COMMUNITY WILDFIRE PROTECTION PLANS

Enhancing Collaboration & Building Community Capacity

Project Title: Community Wildfire Protection Plans: Enhancing Collaboration and Building Social Capacity

Principal Investigators:

Dr. Daniel R. Williams, Research Social Scientist, Rocky Mountain Research Station, 2150A Centre Avenue, Fort Collins, CO 80526-1891; Phone: 970/295-5970; fax: 970/295-5959; e-mail: drwilliams@fs.fed.us

Dr. Pamela J. Jakes, Research Forester, Northern Research Station, 1992 Folwell Avenue, St. Paul, MN 55108; Phone: 651/649-5163; fax: 651/649-5285; e-mail: pjakes@fs.fed.us

Co-Principal Investigators:

Dr. Sam Burns, Fort Lewis College, Durango, CO
Dr. Antony Cheng, Colorado State University, Fort Collins, CO
Dr. Kristen Nelson, University of Minnesota, St. Paul, MN
Dr. Victoria Sturtevant, Southern Oregon University, Ashland, OR

Graduate Research Assistants and Technicians:

Mr. Alex Bujak, Colorado State University, Fort Collins, CO
Ms. Rachel Brummel, University of Minnesota, St. Paul, MN
Ms. Stephanie Grayzeck Souter, University of Minnesota, St. Paul, MN
Ms Emily Saeli Staychock, Colorado State University, Fort Collins, CO
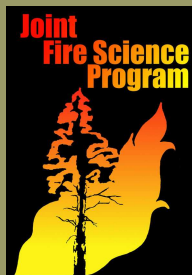
I. Abstract

The Healthy Forest Restoration Act of 2003 (HFRA) was enacted to reduce wildfire risk to communities and other at-risk lands through a collaborative process of planning, prioritizing and implementing hazardous fuel reduction projects. One of the key features of HFRA is the development of community wildfire protection plans (CWPPs). We studied the development of CWPPs in order to identify those factors and processes that consistently lead to effective collaborative fire and fuels management as defined by HFRA, and enhance local social capacity to sustain wildfire protection activities into the future. Findings from this research highlight the importance of: (1) drawing on local knowledge and skills; (2) building learning communities; (3) accessing networks and involving intermediaries; and (4) building on local capacities and developing new capacities to successful wildfire planning.

II. Background and Purpose

With the passage of the Healthy Forest Restoration Act (HFRA) of 2003, federal, state and local agencies with responsibility for managing wildfires and mitigating wildfire risk were encouraged to work collaboratively with communities at risk to mitigate wildfire hazards. One of the key policy tools in HFRA is the community wildfire protection plan (CWPP). A CWPP must be developed collaboratively, involving local government representatives, the local fire authority, and a representative of the state agency responsible for wildfire management. The document itself (1) identifies areas to be treated for fuel reductions, (2) specifies types and methods of treatment, and (3) recommends steps homeowners and communities can take to reduce the ignitability of structures. In the development of a CWPP, communities have the opportunity to define and map their wildland-urban interface (WUI). The USDA Forest Service (USFS) and Bureau of Land Management (BLM) were required to spend at least 50% of the funds they receive from HFRA in the wildland-urban interface (WUI).

This project was developed in response to a 2003 Announcement for Proposals on collaborative fuels management. It is an effort to extract lessons from early CWPP efforts, and our focus has been primarily on the factors that contribute to the successful development of CWPPs and the emergence and maintenance of social capacity necessary to plan, implement, monitor, and evaluate projects to reduce wildfire risk.

The specific knowledge objectives of this project were to: (1) improve the ability of agencies, organizations, communities, and citizens to work together collaboratively to reduce the risks of wildfire, and (2) enhance the long-term social capacity of communities to address wildfire risk by understanding how CWPP activities overcome barriers and/or enhance opportunities for planning and implementing fuel reduction projects. These were addressed through a set of four project objectives:

1. Examine the local social context in which CWPPs have developed, focusing on the factors that are important to enhancing collaboration and building and maintaining social capacity.
2. Assess ways to gauge the progress and outcomes of CWPPs over time.
3. Capture and share current local and programmatic "lessons learned" concerning CWPP processes and outcomes, using an advisory team to continuously share new lessons as they emerge.
4. Develop and implement a knowledge transfer program that provides important results, in a timely manner, throughout the life of the project.

III. Study Description and Location

The project identified factors and described processes that lead to the development of CWPPs using a grounded theory approach in which social science theory is allowed to emerge from the data—increasing the likelihood that it will more closely resemble reality (Strauss and Corbin 1998). Trained observers gathered data from individuals that when organized and analyzed holds knowledge and insights for other individuals, organizations, and communities. To ground the research in CWPP practice and promote knowledge transfer, our research team organized an advisory committee of 16 community wildfire protection specialists representing a range of experience across the various federal, state, local, and nongovernmental organizations involved in CWPP and HFRA.

The unit of analysis for this project was a completed CWPP. Collaborative planning is often studied as a social process at a single, primarily community scale. However, as with any social process, collaboration occurs at multiple scales simultaneously, and the effects and interactions at any one scale are necessarily linked to processes at higher and lower scales. The CWPPs we studied represented three scales: (1) community or neighborhood, (2) town or city, and (3) county. For two of our cases, the CWPPs were developed in communities in the same county, with a county CWPP serving as an umbrella linking the community documents. This arrangement allowed us to investigate how plans may be nested or embedded in other plans.

The research design involved a multiple case study approach. The strong advantage of the case study approach is its ability to deal with contextual conditions which we anticipated would have a major impact on the success of CWPPs in prioritizing fuel treatments and reducing structural ignitability, and enhancing or creating sustainable social capacity to mitigate wildfire hazards. In addition, a multiple-case study approach broadens the analytic generalization of findings through replication, just as multiple experiments or replicable experiments strengthen research in the natural sciences (Yin 2003).

Several criteria were used for selecting a CWPP as a case. First, we favored CWPPs that included a substantial federal forest ownership or that were developed in communities or countie adjacent to federal land. In addition, cases were chosen in communities or counties that represent a range in social capacity. We wanted to be sure that we are not limiting our focus to high capacity areas where the potential for collaboration success is high, but were including area that might be characterized as low capacity and must

therefore build or borrow the capacity necessary for success. Finally, we wanted cases that represent different states and regions.

CWPPs selected for study are shown in the table below (the bolded locations indicate the scale of the CWPP selected). Profiles of the case study counties and communities can be found at http://jfsp.fortlewis.edu/communityProfiles.asp.

State	County	Town	Development/ neighborhood
California	El Dorado County	Cool	**Auburn Lake Trails**
		Grizzly Flat	
	Trinity County		**Post Mountain**
Colorado	**Lake County**		
	Park County		**Harris Park**
	Larimer County	Estes Park	**East Portal**
Florida	Taylor County	**Taylor**	
Minnesota	**Lake County**		
Montana	**Lincoln County**		
Oregon	Jackson County	**Ashland**	
	Josephine County		
Virginia	Warren County	Front Royal	**High Knob**
Wisconsin	Bayfield County	**Barnes-Drummond**	
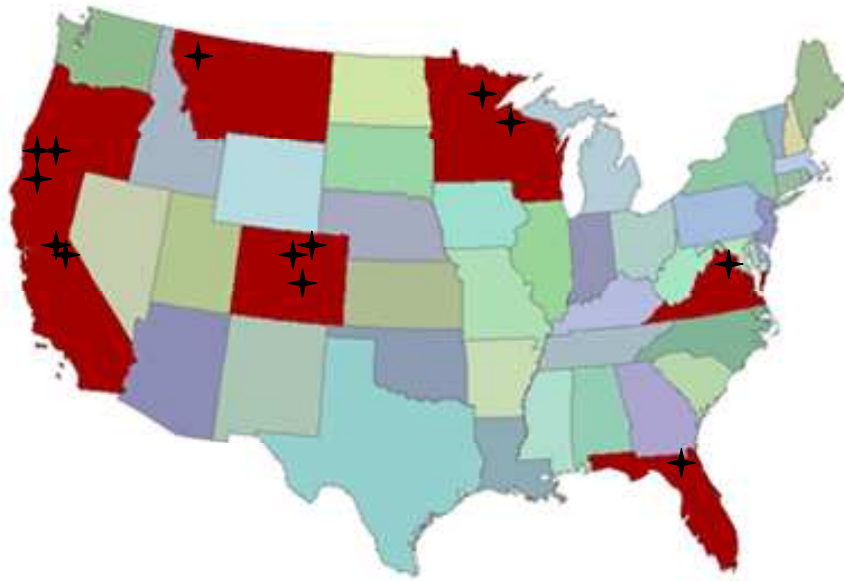
Location of CWPPs selected for study.

Data were collected through semi-structured interviews with CWPP leaders, participants, community residents, fire and resource managers, and informed observers, with supplemental data from archival sources (e.g., the CWPP itself and other strategic plans).

A key feature of this research project was the integration of the knowledge transfer process as part of project design. The knowledge transfer effort was informed from two sources of information. First, we organized and met with a research advisory team to identify their issues and problems facilitating CWPPs in their various roles. We held three meetings with them throughout the project to discuss preliminary findings from our case studies. Second, we learned from our case study participants about how they acquired information and they functioned in professional and social networks of people engaged in or supporting CWPP efforts. For example, we found that community and land agency practitioners, who are engaged in developing CWPPs, most often learn by experience rather than through formal academic or educational processes, although various forms of outreach have been successful means of transferring knowledge. In our project's knowledge transfer plan we focused on multiple knowledge dissemination approaches. While we utilized written materials, websites, and one-page topic-focused guides, the culmination of the knowledge transfer process was the development of regional workshops. Regional workshops to disseminate research findings, tools, and lessons learned were held in Oregon, Colorado, and Wisconsin and a national workshop was conducted in conjunction with the Backyard and Beyond Conference in Tampa, Florida.

Workshops targeted citizens, representatives of local groups and organizations, and local, state, and federal land management agency personnel involved or interested in developing CWPPs. Each workshop was unique—each region was at a different stage in the development and implementation of its CWPPs, so the research team was challenged to pull from the data, findings and recommendations appropriate for workshop participants. For example, in Oregon, most participants had completed their CWPPs so the workshop focused on CWPP implementation and monitoring and evaluation. In the Midwest, few communities had engaged in a CWPP process, so the workshop focused on the benefits of developing a CWPP and CWPP process steps including the importance of framing the problem, who to invite to participate, how to fund the process, and accessing necessary data. In addition to the regional workshops, a second-level local workshop was held in Michigan. An outgrowth or extension of the Wisconsin regional workshop, the Michigan workshop was designed specifically for the Michigan context. Another second-level workshop is being explored in Oregon.

IV. Key Findings

The findings described herein have been derived from the CWPP case studies; each of which illustrates the role of and relationship between *context*, *process*, and *outcomes* play in developing a CWPP (figure 1). While in this write-up we just hint at the depth of our findings, further discussion of each topic can be found in the Quick Guide series (19 1-2 page guides addressing various topics) posted on the project website at http://jfsp.fortlewis.edu/QG.
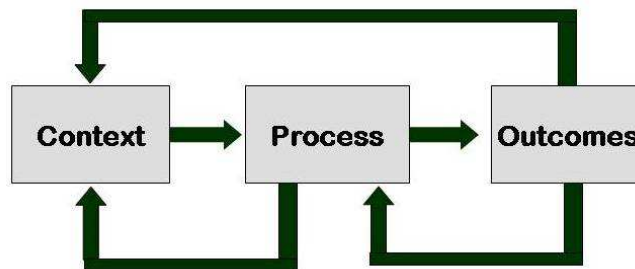

Figure 1. A model for understanding CWPP development

A. Context

The social context in which the CWPP was developed was often referred to as a community's capacity. Community capacity is defined by the elements that exist in a community that allow the members of the community to take action to define and solve their own problems. The more capacity a community has, the easier it is for that community to take action. Elements that often help define community capacity include leadership, skills, resources, networks, and values, among others. Participants in our study identified 3 elements of community capacity that were critical to developing a CWPP: leadership, history of cooperation, and networks.
[http://jfsp.fortlewis.edu/QG/QG1.pdf]

Leadership—Because CWPPs require collective or community-based action, it is critical that leadership be present in the community to bring people together. This leadership can be either formal or informal, ranging from community activists in a property owners association or non-profit organizations and interest groups to strong political leadership from local governments and fire protection organizations. Leadership may be fluid, with different leaders stepping forward during different stages of the process, but the leadership must exist and leaders must be able to step in at the critical moment. [http://jfsp.fortlewis.edu/QG/QG2.pdf]

Prior Cooperation—HFRA specifies that a CWPP be developed collaboratively. It is much easier to accomplish this mandate if there is a history of cooperation within the community. Previous cooperation may have occurred around federal land management, building fire suppression capabilities, consolidating schools, or responding to an economic or environmental challenge. If successful, these previous cooperative activities enable participants to more easily demonstrate a commitment and ability to develop a common vision, enact agreements for sharing resources, or facilitate a process that creates a consensus on necessary action. These experiences and the skills they created are valuable resources when developing a CWPP.

Established Networks—Networks are a set of individuals and/or groups and the ties that exist between then. These ties facilitate the exchange of information and other resources and can broaden support for an activity or program. We observed that if networks are developed within a community undertaking the development of a CWPP, many of the actions necessary for planning and implementation will be much easier. In our cases we saw a variation in the networks that were available and the extent to which they were accessed. Some of the networks were social networks based on interactions and relationships among neighbors, different interest groups, or perhaps among diverse leaders throughout the community. Often networks existed among governmental entities, community service organizations, and forest land user groups. Sometimes CWPPs drew on pre-exiting coalitions among groups and organizations who shared a common interest in natural resource issues, such as public land partnerships or conservation associations. One common network existing across our cases was the network of fire suppression organizations. [http://jfsp.fortlewis.edu/QG/QG3.pdf]

B. Process

Scale of Wildfire Problems/Goals—One of the first problems or questions that arises when developing a CWPP is agreeing on the scale or geographic area to be covered by the plan. Because HFRA does not provide an operational definition of community, we found that a <u>community</u> wildfire protection plan may address fires risk at a broad landscape scale covering an entire county or region or a more narrowly-focused local scale covering a neighborhood or subdivision. We saw examples where more narrowly-focused, local CWPPs were linked to broader scale county plans, with the local plans identifying specific projects to achieve the county's strategic goals. Although the case studies indicated that there is no one appropriate scale, the choice of scale has many

concrete implications for the collaborative process and its outcomes. What is learned is that the right scale is that scale where stakeholders can make something happen. [http://jfsp.fortlewis.edu/QG/QG4.pdf]

WUI Definition in CWPP Planning—Closely tied to scale, and a central feature in a CWPP as envisioned under HFRA, is the collaborative process of defining the Wildland-Urban Interface (WUI) boundary. The WUI is a significant geo-spatial reference that seeks to map the area where community features such as houses, commercial buildings, activities, and key social infrastructures such as hospitals, schools, and transportation systems meet or connect with natural or wildland vegetation. The WUI includes both private and public lands, particularly forested federal land adjacent to the community. However, the attention given by communities to the WUI definition varied widely across our cases. In some cases, particularly for planning focused at a neighborhood/subdivision scale, WUI boundaries were perceived as "self-evident" or intuitive, those areas more or less under direct control of the subdivision. At larger scales of planning (e.g., county scale) WUI designations generally followed pre-existing jurisdictional boundaries recognized by the county or previously established boundaries used in other local planning efforts. [http://jfsp.fortlewis.edu/QG/QG5.pdf]

Assessing Community Resources for Collaboration—Before CWPP participants can enter into discussions regarding priority fuel treatments or methods to reduce structural ignitability, they must be aware of the resources available to engage in these activities. Resources include not only dollars and people, but also the networks (discussed above), legal institutions, sense of place, and community infrastructure that can support planning and implementation. [http://jfsp.fortlewis.edu/QG/QG6.pdf]

Problem Framing—Framing is a term that refers to how people choose to view an issue. For example, when considering the problem of wildfires burning into residential areas, do we view the issue as a fire suppression issue, a development issue, or a building design issue? How an issue is framed will affect whether we consider the issue relevant to our lives and the solutions we think appropriate. In our cases, we saw CWPPs developed using the frame of public safety, fuel management, and ecosystem restoration. Understanding the diversity and multiplicity of frames held by community residents is key to recruiting people to the planning process. Defining the wildfire issue too narrowly may limit participation. We found that a key to successful collaboration is to employ multiple frames so that CWPP goals and objectives will be relevant to different segments of the community. [http://jfsp.fortlewis.edu/QG/QG7.pdf]

Participant Roles and Functions—Developing a CWPP is a collaborative effort among government entities, and between government entities and interested and affected non-governmental interests, especially local community residents. All participants bring something to the table, such as leadership and vision; the ability to support mutual learning and inclusive discussion among participants; talents that facilitate communication among participants; skills at locating financial resources; the ability to recruit key participants through social networks; linkages to other wildfire mitigation, emergency preparedness, or forest management plans; and access to scientific and technical information. Different roles are important at different stages of the CWPP

process and different people can play the same role at different times. Conducting an inventory of available resources, identifying gaps in these resources, and assigning who will be responsible for bringing different resources to the process can increase the efficiency and effectiveness of the collaborative development of the CWPP. [http://jfsp.fortlewis.edu/QG/QG8.pdf]

Communities and public land agencies are often identified as fundamental participants in the CWPP process. These two entities are fundamental because of the CWPP's explicit focus on the WUI as a critical geographic and topographic landscape within which wildfire risks can severely affect social and human assets, and where community activities and functions can significantly affect ecological functions and health. Potential government participants include fire protection organizations, city councils, planning departments, emergency management units, and a variety of regional councils. These organizations provide fiscal resources, coordination, scientific knowledge, geographic information, monitoring, and numerous statutory authorities to assist with policy development and implementation. [http://jfsp.fortlewis.edu/QG/QG11.pdf]

Key Components of CWPPs and Plan Templates—There continues to be a wide array of CWPP formats. HFRA does not specify a format for the CWPP but it does require that the plan identify areas for fuel reduction treatments, make recommendations for treatment methods, and recommend steps homeowners can take to reduce structural ignitability. Thus local communities and land management agencies have created numerous formats which are reflective of the size and scale of the planning area, the ways the wildfire problem is defined, and the resources available for the planning effort. [http://jfsp.fortlewis.edu/QG/QG9.pdf]

C. Outcomes

The Diverse Benefits of CWPPs—As with most collective efforts, the benefits of a collaborative planning process need to be understandable and as tangible as possible. Developing a CWPP is a substantial investment of individual and organizational resources, for which participants expect worthwhile outcomes. In addition it appears to help maintain the commitment of participants in a CWPP process if participants recognize benefits that are relevant to their goals. The nature of these benefits can be quite varied and unique to the interests of different stakeholders; in our cases, several types of benefits were recognized. Documenting some of the benefits of CWPPs, as we have done in this project, provides communities considering doing CWPPs some evidence that such investments are likely to be worthwhile. [http://jfsp.fortlewis.edu/QG/QG12.pdf, http://jfsp.fortlewis.edu/QG/QG13.pdf, http://jfsp.fortlewis.edu/QG/QG14.pdf]

Prospects for Plan Implementation and Sustainability—We found that the outcome that all participants in a CWPP development process seek is the sustainable implementation of a plan that reduces wildfire risk through fuels reduction and reduced structural ignitability. But this outcome is a long term venture. On-the-ground reduction of wildfire risk or improvements in ecological health are not obtainable in a few months

or years, nor are they merely the result of a one-time effort. Thus we were not able to directly on-the-ground outcomes or evidence of their long-term continuation within the timeframe of this research project. But sustaining the commitment to fire risk mitigation was widely perceived by participants as a potential long-term challenge in their planning effort. Implementation of a long-term plan for wildfire protection and mitigation likely depends on access to a variety of resources (human and fiscal) and public policy decisions that support implementation. In addition it will require a sense of ownership or buy-in by the communities covered by the plan. Thus, the degree to which the CWPP process was sufficiently community driven (e.g., open, inclusive) will likely influence the sense of ownership and ultimately the plan's implementation and sustainability. Likewise, long-term sustainability of CWPP projects and objectives will depend on the degree to which the affected community is aligned with how wildfire issue was defined, the scale of planning (did the CWPP take a strategic/landscape view or more localized view), whether a learning community was formed, and if one or more coordinating, bridge-building, resource integrating entities emerge in the CWPP process. [http://jfsp.fortlewis.edu/QG/QG15.pdf]

D. Additional Findings

Building Knowledge Transfer into the Research Process— An integral part of this project was to directly incorporate knowledge transfer into the design of the research by including a knowledge transfer specialist on our research team and partnering with a research advisory team made up of practitioners. In this process, the research staff regarded participants in wildfire mitigation, community and professional practitioners, local government officials, and fire managers as *co-participants in knowledge building*. The integration of research and knowledge transfer did not always go smoothly as social scientists sought to advance disciplinary knowledge while asked about the practical difference the findings would make to stakeholders. However, by discussing knowledge transfer throughout the research process, the project was able to evolve in such a way that guaranteed a stream of research findings relevant to a variety of stakeholders.

Community-based Approaches to Knowledge Transfer—One of the challenges of knowledge transfer to CWPP stakeholders is that there is no community of practice to disseminate our results—no Society of American Foresters, International Association of Fire Chiefs, American Planning Association, or Association for Fire Ecology. We had to find a way to reach the scattered communities and players involved in community and wildfire protection planning. We decided to hold a series of regional workshops as one way to reach stakeholders. Because the development and implementation of most CWPPs occur within a range of community and ecological contexts, with a wide variety of collaborative and other resources capacities, and lead to diverse outcomes, the merits of sharing knowledge both from research and practice is highly worthwhile. At our first regional Knowledge Transfer workshop in Eugene, Oregon, (September 14, 2007), participants emphasized that as CWPP efforts "continue implementing plans they need to tell their stories" as a way to transfer practical experience and knowledge. One of our Quick Guide Series (#16) is designed to connect users to the proceedings of three regional knowledge transfer workshops, held in Oregon, Colorado, and Wisconsin as a

way to access this knowledge and share it with a broader range of communities. [http://jfsp.fortlewis.edu/QG/QG16.pdf]

CWPP Resource Directory—Since the passage of the HFRA in December, 2003, hundreds of CWPPs have been developed. Communities, land management agencies, fire departments, and emergency management organizations, among others, have learned from each other, building on the best practices of those who went before them. The study of the CWPP cases in this project found strong evidence of peer to peer among communities in a given state and through networks across regions. At the same time, the diffused nature of the responsibility for developing CWPPs tends to inhibit the emergence of formal networks that could advance peer to peer learning and larger-scale (state and federal) coordination of the many and diverse local efforts. In an effort to facilitate this continued knowledge transfer, networking, and peer to peer learning we included a resource directory (QG #17) as an initial means of encouraging the expansion of existing knowledge networks and communities. In addition, we discuss a number of barriers to developing larger-scale CWPP coordination and monitoring efforts. [http://jfsp.fortlewis.edu/QG/QG17.pdf]

Monitoring the Collaborative Processes—While the JFS/Collaborative CWPP Project did not address ongoing monitoring of CWPPs and their implementation, the need to do so was clearly a topic of concern among project participants. With significant efforts invested in building an action plan within a CWPP, come expectations that the CWPP's objectives will be met over time, objectives that address forest ecology, community safety, structural protection, or prevention education. The key messages here are that monitoring the implementation of a CWPP is important; that monitoring needs to be considered during the plan development period; and that monitoring is an ongoing contributor to multi-stakeholder collaboration and shared learning. [http://jfsp.fortlewis.edu/QG/QG18.pdf]

V. Management Implications

In the previous discussion of findings the general focus was on specific knowledge that would benefit those involved in the direct on-the-ground practice of developing CWPPs (the focus of our *Quick Guide* series). The audience includes local community members and non-governmental consultants and intermediaries as well as locally based land managers and fire authorities from local, state, and federal government (i.e., practitioners). In this section we explore the management and policy (i.e. institutional) implications of our findings . We have divided these implications into three main topics.

A. Operational and Process Implications

The Appropriate Scale is the Scale Where You Can Make Something Happen—The selection of an appropriate scale for a CWPP in a given context needs to balance the landscape's strategic wildfire mitigation requirements and the need for local (homeowner) actions with the community's capacity for participation and action within a realistic timeframe. To achieve larger-scale results requires high level coordination and

monitoring. Currently monitoring efforts are spotty and the level of organizational commitment to monitoring varies widely across jurisdictions.

Linking to Community Networks Pays Dividends—Multi-scale networks of stakeholders and participants facilitate the generation and application of a range of needed resources—locally and regionally—such as funding, GIS, ecological and fire behavior information, mitigation tools, monitoring, and the support of intermediary organizations. The development of intermediary or bridging organizations is essential to the accumulation and continuous application of fiscal resources, wildfire mitigation knowledge and skills, and the multi-scale integration of CWPPs from neighborhood to county and state levels. In addition, non-governmental organizations and intermediaries lend legitimacy to CWPP planning and are key gateways to recruiting a diversity of participants and sustaining CWPP efforts.

There are Multiple Roles Appropriate to Federal and State Managers—A CWPP results from a collaborative process that focuses on local needs and values. A federal or state manager can play a number of roles in this process by providing data and other resources, a collaborative space, stability through the process, and leadership. There are two key factors that affect the appropriate role of the federal or state manager. First is the scale of the CWPP. If the CWPP is focused on a local, neighborhood scale, the role of the manager may be to provide resources, knowledge, skills and abilities. However, if the CWPP is developed at a landscape scale, the federal or state manager must play a more significant role to insure that the wildfire management and fuels reduction goals of the agency complement or support the goals of the CWPP. Second, if there is a lack of leadership capacity within the community, federal or state managers may be called upon to step-in and initiate the CWPP process until local leadership is identified or steps forward.

The Role of the Intermediary Cannot be Ignored—An intermediary is an organization or individual who serves as a bridge between private individuals and government institutions, or between neighborhoods and communities and public organizations (Berger and Neuhaus, 1996). Intermediary organizations help communities mobilize their own resources and gain access to outside inputs (information, technology, finances) that enhance their capacities (Lee 2006). In our cases we observed consultants, NGO staff, state and federal employees, retired government employees, ministers, and private citizens often played an important intermediary role. As long as the intermediary was well-connected and respected, it didn't matter who filled the role, just that the role was filled.

B. HFRA Policy Impacts

HFRA Did Not Specify a Lead Agency or Staff for CWPP Development—The failure of HFRA to designate lead agency or staff for the CWPP process permits l local flexibility and ownership, while creating some ambiguity about the locus of responsibility, including the roles of federal agencies in CWPP development and monitoring. While flexibility can be a key to building and sustaining successful local

collaboration, ambiguities regarding roles and responsibilities can also inhibit involvement and leadership. Federal agencies have played a variety of roles in CWPP development, depending on aspects of the community in question including existing human capital, the history of interaction between the community and agency, and the scale of the CWPP.

HFRA Specified that CWPPs Should Be Community Plans that Create Increased Community Capacity—The locus of CWPP activities in community settings has encouraged the development of broad, multi-scale and multi-stakeholder networks and involvement of intermediary organizations needed to acquire the resources and knowledge conducive to success. We found that successful CWPP development has indeed lead to increased community capacity. CWPP development creates various social learning, networking, leadership skills and resources that the community can access in future WUI management activities and in other sustainable communities building efforts.

C. Potential Policy Implications

Community Development Can Be an Appropriate Consideration in a CWPP— CWPP planning can be viewed as a broader community development tool (it has benefits to communities beyond fire risk mitigation) and may be an appropriate consideration in the development and implementation of CWPPs. This may be especially true in light of various economic stimulus packages being considered in Congress.

Agencies and Organizations Must Find Ways to Recognize and Support Employees Involved in CWPPs—Increased recognition and support is needed for intermediary, regional, and multi-scale organizations as well as federal managers that support and assist smaller communities and regions as they develop and implement CWPPs. To facilitate this on the federal level there should be greater clarification of federal roles and responsibilities in the CWPP process across federal agencies.

Requirements for Monitoring and Evaluation—A significantly higher quality of CWPP monitoring is needed at the state level. This state-level data should be aggregated at a national level. CWPP outcome measures that should be monitored include collaboration measures, such as increased community capacity, as well as more typical outcome indicators such as wildfire mitigation, risk reduction, and prevention education.

VI. Relationship to Other Recent Findings and Ongoing Work on This Topic

Members of the research team are involved in a number of ongoing efforts that build from this research project:

- **CWPPs Serving Communities During and After the Wildfire—** In recent years a number of wildfires have occurred in or near communities with CWPPs. Scientists are conducting research to identify whether and how CWPPs made a difference to wildfire suppression, response, and recovery in terms of (1)

interagency coordination and integration, (2) communication with residents, (3) structural protection, and (4) fuels reduction.

- **Burning Through Boundaries: Science, Social Learning, and Collaborative Bushfire Planning**—This study is as an extension of some of the CWPP research findings and explores how they compare to pre-wildfire planning in Australia. It was funded as a one year Fulbright Scholarship.
- **Burning Boundaries in Wildfire Planning and Policy: Collaborative Governance, Social Learning, and the Environment in the United States and Australia**—In this research, findings from the CWPP study are being compared to findings from the Fulbright study in Australia as part of a Ph.D. dissertation at the University of Minnesota.
- **Understanding Social Complexity within the Wildland-Urban Interface: A New Species of Human Habitation?**— To further understand the social diversity of communities identified as wildland-urban interface communities, this research will (1) create a better understanding of the diversity of people and communities that compose the WUI and (2) suggest a conceptual framework to inform and explain the relationships among elements that we described above as community context (e.g., community capacity, demographic composition and change) will assist managers, policymakers and local residents to adapt to a variety of circumstances surrounding natural resource management.
- **Woodland Park Healthy Forest Initiative: Monitoring and Evaluation**—One of the major challenges to CWPP implementation is monitoring and evaluation. This study will test and evaluate an ecological and social CWPP monitoring program.

In addition to the research team, other colleagues are bringing other lenses to the study of CWPPs. Toddi Steelman, at North Carolina State University, is looking at how environmental assessments and CWPPs serve local needs. One interesting finding is that environmental groups find it much more effective to work through environmental assessments than CWPPs. William Fleeger, University of New Hampshire, studied CWPP development in Arizona and found that the Sitgreaves National Forest and local communities were able to develop an inclusive multi-jurisdictional planning process that achieved community consensus on how to mitigate wildfire risk. Terry Haines, USDA Forest Service Southern Research Station, and Cheryl Renner, Louisiana State University, have created a website describing more than 190 programs for managing fire risk in 31 states, including CWPPs.

VII. Future Work Needed

The ongoing research listed above reflects the research team's consideration of future work needed and work for which they could obtain immediate funding. Additional topics would include:

- How can the implementation of CWPPs be sustained? How can a CWPP be modified to reflect changing priorities, resources, and stakeholders?

- How do various programs to improve community preparedness (for example, CWPPs, Fire Safe Councils, Firewise Communities USA) impact wildfire suppression and recovery efforts (linking activities that occur prior to a wildfire to activities that occur during and after a wildfire)?
- How do the suite of programs that support community preparedness—for example, CWPPs, Fire Safe Councils, Firewise Communities USA—complement or pose barriers to the goals of a particular program and national policy goals for wildfire management?
- Describe and understand the social diversity in the WUI and how that diversity affects the implementation of initiatives to improve preparedness. Develop a typology of WUI communities based on factors that will enable agencies, contractors, intermediaries and others to work more effectively with communities on wildfire management.
- Develop indicators for measuring or monitoring the success of CWPPs in achieving the objectives outlined in HFRA.

VIII. Deliverables Cross-Walk

Proposed	Delivered	Status
Project Website	http://jfsp.fortlewis.edu	Updated as needed
Coarse Monitoring Framework and Recommended Indicators	Web-based CWPP Registry template (https://taurus.cnr.colostate.edu/apps/logon/webauth.cfm?AppName=CWPP%20Website&AppPath=https://taurus.cnr.colostate.edu/projects/cwpp/index.cfm&CFID=3340&CFTOKEN=37523499)	Template Prototype
Diagnostic indicators of local social capacity for CWPPs	Quick Guide #6 (see citation Database)	Completed
County/local government fire planning community-assessment tool	(1) Quick Guide Series #11 (see citation database) (2) Fleeger & Sturtevant (under review) "The Interface Fire Triangle" *Int. J. of Wildland Fire*.	(1) Completed (2) In press
Case study framework and working set of indicators	(1) Cheng et al. (manuscript) *Enhancing collaborative capacity for community wildfire mitigation efforts* (2) Jakes et al. 2007. *Critical elements in the development and implementation of Community Wildfire Protection Plans* (JFSP Pub # 6569).	(1) In progress (2) In print
Lessons Learned Framework/Measures	(1) Williams, D. R., Jakes, P. et al. (manuscript), Community wildfire protection planning: Lessons from the field for enhancing collaboration and Building capacity (2) Jakes, P., Burns, S. et al. (manuscript). *Community Wildfire Protection Planning: Learning from the experiences of others*. (USDA, Forest Service, Northern Research Station Gen Tech Report)	(1) In progress (2) In progress
Regional *Lessons Learned* Workshops	(1) Knowledge Transfer Workshop Presentations and Proceedings (2) ISSRM Panel Presentation (3) Backyards and Beyond Conf. Presentation	(1-3) Completed – related documents posted on Project website
Refereed and tech transfer publications and guides documenting lessons learned	See citation database (currently includes 5 articles in print/press, 2 masters theses, and 10 papers under review or in preparation)	Completed documents posted on JFSP website
Other miscellaneous Presentations, Workshop, and Web documents	See citation database and documents on the Deliverables CD (currently includes 31 meeting/conference presentations)	Completed (Posted on JFSP website when presentation resulted in a document)

IX. Literature Cited

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Strauss, A.; Corbin, J. 1998. Basics of Qualitative Research (2nd Ed.). Thousand Oaks, CA: Sage Publications. 312 p.

Yin, R.K. 2003. Case study research: design and methods. Thousand Oaks, CA: Sage Publications.

X. Additional Reporting (Appendices and other inputs to JFSP)

A. Input into Findings Database (available from www.firescience.gov)

B. Digital Photo Library (Photos available on CD)

C. Completed Deliverables (available on CD and entered into citation database at www.firescience.gov)

D. Deliverables Citation Database (items entered into the JFSP Citation Database through February 28, 2009)

Note: This is a complete list of our websites, presentations, papers, and other reports -- both completed and in progress. Most are accompanied by documents and/or links to web postings. In some cases presentations are noted that did not result in papers or other documents. Numbers in parentheses at the end of citations refer to the JFSP reference number available at www.firesicence.gov).

Final Report

Williams, D. R., Jakes, P. J., Burns, S., Cheng, A. S., Nelson, K. C., and Sturtevant, V. E. 2009. Community Wildfire Protection Plans: Enhancing Collaboration and Building Social Capacity**.** Final Project Report (JFSP Project Number: 04-S-01)**.** February 28, 2009. Fort Collins, CO. (2051)

Websites

Community Wildfire Protection Plans: Enhancing Collaboration & Building Community Capacity. Research Project Website. http://jfsp.fortlewis.edu

CWPP Registry Prototype and Database
http://taurus.cnr.colostate.edu/apps/logon/webauth.cfm?AppName=CWPP%20Website&AppPath=https://taurus.cnr.colostate.edu/projects/cwpp/index.cfm&CFID=3340&CFTOKEN=37523499)

Knowledge Transfer Workshops and Advisory Meetings

Jakes, P., et al. 2007. *Community wildfire protection plans: examples of how context is linked to process and outcomes*. CWPP Joint Fire Science Project Advisory Team Workshop. October 2, 2007. Two Harbors, MN. (7870)

Burns, S., Jakes, P., and Sturtevant, V. 2007. *Oregon Knowledge Delivery Workshop I*. September 14, 2007. Eugene, OR. See www.fortlewis.edu/ktworshops.asp (6566)

Burns, S., Cheng, A. S., Saeli, E., Bujak, A. N., and Williams, D. R. 2007. *Colorado Knowledge Delivery Workshop II*. November 28, 2007. Lakewood, CO. See www.fortlewis.edu/ktworshops.asp (7871)

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Professional Presentations and Invited Talks

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Sturtevant, V. 2006. *Collaboration and community wildfire protection planning: A Joint Fire Science project*. Rural Voices for Collaboration Coalition, 6th Annual Community-based, Forestry Policy Meeting, November 14-16, 2006. Troutdale, OR (6556)

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Brummel, R. F., Nelson, K.C., Grayzeck, S., and Jakes, P. 2007. *Social learning and the role of science in Community Wildfire Protection Planning*. Eastfire Conference, June 6-8, 2007. Fairfax, VA. (6559)

Jakes, P., Nelson, K. C., Brummel, R., Grayzeck, S., Burns, S., Cheng, A. S., Saeli, E., Sturtevant, V., and Williams, D. R. 2007. *Community Wildfire Protection Plans - Meeting the Objectives of HFRA*. Eastfire Conference, June 6-8, 2007. Fairfax, VA. (6558)

Grayzeck, S., Nelson, K. C., Brummel, R., Jakes, P., and Williams, D. R. 2007. *Defining the wildland-urban interface: How local government becomes a partner at the table in community wildfire planning*. Eastfire Conference, June 6-8, 2007. Fairfax, VA. (7869)

Brummel, R. F., Nelson, K. C., Grayzeck, S., Jakes, P. 2007. *Social learning and the creation of Communities of Understanding in collaborative natural resource planning*. ISSRM Conference, June 17-21, 2007. Park City, UT (6561)

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Nelson, K. C., Brummel, R., Burns, S., Cheng, A. S., Grayzeck, S., Jakes, P., Saeli, E., Sturtevant, V., and Williams. D. R. 2007. *Networks as mechanisms for community wildfire preparedness: Across scale relationships building for embedded plans*. ISSRM Conference, June 17-21, 2007. Park City, UT. (6563)

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Sturtevant, V. 2008. *Assessing, Monitoring and Evaluating CWPP Context, Process and Sustainability*. Collaboration Workshop, Community Wildfire Protection, Bringing it All Together, The International Association of Fire Chiefs' Wildland Urban Interface (WUI) Conference. April 2008. Reno, NV. (7882)

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