	
Reducing Hazardous Fuels	How many acres have been treated for hazardous fuels reduction on public and private land that had been identified as high priority projects in the CWPP?	10-YIP and HFRA
	How many fuels reduction projects have spanned ownership boundaries to include public and private land?	
	What is the number and percent of residents who have participated in projects and completed defensible space on their land?	
	Has economic development resulted from fuels reduction?	10-YIP
	How many local jobs have resulted because of fuels reduction or restoration activities?	
	How many hazardous fuels reduction projects (or acres treated) have been implemented in connection with a forest restoration project (including a stewardship contract?)	
Reducing Structural Ignitability	What kind of resource losses have occurred from wildfires in the year being reported on?	
	Are the current codes and regulations for wildfire hazard adequate?	10-YIP
	Has the public knowledge and understanding about structural ignitability been increased by strategies adopted in the CWPP?	
	How many Firewise Communities have been recognized?	10-YIP
	How has the availability and capacity of local fire agencies to respond to wildland and structural fires improved or changed since the CWPP was developed?	10-YIP
Education and Outreach	What kind of public involvement has the CWPP fostered?	
	What kind of change in public awareness about wildfire has resulted from the plan?	
	What kinds of activities have citizens taken to reduce wildfire risk?	
Emergency Management	Is the CWPP integrated into the county or municipal Emergency Operations Plan?	
	Does the CWPP include an evacuation plan? If yes, has it been tested or implemented since the adoption of the CWPP?	
	Is the CWPP aligned with other hazard mitigation plans or efforts?	

* HFRA and the 10-YIP include goals that can be evaluated with measures included in a local CWPP evaluation process. This table identifies specific measures that are related to outcomes that can be evaluated at a national level and are associated with HFRA or identified within the 10-YIP.

5. Conduct Ecological Monitoring

A critical outcome of Community Wildfire Protection Plans concerns the change in fire behavior that occurs because of the number and types of fuels treatments that are priorities identified within the CWPP. The Healthy Forests Restoration Act (Section 102(g)(5)) instructs the USDA Forest Service and DOI BLM to establish a collaborative *multiparty* monitoring, evaluation and accountability process when significant interest is expressed in such an approach.⁶

Multiparty monitoring gives communities the opportunity to assess environmental, social, and economic outcomes related to fuels reduction projects. Multiparty monitoring also builds trust and lets residents learn about fire-adapted ecology. The USDA Forest Service Collaborative Forest Restoration Program in the Southwest offers a set of guidelines for monitoring community-based forest restoration. Communities that are engaged in ecological monitoring of hazardous fuels reduction projects can use the guidelines. They provide an overview of the multiparty monitoring process, ecological and socioeconomic goals and indicators, and examples of measures, data sources, and tools that can be used to conduct this kind of monitoring. The Collaborative Forest Restoration Program also developed a series of handbooks to help communities conduct this monitoring. These resources can be downloaded directly at: <http://www.fs.fed.us/r3/spf/cfrp/monitoring/index.shtml>.

State and federal agencies also use tools to conduct ecological monitoring and monitor maintenance of treated areas. One such program is the Fire Effects Monitoring and Inventory Protocol (FIREMON). FIREMON is an independent agency with a plot-level sampling system designed to characterize changes in ecosystem attributes over time. (http://frames.nbj.gov/portal/server.pt?open=512&objID=286&&PageID=495&mode=2&in_hi_userid=2&cached=true.)

Other methods for conducting ecological monitoring for hazardous fuels projects may include photo points, modeling changes in fire behavior, and measuring changes in fire regime and condition class. There are many approaches to ecological monitoring; FIREMON and other modeling systems are mostly within federal purview, but community organizations and citizens also have many available monitoring options, and simple methods, such as comparing photo points and conducting vegetation surveys, are valuable and important.

6. Update the Community Wildfire Protection Plan and Report on the Evaluation

The outcomes monitored in the evaluation's previous step are essential for analyzing the CWPP. Reviewing program information with committee members and stakeholders can identify how to increase wildfire protection more effectively and meet CWPP goals and objectives. This information may indicate successes and weaknesses and identify gaps that have not been addressed by the plan. In turn, it can result in new goals and objectives.

Leadership from the CWPP must play a central role in coordinating meetings and ensuring that stakeholders have an opportunity to share their views about wildfire issues. Suggestions for improving emergency preparedness efforts, as well as feedback from project partners and community members, may come from CWPP leaders. Partner surveys may prove useful for refining strategies to strengthen collaborative relationships and wildfire preparedness. This network can also use its relationships to identify funding opportunities and engage in future projects.

Project stakeholders must maintain focus on the plan's ability to prepare citizens for natural disasters. Inviting community response is critical for understanding the public's awareness about wildfire and emergency issues. Local citizens can measure their level of information about fuels reduction activities, disaster preparedness, and programs available to vulnerable populations.

How are Community Wildfire Protection Plans addressing national goals for reducing wildfire risk?

As a community develops and implements its CWPP, key questions help determine the effectiveness of its plan. To track accomplishments and report on outcomes, communities may collect data to respond to national as well as local goals. Like local planning processes, national monitoring and evaluation strategies can and should be adapted and improved, based on wildfire planning efforts. Table 1 includes specific questions and measures to help communities collect data that will evaluate local goals for CWPPs. Some of these measures can also be used to evaluate national goals, including those stated in the 10-Year Implementation Plan and the Healthy Forests Restoration Act.

⁶ The Healthy Forests Initiative and Healthy Forests Restoration Act Interim Field Guide <http://www.fs.fed.us/projects/hfi/field-guide/web/page16.php>

By working with local fire agencies, CWPP leaders can monitor its strategies for minimizing structural vulnerability. Representatives from fire departments, county agencies, the state forestry agency, the Bureau of Land Management and Forest Service possess expertise for prioritizing areas that require wildfire protection, improving response efforts, and eliminating gaps in disaster protection. These groups can also assess the progress of hazardous fuels reduction activities on federal and nonfederal land by providing technical knowledge and program data. There is an acknowledged national need to include hazardous fuels work on private lands in these data bases.

After the respective groups have met to review program strengths and weaknesses, amendments can be made to the CWPP. Project partners must work together to identify action items that need to be changed, items that have been completed, and new items that should be added. The final step in this process involves presenting the updated goals and actions to the public and all project partners.

Reporting on the Evaluation Process

A final step in an evaluation is to report on accomplishments and celebrate successes. Demonstrating accomplishments and lessons learned keeps community members, partners, and agencies engaged in long-term implementation and sustainability of a CWPP. Furthermore, sharing successes and challenges with state, regional, and national partners helps agencies report on program outcomes more broadly and provides models and examples to share with other communities.

Documentation of the CWPP evaluation can be simple or complex. For communities with fewer resources, answering key questions to evaluate how well CWPP objectives have been met and documenting successes, challenges, and lessons learned may constitute the full report. Documentation of accomplishments may be used to develop a press release that is shared in the community. Other communities may conduct surveys and write up the results, or develop case studies to highlight community fuels reduction projects or successful educational initiatives. Case studies provide examples of approaches used by two communities to conduct their CWPP evaluations. Links to these reports are also provided.



Case Study 1: Josephine County Integrated Fire Plan

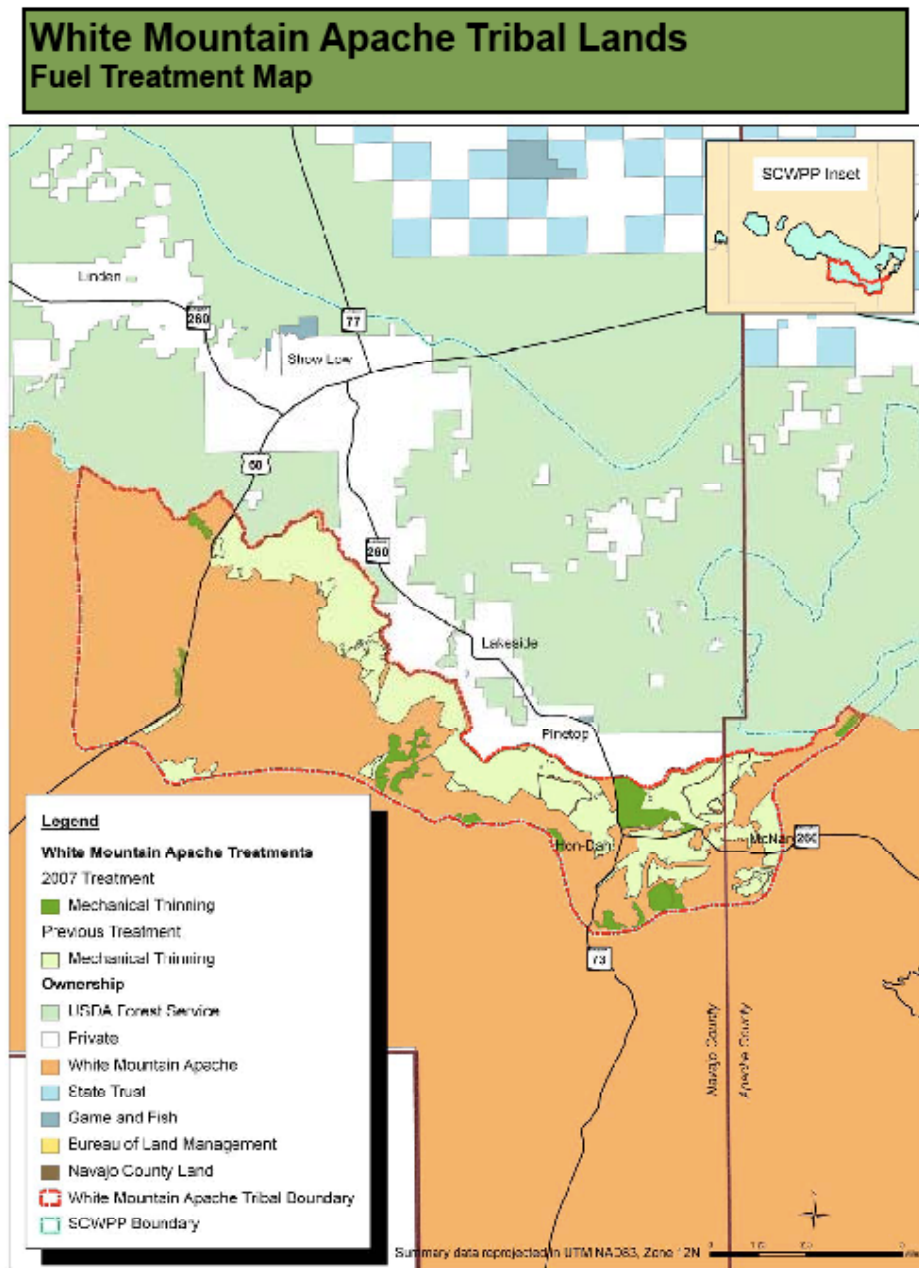
After the 2002 Biscuit Fire, which burned nearly 500,000 acres in Southwest Oregon and Northern California, public and private agencies and organizations throughout Josephine County, Oregon recognized the critical need to better coordinate resources, identify high risk areas, and develop a strategic action plan to reduce risk throughout the county. Partners came together to develop the Josephine County Integrated Fire Plan (2004). A year later, partners developed a process for conducting an annual review, which has resulted in annual reports and updated action plans for 2005, 2006, and 2007. The annual reports highlight accomplishments, challenges, and priorities for the upcoming year from each of the planning committees, including fuels reduction and risk assessment, education and outreach, emergency management, stewardship contracting, and vulnerable populations.

A unique aspect of the monitoring and evaluation process has been an annual evaluation of collaboration among partners involved with the fire plan. Results from these partner surveys have led to increased participation from new stakeholder groups. They focus on strategic issues in a particular year, such as evacuation or funding for fuels reduction projects for vulnerable populations. Most important, the collaboration survey allows all fire plan partners to reflect on the role of their agency or organization in implementing the plan and the common goals that partners are trying to accomplish. The annual reports are available online at <http://co.josephine.or.us/SectionIndex.asp?SectionID=158>.



Case Study 2: Apache Sitgreaves Community Wildfire Protection Plan

The Sitgreaves Communities Wildfire Protection Plan (SCWPP), born out of the ashes of the Rodeo-Chediski Fire, was finalized and agreed to by eighteen signatories in 2004. The SCWPP identifies needed fuels reduction forest treatments across jurisdictional boundaries of private lands, the Apache-Sitgreaves National Forests and White Mountain Apache tribal lands. These seamless treatments—comprised of thinning overstory components of the forest structure, breaking up the continuity of the understory fuels, and removing slash and excess vegetation—provide cumulative improvements in fire risk mitigation. Slash and ground fuels are burned in a prescribed manner on government agency-managed lands and by permit on private lands. Each year, the SCWPP partners develop an annual report to evaluate progress, document accomplishments, and identify needs for the future. For example, as of 2006, within the CWPP area, 40,964 acres of fuel treatment work have been completed (approximately 13% of the high risk acres identified in the plan). The annual report focuses on key issues that remain to be addressed through plan implementation. To review the full annual report, visit: <http://ci.pinetop-lakeside.az.us/foresthealthandfireprotection.htm>



IV. Framework for Conducting the Evaluation

This evaluation process is intended to provide suggestions for evaluating a Community Wildfire Protection Plan. In conducting an evaluation, a community should think critically about the kind of information it can access and what is most important to evaluate. Some data may be hard to obtain. For example, the number of homes in a community with evacuation plans provides insight into the level of preparedness among the general public, but may be difficult to obtain. The format of this section provides additional questions to be posed in the evaluation process and space for the information obtained. Each individual community should adapt the evaluation process and how information and results are documented according to its own needs. This evaluation framework contains strategies to evaluate six elements of a CWPP.

1. Partnerships and Collaboration
2. Risk Assessment
3. Fuels Reduction
4. Reducing Structural Vulnerability
5. Education and Outreach
6. Emergency Management

1. Partnerships and Collaboration

Understanding the extent to which partnerships and collaboration have been maintained, grown, or diminished through implementation of a CWPP will help core partners identify strategies to strengthen future collaborative efforts and increase the effectiveness of the core team and other stakeholders involved in the CWPP.

Who has been involved with CWPP development and implementation?	
How have relationships grown or changed through implementation?	
What resources did partners bring to the table?	
Number and types of local, state, and federal partners?	
What have been the outcomes and changes in the collaborative partnerships?	
Are there other accomplishments and challenges?	

How did the fire-planning process influence CWPP implementation?	
What are the roles and responsibilities of CWPP partners?	
Have these roles and responsibilities been met?	
What is the process for setting priorities? How well does it work?	
What is the timeline for implementation?	
How often do core team members meet?	
How often will the CWPP be evaluated?	

How has the collaborative process assisted in implementing the CWPP and building capacity for the community to reduce wildfire risk?	
Are there more partnerships?	
Are there increased financial resources?	
Has there been an increase in agency fuels reduction programs in the WUI?	

Have social service agencies (or groups that might assist low-income and vulnerable populations) partnered on CWPP efforts? If so, how?	
What type of assistance has been offered to low-income and underserved residents?	
Diversity of social service organizations?	
Diversity of populations served?	

Have partners involved in the planning process remained engaged in the implementation of the CWPP?	
Have new partners become involved?	
How have the relationships established through the CWPP enhanced opportunities to address CWPP goals?	

Has CWPP collaboration made a difference or had a positive impact on local organizations, neighborhoods, and/or actions?	
---	--

2. Risk Assessment

Data included in the original risk assessment will change over time and affect the priorities for hazardous fuels reduction. Identifying changes within the community and on the landscape will help CWPP partners identify when it is time to update the risk assessment and identify new priorities for hazardous fuels reduction.

How has the community changed over time?	
Population:	
Age range:	
Percentage of youth:	
Percentage of elderly:	
Number of housing units (% owner and renter occupied):	
Percentage of people in the labor force:	
Percentage of families below the federal poverty line:	
Unemployment rate:	

If this is a multi-jurisdictional plan, what is the number and percent of communities at risk with a CWPP in the area?	
Are all communities at risk identified in the CWPP?	
Where are the priority fuels projects identified in each community at risk?	

Are there new or updated data sources that may change the risk assessment and influence fuels priorities?	
Hazards:	
Risks:	
Protection and response capabilities:	
Structural vulnerabilities:	
Community values and resources:	
Low-income and vulnerable populations:	

How is the risk assessment being used to make decisions about fuels priorities or the WUI boundary designation?	
Partners involved with identification of fuels priorities:	
Process used to identify fuels priorities:	
Outcomes and changes from previous year:	

Has the community enacted a wildfire related ordinance? If so, is it county, state, or local?	
What kind of risk assessment rating is used in the ordinance?	

What percent of communities at risk are also low-income and have vulnerable populations?	
Are these communities engaged in reducing wildfire risk?	

3. Hazardous Fuels Reduction

Monitoring hazardous fuels reduction projects on public and private land will assist partners in understanding the extent to which risk reduction goals are being accomplished and identifying future priorities.

<p>How many acres have been treated for hazardous fuels reduction on public and private land that had been identified as high priority projects in the CWPP?</p>	
<p><i>Public land:</i></p> <ul style="list-style-type: none"> • Total number of acres treated for fuels reduction: • Number and percentage treated within WUI: • Number and percentage treated within CWPP priority areas: • Treatment type(s): 	
<p><i>Private land:</i></p> <ul style="list-style-type: none"> • Total number of acres treated for fuels reduction: • Treatment type(s): • Number of homes with defensible space: • Percentage of homes with defensible space: • Number and percentage of homes treated in low income communities/vulnerable populations: 	
<p>How many fuels reduction projects have spanned ownership boundaries to include public and private land?</p>	
<p>What is the number and percent of residents who have participated in projects and completed defensible space on their land?</p>	
<p>Number and percentages of homes protected by a fire district by CAR or WUI:</p>	
<p>Economic development resulting from fuels reduction</p>	
<p>Number of green tons and/or volume of woody debris from fuel reduction and restoration made available for utilization through permits, contracts, grants, agreements, or equivalent.</p>	
<p>Number of CWPPs that address small diameter utilization.</p>	
<p>How many local jobs have resulted because of fuels reduction or restoration activities?</p>	
<p>Number of part-time and full-time jobs:</p>	
<p>Percentage comprised of local labor:</p>	
<p>How many hazardous fuels reduction projects (or acres treated) have been implemented in connection with a forest restoration project (including stewardship contract?)</p>	

4. Reducing Structural Ignitability

Reducing structural ignitability is one of the three priorities outlined in the Healthy Forests Restoration Act. Identifying the kinds of losses that have occurred and what actions homeowners have taken will demonstrate the extent to which structural ignitability within households in the CWPP is being reduced.

What kind of resource losses have occurred from wildfires in year reporting on?	
Report on resources protected or success stories, if evident	
Number of human-caused fires:	
Number of lightening-caused fires:	
Number of homes lost to wildfire:	
Number of fire starts within community at-risk boundaries:	
Number of fire starts outside of at-risk boundaries:	

Are the current codes and regulations for wildfire hazard adequate?	
Does the CWPP recommend changes to wildfire codes and regulations?	
Are codes municipal, county, or state?	
Do codes apply to all residential or just forest areas?	
Are there codes regarding building materials, such as roof type, windows, etc.?	
How is growth increasing in WUI/high risk areas?	

Has the public knowledge and understanding about structural ignitability been increased by strategies adopted in the CWPP?	
Have homeowners been educated on how to reduce home ignitability?	
How many citizens, neighborhoods, or communities have taken action to increase the resilience of their structure to fire?	
Are homeowners replacing flammable building components with nonflammable materials?	
Number of families with fire or home insurance:	
Number and percentage of homes included in a fire district:	
Number of households with evacuation plans:	

Is the community a Firewise Community or does it have a Fire Safe Council?	
---	--

How has the availability and capacity of local fire agencies to respond to wildland and structural fires improved or changed since the CWPP was developed?	
Number and percent increase of trained and/or certified fire fighters and crews:	
Upgraded or new fire suppression equipment?	
Formation or expansion of fire department involved in wildland fire?	
Have response times changed or has there been an increase in infrastructure, such as sub-stations?	

5. Education and Outreach

Public education and outreach are essential to foster long-term public support and engagement in CWPP efforts.

What kind of public involvement has the CWPP fostered?	
Public meetings:	
Field Trips:	
Demonstration projects:	
Household visits:	
Youth engagement:	
Community events:	
What other activities have citizens taken to reduce wildfire risk?	

What kind of change in public awareness about wildfire has resulted from the plan?	
Change in the number and type of human-caused wildfires:	
Wildfire risk and knowledge of wildfire policies and regulations:	
Awareness of local efforts to increase emergency preparedness:	
Outreach efforts directed to low-income communities and vulnerable populations:	

What kinds of activities have citizens taken to reduce wildfire risk?	
Defensible space:	
Fuel reduction:	
Household emergency plans:	
Woody debris disposal:	

6. Emergency Management

Comprehensive emergency management plays a key role in reducing a community's risk from wildfire and other hazards. Integrating federal requirements for emergency management within CWPP efforts can help the community and partners access federal funds through the Federal Emergency Management Agency and Department of Homeland Security.

Is the CWPP integrated within the county or municipal Emergency Operations Plan?	
How does your CWPP address the National Incident Management System?	
Does the CWPP address Incident Command training?	
Does the CWPP address animal and livestock preparedness?	

Does the CWPP include an evacuation plan? If yes, has it been tested or implemented since the CWPP adoption?	
Are there local neighborhood evaluation plans?	
Are there safety zones?	
Plans for residential evacuation?	
Plans for evacuation of vulnerable populations?	
What is the plan for the communication systems?	
Are there resource lists?	
What are the plans for animal/livestock evacuation?	

Is the CWPP aligned with other hazard mitigation plans?	
Does the CWPP meet FEMA requirements for natural hazard mitigation plans?	
Do CWPP partners work together to address broader issues?	

Links and Resources

General Resources

- Healthy Forests and Rangelands website: http://www.forestsandrangelands.gov/Healthy_Forests/index.shtml
- Firewise website: <http://firewise.org>
- The Healthy Forests Initiative and Healthy Forests Restoration Act: <http://www.fs.fed.us/projects/hfi/field-guide/web/page15.php>
- International Association of Fire Chief's *Leader's Guide for Developing a Community Wildfire Protection Plan*: http://www.iafc.org/associations/4685/files/CWPP_rev062005.pdf
- National Database of State and Local Wildfire Mitigation Programs, a source for information on ordinances: www.wildfireprograms.usda.gov
- United States Forest Service website: <http://www.usda.gov>
- United States Department of Interior website: <http://www.doi.gov/>

Monitoring and Evaluation Resources

- Firemon: <http://www.fire.org>
- Multiparty Monitoring Resources
 - Rural Voices for Conservation Coalition – Multiparty Monitoring Issue Paper: <http://ri.uoregon.edu/programs/CCE/communityfireplanning.html>
 - USDA Forest Service Collaborative Restoration Program – Multiparty Monitoring Guidelines: <http://www.fs.fed.us/r3/spf/cfrp/monitoring/index.shtml>
 - Red Lodge Clearinghouse: http://www.redlodgclearinghouse.org/resources/handbook_full.html

Relevant Publications

International Association of Fire Chiefs, National Association of State Foresters, Wilderness Society. *Community Wildfire Protection Plan - Leaders Guide*. May 2005. http://www.iafc.org/associations/4685/files/CWPP_LG.pdf

International Association of Fire Chiefs, National Association of State Foresters, Wilderness Society. *Community Wildfire Protection Plan - Leaders Guide Supplement*. May 2005. http://www.iafc.org/associations/4685/files/CWPP_rev062005.pdf

Joint Fire Sciences Project. *Community Wildfire Protection Plans: Enhancing Collaboration and Building Community Capacity*. <http://jfsp.fortlewis.edu/>

National Association of State Foresters, International Association of Fire Chiefs, National Association of Counties, Society of American Foresters, Communities Committee. *Preparing a Community Wildfire Protection Plan: A Handbook for Wildland-Urban Interface Communities*. March 2004. <http://www.safnet.org/policyandpress/cwpphandbook.pdf>

Resource Innovations. *Framework for Community Fire Plans*. October 2004. <http://ri.uoregon.edu/programs/CCE/communityfireplanning.html>

Resource Innovations. *2006 Josephine County Integrated Fire Plan Annual Report and Updated Action Plan*. October 2006. <http://ri.uoregon.edu/programs/CCE/josephine.html>

Western Forestry Leadership Coalition. *Community Wildfire Protection Planning in the West: A Status Report*. <http://www.wflccenter.org/infomaterials/reports.php>

Appendix A: Action Item Review Form

Partners involved with the Community Wildfire Protection Plan can use this form to review the action items in their CWPP, evaluate whether new actions are needed, re-prioritize existing actions, and identify significant accomplishments or challenges since plan implementation.

Action Item	Priority	Goal Addressed	Status <i>(completed, in progress, not yet initiated)</i>	Successes	Challenges	Partners	Follow-up <i>(new actions needed? funding changes? policy issues?)</i>

Appendix B: Survey Examples

1. Evaluating collaboration and participation among CWPP partners

1. Has your participation with the community wildfire protection plan (CWPP) increased or decreased since the plan's adoption?

- Increased Stayed the same Decreased N/A

2. With what type of organization/agency do you work?

- Citizen group Federal government State government
 Fire district Nonprofit organization Environmental group
 Community group Local government Other (please list) _____

3. How active is your organization within the current CWPP activities?

- Very active Somewhat active Not active

4. How often do you communicate with CWPP partners?

- Daily Weekly Monthly Yearly Never

5. What is your primary means of communication with CWPP partners?

- Email Phone Meetings

6. How active is your organization with the following CWPP activities?

a. Risk assessment

- Very active Somewhat active Not active

Please describe your involvement, if applicable:

b. Fuels reduction and restoring ecosystems

- Very active Somewhat active Not active

Please describe your involvement, if applicable:

c. Reducing resource losses and structural vulnerability

- Very active Somewhat active Not active

Please describe your involvement, if applicable:

7. How would you rank your experience working with CWPP partners?

- Excellent Good Average Poor Very Poor

8. Describe what you've gained from working with new partners through this process.

9. To what extent are CWPP goals and objectives being met?

- Very great extent Some extent Not at all

10. Are social service agencies involved in CWPP efforts?

- Yes No

11. Have your relationships grown and changed as a result of CWPP development and implementation?

Please describe:

12. Have you encountered significant obstacles related to CWPP implementation?

- Yes No If yes, please describe:

13. How does the CWPP address low-income communities or vulnerable populations?

14. Do you have any recommendations for improving the CWPP?

2. Evaluating increased public awareness and action

This survey is an example of what could be used to establish a baseline understanding of public awareness within a community and to evaluate changes in awareness and action among the public in relationship to wildfire.

1. Do you consider your home to be at risk from a wildfire?

- Yes No

2.a. Do you have adequate information about local wildfire risk, fuel hazard reduction work, and burning regulations?

- Yes No

2.b. Where do you generally get this information?

- Internet Forest Service Library Local fire agency
 Neighbors Newspaper/radio/television Other

3. Are you aware of fire/fuels planning efforts in your neighborhood?

- Yes No

4. Are you aware of emergency communication efforts in your neighborhood?

- Yes No

5. Do you have evacuation plans and routes in place for emergency situations?

- Yes No

6. Do you have fire insurance?

- Yes No

7. What kinds of fire protection activities have you completed?

- Created a defensible space
 Landscaped with fire-resistant plants
 Pruned/removed trees
 Regularly cut down weeds and grass
 Removed dry vegetation from around the house
 Safely disposed of woody vegetation
 Used fire-resistant building materials

8. What suggestions do you have for improving the community's level of awareness regarding wildfire planning and emergency preparedness?

9. How can the community become more active in wildfire planning efforts?



Prepared by Resource Innovations
Institute for a Sustainable Environment

University of Oregon
<http://ri.uoregon.edu>

**RESOURCE
INNOVATIONS**



UNIVERSITY OF OREGON