2006

The role of trust and ownership in community wildfire protection planning in west central Montana

Paul R. Lachapelle
The University of Montana
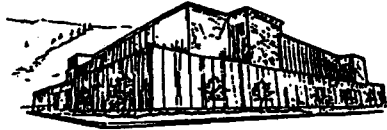
Maureen and Mike
MANSFIELD LIBRARY

The University of

Montana

Permission is granted by the author to reproduce this material in its entirety, provided that this material is used for scholarly purposes and is properly cited in published works and reports.

Please check "Yes" or "No" and provide signature

Yes, I grant permission   _____✓_____

No, I do not grant permission   _____

Author's Signature: _Paul R. Lachelle_

Date: _5·31·06_

Any copying for commercial purposes or financial gain may be undertaken only with the author's explicit consent.

8/98

THE ROLE OF TRUST AND OWNERSHIP IN COMMUNITY WILDFIRE PROTECTION PLANNING IN WEST CENTRAL MONTANA

by

Paul R. Lachapelle

B.S. University of Vermont, 1997

M.S. University of Montana, 2000

Presented in partial fulfillment of the requirements for the degree of

Doctor of Philosophy in Forestry

The University of Montana

May 2006

Approved by:

_____
Committee Chair

_____
Dean, Graduate School

_____6 - 1 - 06_____
Date

UMI Number: 3234438

INFORMATION TO USERS

The quality of this reproduction is dependent upon the quality of the copy submitted. Broken or indistinct print, colored or poor quality illustrations and photographs, print bleed-through, substandard margins, and improper alignment can adversely affect reproduction.

In the unlikely event that the author did not send a complete manuscript and there are missing pages, these will be noted. Also, if unauthorized copyright material had to be removed, a note will indicate the deletion.

UMI®

UMI Microform 3234438

Copyright 2006 by ProQuest Information and Learning Company.

All rights reserved. This microform edition is protected against unauthorized copying under Title 17, United States Code.

ProQuest Information and Learning Company
300 North Zeeb Road
P.O. Box 1346
Ann Arbor, MI 48106-1346

Lachapelle, Paul R. Ph.D., May 2006   Forestry

The Role of Trust and Ownership in Community Wildfire Protection Planning in West Central Montana

Committee Chair: Stephen F. McCool

Contemporary natural resource planning has entered an era of turbulence, described by "analysis paralysis" and increasingly characterized by inaction, appeals, litigation, animosity, distrust and occasionally even threats and violence. The reasons arise largely from competing goals and values, scientific uncertainty, changes in the scales of analysis, a focus on procedure, a technocentric approach that limits public dialogue and a history of land disposition and development resulting in fragmentation and conflicting management mandates.

Wildfire planning exhibits many of these characteristics and is a uniquely public affair since to be effective, it requires a collective responsibility in terms of preparation, prevention, and accommodation. Community Wildfire Protection Plans (CWPP), promulgated under the Healthy Forests Restoration Act, provide an opportunity for the public to participate in wildfire planning.

The terms trust and ownership (defined as whose voice is heard, who has influence over decisions and who is affected by the outcome) are increasingly cited as crucial elements in determining the potential for public involvement in natural resource planning processes and can lead to greater chances of political support and implementation. I applied ethnographic and case study techniques using face-to-face interviews with 50 individuals in communities in the Bitterroot and Seeley-Swan Valleys in west central Montana currently revising or having completed a CWPP.

In the Seeley-Swan Valley, the CWPP enhanced trust and a sense of ownership. In the Bitterroot CWPP, trust and a sense of ownership were not nearly as prevalent. However, this was not the result of efforts by the Bitterroot CWPP planning personnel, but rather from a long history of interactions in the valley pertaining to natural resource management on federal land. My findings suggest that the quality of trust and sense of ownership are conditional on the types of relationships, a convergence of definitions (including community, risk, and forest health) and a common agreement on various manifestations of authority. Strategic interests and actions of individuals or organizations from past and seemingly unrelated events appear to influence the potential for trust and a sense of ownership in the present and for some individuals, led to resistance of the current planning effort.

Acknowledgements

An education is the work of many but the product of one. I have many people to acknowledge that helped and supported my tenure at the University of Montana. I couldn't have asked for a more competent and devoted mentor and friend than Stephen McCool, my Committee Chair and Advisor. I am indebted to my committee members Jill Belsky, James Burchfield (a.k.a. Kotton Kandy) and Martin Nie from the College of Forestry and Conservation and Daniel Kemmis from the O'Connor Center for the Rocky Mountain West for their time, energy and thoughtful comments and critiques.

I am also grateful for the help of Byron Bonny at the Bitterroot RC&D Office in Hamilton, MT and John Haufler from the Ecosystem Management Research Institute, Condon, MT for logistical support in the two study sites. I am also obliged to the participants of this study from the Bitterroot and Seeley-Swan Valleys.

Numerous faculty and staff at the University of Montana made this environment more family-like. Wayne Freimund has taught me how to remain cool under pressure and Mike Patterson once again stepped up to the plate in the ninth inning and deserves accolades. Bill Borrie continued to challenge me and offer excellent advice throughout my tenure here. A big thanks to Lynn Gruszie, Jill Kinyon, Shonna Trowbridge, Jodi Todd, and Kelly Pfister for operating behind the scenes of 'gradual' students and making our lives a little bit easier. Laurie Yung, Randy Tanner, Chrissy Orshell, and Jim Riddering are great friends and colleagues and each contributed positively to my experience here.

Funding for this research and my tenure as a graduate student came from many sources. I am indebted to Alan Watson from the Aldo Leopold Wilderness Research

iii

TABLE OF CONTENTS

List of Tables

List of Figures

Chapter 1. INTRODUCTION

This dissertation is about planning. Planning broadly describes a process for selecting a desired future from many possible futures and determining the actions needed to achieve that future.[1] More simply, planning is the means to an end. Yet, determining this end implies making choices that often embody multiple competing and conflicting values, ideas, forms of knowledge and definitions of problems, while at the same time recognizing various consequences associated with those choices. Like the policy process, planning is a method of determining, "who gets what, when and how."[2]

Contemporary natural resource planning has entered an era of turbulence, described by the term "analysis paralysis."[3] The disability metaphor is striking as natural resource planning seems to be as conflictual as at any point in the history of modern natural resource administration in the United States. Natural resource planning continues to rely on a synoptic (also termed rational comprehensive) model combining a technocentric approach with limited public dialogue. Much of this planning takes place in an increasingly complex context in part due to competing values, scientific uncertainty, and changes in the scales of analysis.[4] Many contemporary planning methods continue to

---

[1] Friedmann, J. 1987. *Planning in the Public Domain: From Knowledge to Action*. Princeton: Princeton University Press refers to planning as the process of linking knowledge to action. Similarly, Ostrom, V. 1997. *The Meaning of Democracy and the Vulnerability of Democracies: A Response to Tocqueville's Challenge*. Ann Arbor: University of Michigan Press refers to the human experience as the "relationship of ideas to deeds" at 6.

[2] Clark, T. W. 2002. The Policy Process: A Practical Guide for National Resource Professions. New Haven: Yale University Press at 5.

[3] Bosworth, D. 2001. *Conflicting Laws and Regulations-Gridlock on the National Forests: Oversight Hearing before the Subcommittee on Forests and Forest Health of the House Committee on Resources, 107th Congress*: accessed Dec. 3, 2005: http://www.house.gov/resources/107cong/forests/2001dec04/mcinnis.htm.

[4] Rational comprehensive planning is defined as a linear process of relating ends to means with heavy reliance on mathematical models and quantitative analysis. For more on this and other models of planning, see Hudson, B. M. 1979. Comparison of Current Planning Theories: Counterparts and Contradictions. *Journal of the American Planning Association*, 45, 387-398.

1

preference technical information over experiential knowledge or value judgments within a formal planning structure minimizing the interaction between citizens and "experts." While there have been notable innovations in public involvement processes, in general, natural resource managing agencies continue to focus on "bullet-proofing" documents emphasizing procedure over substance, particularly when controversial issues of the public interest are concerned.

The terms trust and ownership are increasingly cited as crucial elements in natural resource planning processes.[5] As I illustrate later, there is general agreement that trust in natural resource planning has the potential to enhance individual or group learning, build relationships between citizens, improve relations with government, influence creative solutions, teach citizenship, inculcate civic virtue, allow dialogue to flourish, promote fairness in procedural efforts, and validate multiple forms of knowledge. Ownership in natural resource planning is predicated on the assumption that if individuals are intimately and authentically engaged, a sense of ownership in the plan will be created, leading to greater chances of political support and implementation.[6]

The wildfire planning environment of west central Montana exhibits many of the aforementioned characteristics: conflicting values, scientific uncertainty, multiple scales of analysis across diverse political jurisdictions, a procedural approach and competing

---

[5] Cestero, B. 1999. *Beyond the Hundredth Meeting: A Field Guide to Collaborative Conservation on the West's Public Lands*. Tucson, AZ: Sonoran Institute; McCool, S. F., & K. Guthrie. 2001. Mapping the Dimensions of Successful Public Participation in Messy Natural Resources Management Situations. *Society and Natural Resources*, 14, 309-323; Van Riper, L. 2003. *Can Agency-Led Initiatives Conform to Collaborative Principles? Evaluating and Reshaping an Interagency Program through Participatory Research*. Unpublished Ph.D. dissertation, School of Forestry, University of Montana.

[6] Throughout this research, I refer to this conception of ownership as a sense of ownership. For more on the application of sense of ownership in natural resource planning, see Wondelleck, J. M., & S. L. Yaffee. 2000. *Making Collaboration Work: Lessons from Innovation in Natural Resource Management*. Washington, DC: Island Press.

ideals of perceived risk and urgency to act.[7] A new federal policy promulgated under the Healthy Forests Restoration Act encourages involvement by the public in Community Wildfire Protection Plans (CWPP) to address the planning and management of wildfires across multiple political jurisdictions.[8]

Trust and a sense of ownership are significant but poorly understood and understudied topics related to wildfire planning. Scant research has been conducted to determine the conditions that enhance or limit trust and sense of ownership, including the ways that trust and a sense of ownership are manifested, the relative distribution of trust and sense of ownership, and how trust and sense of ownership impede or promote community wildfire protection planning. This research attempts to address some of those knowledge gaps.

1.1. Problem statement and research question

Contemporary natural resource planning in the United States continues to be influenced by a number of issues and forces. First, planning continues to rely on synoptic models through a "culture of technical control."[9] Because scientific knowledge is often privileged, and values and normative judgments are seen as secondary "information," the process of linking different forms of knowledge to action confounds current institutional arrangements. Consequently, synoptic planning models affect the means by which problems are defined, the types of knowledge that are privileged and ultimately, the

---

[7] McCool, S. F., J. A. Burchfield, D. R. Williams, & M. S. Carroll. 2006. An Event-Based Approach for Examining the Effects of Wildland Fire Decisions on Communities. *Environmental Management*, 37, 437-450.
[8] Pub. L. No. 108-148, 117 Stat. 1887.
[9] Yankelovich, D. 1991. *Coming to Public Judgment: Making Democracy Work in a Complex World.* Syracuse: Syracuse University Press at 9.

citizens who are able to participate and influence a planning process. Through the synoptic paradigm, contemporary planning continues to focus on procedural competence and not the proactive resolution of problems. In many cases, the institutional environment is not conducive to adaptive, learning-based, and experimental approaches. In this environment, natural resource institutions adopt a *satisficing* approach, in part because of lack of resources, in part because of a lack of will.[10]

Secondly, the process of planning is political since it is often characterized by conflicting goals and inherent uncertainty. Increasingly, natural resource issues are seen as "wicked" situations involving competing values and scientific uncertainty.[11] In these situations, the privileging of technical information over value judgments and the failure to recognize the uncertainty inherent in social and ecological systems often complicates planning situations and strains relationships. To further complicate matters, changes in the scale at which planning occurs increasingly confounds planning situations by extending the number of constituencies affected. Wicked situations seem to incite conflict. Conflict is increasingly prevalent in contemporary natural resource planning and expressed through inaction, appeals, litigation, animosity, distrust and occasionally even threats and violence.[12]

---

[10] Satisficing is the method of simplifying complex choices by limiting searches and selecting a satisfactory solution instead of an optimum one. The term was first coined by Simon, H. 1955. A Behavioral Model of Rational Choice. *Quarterly Journal of Economics*, 69, 99-118.

[11] See generally, Allen, G. M., & E. M. Gould, Jr. 1986. Complexity, Wickedness and Public Forests. *Journal of Forestry*, 84, 20-24; McCool, S. F., & K. Guthrie. 2001. Mapping the Dimensions of Successful Public Participation in Messy Natural Resources Management Situations. *Society and Natural Resources*, 14, 309-323; Rittel, H. W. J., & M. M. Webber. 1973. Dilemmas in a General Theory of Planning. *Policy Sciences*, 4, 155-169.

[12] According to Denson, B. 1999. Group: Federal Land Managers at Risk. *The Oregonian*, September 2, nearly 100 incidents of violence or intimidation against USFS and Bureau of Land Management employees were reported in 1998 alone. In addition, Christensen, J. 1999. Nevadans Drive out Forest Supervisor. *High Country News*, 31 reports on threats directed specifically at a National Forest Supervisor.

Finally, the ecological characteristics of the physical landscape of many areas of west central Montana are increasingly impacted by humans. These impacts include landscape fragmentation from a long history of land disposition and development, obstruction or prevention of necessary natural processes such as disturbance regimes, the implementation of political jurisdictions that often do not conform to ecological perimeters, and impacts occurring from diverse and often unknown sources at a variety of scales from local to global. Uncertainty often confounds an understanding of ecological processes that are to a greater extent understood to be stochastic, multi-causal, non-linear, non-deterministic, self-organizing, dynamic and existing simultaneously at numerous scales. A sense of ownership functions within the real world of property ownership (including intellectual property) and consequently creates tensions between the two terms.

The context of wildfire offers one window through which to study natural resource planning, the conflicts that arise, their causes and consequences, and the different approaches to involving the public.[13] Wildfire, particularly in west central Montana, is predicted to increase in frequency, intensity and size in the coming years.[14] This is the result of many factors including continued drought in the region and accumulated hazardous fuels from nearly a century of active fire suppression policies. Concurrent are residential developments in high-risk areas and the evolving and more amenity-oriented values of new migrants to the area.

---

[13] A wildfire is defined as an unplanned fire, either human-caused or from natural origins, originating or spreading outside of the urban environment.

[14] Covington, W. W. 2000. Helping Western Forests Heal. *Nature*, 408, 135-136.

5

In principle, wildfire planning is a uniquely public affair. To be effective, the management of wildfire requires a collective responsibility in terms of planning, prevention, and accommodation for at least four reasons. First, wildfire is an inherently wicked problem, with poorly understood cause-effect relationships and disagreement over various goals, values and perceptions of risk. Wildfire involves both scientific analysis to inform choices and normative judgments related to risk and values. Assessments of risk and the privileging of particular values are often subjective choices involving negotiation among competing interests. Wildfire planning is therefore political, and not just for technicians, scientists and "experts" to address since "fire is a cultural matter: it demands a whole culture's judgment."[15] Second, the wildfire problem is never "solved" as it takes place within dynamic social and ecological systems. Changing and evolving social and ecological conditions necessitate continual monitoring, evaluation and planning based on new information and judgments. Third, wildfire planning requires cross-jurisdictional and coordinated management because fire ignores political boundaries, often affecting social and ecological systems on large scales. Lastly, wildfire is described as "fundamental to our obligations as environmental stewards and is an obligation of civil society to its members and the future. The public has a duty of care for its estate, as a collective enterprise of the commonwealth."[16] In this sense, wildfire planning is an endeavor concerning the public trust, and not only for present but also future generations. The question is not should the public be involved in wildfire

---

[15] Pyne, S. J. 2004. *Tending Fire: Coping with America's Wildland Fires*. Washington, DC: Island Press at 16.
[16] Ibid at 190.

6

planning, but rather, in what capacity, with related inquires of the factors that prevent

their involvement and evaluations of the ancillary costs and benefits.

Trust and a sense of ownership have emerged from the literature as defining

forces in natural resource planning processes. Trust is also said to be "one of the most

important synthetic forces within society."[17] Trust influences the quality of interactions

among individuals and involves cooperative behaviors based on risk, interdependence,

and the fulfillment of expectations. To some extent, trust can be understood by

examining the relationships between individuals, and between individuals and

organizations.[18]

A sense of ownership involves negotiation over process (whose voice is heard),

outcome (who has influence over decisions), and distribution (who is affected by the

ownership process and outcome).[19] A sense of ownership makes explicit the privileging

of ideas, forms of knowledge and definitions of problems that take place and are

influenced by various factors including property ownership. A sense of ownership is

predicated on the notion that planning assumptions will be laid out and available for

critique, hidden agendas will be exposed, creative solutions will be identified, and

learning will occur.

---

[17] For Simmel, G. 1950. The Sociology of George Simmel. In K. Wolff (Ed.). Glencoe, IL: The Free Press at 326. As Seligman, A. 1997. *The Problem of Trust*. Princeton, NJ: Princeton University Press at 13 has argued, "the existence of trust is an essential component of all enduring social relationships." For Newton, K. 2001. Trust, Social Capital, Civil Society, and Democracy. *International Political Science Review*, 22, 201-214 at 202, trust "plays a central role, perhaps the main one, in [social behavior's] constellation of concepts."

[18] Moore, S. A. 1995. The Role of Trust in Social Networks: Formation, Function, and Fragility. In D. A. Saunders, J. Craig & E. M. Mattiske (Eds.), *Nature Conservation 4: The Role of Networks* (pp. 148-154). Surrey, New South Wales: Beatty and Sons; Weber, L. R., & A. Carter. 2003. *The Social Construction of Trust*. New York: Plenum Publishers.

[19] Lachapelle, P. R., & S. F. McCool. 2005. Exploring the Concept of "Ownership" in Natural Resource Planning. *Society and Natural Resources*, 18, 279-285.

7

There is a distinct association among trust, a sense of ownership, and planning as all are future oriented. To exhibit trust is "to anticipate the future."[20] The future is complex and often beyond comprehension, yet trust reduces uncertainty to some extent. The inability of individuals to access information, challenge "truth claims" or "own" a planning process is seen as a "pathology of power" that ultimately undermines trust.[21] Trust and a sense of ownership in a wildfire planning process can promote learning and adaptive endeavors and network relations, stimulate creative solutions, enable cooperative behavior, reduce conflict and transaction costs, and facilitate relationship building and effective responses to future crises.

There are several reasons to study the relationship between trust, a sense of ownership and wildfire planning. According to Dale Bosworth, current Chief of the US Forest Service, the Healthy Forests Initiative presents an "opportunity to build trust ... [that] will give us a chance to show that [the Forest Service is] a professional organization – that we do care about the land."[22] The multiparty monitoring associated with the CWPP is described as "an effective way to build trust."[23] The study of wildfire

---

[20] Luhmann, N. 1979. *Trust and Power*. New York: John Wiley & Sons at 10.

[21] Williams, B. A., & A. R. Matheny. 1995. *Democracy, Dialogue, and Environmental Disputes: The Contested Languages of Social Regulation*. New Haven: Yale University Press at 53. Their "dialogic model" relies on trust to span differences of technical information and value judgements since a "failure to allow different discourses to confront each other, democratically, is a guarantee of continued gridlock and policy failure" at 52.

[22] Devlin, S. 2003. "Bosworth Preps Forest Bill." *The Missoulian* November 11.

[23] US Department of Agriculture Forest Service, & US Department of the Interior Bureau of Land Management. 2004. *The Healthy Forests Initiative and Healthy Forests Restoration Act: Interim Field Guide*. FS-799, Washington, DC: U.S. Department of Agriculture, Forest Service. 58 p, at 38.

8

in west central Montana is also critical in terms of understanding how certain institutions

will cope with new wildfire policies.[24]

Despite the significance of trust and a sense of ownership in wildfire planning,

little is known of their role as either a prerequisite to or an outcome of these planning

processes. Trust and a sense of ownership appear to be critical components of planning

processes, yet questions remain as to how they influence citizens' ability and desire to be

involved in natural resource planning. Many traditional planning processes continue to

be guided by a synoptic approach that may not be appropriate within a wildfire planning

context because they limit the exchange of information and presuppose scientific

omnipotence. Synoptic processes may also become driven or controlled by those who

define the problem, those whose ideas and images are promoted and those who are

identified as a legitimate stakeholders. Therefore, a study of the role of trust and a sense

of ownership in wildfire planning can provide critical analysis of the confluence of

complex social, political and ecological processes.

Given this situation, the principal question guiding this research is:

What is the role of trust and a sense of ownership in Community Wildfire Protection Planning?

Through the lens of trust and a sense of ownership, I analyze wildfire planning in

west central Montana. Furthermore, I seek to examine and understand the degree to

---

[24] According to Lolo National Forest Supervisor Debbie Austin, "how we implement the Healthy Forests Restoration Act, will make or break the agency." The comment was made at the public forum, "Thinning the Debate: A Community Forum on the Healthy Forests Initiative" organized by the Environmental Action Community and the University of Montana's Environmental Studies Program, April 14 , 2004 at the University of Montana.

which trust and a sense of ownership are necessary or significant conditions related to being 'public' in wildfire planning.

1.2. Research objectives

Three objectives guide this research:

1. To determine what role, if any, trust and a sense of ownership play in community wildfire protection planning,

2. To determine the conditions that enhance or limit trust and a sense of ownership,

3. To establish how trust and a sense of ownership impedes or promotes the process and outcome of community wildfire protection planning.

In the following chapter, I present a review of pertinent literature and offer a conceptual framework. This framework provides for a broad understanding of natural resource planning in the United States and of wildfire planning in particular. I continue with a framework for understanding the role of the public in wildfire planning through trust and a sense of ownership, and conclude with a set of propositions.

Chapter 2. LITERATURE REVIEW and CONCEPTUAL FRAMEWORK

2.1. Overview

The goal of this chapter is to provide a conceptual framework guiding the research. I open this chapter with an examination of contemporary natural resource planning in the United States and outline its historical context, describe political issues of control over the planning process, and outline the complexities associated with changing scales of analysis and various ecological characteristics. I next discuss these dynamics as they pertain to wildfire policy and planning. I describe the notion of being 'public' regarding natural resource planning including its significance, the impediments and conditions that lead to being public. I present existing literature on transactive planning theory, theories of deliberative democracy and sense of place and note that all of these bodies of literature discuss trust and a sense of ownership as significant elements. I define and discuss trust and a sense of ownership within the context of natural resource planning in general and wildfire planning in particular and conclude with several broad propositions that serve to guide the research.

2.2. A framework for understanding natural resource planning in the United States

In order to describe resource planning in this era of turbulence, it is important to understand its historical context, political characteristics and ecological consequences.

For the purpose of providing an overview of natural resource planning in the United States, I review its historical context, political themes involving control and scales of analysis and various ecological characteristics.

11

2.2.1. The historical context of natural resource planning

The Progressive Era is defined as a movement, beginning in the late 19th Century, to reform political processes, curb the excesses of capitalism and create a more inclusive, equitable and moral society. Progressive Era initiatives were a reaction to a perceived need to restrain government collusion with business and for greater government accountability and representation, seen as hallmarks of governance in the United States.[25] Advocates of Progressive Era initiatives placed great faith in a "technical elite" working within federal bureaucracies for planning and decision making.[26] The Progressives sought to instill a political system that utilized scientific management guided by experts to serve the public interest and ensure equity and procedural fairness.

In the Progressive Era, federal agencies involved in natural resource management were allowed broad discretion to act in the public interest. Public perception of the abundance of natural capital and faith in technology negated radical reform throughout much of the early 20th Century.[27] Progressive Era ideals have evolved through increasing demands by citizens for information sharing and increased public involvement in natural resource planning beginning with the Administrative Procedure Act of 1946 and culminating in myriad legislative mandates in the 1960's and 1970's, including the National Environmental Policy Act of 1969.

---

[25] As outlined in the U.S. Constitution, in particular the separation of powers (Articles 1 to 3) and the Equal Protection Clause (Amendment 14, Sec. 1).

[26] Kemmis, D. 2001. *This Sovereign Land: A New Vision for Governing the West.* Washington, DC: Island Press at 124.

[27] Hirt, P. W. 1994. *A Conspiracy of Optimism: Management of the National Forests since World War Two.* Lincoln: University of Nebraska Press.

12

Natural resource planning processes in the United States continue to be based on the synoptic method of planning developed out of Progressive Era policies of "technocentric utilitarianism."[28] Contemporary planning continues to be influenced by Progressive Era ideals by conforming to expert-based processes and scientific analyses stressing reliance on technicians to serve the public interest.[29] Under the synoptic model, public participation conforms to a rigid, expert-based approach serving primarily as a method of information collection, one-way education and technical analysis at the expense of meaningful deliberation.[30] Under the Progressive ideal, objectives are identified early in a process and a linear course of planning is executed privileging technical information and scientific expertise over experiential knowledge and values. This serves to limit dialogue through formalized processes focused on achieving goals but often remaining inflexible to new information, divergent value orientations or changing objectives. In this sense, synoptic planning privileges one type of knowledge and information over another (expert over experiential or value-based) while orienting control over a process by specific individuals or institutions that have access to or understanding of particular knowledge. Contemporary natural resource planning continues to rely on formal public processes allowing limited interaction through timed

---

[28] Klyza, C. M. 1996. *Who Controls Public Lands? Mining, Forestry and Grazing Policies, 1870-1990.* Chapel Hill: University of North Carolina Press at 15.

[29] For Behan, R. W. 1966. The Myth of the Omnipotent Forester. *Journal of Forestry,* 64, 398-407, the "myth of the omnipotent forester" is optimized by recalling a forestry professor proclaiming to his class, "We must have enough guts to stand up and tell the public how their land should be managed. As professional foresters, we know what's best for the land" at 398. See also generally, Hays, S. P. 1959. *Conservation and the Gospel of Efficiency: The Progressive Conservation Movement, 1890-1920.* Cambridge: Harvard University Press.

[30] Poisner, J. 1996. A Civic Republican Perspective on the National Environmental Policy Act's Process for Citizen Participation. *Environmental Law,* 26, 53-94.

testimonials or statements and little opportunity or chance for rebuttal, dialogue or informal interaction.

Concurrent to the Progressive Era were myriad natural resource policies, termed the "Lords of Yesterday" that "arose under wholly different social and economic conditions but ...remain in effect due to inertia, powerful lobbying forces, and lack of public awareness."[31] These policies include a mining law that has remained essentially the same since 1872, below cost and often environmentally damaging grazing and timber harvesting policies, reclamation acts that subsidize water development through narrowly conceived dams and reservoirs and the Doctrine of Prior Appropriations based on a "first-come, first-served" water right that encourages profligate use of water. Further confounding this situation is a lack of statutory guidance (i.e. Multiple Use, Sustained Yield Act of 1960 is vague, the National Park Service Organic Act of 1916 is partially in conflict) often leading to overreaching administrative discretion.[32]

In summary, the history of natural resource planning is largely characterized by myriad statutes and policies that are largely perceived to be anachronistic, a lack of statutory detail to guide agencies, technocentrism and a synoptic approach to planning focusing on goals identified early in a process by experts purported to represent 'the' public interest. Conflict often arises based on these characteristics and the realization that there is no 'one' public interest. In most natural resource planning processes, there are multiple, competing interests with varied and often incommensurate values and meanings ascribed to the goods and services offered from natural resources. For many citizens

---

[31] Wilkinson, C. F. 1992. *Crossing the Next Meridian: Land, Water, and the Future of the West.* Washington, DC: Island Press at 17.

[32] Nie, M. 2004. Statutory Detail and Administrative Discretion in Public Lands Governance: Arguments and Alternatives. *Journal of Environmental Law and Litigation*, 19, 223-291.

14

whose values are unable to be expressed in a technocratic-oriented process, planning is no longer a task to be left up to the experts nor framed purely in technical terms. Planning is by nature political.

2.2.2. The political characteristics of natural resource planning

Planning is by definition a process for selecting a desired future, from many possible futures and determining the actions needed to achieve that future. Determining these actions is a political process since it requires negotiation between multiple, competing and often conflicting voices, ideas and forms of knowledge. This section on the political characteristics of natural resource planning is arranged by three sub-sections detailing the characteristics of "wicked" situations, the focus on proceduralism in the modern administrative state, and changing scales of analysis.

2.2.2.1. The wickedness of natural resource planning

Natural resource management situations have moved from the well-defined or "tame" to the "wicked." Situations are framed in this context based on their degree of agreement on goals and outcomes and understandings of cause and effect relationships. An heuristic model in the form of a two by two matrix for comparing wicked and tame situations is offered in Table 1.[33]

---

[33] This table was originally based on the work of Thompson, J. D., & A. Tuden. 1987. Strategies, Structures and Processes of Organizational Decision. In J. D. Thompson, P. B. Hammond, R. W. Hawkes, B. H. Junker & A. Tuden (Eds.), *Comparative Studies in Administration* (pp. 197-216). New York, NY: Garland Publishing; Stankey, G. H., S. F. McCool, R. N. Clark, & P. J. Brown. 1999. Institutional and Organizational Challenges to Managing Natural Resources for Recreation: A Social Learning Model. In T. Burton & E. Jackson (Eds.), *Leisure Studies at the Millenium*. State College, PA: Venture Publishing have adapted this model to natural resource planning.

15

Goals / Outcomes		
	Agree	Disagree
Cause and Effect Relationships — Agree	A) **Tame** (bureaucratic)	B) **Bargaining** (representation)
Disagree	C) **Mystery** (judgment)	D) **Wicked** (accommodation / inspiration)

Table 1. Matrix of natural resource situations and related methods to address the situations (based on Stankey et al. 1999).

In Cell A of the matrix are situations in which individuals agree on the goals in a given scenario and where there is general agreement on cause and effect relationships (scientific consensus about variables and processes and their interactions). In this case, the situation is termed "Tame" and bureaucratic efforts and simple computation will suffice to address the issue. Cell B is referred to as "Bargaining" characterized by representation and choices based on majorities of coalitions with cause and effect relationships understood but disagreement on goals and outcomes. Cell C are termed "Mysteries" characterized by agreement on goals but a poor understanding of cause and effect relationships.

Cell D is termed "Wicked." In these circumstances, disagreement and complexity permeates the situation necessitating a process that brings about accommodation and inspiration. Wicked situations are typified by the following characteristics:

1. multiple and competing goals,

2. little agreement on cause-effect relationships (uncertainty),

3. limited time and resources,

4. lack of information and,

16

5. structural inequities in access to information and the distribution of political

power.[34]

In wicked situations, problems arise from the "solutions" to past problems since, "every wicked problem can be considered to be a symptom of another problem."[35] For brevity of discussion, I focus on the first two characteristics of wicked situations: competing goals and uncertainty.[36] Competing goals are often the impetus for conflict in natural resource planning. The goods and services expected or demanded from natural resources are identified or measured by a range of values and value judgments. These goods and services include not only commodity values (that are often easily quantifiable), but also public use values, amenity values, environmental quality values, ecological values, bequest values and spiritual values.[37] These types of values are hardly subject to typical expert analysis tools (such as linear programming and geographic information systems) and require different planning processes if they are to be identified, weighed and

---

[34] See generally, McCool, S. F., & K. Guthrie. 2001. Mapping the Dimensions of Successful Public Participation in Messy Natural Resources Management Situations. *Society and Natural Resources*, 14, 309-323; Rittel, H. W. J., & M. M. Webber. 1973. Dilemmas in a General Theory of Planning. *Policy Sciences*, 4, 155-169; Shindler, B., & L. A. Cramer. 1999. Shifting Public Values for Forest Management: Making Sense of Wicked Problems. *Western Journal of Applied Forestry*, 14, 28-34.

[35] Rittel, H. W. J., & M. M. Webber. 1973. Dilemmas in a General Theory of Planning. *Policy Sciences*, 4, 155-169 at 165.

[36] In a subsequent section of this study on ownership, I discuss the last characteristic of access to information and issues of power.

[37] As Williams, D. R., & M. E. Patterson. 1999. Environmental Psychology: Mapping Landscape Meanings for Ecosystem Management. In H. K. Cordell & J. C. Bergstrom (Eds.), *Integrating Social Sciences with Ecosystem Management: Human Dimensions in Assessment, Policy, and Management* (pp. 141-160). Champaign, IL: Sagamore at 143 assert, "many important meanings and values are not identified through exchange or market transactions alone, if at all." For similar views, see also Clark, R. N., G. H. Stankey, & L. E. Kruger. 1999. From New Perspectives to Ecosystem Management: A Social Science Perspective on Forest Management. In J. Aley, W. R. Burch, B. Conover & D. Field (Eds.), *Ecosystem Management: Adaptive Strategies for Natural Resources Organizations in the 21st Century* (pp. 73-82); Stankey, G. H., S. F. McCool, & R. N. Clark. 2003. Building Innovative Institutions for Ecosystem Management: Integrating Analysis and Inspiration. In B. A. Shindler, T. M. Beckley & M. C. Finley (Eds.), *Two Paths toward Sustainable Forests: Public Values in Canada and the United States* (pp. 271-295). Corvallis, OR: Oregon State University Press.

evaluated. A planning process that negates or minimizes certain values will inevitably create adversity and lead to conflict in a value-laden political arena.

Conflict is not necessarily bad and can initiate action and lead to positive change with widespread agreement. Yet, conflict has in many cases led to inaction, appeals, litigation, animosity, distrust and occasionally even threats and violence. Certain approaches to planning such as synoptic models, can and often have exacerbated conflict with this result. Control in natural resource planning is most commonly expressed by privileging certain values, forms of knowledge and information in a planning process.

Differing values and forms of knowledge when applied to landscapes have been referred to as environmental "imaginaries" involving competing conceptions of how the land should look, what role government should play (particularly in regulating private land use) and ultimately, how nature is viewed and used. Imaginaries involve "prime sites of contestations between normative visions. ...they challenge the very basis of society - how people use nature, how human nature comes about, how imaginations are imagined."[38] Competing "imaginaries" has led to the proverbial clash of cultures, often with pejorative overtones. As a result, individuals in communities may not share objectives and conceptions of a landscape.

In the American West, tensions have resulted from the "New West" economy and changing values associated with the shift from traditional extractive industries to more

---

[38] Peet, R., & M. Watts. 1996. Conclusion: Towards a Theory of Liberation Ecology. In R. Peet & M. Watts (Eds.), *Liberation Ecologies: Environment, Development, Social Movements* (pp. 260-296). New York: Routledge at 268. For other references to "imaginaries" see also, Nesbitt, J. T., & D. Weiner. 2001. Conflicting Environmental Imaginaries and the Politics of Nature in Central Appalachia. *Geoforum*, 32, 333-349; Walker, P., & P. Hurley. 2004. Collaboration Derailed: The Politics of "Community-Based" Resource Management in Nevada County. *Society and Natural Resources*, 17.

18

service-oriented approaches in local economies.[39] The New West economy continues to redefine migration patterns, demographic characteristics, and access to local goods or services. Populations growth rates in the 13 western states are nearly twice the national average with the fastest-growing areas being rural, (as opposed to urban or suburban areas) and conversion of agricultural land for residential, commercial, and industrial uses taking place in some of the most productive areas for ranching and wildlife.[40] In west central Montana, the conversion of land, gentrification of communities and increasing real estate value is occurring with little to no local, municipal, county or state planning regulation. These rapid economic changes have influenced how communities work together to address complex natural resource situations.[41] New socioeconomic arrangements present challenges in natural resource planning with implications for land managers and citizens alike.

The second component of wicked situations involves the inherent complexity and related uncertainty in cause and effect relationships. These are not situations "where inputs, outputs, and intermediate actions or reactions occur in a scientifically predictable manner ... [and therefore] science and analysis are of secondary assistance to politics."[42] Uncertainty is often obscured or discounted in technical language or complex statistical analyses. Indeed, language is critical since, "the words we use and the ideas with which we work are the most fundamental part of human reality. How we communicate with one

---

[39] Riebsame, W., J. Robb, P. Limerick, & W. Wilkinson. 1997. *Atlas of the New West: Portrait of a Changing Region.* New York: W.W. Norton.

[40] Christensen, J. 2004. "Who Will Take over the Ranch?" *High Country News* March 29.

[41] See generally, McCool, S. F., & L. Kruger. 2003. *Human Migration and Natural Resources: Implications for Land Managers and Challenges for Researchers.* Portland, OR: USDA Forest Service, Pacific Northwest Research Station.

[42] Allen, G. M., & E. M. Gould, Jr. 1986. Complexity, Wickedness and Public Forests. *Journal of Forestry,* 84, 20-24 at 22.

another, think, act, and do whatever we seek to achieve is shaped by the ambiguities of language."[43] The obfuscation of uncertainty can be considered a mechanism of control since technical-scientific analysis (such as computer modeling) is accessible and interpretable to a select few.

Recognizing the uncertainty inherent in ecological processes (and concurrent sociological processes), particularly at large watershed or landscape scales, is becoming more common. An acknowledgement of uncertainty within many academic disciplines including landscape ecology, political science, sociology and conservation biology is becoming more frequent and detailed.[44] For example, landscape ecology has undergone considerable evolution in recent years with an emphasis on recognizing complexity and uncertainty in understanding natural processes and relationships between cause and effect. Whereas in the past, natural processes were seen as homeostatic, predictable, linear, and steady-state, they are now viewed as "multi-causal, non-linear, non-deterministic, self-organizing and dynamic, an interacting maze of patterns and processes that exist simultaneously at numerous scales."[45]

---

[43] Ostrom, V. 1997. *The Meaning of Democracy and the Vulnerability of Democracies: A Response to Tocqueville's Challenge.* Ann Arbor: University of Michigan Press at 8 who also states the "fate of humanity is…confined to learning how to read the shadows on the walls of the Cave, to use Plato's metaphor. The shadows …are the words we use to stand for, symbolize, or represent 'reality' " at 7.

[44] See generally, Dietz, T., & P. C. Stern. 1998. Science, Values, and Biodiversity. *BioScience,* 48, 441-444; McCool, S. F., & G. H. Stankey. 2004. Indicators of Sustainability: Challenges and Opportunities at the Interface of Science and Policy. *Environmental Management,* 33, 294-305; Peterson, G. D., G. S. Cumming, & S. R. Carpenter. 2003. Scenario Planning: A Tool for Conservation in an Uncertain World. *Conservation Biology,* 17, 358-366; Regan, H. M., Y. Ben-Haim, B. Langford, W. G. Wilson, P. Lundberg, S. J. Andelman, & M. A. Burgman. 2005. Robust Decision-Making under Severe Uncertainty for Conservation Management. *Ecological Applications,* 15, 1471–1477.

[45] Shultis, J. 2005. *Living in Interesting Times: Selected Implications of Landscape Ecology for Conservation Science.* In A. Watson, L. Dean & J. Sproull (Eds.), *Science and stewardship to protect and sustain wilderness values: Eighth World Wilderness Congress.* September 30-October 6; Anchorage, AK. Proceedings RMRS-P-000. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station.

20

Much of the uncertainty associated with complexity leads to incommensurable data in which the findings in one location or at one scale often cannot be extrapolated to a similar ecosystem.[46] Each unique ecological scenario reveals different responses to natural or human-based disturbances such as fragmentation. The level of variation of what some refer to as "three body problems" involving three or more interacting variables, whether in landscape ecology, physics or human behavior, is often too complex to predict with any degree accuracy.[47] Manipulation and control within a planning process can exist when language is used to definitively assert statements that may not be authentic or accurate. Science is an activity, not a position and viewpoints that are based solely on appeals to one's authority as a scientist can be dogmatic and can exacerbate a "pathology of power."[48]

Uncertainly confounds the policy process in terms basing decisions on "best available science" mandates.[49] The mix of science and uncertainty "baffles legal analysis" since scientists must often gauge the notion of certainty using a criteria of 95% confidence that cause and effect have been established.[50] Synoptic approaches are suitable and highly effective methods of planning in situations where problems are well defined, values are shared and goals unambiguous and uncontested. However, situations rooted in conflicting goals, value differences and incalculable uncertainty are social and

---

[46] Landres, P. B., P. Morgon, & F. J. Swanson. 1999. Overview of the Use of Natural Variability Concepts in Managing Ecological Systems. *Ecological Applications*, 9, 1179-1188.

[47] Chomsky, N., P. R. Mitchell, & J. Schoeffel. 2002. *Understanding Power: The Indispensable Chomsky*. New York: New Press at 219.

[48] Williams, B. A., & A. R. Matheny. 1995. *Democracy, Dialogue, and Environmental Disputes: The Contested Languages of Social Regulation*. New Haven: Yale University Press at 53.

[49] Nie, M. 2004. Statutory Detail and Administrative Discretion in Public Lands Governance: Arguments and Alternatives. *Journal of Environmental Law and Litigation*, 19, 223-291 at 247.

[50] Kleiss, M. E. 2003. NEPA and Scientific Uncertainty: Using the Precautionary Principle to Bridge the Gap. *Minnesota Law Review*, 87, 1215-1244 at 1216.

political rather than technical and require approaches different from synoptic models of planning.

2.2.2.2. Proceduralism in the modern administrative state

Proceduralism refers to organizational design that ensures efficient and effective resolution of problems by focusing primarily on the establishment of rules and procedures "so as to minimize the amount of discretion left to individuals."[51] Flexibility is kept to a minimum to ensure productivity and the methodical attainment of goals. This is not to say that procedure plays no role in planning. There is great significance and purpose to procedure in planning and decision making (i.e., in terms of notice, fairness, predictability, and equity). However, the problem is not a focus on procedure, but an over-reliance on procedure and the resulting process of being mired in structure at the expense of flexibility and creativity.

Synoptic planning has adopted a proceduralist approach whereby flexibility is negated to ensure efficiency. Synoptic planning is structured in a distinctly linear process whereby the public and agencies interact only at distinct and predetermined times. The procedural focus of the US Forest Service (USFS) has been referred to by its former Chief Thomas as "The Blob."[52] Others have commented that planning in the USFS is a "decision-making apparatus... [on the] verge of collapsing."[53] The Government

---

[51] Hickok, E. 2001. Bureaucracy. In S. M. Lipset (Ed.), *Political Philosophy: Theories, Thinkers and Concepts* (pp. 287-290). Washington DC: Congressional Quarterly at 288.

[52] Thomas, J. W. 1998. The Lubrecht Conversations. *Chronicle of Community*, 3, 9-16.

[53] McInnis. 2001. *Conflicting Laws and Regulations-Gridlock on the National Forests: Oversight Hearing before the Subcommittee on Forests and Forest Health of the House Committee on Resources, 107th Congress*: accessed Dec. 3, 2005: http://www.house.gov/resources/107cong/forests/2001dec04/mcinnis.htm.

22

Accounting Office (GAO) has stated, "the Forest Service's decision-making process is broken and in need of repair"[54] and continues to operate as a status quo agency despite the need for fundamental change.[55] Admittedly, the courts and congress play a role in how planning is executed (i.e., the congressional mandate to plan, best available science mandates, and how the courts enforce the hard look doctrine of National Environmental Policy Act and the arbitrary and capricious standard of Administrative Procedure Act). However, the agencies still maintain discretion as to how planning is executed above and beyond congressional mandates or judicial oversight.

Agencies control planning by dictating the process by which interaction takes place and how and what type of information is distributed and used.[56] The fear of litigation has caused agencies to "bullet-proof" documents in order to prevent lengthy and expensive litigation and appeals.[57] This "bullet-proofing" of documents leads to narrow issue framing and a focus on expert opinion with "a general agency preference for creating legally acceptable documents rather than ...proactive resolution of concerns."[58]

As a result of the fear of litigation or appeals, natural resource agencies are increasingly concerned with meeting the letter of the law and related issues of legal

---

[54] Government Accounting Office. 1997. *Forest Service Decision-Making: Greater Clarity Needed on Mission Priorities* at 9. The report specifically cites "inadequate attention to improving accountability for expenditures and performance; difficulty reconciling issues that transcend the agency's administrative boundaries and jurisdiction; and tensions between requirements of numerous planning and environmental laws" at 1.

[55] Government Accounting Office. 2003. *Forest Service: Little Progress on Performance Accountability Likely Unless Management Addresses Key Challenges.*

[56] Poisner, J. 1996. A Civic Republican Perspective on the National Environmental Policy Act's Process for Citizen Participation. *Environmental Law*, 26, 53-94 at 54 states, "administrators must listen to citizens. But what are they to do with the information they hear?"

[57] Cortner, H. J., & M. A. Moote. 1999. *The Politics of Ecosystem Management.* Washington, DC: Island Press.

[58] Wik, J., L. Caldwell, R. Clark, A. DuVarney, J. McElfish, A. Hogan, R. Solomon, & J. Sutton. 2000. *NEPA Review: Reclaiming NEPA's Potential: Can Collaborative Processes Improve Environmental Decision Making?* (pp. 7-21). Missoula: O'Connor Center for the Rocky Mountain West at 7.

accountability.[59] Accountability is defined as "a system, or set of mechanisms, designed

to make sure promises are kept, duties are performed, and compliance is forthcoming …

[implying] obligation and responsibility to an authority, group, standard, mandate, or

behavioral norm."[60] While following public involvement mandates are significant,

natural resource management institutions are routinely criticized for being unaccountable

in terms of representing the broad public interest, financial mismanagement and ability to

produce on-the-ground results.[61]

Many land managing agencies are increasingly focused on the legalities of being

fair and balanced with procedures that allow citizens equal access to decision makers.

The outcome has created a "highly complex procedural machinery of checks and

balances and mixed forms of government."[62] Instead of more or better public

involvement, proceduralism has further strengthened "our gradual shift, in our practices

and institutions, from a public philosophy of common purposes to one of fair procedures,

from a politics of good to a politics of right, from the national republic to the procedural

republic."[63] Consequently, in the procedural republic, citizens have more incentive and

can more easily work toward initiating self-interest than improving a common good. The

focus on proceduralism further strengthens the notion of citizens who are

"unencumbered" from the responsibilities of solving collective problems.[64] To a large

---

[59] Radin, B. A., & B. S. Romzek. 1996. Accountability Expectations in an Intergovernmental Arena: The National Rural Development Partnership. *Publius: The Journal of Federation*, 26(2): 59-81 at 60 note, "few issues are as fundamental in the American political system as that of accountability."
[60] Weber, E. P. 2003. *Bringing Society Back In: Grassroots, Ecosystem Management, Accountability and Sustainable Communities*. Cambridge: The MIT Press at 11.
[61] Ibid, citing among others, several reports by the Government Accounting Office (GAO).
[62] Kemmis, D. 1990. *Community and the Politics of Place*. Norman, OK: University of Oklahoma Press at 13.
[63] Sandel, M. 1984. The Procedural Republic and the Unencumbered Self. *Political Theory*, 12, 81-96 at 93.
[64] Ibid.

degree, "keeping citizens apart" has dominated the methods by which United States citizens structure both their government and culture and "has become the first maxim of modern politics."[65]

The discretion of natural resource agencies has been tempered by legislation that requires improved information sharing, greater public involvement and consideration of a broader range of values and consequences. There are over 200 statutes related to planning and public participation in the four prominent federal land managing agencies.[66] Each of the agencies must follow administrative direction as outlined through their enabling legislation, various supplemental planning regulations, and process guidelines, planning manuals and handbooks that outline in detail specific requirements for public participation. Some of the planning mandates contain significant overlap.

Today, through the Due Process Clause, and a string of legislative mandates from the Administrative Procedure Act of 1946 to National Forest Management Act of 1976, public input on potential government actions is provided through a guarantee of notice and an opportunity to be heard.[67] These legislative mandates are responses to the perceived deficiencies of the Progressive Era and related agency planning models that operated "in a vacuum" and tended to isolate the public from decision-makers. These statutes were designed to increase the transparency of state and federal decision making processes and ensure greater representation and accountability.

---

[65] Kemmis, D. 1990. *Community and the Politics of Place*. Norman, OK: University of Oklahoma Press at 18.

[66] Pasko, B. S. 2002. The Great Experiment That Failed? Evaluating the Role of a "Committee of Scientists" as a Tool for Managing and Protecting Our Public Lands. *Environmental Law*, 32, 509-548.

[67] Due Process Clause, Amendment 5; Equal Protection Clause, Amendment 14 U.S. Constitution.

25

The methods of execution by agencies has been replete with criticism of their focus on procedure instead of substance and the often ambiguous and conflicting mandates prescribed in the statutes.[68] For example, the National Environmental Policy Act of 1969 is described as having the rigidity of a military decision-making process where needs are identified, alternatives are established, advantages and disadvantages are weighed and a final decision is made and implemented.[69] Another example is the Federal Advisory Committee Act (FACA) of 1972, cited as an impediment to public participation with its attention to meeting demanding requirements with often ambiguous and conflicting mandates.[70] Various types of public involvement processes can be substantially affected by FACA through the substantive and procedural requirements imposed on groups.[71] The statute embodies two fundamental tenets of democracy through open access and balanced representation. This statute pertains to government "advisory committees," and applies to groups that provide "advice or recommendations" to the federal government that are either "established" or "utilized" by the government.[72]

---

[68] See generally, Caldwell, L. 1998. *The National Environmental Policy Act: An Agenda for the Future.* Bloomington, IN: Indiana University Press; Cortner, H. J., & M. A. Moote. 1999. *The Politics of Ecosystem Management.* Washington, DC: Island Press; Solomon, R. M., S. Yonts-Shepard, & W. T. Supulski. 1997. Public Involvement under NEPA: Trends and Opportunities. In R. Clark & L. Canter (Eds.), *Environmental Policy and NEPA: Past, Present, and Future* (pp. 261-276). Boca Raton, FL: St. Lucie Press.

[69] Webster, R. 1997. Increasing the Efficiency and Effectiveness of NEPA through the Use of Technology. In R. Clark & L. Canter (Eds.), *Environmental Policy and NEPA: Past, Present, and Future* (pp. 215-228). Boca Raton, FL: St. Lucie Press.

[70] See generally, Brendler, T. 1997. The Federal Advisory Committee Act: What You Need to Know. *Chronicle of Community*, 1, 44-47; Cortner, H. J., & M. A. Moote. 1999. *The Politics of Ecosystem Management.* Washington, DC: Island Press; Schlager, D. B., & W. A. Freimund. 1994. *Institutional and Legal Barriers to Ecosystem Management.* Missoula, MT: School of Forestry, The University of Montana; Selin, S. W., M. A. Schuett, & D. S. Carr. 1997. Collaborative Planning and the USDA Forest Service: Land Manager Perspectives. In W. F. Kuentzel (Ed.), *Proceedings of the 1996 Northeastern Recreation Research Symposium* (pp. 101-104). Bolton Landing NY.

[71] Barker, A., H. Chamberlain, J. Eyre, B. Gomez, J. Hofberger, J. Jones, A. Kingston, M. McBride, K. Robinson, D. Smith, M. Smith, M. Smith, & R. Ressetar. 2003. The Role of Collaborative Groups in Federal Land and Resource Management: A Legal Analysis. *Journal of Land, Resources, and Environmental Law*, 23, 67-141.

[72] Federal Advisory Committee Act, 5 U.S.C. 3(2) (2000).

26

According to the U.S. District Court for Washington, D.C., "scholarship in the aggregate has revealed FACA to be an uncomfortably broad statute, dating from 1972, that would, if literally applied, stifle virtually all non-public consultative communication between policy-making federal officials and a group of any two or more other people."[73]

With the many legislative mandates to involve citizens in natural resource planning come broad agency discretion in how to carry them out and engage the public in a substantive way. Paradoxically, it is the natural resource agencies themselves instead of some external authority that are often responsible for stringent procedural guidelines and bureaucratic requirements. The mechanization of an inherently dynamic and potentially creative planning process inevitably leads to formal meetings, one-way dissemination of information and the disjointed execution of mandated planning phases to attain an end that is described more by the production of a plan than the creation of a new future. A typical public hearing often becomes a highly charged public atmosphere that emphasizes one-way flows of communication and an opportunity to claim negotiating positions. Often, during the public "hearing," no one is "listening." Middle ground positions are rarely presented as groups use public hearing formats not as a process designed to establish dialogue around issues and goals but rather to out-coerce the opponent. It is evident that many agencies involved in natural resource planning have come to view procedural obligations as hurdles to overcome rather than strategic opportunities to improve public participation and relations. The "procedural-ization" of a dynamic and potentially creative process inevitably leads to formal meetings (often with time limits for discussion), one-way dissemination of information (with experts

---

[73] Northwest Forest Res. Council v. Espy, 846 F. Supp. 1009, 1010 (D.D.C. 1994).

"educating" lay people), privileging certain information over others (values and

normative judgments being placated), and a disjointed execution of mandated planning

phases focused on outcome instead of process.[74]

In choosing a focus on procedure over substance, agencies indirectly control the

type of discussion that takes place and forms of knowledge considered legitimate. The

reformist legislation that was supposed to provide for greater public involvement and

information sharing has in many cases actually been responsible for greater alienation,

apathy, bureaucracy, and conflict.

2.2.2.3. Changing scales of analysis

Natural resource problems can be examined at various scales with an implicit

recognition of connection between these scales.[75] Scales of analysis refer to how a

situation is viewed in terms of spatial or temporal characteristics and the interactions

between these scales. Issues of scale are often central in natural resource planning. A

deliberate focus on spatial scales of analysis can lead to insightful "chains of

explanation."[76] Social and ecological scales are referred to as "nested" within a complex

web of interactions.[77] Recall uncertainty as a characteristic of wicked situations.

---

[74] Lachapelle, P., S. F. McCool, & M. E. Patterson. 2003. Barriers to Effective Natural Resource Planning in a "Messy" World. *Society and Natural Resources*, 16, 473-490.

[75] Blaikie, P. 1995. Changing Environments or Changing Views? *Geography*, 80, 203-214.

[76] Blaikie, P., & H. Brookfield. 1987. *Land Degradation and Society*. New York: Methuen Press at 46.

[77] Singleton, S. 2002. Collaborative Environmental Planning in the American West: The Good, the Bad and the Ugly. *Environmental Politics*, 11, 54-75 at 69 refers to "nested watersheds" whereby the causes and effects of environmental problems reach beyond local boundaries; Dietz, T., E. Ostrom, & P. C. Stern. 2003. The Struggle to Govern the Commons. *Science*, 302, 1907-1912 refer to the need for "nesting" institutional arrangements since centralized, command and control governing structures have a history as "catastrophic failures," at 1910; For a general discussion on the inherent complexity of scale in natural resource planning, see Lovell, C., A. Mandondo, & P. Moriarty. 2002. The Question of Scale in Integrated Natural Resource Management. *Conservation Ecology*, 5, accessed Mar. 5, 2006: http://www.consecol.org/vol5/iss2/art25/.

28

Uncertainty is compounded within the interplay of various scales in terms of ecological and social processes. The means by which dynamic social and ecological processes interact at different scales presents great uncertainty in terms of prediction and extrapolation from one scale to another.[78] Increasingly, the perception of scale transcends "local" contexts whereby planning has become regional, national or even global. The interactions and influences between various scales, from local to global, are becoming more common and difficult to discern.[79] Global market forces have influenced the scale of planning, particularly in resource-dependent communities in the American West.[80]

Changing scales of analysis, either through citizen demands, legislative decree or administrative discretion have created conflict in planning processes. Natural resource planning efforts are often confounded by the interface of global pressures, federal mandates, local interests and property rights. Scale issues and resulting tensions arise for myriad reasons. For example, often natural resource agencies fail to incorporate or encourage natural processes such as disturbance when planning.[81] Furthermore, federally-mandated, large-scale assessments and planning efforts encompassing multiple watershed (sometimes covering thousands of square kilometers), such as the National Forest Management Act of 1976, can directly or indirectly affect millions of people. One

---

[78] Landres, P. B., P. Morgon, & F. J. Swanson. 1999. Overview of the Use of Natural Variability Concepts in Managing Ecological Systems. *Ecological Applications*, 9, 1179-1188.

[79] According to Held, D. 1995. *Democracy and the Global Order*. Cambridge: Polity Press at 20, "the stretching and deepening of social relations and institutions across space and time such that, on the one hand, day-to-day activities are increasingly influenced by events happening on the other side of the globe and, on the other hand, the practices and decisions of local groups can have significant global reverberations."

[80] See generally, Haynes, R. W. 2003. *An Analysis of the Timber Situation in the United States: 1952 to 2050* (pp. 254). Gen. Tech. Rep. PNW-GTR-560. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station.

[81] McCool, S. F. 2003. *Managing Natural Disturbances and Sustaining Human Communities: Implications of Ecosystem-Based Management of Public Lands*: Kruger, Linda E., tech. ed. 2003. Understanding community-forest relations. Gen. Tech. Rep. PNW-GTR-566. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 162 p.

example is the interagency working group titled, the Forest Ecosystem Management Assessment Team (FEMAT), created by President Clinton in 1993 to address timber harvesting and northern spotted owl conflicts in the Pacific Northwest and northern California. This process highlighted the difficulty of having different scientific disciplines communicate with each other and with citizens and in assessing and integrating social and ecological processes at a landscape-scale.[82]

There have been a number of initiatives to address issues associated with scale in planning. There have been calls for strengthening or expanding large scale planning efforts, such as the National Ecosystem Management and Restoration Act that would address natural resource management at a landscape scale to "frame wilderness protection in a bioregional context."[83] In North America, other schemes to address scale include the Yellowstone to Yukon initiative that analyzes ecological, social and political issues at scales previously considered untenable.[84] Other recommendations to more closely scrutinize scale in natural resource planning include the recent USFS Committee of Scientists' Recommendations for National Forest Planning Report.[85] Each of these examples provides evidence that scales of planning and analysis are significant factors for citizens and land managers and serve to complicate planning situations, particularly when

---

[82] Clark, R. N., & G. H. Stankey. 1994. FEMAT's Social Assessment: Framework, Key Concepts and Lessons Learned. *Journal of Forestry*, 92, 32-35.

[83] Bader, M. 1999. *Wilderness-Based Ecosystem Protection in the U. S. Northern Rockies, Wilderness Science in a Time of Change*. Missoula. There appears support for this legislation as NREPA had 72 sponsors in the 105th Congress. On the concept of ecosystem-based legislation, see generally Keiter, R. B. 1994. Beyond the Boundary Line: Constructing a Law of Ecosystem Management. *University of Colorado Law Review*, 65, 293.

[84] Chester, C. C. 2003. Responding to the Idea of Transboundary Conservation: An Overview of Publics Reaction to the Yellowstone to Yukon (Y2y) Conservation Initiative. *Journal of Sustainable Forestry*, 17, 103-125.

[85] Johnson, K. N., J. Agee, R. Beschta, V. Dale, L. Hardesty, J. Long, L. Nielsen, B. Noon, R. Sedjo, M. Shannon, R. Trosper, C. Wilkinson, & J. Wondolleck. 1999. Sustaining the People's Lands: Recommendations for Stewardship of the National Forests and Grasslands into the Next Century. *Journal of Forestry*, 97, 6-12.

stakeholders identify and value social and ecological attributes at different or competing

scales. While landscape-scale planning, such as the new ecosystem management

approach of many federal agencies, has been attempted by the natural resource agencies,

critics have viewed these as only cursory attempts.[86] Challenges for crafting or reforming

existing institutions that can function and respond to multiple and changing scales of

analysis are becoming more common and detailed.[87]

One fundamental scale challenge has been described in terms of competing

definitions of "community" and the integration of "communities of place" and

"communities of interest."[88] Planning processes are frequently focused on a particular

geographic location with regard to a state or federal jurisdictional boundary. Yet, there is

often interest in a planning process by groups who do not reside within that boundary. A

"community of interest" is often linked by values and corresponding demands that can be

local to global in scale. A "community of place" implies a constituency with a

geographic focus exhibiting "a shared identity, culture and social system ...[in which] the

connection to or identification with a shared place is the predominant organizing force."[89]

---

[86] Cortner, H. J., & M. A. Moote. 1999. *The Politics of Ecosystem Management*. Washington, DC: Island Press at 51 caution that while ecosystem-based management may employ adaptive and flexible management regimes, "the values, theories, methodologies, and tools of the old paradigm have not yet been discarded."

[87] See generally, Bawa, K. 2004. Reconciling Conservation Paradigms. *Conservation Biology*, 18, 859-860; Berkes, F. 2004. Rethinking Community-Based Conservation. *Conservation Biology*, 18, 621-630; Stern, P. C., T. Dietz, & E. Ostrom. 2002. Research on the Commons: Lessons for Environmental Resource Managers. *Environmental Practice*, 4, 61-64; McCay, B. J. 2002. Emergence of Institutions for the Commons: Contexts, Situations, and Events, *Drama of the Commons*; Trombulak, S. 2003. An Integrative Model for Landscape-Scale Conservation in the Twenty-First Century. In B. Minteer & R. Manning (Eds.), *Reconstructing Nature: Finding Common Ground* (pp. 263-276). Washington D. C.: Island Press; Wilshusen, P. R. 2003. *Exploring the Political Contours of Conservation: A Conceptual View of Power in Practice*. In S. R. Brechin, P. R. Wilshusen, C. L. Fortwanger & P. C. West (Eds.), *Contested Nature: Promoting International Biodiversity with Social Justice in the 21st Century* (pp. 41-57). New York: SUNY Press.

[88] Cestero, B. 1999. *Beyond the Hundredth Meeting: A Field Guide to Collaborative Conservation on the West's Public Lands*. Tucson, AZ: Sonoran Institute.

[89] Ibid at 10.

31

Defining scale through these competing notions of "community" remains a complex and often controversial prospect in natural resource planning. The term community can be an instrument of control since the label "can be used coercively to create local resource management plans in ways that may or may not empower local people."[90] Failure to properly define community can leave individuals or groups ostracized from a planning process leading to a lack of access or control for those who feel they are legitimate stakeholders.

2.2.3. The ecological characteristics of natural resource planning

The history of land disposition in the United States has had profound impacts on land settlement and management.[91] Laws and policies have culminated in the random and often haphazard settlement and development of land, both public and private. Grants to miners, railroads, timber and water interests further perpetuated the fragmentation of land. The era of federal land disposition and the largely indiscriminate demarcation of public lands, particularly in the American West, have fractured natural landscapes, creating a 'checkerboard' pattern of land tenure. Former Forest Service Chief Jack Ward Thomas candidly commented, "The son-of-a-bitch that invented checkerboards ought to be sitting in hell on coals roasting. For a very long time. ...Let's face it: ecological systems don't come in squares."[92] The ecological ramifications of the checkerboard

---

[90] Brosius, J. P., A. L. Tsing, & C. Zerner. 1998. Representing Communities: Histories and Politics of Community-Based Natural Resource Management. *Society and Natural Resources*, 11, 157-168 at 159.

[91] The General Land Ordinance of 1785 marks the beginning of the era of disposition of the public domain, continuing with Homestead Act of 1862, the Enlarged Homestead Act of 1909 and the Stock-Raising Homestead Act of 1916.

[92] As quoted in Szpaller, K. 2003. "Signs of the Times: What Are Plum Creek's Plans for Lolo Pass?" *Missoula Independent* January 30-February 6 at 9.

system of land ownership have been reviewed by myriad conservation biologists who note the profound implications of natural landscape fragmentation and need for coordinated (but often science-based) approaches.[93] Related to land fragmentation are the critical environmental situations currently affecting populations of flora and fauna, not only in the United States, but globally.[94]

Conflict over natural resources in the United States often stems from the checkerboard pattern of land tenure.[95] For example, the checkerboard design has led to conflict in planning in a number of policy arenas: over endangered species and issues of "takings;"[96] state trust lands and related revenue generation;[97] and government subsidies and usufruct arrangements such as grazing rights and mineral leasing.[98]

Calls to address the ecological issues inherent in natural resource planning focus on a 'bioregional' approach toward land management. Bioregionalism is based on an "organic phenomenon" in which landscape patterns, including hydrology, soil, vegetation and other biophysical attributes and processes, play a primary role in land use planning

---

[93] See generally, Noss, R., & A. Cooperrider. 1994. Saving Nature's Legacy: Protecting and Restoring Biodiversity. Washington D. C.: Island Press; Trombulak, S. 2003. An Integrative Model for Landscape-Scale Conservation in the Twenty-First Century. In B. Minteer & R. Manning (Eds.), *Reconstructing Nature: Finding Common Ground* (pp. 263-276). Washington D. C.: Island Press.

[94] See generally, McKibben, B. 1999. *The End of Nature*. New York: Anchor Books; Orr, D. W. 2003. Walking North on a Southbound Train. *Conservation Biology*, 17, 348-351; Vitousek, P. M., H. A. Mooney, J. Lubchenco, & J. M. Melillo. 1997. Human Domination of Earth's Ecosystems. *Science*, 277, 494-499; Wilson, E. O. 2002. *The Future of Life*. New York: Alfred A. Knopf.

[95] Nie, M. 2003. Drivers of Natural Resource-Based Political Conflict. *Policy Sciences*, 36, 307-341 comments on the pattern of land tenure in the United States as one of the main "drivers" of conflict in natural resource planning and management.

[96] Coggins, G. C., C. F. Wilkinson, & J. D. Leshy. 2002. *Federal Public Land and Resources Law*. Westbury N. Y.: Foundation Press.

[97] With state trust lands through the General Land Ordinance of 1785, Section 16 and 36 in each township was promised to the states for the purpose of generating revenue. Yet, these lands are often unprofitable or disregard road access, topography or environmental values.

[98] Blumm, M. C. 1994. Public Choice Theory and the Public Lands: Why "Multiple Use" Failed. *The Harvard Environmental Law Review*, 18, 405-431.

and development. Early advocates of bioregionalism include John Wesley Powell who, during his travels in the western United States in the nineteenth century, stressed the need to consider biophysical constraints in the settling of the American frontier.[99] A bioregional approach links ecological processes, economic activity, cooperative self-reliance and appropriate technology.[100] This view of land use "stands in stark contrast and challenge to the command-and-control structures we have placed on the landscape, structures like state and county boundaries by which we attempt to tell places what they are and are not part of."[101] The move toward bioregionalism signifies increasing concern of landscape fragmentation, ecological vulnerability and inability of political institutions to adequately function at myriad scales.

In summary, contemporary natural resource planning in the United States is characterized by Progressive Era ideals privileging technical analysis to serve and define 'the' public interest; a "wicked" planning environment of competing goals, values, "imaginaries" and inherent uncertainty in cause-effect relationships; an approach to planning founded on efficiency and proceduralism; complexity associated with changing and competing scales of analysis and; the ecological realities associated with previous land settlement and development. These characteristics of natural resource planning serve as a means of control often exercised through privileging particular forms of knowledge and values and a lack of access by citizens to engage each other and the 'experts.' Natural landscapes continue to degrade in both quality and quantity through

---

[99] Stegner, W. 1982. Beyond the Hundredth Meridian: John Wesley Powell and the Second Opening of the West. Lincoln: University of Nebraska Press.
[100] Aberly, D. 1999. Interpreting Bioregionalism: A Story from Many Voices. In M. V. McGinnis (Ed.), *Bioregionalism* (pp. 13-42). New York: Routledge.
[101] Kemmis, D. 1999. Forward. In M. V. McGinnis (Ed.), *Bioregionalism*. New York: Routledge at xvi.

the rapacious power politics that characterize planning in the 21st Century. Consequently, citizens become marginalized with a diminished sense of trust and a sense of ownership in planning.

2.3. Overview of wildfire policy in the United States

As a natural phenomenon, fire catalyzes the human experience perhaps more than any other. Fire is elementary and constitutive of human life; indeed, "the oldest story is that of fire itself."[102] The chemistry of slow combustion in respiration and fast combustion in fire are phenomena that permeate all aspects of life.[103]

Recognizing the long and complex association between humans and fire over millennia, I present an outline of wildfire policies in the United States, specifically in the last century. I present this account highlighting issues of access, control, marginalization and various temporal and spatial scales pertaining to wildfire policy, management and planning.

2.3.1. The historical context of wildfire policy

The history of wildfire policy predates settlement by Europeans in the United States by millennia. Native Americans used fire for myriad purposes and in some cases significantly altered the landscape as a result.[104] With the settlement of the United States,

---

[102] Pyne, S. J. 2004. *Tending Fire: Coping with America's Wildland Fires*. Washington, DC: Island Press at 20.

[103] Ibid at 127 remarks that unlike floods or earthquakes, fire as a "disturbance" acts as a ecological catalyst or "biotic defibrillator."

[104] See generally, Arno, S. F., & S. Allison-Bunnell. 2002. *Flames in Our Forest: Disaster or Renewal?* Washington, DC: Island Press; Cronon, W. 1983. *Changes in the Land: Indians, Colonists, and the Ecology of New England.* New York: Hill and Wang.

35

came a new philosophy that dismissed the ecological elements of fire and viewed wildfire as a threat.[105] Wildland fire was the primary ecological disturbance shaping vegetation patterns in the western United States prior to the 20th Century.[106] Since the catastrophic wildfires in Idaho and western Montana in 1910, government wildfire polices have followed an aggressive suppression strategy to protect investments in timber resources and prevent harm to people and communities located in forested zones. As a result of wildfire policy in the United States that preferenced the suppression of wildfire, ecological processes have been altered and "America has gone from a fire-flushed country to a fire-starved one."[107] The wildfire suppression policies of the past century have created new vegetative conditions, especially in the drier, pine-dominated forests, where wildfires are now hotter, larger, and more difficult to combat.[108]

The history of wildfire policy in the United States can be understood in roughly 20 year "cadences".[109] Table 2 presents an historical overview of wildfire policy in the United States.

---

[105] Pyne, S. J. 2004. *Tending Fire: Coping with America's Wildland Fires*. Washington, DC: Island Press.
[106] Pyne, S. J. 1982. *Fire in America: A Cultural History of Wildland and Rural Fire*. Princeton: Princeton University Press.
[107] Pyne, S. J. 2004. *Tending Fire: Coping with America's Wildland Fires*. Washington, DC: Island Press at 68.
[108] Arno, S., & J. Brown. 1989. Managing Fire in Our Forest - Time for a New Initiative. *Journal of Forestry*, 87, 44-46.
[109] For this historical account, I draw mainly from Pyne, S. J. 2004. *Tending Fire: Coping with America's Wildland Fires*. Washington, DC: Island Press at 52-68.

36

Period	Name	Characteristics
1910 to 1932	Frontier fire period	Focus on frontcountry fire fighting and creation of emergency wildfire fund to staff firefighters
1933 to 1949	Backcountry fire period	Move to backcountry fire fighting; new emergency money and labor (CCC)
1950 to 1969	Mass fire period	New ambitions of national security, war-surplus equipment, information, research and experimentation begin; Conflagration control dominates planning
1970 to 1989	Wilderness fire period	Expansion of experimentation and notion that research would provide "the" answer and could substitute for brute fire fighting power
1990 to present	Intermix fire period	Interagency coordination with focus on modifying landscape fuels

Table 2. Historical overview of wildfire policy in the United States (based on Pyne 2004).

While there were catastrophic fires prior to the 20th Century, a concerted wildfire policy did not being until after 1900. The narrative begins nearly century ago with the Great Fires of 1910 and the need to protect both communities and the newly federalized forest reserves through the Transfer Act of 1905. These fires sparked the first national discourse on wildfire policy. The perceived need to actively combat the threat of wildfire was viewed as the "moral equivalent of war."[110] The period from 1910 to 1932 is termed the frontier fire period and is characterized by frontcountry fire fighting to combat small fires and by the creation and reliance on an emergency wildfire fund to staff firefighters.

Analogous to the Progressive Era ideals, approaches to wildfire policy were often bureaucratic and with a strong reliance on science and technical expertise. However, a small but growing cadre of foresters, scientists and others began to question the dominant approach of suppression noting the ecological necessity of wildfire and related processes. Like the fires themselves, the research accompanying these tenets was suppressed until

---

[110] Ibid at 52.

37

the 1935 annual meeting of the Society for American Foresters featuring a scientific

panel on the value of wildfire. However, the early 1930's began a brief period of extreme

drought and more conflagrations leading to the promulgation of the 10AM policy by

Chief Forester Gus Silcox in 1935. This policy functioned as a symbol of power and as a

goal calling for fire officers to control every wildfire start by 10AM the following day

and failing to do that, by 10AM each subsequent day.

Wildfire protection and fire fighting moved from directly protecting communities

in the frontcountry to attacking wildfire proactively in the backcountry before it

threatened communities. The period from 1933 to 1949 is termed the backcountry fire

period characterized by a move to fighting wildfire to the backcountry with the assistance

of new emergency money and labor from the New Deal's CCC projects. The years of

World War II saw the start of a public relations campaign, including the use of Smokey

Bear and the film *Bambi,* to persuade the public of the need to aggressively fight

wildfires.

The period from 1950 to 1969 is characterized as the "mass fire" period whereby

new ambitions of national security, new war-surplus equipment and new information,

research and experimentation began. In the early 1960's, a wildfire "counterculture"

flourished calling for extensive experimentation to incorporate "natural" fire and

prescribed burning in landscape processes.[111] The Park Service began policy reforms in

1967-68 using prescribed fire and initiating interagency coordination followed by the

creation of the Interagency Fire Center in Boise the following year and the establishment

---

[111] Ibid at 58.

of the National Wildfire Coordinating Group in 1976 to achieve consensus on issues of training, certification, and equipment standards.

The period from 1970 to 1989 is referred to as the wilderness fire period characterized by a new wave of experimentation. A focus on direct attack and suppression gave way to expanded use of prescribed fire, but the "accomplishments were ofttimes more symbolic than practical."[112] The notion still stood that prescribed fire was a kind of control, and that research would provide "the" answer and could substitute for brute fire fighting power. In 1978, the Forest Service officially abandoned the 10AM policy in favor of a mixed response strategy. By the late 1980's a drought began again and was responsible in part for the Yellowstone fires of 1988 that brought about a new wave of debate and conflict as to appropriate fire policy on public lands.

The current period beginning in 1990 is termed the intermix period and is characterized by myriad wildfire management strategies (research, prescribed fire, active suppression, etc.) with intensified interagency coordination with a focus on modifying landscape fuels. The 1995 Federal Wildland Fire Management Policy and 2000 National Fire Plan complete the most comprehensive overhaul of wildfire practices since Roosevelt's New Deal. Drought continues in the western United States further increasing the likelihood of large conflagrations and conflict over the direction of public land policies.

The National Fire Plan (NFP) was created after the conflagrations of 2000 to addresses all aspects of wildfire management and better coordinate activities between various federal, state, tribal, and local agencies. The plan is made up of five documents

---

[112] Ibid at 59.

with the 10-year Comprehensive Strategy designed to improve wildfire suppression efforts, reduce hazardous fuels, restore fire adapted ecosystems and promote community assistance.[113]

A key issue regarding risk to communities is addressing the potential for large scale "crown" fires. This type of wildfire is difficult to suppress so justification for various hazardous fuel reduction treatments is given in order to reduce their potential. However, wildfire continues to cost more in terms of both money and lives. Despite better training, equipment, elaborate research and organizational skills, hundreds of lives have recently been lost in fire fighting-related activities.[114] Suppression expenditures continue to rise in part because of a lack of financial accountability and the risk aversion nature of fire officials.[115] Today, the Forest Service devotes nearly 40 percent of its annual budget to wildfire and estimates that 190 million acres need treatment; a task that would take years and cost billions.[116]

There are essentially four methods for dealing with wildfire: do nothing, suppress, prescribe burn, or change combustibility. The fundamental conclusion is that no one method can succeed by itself.[117] Uncertainty permeates the application of these methods either used alone or in combination, with divergent views on how management should

---

[113] McCarthy, L. F. 2004. *State of the National Fire Plan*. Santa Fe, NM: Forest Trust.

[114] According to Pyne, S. J. 2004. *Tending Fire: Coping with America's Wildland Fires*. Washington, DC: Island Press "Between 1994 and 2002 alone, some 171 firefighters died" at 6.

[115] Calkin, D. E., K. M. Gebert, J. G. Jones, & R. P. Neilson. 2005. Forest Service Large Fire Area Burned and Suppression Expenditure Trends, 1970–2002. *Journal of Forestry*, 103, 179-183 note total expenditure for fire suppression in 2000 was $1.6 billion, although the increase in Forest Service expenditures is not a per acre increase but rather the result of an increase in both the number of large fires and the average size of large fires.

[116] Pyne, S. J. 2004. *Tending Fire: Coping with America's Wildland Fires*. Washington, DC: Island Press.

[117] Ibid.

proceed. Today, few dispute the significance of wildfire in terms of its ecological role; the question is where, when, how, who decides and at what cost to reinstate?[118]

Changing combustibility is commonly referred to as thinning or hazardous fuel reduction treatments. Hazardous fuel reduction treatments are not considered timber harvesting for commercial purposes but rather used primarily as a restorative strategy to mimic fire-dependent ecosystems.[119] Hazardous fuel reduction treatments can include a wide array of methods including use of prescribed fire, natural fire and thinning, primarily smaller diameter trees and dense vegetation. There is general agreement that thinning is only one method among many and is of limited use by itself and will require continued application. Moreover, there is widespread disagreement regarding how, where and when particular hazardous fuel reduction treatments should occur.

There is evidence to suggest that certain types of thinning can have both positive and negative impacts on crown fire potential.[120] Others note that thinning can make matters worse since these treatments alone will not reduce wildfire risk if smaller combustibles remain.[121] Thinning in select areas as a method of hazardous fuel reduction

---

[118] See generally, Jain, T. B., & R. T. Graham. 2004. *Is Forest Structure Related to Fire Severity? Yes, No, and Maybe: Methods and Insights in Quantifying the Answer.* USDA Forest Service Proceedings RMRS-P-34. USDA Forest Service, Rocky Mountain Research Station, Moscow, ID; Lawrence, N. 2001. *Gridlock on the National Forests, U.S. House of Representatives Subcommittee on Forests and Forest Health (Committee on Resources).* Washington, DC: Available from National Resources Defense Council; Omi, P., & E. Martinson. 2002. *Effect of Fuels Treatment on Wildfire Severity:* Report submitted to the Joint Fire Science Program Governing Board, March 25.

[119] Arno, S. F., & C. Fiedler. 2005. *Mimicking Nature's Fire: Restoring Fire-Prone Forests in the West.* Washington, DC: Island Press.

[120] Graham, R. T., A. E. Harvey, T. B. Jain, & J. R. Tonn. 1999. *The Effects of Thinning and Similar Stand Treatments on Fire Behavior in Western Forests* (pp. 27): Gen. Tech. Rep. PNW-GTR-463. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station.

[121] According to Pyne, S. J. 2004. *Tending Fire: Coping with America's Wildland Fires.* Washington, DC: Island Press at 119, "not all biomas is fuel: only the small stuff matters." This sentiment is generally followed by Franklin, J., W. H. Romme, W. L. Baker, L. F. Hanna, J. Herring, L. E. Freleich, & R. H. Gardner. 2002. *Letter to President Bush and Members of Congress,* on file with author.

has also been shown to produce undesirable outcomes including impacts to soils.[122] Some recognize that wildfire policy must address broader ecosystem functions instead of hazardous fuels only.[123] Questions remain as to whether ecological costs outweigh any positive effects.[124]

The scale of the wildfire problem is also contested. A multitude of factors have led to an increase in the frequency and intensity of wildfire in the United States. These factors include an increase in human use (i.e. logging, recreational activities) extending further into previously inaccessible forest regions and leading to an increase in human ignited fires; an increase in habitat fragmentation influencing fire regimes by altering how wildfires ignite and spread; an increase in grazing affecting the composition of forest litter, saplings and herbaceous species; an increase in logging of large (and principally fire resistant) trees altering forest structure and leaving a forest mosaic with species that are more prone to fires; an increase in shade tolerant species leading to an increase in the amount of biomass; and a decrease in low intensity fire from fire suppression activities resulting in greater potential for large, catastrophic wildfire.[125]

Climate is also a scale issue in terms of spatial and temporal impact and is often viewed as a controversial factor influencing wildfire behavior. While hazardous fuel reduction treatments are the primary approach of new wildfire policies (discussed in the

---

[122] McIver, J., P. Adams, J. Doyal, E. Drews, B. Hartsough, L. Kellogg, C. Niwa, R. Ottmar, R. Peck, M. Taratoot, T. Torgersen, & A. Youngblood. 2003. Environmental Effects and Economics of Mechanized Logging for Fuel Reduction in Northeastern Oregon Mixed-Conifer Stands. *Western Journal of Applied Forestry*, 18, 238-249; Jurgensen, M. F., A. E. Harvey, R. T. Graham, D. S. PageDumroese, J. R. Tonn, M. J. Larsen, & T. B. Jain. 1997. Impacts of Timber Harvesting on Soil Organic Matter, Nitrogen, Productivity, and Health of Inland Northwest Forests. *Forest Science*, 43, 234-251.
[123] Franklin, J., & J. Agee. 2003. Forging a Science-Based National Forest Fire Policy. *Issues in Science and Technology*, Fall, 1-8.
[124] Rhodes, J. J., & D. C. Odion. 2004. Evaluation of the Efficacy of Forest Manipulations Still Needed. *BioScience*, 54, 980-981.
[125] Dellasala, D., J. Williams, C. Williams, & J. Franklin. 2004. Beyond Smoke and Mirrors: A Synthesis of Fire Policy and Science. *Conservation Biology*, 18, 976-986.

subsequent section), weather is seen to be the dominant influence on determining area burned and fire severity.[126] Based on climatic trends, some predict an increase in frequency, intensity and size of wildfires in the American West and consequently, a focus on abating crown fires without attention to larger issues of climate and the general ecological degradation of western forests "is akin to treating a symptom and not the disease."[127]

In the western United States, both the frequency and intensity of wildfires has increased in the last 20 years due in part to drought. Since 1970, over 10,000 homes and 20,000 structures have been lost to wildfires in the west. Wildfires have had a profound impact on many communities in the region through damage to structures, local evacuations, air quality problems resulting from smoke and loss of income to local businesses. In Montana, of the nearly 22.3 million acres of forest lands, over 80% has a high/moderate fire hazard rating.[128] A "widespread" drought continues for a seventh consecutive year in Montana "with people and resources vulnerable to the effects of the prolonged drought."[129]

---

[126] Mckenzie, D., Z. Gedalof, D. L. Peterson, & P. Mote. 2004. Climatic Change, Wildfire, and Conservation. *Conservation Biology*, 18, 890-902.

[127] Covington, W. W. 2000. Helping Western Forests Heal. *Nature*, 408, 135-136 at 135; Whitlock, C. 2004. Forests, Fires and Climate. *Nature*, 432, 28-29 also note similar climatic trends and caution against a "one-size-fits-all management strategy" at 29; See also Flannigan, M. D., B. J. Stocks, & B. M. Wotton. 2000. Climate Change and Forest Fires. *Science of the Total Environment*, 262, 221-229.

[128] Fiedler, C., C. Keegan, C. Woodall, T. Morgan, S. Robertson, & J. Chmelik. 2001. *A Strategic Assessment of Fire Hazard in Montana*: Report submitted to the Joint Fire Sciences Program in cooperation with the USDA Forest Service Pacific Northwest Research Station.

[129] The Governor's Report: Drought in Montana, June 2005, available at: http://www.drought.mt.gov/ accessed Mar. 5, 2006 at 16.

43

The threats associated with wildfires and related hazardous fuel reduction treatments in fire adapted ecosystems have received considerable public attention in the past two decades in west central Montana. Simultaneously, the human population in these areas, just as in many others in the Rocky Mountain region of the western United States, has grown rapidly in the last two decades, with expanding populations in low-elevation, fire-adapted ecosystems with high amenity values based on the natural environment.[130]

In these two areas, this growth has occurred both in rural towns and in the ex-urban environment. Without a comprehensive land use plan to constrain the placement of individual houses, new construction stretches further into previously undeveloped private lands. This mosaic of land tenure is increasing a checkerboard landscape design of use and development. Recent migrants to the two areas may not be aware of the role that fire has traditionally played in landscape and may therefore not take appropriate actions regarding building materials, egress or defensible space.

The forest conditions and fire ecology of west central Montana are characterized by disturbance regimes that include fire, insects, and disease. Three historical disturbance regimes influence species composition and structure in the region; long-interval fire regimes (avg. >100 years) in areas such as cool, moist Douglas-fir zones and sub-alpine fir zones characterized by an infrequent, lethal and high intensity fire that consumes both the understory and overstory; short-interval fire regimes (avg. 5 to 25

---

[130] Johnson, K. N., J. Agee, R. Beschta, V. Dale, L. Hardesty, J. Long, L. Nielsen, B. Noon, R. Sedjo, M. Shannon, R. Trosper, C. Wilkinson, & J. Wondolleck. 1999. Sustaining the People's Lands: Recommendations for Stewardship of the National Forests and Grasslands into the Next Century. *Journal of Forestry*, 97, 6-12; McCool, S. F., & L. Kruger. 2003. *Human Migration and Natural Resources: Implications for Land Managers and Challenges for Researchers*. Portland, OR: USDA Forest Service, Pacific Northwest Research Station.

years) in areas such as warm, dry, warm Ponderosa pine and Douglas fir sites and characterized by frequent, non-lethal, low to moderate intensity fires in the understory and; mixed-severity fire regimes (avg. 30 to 100 years) characterized by lower elevation, drier sites dominated by non-lethal regimes and higher elevation moister sites dominated by lethal fire regimes.

Many of the ecosystems in west central Montana have undergone significant change due to logging and development, fire exclusion practices, and exotic species including diseases. These changes have resulted in habitat loss and in some cases significantly influenced habitat connectivity. While the potential for increased fire starts, burn acreage, and fire severity depends on numerous variables including fuels, topography, and weather-related issues such as humidity, the prospect of drought directly impacts fuel conditions and plays a critical role in determining the possibility of wildfire.

The last 100 years of wildfire policy in the United States continues to be defined by controversy and continued threat of conflagration. The history of wildfire policy began with crude fire protection programs for communities followed by a period of active and unconditional fire suppression to a period of fire restoration through use of natural and prescribed fire to the present period of interagency coordination and modification of fuels. New policies such as the Healthy Forests Restoration Act continue to refine this direction.

2.3.2. The Healthy Forests Initiative and the Healthy Forests Restoration Act

As a modification of the NFP, the Healthy Forests Initiative (HFI) was introduced by President Bush in August 2002 to provide tools and authorities to carry out wildfire

45

planning. This initiative sought to address perceived difficulties in implementing wildfire management projects by streamlining and shortening administrative and public review and by limiting appeals processes. The processes were described by former Secretary of Agriculture Ann Veneman as "outdated, inefficient, and time-consuming."[131] The Bush Administration sought to initiate substantial policy changes both through administrative rulemaking and legislative reform, described as a strategically-sound "two-pronged approach" since it doubled the chances of policy success.[132]

The administrative action consisted of two separate rulemaking activities that added five new categories of categorical exclusions (CE's). Under Council of Environmental Quality regulations, agencies can identify categories of projects that are found to have no individual or cumulatively significant effect on the human environment and thus do not require the preparation of an environmental assessment (EA) or an environmental impact statement (EIS) as required by NEPA. The first set of CE rulemaking activities under the Healthy Forests Initiative related to documentation of hazardous fuel reduction activities to reduce risk to communities and ecosystems and post-fire rehabilitation activities. The second set of CE rulemaking involved live tree harvest, salvage of dead and dying trees, and tree removal for preventing the spread of insects and disease. The CE's became effective July 29, 2003 and apply to "post-fire rehabilitation activities" up to 4,200 acres and "mechanical methods" of hazardous fuel reduction activities (logging or mechanical brush clearing) up to 1,000 acres.[133]

---

[131] Vaughn, J., & H. Cortner. 2004. Using Parallel Strategies to Promote Change: Forest Policymaking under George W. Bush. *Review of Policy Research*, 21, 767-782 at 776.

[132] Ibid at 776.

[133] According to Karkkainen, B. C. 2004. Whither NEPA? *New York University Environmental Law Journal*, 12, 333-363 at 362, CEQ has issued guidance instructing the Forest Service to develop a simplified standard template for streamlined EA's of "no more than 10 to 15 pages" for fuel reduction projects, and to select projects for a pilot program to test the new template.

On December 3, 2003, President Bush signed into law the Healthy Forests

Restoration Act (HFRA), providing legislative authorization for many of the ideas of the

HFI and with a focus on "hazardous fuel reduction projects" and methods to utilize

biomass.[134] The legislation expedites environmental analysis and administrative review

before decisions are issued, encourages courts to expedite judicial review of legal

challenges, and directs courts that consider an injunction on an HFRA-authorized project

to balance short and long-term environmental effects of taking action versus no action.

The HFRA also identifies "at-risk communities," contains language to govern old-growth

and disease forest stands, requires at least 50% of HFRA projects be used to protect

communities at-risk of wildfires, and encourages communities to be involved in fire

planning (through a Community Wildfire Protection Plan process), monitoring and

evaluation. The HFRA also provides a definition of an at-risk community as a group of

homes or other structures within or adjacent to a Wildland Urban Interface (WUI).[135]

Treatments to reduce fuels involve "active management" of forests by mechanical

thinning, prescribed fires, and other interventions designed to manipulate forest structure

to achieve management objectives.

Numerous national environmental and natural resource advocacy groups were

dissatisfied with the HFI and HFRA, particularly the policy changes that created CE's

and alteration of the NEPA review and appeals process.[136] The administrative rulemaking

and legislation influence the use of EA's and EIS's in requiring agencies to develop only

---

[134] Pub. L. No. 108-148, 117 Stat. 1887.
[135] The definition of an at-risk community proceeded the HFRA appearing in Fed. Reg. 66(106) 43384-
43435, Aug. 17, 2001 and applies to 11,376 communities within the vicinity of federal lands.
[136] Vaughn, J., & H. Cortner. 2005. *George W. Bush's Healthy Forests: Reframing the Environmental
Debate.* Boulder, CO: University Press of Colorado.

a proposed agency action, an alternative of no action; and an additional action alternative, if the additional alternative is proposed during scoping.[137] As a result of these administrative and legislative changes, many claimed the HFRA focused on too much on fuel reduction and thinning and amounted to a timber give-away.[138]

The controversy continues to be marked by use of rhetoric, jargon and labeling carefully crafted by various interests to influence opinion.[139] For instance, instead of focusing on the context of existing forest policy, the Bush Administration framed the problem of wildfires and forest health in terms of one of procedures by pointing blame to environmental groups misusing the appeals process. In the use of the term "catastrophic" risk and return to "healthy forests," the Bush Administration hoped to persuade public opinion of the need for policy changes. What is unique about the HFI and HRFA are the parallel strategies used to move the policy change forward. The HFI and HFRA represent how concurrent administrative and legislative approaches can enable rapid policy change and may serve as a template for future initiatives. The multiple legislative and administrative efforts provide support for and an emphasis on fuel reduction in response to a "wildfire problem" that is both perceived and real.[140]

The difficulty of identifying and preparing treatments across multiple jurisdictions is addressed within the HFRA in part through Community Wildfire

---

[137] Sec 104 (c) (1).

[138] Vaughn, J., & H. Cortner. 2005. *George W. Bush's Healthy Forests: Reframing the Environmental Debate*. Boulder, CO: University Press of Colorado; Pyne, S. J. 2004. *Tending Fire: Coping with America's Wildland Fires*. Washington, DC: Island Press at 116 notes that environmental groups termed the HFRA, a new "axes of evil" [sic].

[139] For a detailed description, see Short, B., & D. C. Hardy-Short. 2003. *"Physicians of the Forest": A Rhetorical Critique of the Bush Healthy Forest Initiative, Electronic Green Journal*: accessed Mar. 5, 2006: http://egj.lib.uidaho.edu/egj19/short1.html; Vaughn, J., & H. Cortner. 2005. *George W. Bush's Healthy Forests: Reframing the Environmental Debate*. Boulder, CO: University Press of Colorado.

[140] Stephens, S. L., & L. W. Ruth. 2005. Federal Forest-Fire Policy in the United States. *Ecological Applications*, 15, 532-542.

48

Protection Plans (CWPP).[141] Recognizing the difficulty of assimilating diverse, competing and often conflicting public values about wildfire management, CWPP's serve to integrate the management of public lands administered by numerous agencies collaboratively with private landowners and other interested parties. However, disagreement continues to exist over definitions of "healthy" and the appropriateness of specific management actions.[142] The result of the legislation, the likely ways it will be implemented and the differing views of science to support various claims have fueled controversy and no doubt greater levels of distrust in government action.

2.3.2.1. Community Wildfire Protection Planning

Specific consideration of citizens, communities and private organizations with regard to wildfire in fire-adapted ecosystems has received considerable attention, particularly since the wildfires of 2000 and subsequent National Fire Plan, the 10-year Comprehensive Strategy, and the Healthy Forests Initiative. The first round of Community Wildfire Protection Plans (CWPP), sometimes known as community-based wildland fire risk mitigation plans, or more commonly, community fire plans, were first developed in 2001 after the creation of the National Fire Plan using rural counties as the administrative unit.

The plans were further detailed in the HFRA to serve three purposes:

1. Identify and prioritize areas for hazardous fuel reduction on federal and non-federal land (particularly in the Wildland-Urban Interface or WUI),

---

[141] These plans are outlined in the Healthy Forests Restoration Act of 2003, Pub. L. No. 108-148, 117 Stat. 1887 Title I, Sec. 104 (d)(3).

[142] Abrams, J., E. Kelly, B. Shindler, & J. Wilton. 2005. Value Orientation and Forest Management: The Forest Health Debate. *Environmental Management*, 36, 495-505.

2. Recommend the types and methods of treatments and,

3. Identify essential community infrastructure for protection.

Through the HFRA, these plans are closely tied to the implementation, funding, and level of environmental review of wildfire risk reduction activities at the local level. However, the plans are only "recommendations" for officials to "consider."[143] Plans are meant to be "collaborative" and developed and "agreed to by the applicable local government, local fire department, and State agency responsible for forest management, in consultation with interested parties and the Federal land management agencies managing land in the vicinity of the at-risk community."[144] The CWPP is exempt from both FACA and NEPA.[145]

A template for writing the wildfire plans is available from the National Association of State Foresters.[146] The CWPP encourages the use of community base maps and community risk assessments to detail information such as fuel hazards, risk of wildfire occurrence, essential infrastructure at risk, values at risk and the local preparedness and fire fighting capacity. Priorities for treatments are then determined and "should be as open and collaborative as possible. Diverse community involvement at this stage is critical to the ultimate success of the CWPP."[147] The HFRA also instructs various

---

[143] HFRA, Sec. 103 (b) (1) states, "The Secretary shall consider recommendations under subsection (a) that are made by at-risk communities that have developed community wildfire protection plans."

[144] Sec. 101 (3)(A).

[145] Sec. 103 (b)(2) states that "the Federal Advisory Committee Act (5 U.S.C. App.) shall not apply to the planning process and recommendations concerning community wildfire protection plans;" Sec 103 (c)(1) states, "Federal agency involvement in developing a community wildfire protection plan, or a recommendation made in a community wildfire protection plan, shall not be considered a Federal agency action under the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.)."

[146] Society of American Foresters. 2004. *A Handbook for Wildland-Urban Interface Communities.* Bethesda, MD.

[147] Ibid at 7.

50

federal agencies to establish a collaborative multiparty monitoring, evaluation and accountability process when significant interest is expressed.

In order to comply with the HFRA, and perhaps more importantly, to be able to qualify for grant monies appropriated to western states via the federal funds such as National Fire Plan funds or the U.S. Forest Service's State and Private Forestry funds, communities in west central Montana have been either revising existing plans or undertaking a CWPP in order to align with guidelines produced nationally.

In summary, wildfire policy in the United States is marked by assorted issues of access, control, and marginalization occurring at various temporal and spatial scales. Control has occurred since the inception of wildfire policies nearly 100 years ago by use of unconditional suppression to fight wildfires, even those that posed no direct threat to communities. Control continues to the present with the enactment of the HFRA and focus on modifying landscapes with hazardous fuel reduction treatments. Access is affected through the use of CE's designed to limit the ability of citizens to challenge projects. Marginalization occurs by way of rhetorical statements that incite fear and points blame, and vilify groups with opposing viewpoints. Each of these policy initiatives, from the 10 AM policy to the HFRA, has in the past and continues to affect ecological and social processes and conditions. All of this serves to influence the potential for trust and a sense of ownership in wildfire planning.

2.4. On being 'public' with wildfire planning

Wildfire presents unique circumstances from which to study natural resource planning, public land management, democratic principles of participation, and ultimately

issues of trust and a sense of ownership. Wildfire management invites and necessitates a process of being public. To be effective, wildfire requires a collective responsibility by citizens, scientists and land managers and in terms of planning, prevention, and accommodation for four distinct reasons.

First, wildfire ignores political jurisdictions and often requires large, landscape scale coordination and planning. Working across political and ecological boundaries requires that multiple publics interact to overcome complex multi-jurisdictional situations.

Second, wildfire issues are wicked by their very nature. Wildfire planning is based on poorly understood cause-effect relationships and inherent disagreement on values, objectives and goals. Wildfire policy and planning requires addressing questions such as, how will various situations be addressed, who will pay, where will actions be concentrated, by what criteria will success be defined and who will decide? Wildfire policy is inherently value-laden incorporating complex judgments, uncertainty in risk assessments and integration of various desired futures. While the science of wildfires can be a "guidepost," it cannot address "the desirability of the conditions" since these are normative decisions that involve standards and "judgments made on factors that are socially and politically desirable."[148] Wildfire planning is about context, both social and ecological and is intuitively "a cultural matter: it demands a whole culture's judgment."[149]

---

[148] Burchfield, J. 2001. Finding Science's Voice in the Forest. In P. D. Brick, D. Snow & S. Van de Wetering (Eds.), *Across the Great Divide: Explorations in Collaborative Conservation and the American West* (pp. 236-243). Washington DC: Island Press at 240.

[149] Pyne, S. J. 2004. *Tending Fire: Coping with America's Wildland Fires*. Washington, DC: Island Press at 16.

52

Third, wildfire represents an immediate crisis in terms of threat to life and property as well as evacuations, inconvenience and ill-health from smoke or flames. Wildfire planning is "fundamental to our obligations as environmental stewards and is an obligation of civil society to its members and the future. The public has a duty of care for its estate, as a collective enterprise of the commonwealth."[150] In this sense, wildfire planning requires agreement on the management of not only public lands but also personal responsibility toward abating hazards on private property.

Fourth and last, wildfire planning is a public endeavor since it is never "solved" and requires endless negotiation. This duty will never be temporary and is said to demand "mixed institutions, muddled choices, endless negotiation. It will continue into perpetuity. That is what a relationship means. ...if we cannot get fire right, we might as well resign from the great chain of being."[151] It is for these reasons that wildfire planning is a uniquely public task requiring individuals a focus on both their own and common interests.

The relationship of trust and a sense of ownership to being public is tenuous and like the proverbial chicken and egg; more trust and a sense of ownership encourages public acts and more public acts lead to more trust and a sense of ownership. Trust and a sense of ownership in wildfire planning are therefore mutually reinforcing. In subsequent sections, I offer evidence of trust and a sense of ownership as a necessary precursor and outcome to being public in wildfire planning. While wildfire planning necessitates public participation in terms of framing issues, negotiating courses of actions and evaluating

---

[150] Ibid at 190.
[151] Ibid at 191. In a similar light, "If we get fire right, we will probably get much of the rest of the mission right as well" at 127.

53

various outcomes and future objectives, there are numerous impediments to being 'public' with this common issue. In the next three sections, I outline generally, the importance and benefits of being public, the impediments to public engagement and the conditions and factors that lead to being public within the context of wildfire planning.

2.4.1. On the importance of being 'public'

The term *res publica*, or "public thing" refers to the public realm or common world that "gathers us together."[152] Recall planning is a process of linking knowledge to action.[153] The act of being public is unconditionally necessary in a democracy since an over-emphasis on being private, "means above all to be deprived of things essential to a truly human life."[154] Indeed, public involvement and democracy are mutually constitutive. Citizen participation in the affairs of their future is described as the "*raison d'être* of democracy. Not only does [citizen participation] give meaning to the term, but it plays an important role in legitimating both policy formulation and implementation."[155] Through action comes the prospect of "natality," described as "the miracle that saves the world" through which "only the full experience of this capacity can bestow upon human affairs faith and hope."[156]

There are a cadre of legal scholars who posit that public participation and related issues of representation and accountability exist through our electoral system and checks

---

[152] Arendt, H. 1958. *The Human Condition*. Chicago: University of Chicago Press at 52.
[153] Friedmann, J. 1987. *Planning in the Public Domain: From Knowledge to Action*. Princeton: Princeton University Press.
[154] Arendt, H. 1958. *The Human Condition*. Chicago: University of Chicago Press at 58.
[155] Fischer, F. 2000. *Citizens, Experts, and the Environment: The Politics of Local Knowledge*. Durham: Duke University Press at 259. For Putnam, R. D. 2000. *Bowling Alone: The Collapse and Revival of American Community*. New York: Simon and Schuster at 341, democracy in the form of face-to-face participation is essential since "citizenship is not a spectator sport."
[156] Arendt, H. 1958. *The Human Condition*. Chicago: University of Chicago Press at 247.

and balances by the separation of powers.[157] Citizen 'participation' is seen to be

sufficient when expressed by casting a ballot, providing testimony at a 'hearing,' or in

filling out a survey. Yet, the 'one person, one vote, majority rule' approach is described

as "an inadequate and superficial formulation for constituting viable democratic societies.

The condition of popular election of officials who form governments is necessary but it is

far from the more fundamental conditions for establishing and maintaining the viability

of democratic societies... person-to-person, citizen-to-citizen relationships are what life

in democratic societies is all about."[158] Democracy requires far more than voting,

testimonials, surveying or other cursory opportunities to "engage" citizens with experts in

typical public participation processes described earlier.

The benefits of this "public thing" are multiple and directly apply to wildfire

planning. As many accounts of public involvement suggest, the outcomes involve more

than simply producing a product (i.e. the final planning document) but rather include

dimensions of mutual learning, relationship-building, and improved social and political

acceptability.[159] In addition, perceptions of fairness, empathy or mutual respect have been

recognized to be crucial outcomes related to public involvement in natural resource

---

[157] See generally Coggins, G. C. 1998. Regulating Federal Natural Resources: A Summary Case against Devolved Collaboration. *Ecology Law Quarterly*, 25, 602-610; McCloskey, M. 2000. Problems with Using Collaboration to Shape Environmental Public Policy. *Valparaiso University Law Review*, 34, 423-434.

[158] Ostrom, V. 1997. *The Meaning of Democracy and the Vulnerability of Democracies: A Response to Tocqueville's Challenge.* Ann Arbor: University of Michigan Press at 3.

[159] Conley, A., & M. A. Moote. 2003. Evaluating Collaborative Natural Resource Management. *Society & Natural Resources*, 16, 371-386; McCool, S. F., & K. Guthrie. 2001. Mapping the Dimensions of Successful Public Participation in Messy Natural Resources Management Situations. *Society and Natural Resources*, 14, 309-323; Stokowski, P. 2003. Community Values in Conservation. In B. Minteer & R. Manning (Eds.), *Reconstructing Nature: Finding Common Ground* (pp. 279-295). Washington, DC: Island Press.

planning.[160] Accounts are becoming more common and detailed regarding the virtues and

benefits of proactively involving the public in planning:

"[participants] established new or stronger personal and professional relationships and built up trust, which allowed genuine communication and joint problem-solving. With this social capital they felt less hostile to others' view, were more likely to share knowledge, and were likely to negotiate other potentially conflicting issues. In most cases, stakeholders also built shared intellectual capital, including mutual understanding of each others' interests, shared definitions of the problem, and agreement on data."[161]

The resulting social capital has received considerable scholarly study in recent

years.[162] Public involvement processes can also be less costly in the long-term with

creative outcomes and enhanced opportunities for future interaction and

experimentation.[163] While the benefits of public involvement in natural resource planning

in general and wildfire planning in particular are diverse and potentially far-reaching,

they are also complex with numerous impediments to their attainment.

---

[160] Hunt, L., & W. Haider. 2001. Fair and Effective Decision Making in Forest Management Planning. *Society and Natural Resources*, 14, 873-887; Lawrence, R. L., S. E. Daniels, & G. H. Stankey. 1997. Procedural Justice and Public Involvement in Natural Resource Decision Making. *Society and Natural Resources*, 10, 577-589; Smith, P. D., & M. H. McDonough. 2001. Beyond Public Participation: Fairness in Natural Resource Decision Making. *Society and Natural Resources*, 14, 239-249.

[161] Innes, J. E., & D. E. Booher. 1999. Consensus Building and Complex Adaptive Systems: A Framework for Evaluating Collaborative Planning. *Journal of the American Planning Association*, 65, 412-423 at 414.

[162] There is a growing body of scholarship on social capital. Social capital is defined by Putnam, R. D. 1995. Bowling Alone: America's Declining Social Capital. *Journal of Democracy*, 6, 65-78 at 67 as a community's ability to exhibit a collective identity and contains "...features of social organization such as networks, norms, and social trust that facilitate coordination and cooperation for mutual benefit;" For more on the relationship between social capital and public engagement, see Newton, K. 1997. Social Capital and Democracy. *American Behavioral Scientist*, 40, 575-586.

[163] Lachapelle, P., S. F. McCool, & M. E. Patterson. 2003. Barriers to Effective Natural Resource Planning in a "Messy" World. *Society and Natural Resources*, 16, 473-490.

56

2.4.2. On the impediments to being 'public'

In addition to impediments to public involvement with regard to the procedural focus, reliance on experts, and inherently "wicked" nature of problems, there are other more fundamental issues.

Trust is increasingly cited as a factor influencing interactions between people with organizations. Trust in organizations, particularly government institutions in the United States, has been the focus of considerable scholarship.[164] The acknowledgement of trust in the operation of government preceded the creation of government institutions in the United States.[165] The structure of government in the United States is based largely on distrust of authorities in terms of establishing a means of monitoring, controlling, limiting and distributing power.[166]

There has been a steady decrease in citizens responding that they trust the federal government to "do what is right most of the time" from 75% in mid 1960's to just over 25% in the 1990's.[167] There are similar trends between individuals in the United States related to trust, volunteerism and participation in networks and associations.[168] However, there has been a slight upsurge in levels of political consciousness and engagement as well as trust in government, trust in the police, and interest in politics as a result of the

---

[164] Kramer, R. 1999. Trust and Distrust in Organizations: Emerging Perspectives, Enduring Questions. *Annual Review of Psychology*, 50: 569-98; Putnam, R. D. 2000. *Bowling Alone: The Collapse and Revival of American Community*. New York: Simon and Schuster.

[165] The Federalist Papers are imbued with discussions of trust.

[166] Warren, M. 1999. *Democratic Theory and Trust*. In M. Warren (Ed.), *Democracy and Trust* (pp. 310-345). *New York*: Cambridge University Press.

[167] Putnam, R. D. 2000. *Bowling Alone: The Collapse and Revival of American Community*. New York: Simon and Schuster at 47.

[168] Ibid.

57

attacks on September 11, 2001.[169] While trust in government may have risen slightly during this period, the civic behaviors of citizens are little changed.[170]

The political shift in the United States from the civic republic to the procedural republic is "alienation, disconnectedness, and anonymity ... We have indeed created a society that undermines civic virtue and morals as Jefferson predicted it would."[171] Warnings of apathy in terms of involvement in governance and civic responsibilities are not new and were forewarned at least as far back as Tocqueville in the mid-nineteenth century. Tocqueville predicted that modernity would result in the atomization of the citizenry and would eventually lead to apathy and oppression.[172] Henry Thoreau also recognized the pernicious qualities associated with public apathy.[173] Citizens are increasingly apathetic and disengaged from the day to day business of governance and from myriad civic and social activities, particularly in the last half century.[174]

---

[169] Putnam, R. D. 2002. Bowling Together. *American Prospect*, 13, 20-22.

[170] Kirlin, J. J., & M. K. Kirlin. 2002. Strengthening Effective Government–Citizen Connections through Greater Civic Engagement. *Public Administration Review*, 62, 80-85; Putnam, R. D. 2005. The Civic Enigma. *American Prospect*, 16, 33.

[171] Kemmis, D. 2000. Politics in a Different Key. In B. Murchland (Ed.), *Voices of Democracy* (pp. 50-60). Notre Dame: University of Notre Dame Press at 53.

[172] For more on Tocqueville, see Read, C. 2003. National History as Social Critique? Tocqueville's Unconventional Modernity. *Studies in Social and Political Thought*, 8, 49-66 at 51, "Tocqueville equates public participation with liberty; he argues that strong communities foster civic mindedness, while atomization of the population causes apathy and facilitates oppression. The public disinterest in politics which, on his view, grows in parallel with the developing sophistication and specialisation of the state, caused him to experience a specific type of unease; this was confirmed when he noted that the process of popular depoliticisation, begun by Louis XVI, actually accelerated under the rule of the revolutionaries. Hence, he saw the roots of his own present predicament in the course of the historical pre-Revolutionary regime, and observed that both administrations had discouraged ground level self government. This, Tocqueville observes, is a characteristic of modernity."

[173] Turner, J. 1996. *The Abstract Wild*. Tucson: The University of Arizona Press at 24 extends his discussion of Thoreau to include apathy and contempt toward nature in contemporary settings resulting from a lack of contact and experience with "wild" nature.

[174] See the work of Robert Putnam, specifically Putnam, R. D. 2000. *Bowling Alone: The Collapse and Revival of American Community*. New York: Simon and Schuster although he notes that there have been recent changes, specifically in terms of trust of government since the attacks of Sept. 11, 2001, Putnam, R. D. 2002. Bowling Together. *American Prospect*, 13, 20-22.

Public involvement in natural resource planning has in part been undermined in the political sphere through maximizing self-interest and related polarization, heated rhetoric and win/lose choices.[175] The "public thing" is left largely under-subsidized, under-utilized and un-rewarded. The result is thus, "deadlock-and then frustration and withdrawal from all things public."[176] In short, "our way of being public is a deepening failure."[177]

In summary, there have been several trends in the United States that serve as impediments to being public. The first trend is a general decrease of trust in organizations and individuals in recent decades. Second is the focus on self-interest with resulting civic apathy. There are conditions that can influence these trends and may play a role in wildfire planning.

2.4.3. On the conditions that advance this 'public thing'

Public involvement and "popular control" were central to Jefferson's civic republican argument of the active role of citizens in political process and shared sense of duty and responsibility.[178] Jefferson believed trust to be one of the civic virtues "essential

---

[175] Kemmis, D. 1990. *Community and the Politics of Place*. Norman, OK: University of Oklahoma Press.
[176] Ibid at 73.
[177] Kemmis, D. 2001. *This Sovereign Land: A New Vision for Governing the West*. Washington, DC: Island Press at 56.
[178] Hartmann, T. 2004. *What Would Jefferson Do? A Return to Democracy*. New York: Harmony at 193, notes Jefferson wrote in a letter to Isaac H. Tiffany on August 26, 1816: "My most earnest wish is to see the republican element of popular control pushed to the maximum of its practicable exercise. I shall then believe that our government may be pure and perpetual." For Jefferson, "mutual responsibility for one another was a necessary feature of self-governance" Kemmis, D. 1990. *Community and the Politics of Place*. Norman, OK: University of Oklahoma Press at 21. This tradition is also described by Tocqueville, Mill and Dewey, see Putnam, R. D. 2000. *Bowling Alone: The Collapse and Revival of American Community*. New York: Simon and Schuster at 336-338.

59

to public life."[179] Alex de Tocqueville also recognized the importance of trust and corresponding reciprocity in democracy noting Americans practiced not idealistic selflessness nor complete self-interest but rather "self-interest rightly understood."[180] According to Robert Putnam, "we tell pollsters that we wish we were living in a more civil, more trustworthy, more collectively caring community. The evidence for our inquiry shows that this longing is not simply nostalgia or 'false consciousness.' Americans are *right* that the bonds of our communities have withered, and we are *right* to fear that this transformation has very real costs."[181]

A civic republican approach may enhance more civil, trustworthy, collectively caring communities. Civic republicanism is defined as "a constellation of beliefs centering around 1) the existence and legitimacy of public values and the common good, 2) the use of citizen deliberation as the principal democratic decision-making tool, and 3) the state's legitimate role in fostering civic virtue among its citizens."[182] Civic republicans believe citizens create common good through discourse, that a common good is created and not discovered, and that the use of deliberation as a process leads to creativity that in turn shapes preferences, leads to civic virtues and ultimately to eager and competent political participation. A civic republican would posit responsibility. Responsibility involves not only citizen action, but also *providing* opportunities for citizens to be public and act; opening up the public space to a process of linking

---

[179] Kemmis, D. 1990. *Community and the Politics of Place*. Norman, OK: University of Oklahoma Press at 115.
[180] As quoted in Putnam, R. D. 2000. *Bowling Alone: The Collapse and Revival of American Community*. New York: Simon and Schuster at 135.
[181] *author's emphasis,* Ibid at 402.
[182] Poisner, J. 1996. A Civic Republican Perspective on the National Environmental Policy Act's Process for Citizen Participation. *Environmental Law*, 26, 53-94 at 56

60

knowledge to action.[183] Responsibilities associated with civic interaction and civic associations may rely less on formal civic education and more on opportunities for empowerment.[184]

For some, the simple allowance of participation is not sufficient, but rather "conditions for meaningful citizenship must first be created."[185] The creation of these conditions is far from effortless or obvious. I note three bodies of literature or theoretical frameworks associated with natural resource planning articulate conditions that can advance this "public thing:" transactive planning theory, theories of deliberative democracy and literature on sense of place. Each of these bodies of literature share two significant characteristics and outcomes, issues of trust and an emphasis on power structures and dynamics that are aligned with notions of a sense of ownership that I detail later.

2.4.3.1. Transactive planning theory

A transactive planning approach views relationships and associations as "transactions" using processes to assimilate various types of knowledge and preferences of the future. A transactive process enhances the potential for being public by stressing dialogue, mutual learning and flexibility with an emphasis on "decentralized planning institutions that help people take increasing control over the social processes that govern

---

[183] This dichotomy is sometimes referred to in terms of positive versus negative freedoms. For more see Berlin, I. 1958 [2002]. *Liberty*. In H. Hardy (Ed.). Oxford: Oxford University Press.

[184] Barber, B. R. 1984. *Strong Democracy: Participatory Politics for a New Age*. Berkeley: University of California Press.

[185] Williams, B. A., & A. R. Matheny. 1995. *Democracy, Dialogue, and Environmental Disputes: The Contested Languages of Social Regulation*. New Haven: Yale University Press at 62.

61

their welfare."[186] Transactive planning allows for a number of innovative approaches so that those engaged "share the responsibility for problem definition and solution" and thus "taps into people's capacity for proactive practice and, where it is successful, may help to create a sense of collective solidarity."[187]

The transactive model promotes a planning environment where deliberation, debate, dissent and accommodation can take place and flourish and where learning is not just a passive by-product but a lofty goal. Table 3 illustrates and compares the principal characteristics of synoptic and transactive planning.[188]

---

[186] Hudson, B. M. 1979. Comparison of Current Planning Theories: Counterparts and Contradictions. *Journal of the American Planning Association*, 45, 387-398 at 389.

[187] Friedmann, J. 1993. Toward a Non-Euclidean Theory of Planning. *Journal of the American Planning Association*, 60, 482-485 at 484.

[188] The review of synoptic characteristics of planning is based on Hudson, B. M. 1979. Comparison of Current Planning Theories: Counterparts and Contradictions. *Journal of the American Planning Association*, 45, 387-398; Poisner, J. 1996. A Civic Republican Perspective on the National Environmental Policy Act's Process for Citizen Participation. *Environmental Law*, 26, 53-94; Cortner, H. J., & M. A. Moote. 1999. *The Politics of Ecosystem Management*. Washington, DC: Island Press. The review of transactive characteristics of planning is based on Friedmann, J. 1993. Toward a Non-Euclidean Theory of Planning. *Journal of the American Planning Association*, 60, 482-485; Stankey, G. H., S. F. McCool, R. N. Clark, & P. J. Brown. 1999. Institutional and Organizational Challenges to Managing Natural Resources for Recreation: A Social Learning Model. In T. Burton & E. Jackson (Eds.), *Leisure Studies at the Millenium*. State College, PA: Venture Publishing.

Characteristic	Synoptic	Transactive
Use of dialogue	Allows for formal public hearings with allotted time limits	Promotes avenues for two-way dialogue
Use of information	Stresses top-down dissemination of information	Strives for mutual learning
Acknowledgement of values	Stresses apolitical orientation	Recognizes the pluralism in values and interests
Types of knowledge permitted	Relies primarily on numbers and quantitative analysis	Recognizes the legitimacy of many forms of knowledge
Use of science	Puts faith in "best available science"	Uses science that informs rather than dictates discussion
Problem definition	Compartmentalizes problems and solutions	Links people, places and processes
Public forums	Allows for periodic engagement	Promotes active engagement and learning by doing
Decision-making	Mandates decision-making through one centralized entity	Allows decision-making through consensus-building
Monitoring and evaluation	Allows for monitoring if convenient	Recognizes that ongoing monitoring is essential to the learning process

Table 3. Principal characteristics of synoptic and transactive planning.

In contrast to synoptic planning where technical information is privileged and actively sought, transactive planning allows for and encourages differences in values and forms of knowledge. The objective of these transactions is to integrate different forms of knowledge and provide a space where contested forms of knowledge can be offered, recognized and discussed. Transactive planning promotes a learning environment and accommodates changing scenarios with new information and new perspectives. This method of planning also actively encourages monitoring by both lay-people and experts to ensure that actions are implemented and the desired future is achieved.

A key source of power in planning is the control of information.[189] In a synoptic

approach, technical information, provided by "experts" serves to frame problems, direct

goals and dictate which actions are acceptable. Those involved in a planning process can

"distort" communications by obfuscating certain "facts" and issues in scientific

terminology or legal jargon. These distortions are termed structural in that they allow

those in power to selectively channel information and systematically shape interaction or

participation in a planning process.[190]

The manipulation of knowledge and information is related to trust. Trust is a

significant factor in a planning process and is said to be "precarious" because the planner

with decision making authority constantly "establishes, refines, and recreates and thus

reproduces, social relations of trust or distrust."[191] Trust can also enhance, promote or

result from transactive planning processes. In emphasizing sufficient dialogue through a

transactive planning process, the development of trusting interpersonal relationships can

result.[192] Trust is said to result when there are neutral facilitators, clear process rules, and

unimpaired sharing of data and information.[193]

As structural distortions in communication are key to power relations and

resulting trust, I next turn to the process of communication in democracy, a burgeoning

body of literature commonly referred to as deliberative democracy.

---

[189] Forester, J. 1989. *Planning in the Face of Power*. Berkeley, CA: University of California Press.
[190] Ibid.
[191] Ibid at 71.
[192] Hudson, B. M. 1979. Comparison of Current Planning Theories: Counterparts and Contradictions. *Journal of the American Planning Association*, 45, 387-398.
[193] Leach, W. D. 2001. Making Watershed Partnerships Work: A Review of the Empirical Literature. *Journal of water resources planning and management*.

64

2.4.3.2. Theories of deliberative democracy

The second body of scholarship related to being public in a natural resource

planning process concerns deliberative democracy.[194] Democratic theory is said to have

taken a decidedly deliberative turn.[195] Yet, both the theory and practice of this emerging

concept are under-explored and ill-defined in terms of natural resource planning. Since

the term was first coined a quarter century ago, political theorists have searched for an

inclusive definition to explain the theory and practice of deliberative democracy.[196] As

many theorists and practitioners admit, the term deliberative democracy defies precise

definition.[197]

Deliberative forms of democracy include three essential characteristics: 1) they

are public and open where citizens offer "public" reasons for their preferences, 2) they

meet the condition of non-tyranny whereby discussion and agreements function un-

coerced, and 3) they meet the standard of political equality whereby basic procedural and

substantive inequalities are eliminated.[198] Deliberative democracy also involves both a

---

[194] I note that there are differences between the deliberative approaches that I highlight in this research and other critical bodies of work that reference 'dialogue,' 'discourse,' 'discursive' and 'dialectic' models of communication. I instead focus only on the recent proliferation of scholarship on deliberative democracy and note here the overlap in the meaning and application of many of these many bodies of work, particularly with reference to how power is reified and the role of coercion and manipulation in the processes they employ.

[195] Chambers, S. 2003. Deliberative Democratic Theory. *Annual Review of Political Science*, 6, 307-326 at 307 asserts deliberative democracy has moved from the "theoretical statement" stage to the "working theory" stage.

[196] Bassette, J. 1980. Deliberative Democracy: The Majoritarian Principle in Republican Government. In R. Goodwin & W. Shambra (Eds.), *How Democratic Is the Constitution?* (pp. 102-116). Washington, DC: American Enterprise Institute.

[197] Burkhalter, S., J. Gastil, & T. Kelshaw. 2002. A Conceptual Definition and Theoretical Model of Public Deliberation in Small Face-to-Face Groups. *Communication Theory*, 12, 398-422 at 398 claim that deliberative democracy "has no clear conceptual definition and only weak moorings in larger theories." See also Baber, W. 2004. Ecology and Democratic Governance: Toward a Deliberative Model of Environmental Politics. *The Social Science Journal*, 41, 331-346; Bohman, J. 1998. Survey Article: The Coming of Age of Deliberative Democracy. *The Journal of Political Philosophy*, 6, 400-425.

[198] Conover, P. J., D. D. Searing, & I. M. Crewe. 2002. The Deliberative Potential of Political Discussion. *British Journal of Political Science*, 32, 21-62.

public and private dimension emphasizing the need for a polity that is able to engage and also able to hone internal reflection skills.[199] Deliberative democracy has in part gained prominence in both theory and practice as a result of criticism of liberal forms of democracy. Deliberative democracy is broadly described as a process that embraces inter-personal reflection through a public act of reciprocity. This differs from the liberalism's bargaining between competing interests through the purely private act of voting. Deliberative forms of democracy are also seen to be the most appropriate method of addressing moral disagreements, termed the most formidable challenge facing American democracy.[200]

Deliberation as a part of a distinctly politically-oriented public process has a long history of encouraging citizens and representatives to publicly discuss matters of justice and law.[201] At the onset of the Progressive era in the early 20th Century, John Dewey and later Hannah Arendt wrote about core ideas of deliberative democracy. Throughout the later part of the 20th Century, deliberative democracy has been analyzed both in terms of

---

[199] Goodin, R., & S. Niemeyer. 2003. When Does Deliberation Begin? Internal Reflection Versus Public Discussion in Deliberative Democracy. *Political Studies*, 51, 627-649. Similarly for Fearon, J. D. 1998. Deliberation as Discussion. In J. Elster (Ed.), *Deliberative Democracy* (pp. 44-68). Cambridge: Cambridge University Press at 63, deliberation refers to both a public process of discussion that involves careful and serious contemplation and a critical "interior process" where individuals internalize and personally weigh reasons for and against courses of action.

[200] Gutmann, A., & D. Thompson. 1996. *Democracy and Disagreement: Why Moral Conflict Cannot Be Avoided in Politics and What Can Be Done About It.* Cambridge MA: Harvard University Press.

[201] Deliberative forms of governance date back at least to Pericles (c.490- 429 BC) and Aristotle (384-322 BC) continuing with the emancipatory conceptions of individual sovereignty and liberalism through Locke (1632-1704), Montesquieu (1689-1755), and Rousseau (1712-1778) who deemed public discourse essential to the formation of a "general will" (The Social Contract, Book IV, Ch. 2.) The concept of deliberation is sprinkled throughout the 85 *Federalist Papers* (1787-1788), referencing the role of deliberation, primarily in legislative assemblies, and John Stewart Mill (1806-1873) *On Liberty* reflected on the importance of public discourse and outlined a philosophical rationale for "government by discussion" as a means of limiting human fallibility.

a self-standing political theory and as applied to natural resource planning situations.[202]

Deliberative democracy has now become common vernacular among contemporary

political scholars.

Deliberative democracy can exist in two forms; representative or participatory. In

its representative form, citizens do not take part in public deliberations but rather rely on

their elected representatives to engage in deliberative forums. More participatory forms

of deliberative democracy involve the direct interaction of ordinary citizens in policy-

making. This participatory approach can take many forms and include open, inclusive

and direct citizen interaction or more indirect methods, such as deliberative polling and

citizen juries, that seek to combine representative and participatory forms of deliberative

democracy.[203]

There is a distinct focus on issues of control and domination within much of the

deliberative democracy scholarship. While there are several "models" describing

deliberative democracy including a procedural model and representative model, the

"integrative model" describes the use of "multiple perspectives and languages" serving as

a means for evaluating competing "truth claims" in the political process.[204] The

"emancipatory power" of communication is also described as attainable through

---

[202] Williams, B. A., & A. R. Matheny. 1995. *Democracy, Dialogue, and Environmental Disputes: The Contested Languages of Social Regulation.* New Haven: Yale University Press; Thompson, J. R., W. F. Elmendorf, M. H. McDonough, & L. L. Burban. 2005. Participation and Conflict: Lessons Learned from Community Forestry. *Journal of Forestry,* 103, 174-178.

[203] Gutmann, A., & D. Thompson. 2001. Deliberative Democracy. In P. Clarke & J. Foweraker (Eds.), *Encyclopedia of Democratic Thought* (pp. 137-141). New York: Routledge.

[204] Williams, B. A., & A. R. Matheny. 1995. *Democracy, Dialogue, and Environmental Disputes: The Contested Languages of Social Regulation.* New Haven: Yale University Press at 38.

"communicative rationality."[205] Communicative rationality stands is contrast to instrumental rationality and its "distorted" forms of communication (and related manipulation and control of nature). Instead, communicative rationality is motivated by a sincere desire for consensus through mutual understanding, cooperation and a vision of community whereby participants have equal access to opportunities for expression. Persuasive communication in a deliberative setting can also take place without the use of coercion and manipulation based on the type of communication permitted. "Authentic" forms of deliberation can be based on rhetoric, argument, testimony, storytelling and greetings, if used to induce reflection in a "non-coercive" manner, and play an important role in accommodating difference and bridging the gap between citizens.[206] In this view, a process focused on achieving broad reflexivity is necessary for a genuinely deliberative democracy. Alternative forms of communication are admissible so long as they are not coercive and lead to mutual understanding. The objectives are "workable agreements in which participants agree on a course of action, but for different reasons."[207]

Although difficult to conclusively demonstrate, a case for the relationship between deliberative democracy and social capital and its corollary, trust, has also been posited.[208] A number of other studies have also revealed a correlation between trust and

---

[205] For Habermas, J. 1981. *The Theory of Communicative Action.* London: Beacon Press at 44, the process of communicative action is a, "form of social interaction in which the plans of action of different actors are coordinated through an exchange of communicative acts, that is, through a use of language orientated towards reaching understanding." Habermas seeks to create conditions for an "ideal speech situation" in which democratic social and political processes can flourish unfettered by unequal power relations or constricting ideologies.

[206] Dryzek, J. 2000. *Deliberative Democracy and Beyond: Liberals, Critics, Contestations.* Oxford: Oxford University Press at 162 notes the authenticity of this deliberative democracy model is measured by the opportunities afforded to those potentially affected by a decision and whether communication induces "reflection upon preferences in a non-coercive fashion."

[207] Ibid at 170.

[208] Bobbio, L. 2003. Building Social Capital through Democratic Deliberation: The Rise of Deliberative Arenas. *Social Epistemology,* 17, 343-357.

deliberative forms of interaction in natural resource planning, once more admitting the tenuous connection.[209] Social capital is seen both as a prerequisite for and result of a deliberative process and strongly correlated with the "nature of institutional design, ...the nature of the deliberative setting ...(and) existence of rules able to structure relations between the participants appropriately."[210]

Social capital both promotes and results from strong forms of democracy. The deliberative side of democracy negates liberalism's atomization of people since "anonymity is fundamentally anathema to deliberation."[211] Social capital promotes rules pertaining to transparency and inclusiveness. However, deliberative democracy is often undertaken by a limited number of citizens who participate temporarily. Consequently, citizens become "tempted" to return to past activities such as "lobbying and bargaining" and deliberative processes become characterized by "short periods of very intense public life followed by long periods of passivity."[212]

This form of democracy is being recommended and applied in multiple forms and in many different natural resource planning situations. In response to the multiple levels of dissatisfaction with U.S. Forest Service planning processes, the Committee of Scientists, a 13-member body convened by the Secretary of Agriculture in 1997, released

---

[209] King, C. S., K. M. Feltey, & B. O. N. Susel. 1998. The Question of Participation: Toward Authentic Public Participation in Public Administration. *Public Administration Review*, 58, 317-326; Leach, W. D. 2004. *Is Devolution Democratic? Assessing Collaborative Environmental Management*. Sacramento: Center for Collaborative Policy, California State University; Shannon, M. A. 1990. Building Trust: The Formation of a Social Contract. In R. G. Lee, D. R. Field & W. R. Burch (Eds.), *Community and Forestry: Continuities in the Sociology of Natural Resources* (pp. 229-240). Boulder: Westview.

[210] Bobbio, L. 2003. Building Social Capital through Democratic Deliberation: The Rise of Deliberative Arenas. *Social Epistemology*, 17, 343-357 at 353 who also presents "concrete experiences" that reveal transparency to be the key to cooperation amongst past antagonists.

[211] Putnam, R. D. 2000. *Bowling Alone: The Collapse and Revival of American Community*. New York: Simon and Schuster at 342.

[212] Bobbio, L. 2003. Building Social Capital through Democratic Deliberation: The Rise of Deliberative Arenas. *Social Epistemology*, 17, 343-357 at 354.

69

a report on the USFS planning process and recommendations for improvements.[213] The

tasks of the committee included providing technical advice on planning and suggesting a

new planning framework. The committee recommended,

> *"planning must provide mechanisms for broad-based, vigorous, and on-going opportunities for open dialogue ...The participation of citizens should be encouraged from the beginning and be maintained throughout the planning process, including roles in assessments, issue-identification, implementation, and monitoring."[214]*

The report also recommends the use of more deliberative approaches to natural

resource planning and suggests,

> *"only through deliberative processes can collaborative planning create credible scientific strategies or public and stakeholder support. Without this legitimacy, it is difficult for planning to make a difference or have worthwhile results ...a collaborative- planning process rests on continuous, open participation by all stakeholders, interested parties, and the public. Simply providing issues for consideration on proposals is nowhere near sufficient for a collaborative-planning process."[215]*

A deliberative ideal, specifically applied to natural resource planning, requires a

more reflective polity; a polity that is able to understand difference with a high degree of

respect for moral disagreements; the allowance of alternative forms of communication;

processes that promote un-coerced interaction in an environment where individuals can

freely modify their preferences and; institutions that are sensitive to the demands of

deliberative democracy. Ultimately, deliberative democracy emphasizes dialogue and

debate in settings where citizens are willing to revise preferences based on claims by

---

[213] Johnson, K. N., J. Agee, R. Beschta, V. Dale, L. Hardesty, J. Long, L. Nielsen, B. Noon, R. Sedjo, M. Shannon, R. Trosper, C. Wilkinson, & J. Wondolleck. 1999. Sustaining the People's Lands: Recommendations for Stewardship of the National Forests and Grasslands into the Next Century. *Journal of Forestry*, 97, 6-12.

[214] Ibid at 10.

[215] US Department of Agriculture USFS Committee of Scientists. 1999. *Sustaining the People's Land: Recommendations for Stewardship of the National Forests and Grasslands into the Next Century.* Accessed Mar. 5, 2006: http://www.fs.fed.us/news/news_archived/science/ at 130-132.

other individuals and new information. Advocates of deliberative democracy do not seek to replace liberal democracy, but rather to augment it.[216]

The advantages of deliberative forms of democracy are many; sharing of views and communication on preferences and their weights in ways that voting does not allow; the consideration of a wider range of options and new alternatives; the support of "public-spirited" proposals instead of those based on self-interest; an increase in the legitimacy of a decision, and; improved moral and intellectual qualities of participants.[217] Deliberative forms of democracy also advance trust and promote forums in which procedural and substantive inequalities are addressed or eliminated. Forums that promote deliberative forms of democracy may prove helpful in wildfire planning.

2.4.3.3. Sense of place

There is a growing body of literature exploring the notion and application of "sense of place" in natural resource planning.[218] The term (also described as "place attachment") refers to the settings, communities and landscapes in which people interact and have emotional and experiential attachments. More specifically, a sense of place refers to the "meanings, beliefs, symbols, values, and feelings that individuals and groups

---

[216] Chambers, S. 2003. Deliberative Democratic Theory. *Annual Review of Political Science*, 6, 307-326.

[217] Abelson, J., P. Forest, J. Eyles, P. Smith, E. Martin, & F. Gauvin. 2003. Deliberations About Deliberative Methods: Issues in the Design and Evaluation of Public Participation Processes. *Social Science and Medicine*, 57, 239-251 at 242.

[218] Cheng, A. S., L. E. Kruger, & S. E. Daniels. 2003. "Place" as an Integrating Concept in Natural Resource Politics: Propositions for a Social Science Research Agenda. *Society and Natural Resources*, 16, 87-104; Cheng, A. S., & S. E. Daniels. 2003. Examining the Interaction between Geographic Scale and Ways of Knowing in Ecosystem Management: A Case Study of Place-Based Collaborative Planning. *Forest Science*, 49, 841-854; Yung, L., W. Freimund, & J. Belsky. 2003. The Politics of Place. *Forest Science*, 49, 855-866; Williams, D. R., & S. I. Stewart. 1998. Sense of Place: An Elusive Concept That Is Finding a Home in Ecosystem Management. *Journal of Forestry*, 96, 18-23.; Davenport, M. A., & D. H. Anderson. 2005. Getting from Sense of Place to Place-Based Management: An Interpretive Investigation of Place Meanings and Perceptions of Landscape Change. *Society and Natural Resources*, 18, 625-641.

71

associate with a particular place."[219] A sense of place creates and reinforces "identities" that influence values, behaviors and interpersonal relationships with others in the geographic place. The idea of sense of place is significant for researcher, land manager and inhabitant alike, since "people understand the meaning and functions of natural, cultural, and historical resources primarily through personal and collective attachments to local places. ...As a result, places become socially created, shared, sustained ideas, bounded by personal attachments to local geography."[220]

The discussion earlier regarding bioregionalism is closely allied to sense of place in that an intimate knowledge of the functioning of the natural landscape would inculcate a strong notion of the ecological limits on the place and the role of an individual within an ecological system. A bioregional approach consequently "requires opening up the human senses and sensibilities to the surrounding landscape; and it requires the hard work of articulating one's connection with others."[221] Articulating this connection is often a political task, and evokes the term "politics of place" that situates the political struggles associated with planning in a particular landscape.[222]

Sense of place is also linked to issues of power and trust. Conflict related to diverging place meanings often leads to "power struggles" over definitions of benefits and costs of various future scenarios.[223] Place meanings are created, framed and conveyed through discourse; a process involving more than just language, but rather the

---

[219] Williams, D. R., & S. I. Stewart. 1998. Sense of Place: An Elusive Concept That Is Finding a Home in Ecosystem Management. *Journal of Forestry*, 96, 18-23. at 19.

[220] Stokowski, P. 2003. Community Values in Conservation. In B. Minteer & R. Manning (Eds.), *Reconstructing Nature: Finding Common Ground* (pp. 279-295). Washington, DC: Island Press at 285.

[221] McGinnis, M. V. 1999. A Rehearsal to Bioregionalism. In M. V. McGinnis (Ed.), *Bioregionalism* (pp. 1-9). New York: Routledge at 8.

[222] Kemmis, D. 1990. *Community and the Politics of Place*. Norman, OK: University of Oklahoma Press.

[223] Kruger, L. E. 2003. Sense of Place. In J. Jenkins & J. Pigram (Eds.), *Encyclopedia of Leisure and Outdoor Recreation* (pp. 452). London: Routledge at 452.

72

"coalition of meanings" that are negotiated and prioritized through political struggle.[224] Sense of place is also associated with cooperation and trust building. Shared meanings and group identity related to place seem to be correlated with an ability and willingness to cooperate, trust, legitimize alternative points of view and engage in working relationships.[225] A group of individuals who focus on place are able to "learn to listen to each other, build trust among each other, build patterns of working relationships which enable them to discover and build upon common ground.[226]

The connection to place is critical in terms of governance since "public life can only be reclaimed by understanding, and then practicing, its connection to real, identifiable places."[227] This attachment to place is thus likely to correlate to an ambition to be public since, in principal, individuals would want to strengthen the ties that bind people to each other and to a particular place. Sense of place begins to inform planning in terms of how meanings are constructed, shared and contested. These meanings determine, in part, how individuals relate to each other, who is granted authority, how much authority is allowed, and how cooperation and trust are manifested.

In summary, I have presented these three bodies of scholarship on transactive planning, deliberative democracy and sense of place, for two reasons. First, I wanted to provide evidence that there is some theoretical foundation explaining the relationship of planning in general (and natural resource planning in particular) with the notion of being

---

[224] Yung, L., W. Freimund, & J. Belsky. 2003. The Politics of Place. *Forest Science*, 49, 855-866.
[225] Cheng, A. S., & S. E. Daniels. 2003. Examining the Interaction between Geographic Scale and Ways of Knowing in Ecosystem Management: A Case Study of Place-Based Collaborative Planning. *Forest Science*, 49, 841-854; Flora, J. L. 1998. Social Capital and Communities of Place. *Rural Sociology*, 63, 481-506.
[226] Kemmis, D. 1990. *Community and the Politics of Place*. Norman, OK: University of Oklahoma Press at 124.
[227] Ibid at 6.

73

public. Second, I wanted to show that these three bodies of literature all share common themes or discussions of trust and a sense of ownership (by way of discussion on structural distortions in terms of defining and acting in particular contexts and situations). Within this scholarship, issues of trust and a sense of ownership ultimately seem to advance or play a part in this "public thing." The potential for being public depends critically on the presence and quality of both trust and a sense of ownership.

While trust and a sense of ownership are difficult to measure, are ephemeral notions, and like the proverbial chicken and egg, exist as both antecedents and outcomes in a planning process, trust and a sense of ownership appear to play a significant role and influence the potential for being public in natural resource planning processes.

2.5. Toward a framework for being 'public' in wildfire planning

I now turn to an examination of natural resource planning through the lens of trust and a sense of ownership. I begin by detailing the bodies of literature and existing assumptions that guide and inform trust and a sense of ownership. I also discuss how trust and a sense of ownership are related to natural resource planning. I conclude with summary statements about trust and a sense of ownership that serve as broad propositions to guide this research.

74

2.5.1. The role of trust in wildfire planning

For many scholars of varying disciplines exploring conceptions of trust, there is agreement that "no clear definition of trust exists."[228] Yet, there is agreement on the importance of trust in terms of social, economic, political, and psychological factors that influence how humans act and interact.[229] While some scholars have attempted to describe the various and sometimes competing theoretical directions of trust, others have studied trust more peripherally as a component of a larger social or political framework.[230] Trust is not a behavior (i.e. cooperation), nor a choice (i.e. risk taking) but rather an underlying condition responsible for such actions. Trust is described as a continuous process that is never fully realized or attained.[231] Trust is also seen to be ephemeral, existing precariously in the present, and a tenuous variable for predicting the future.[232] Trust is also not easily reducible to its component parts.[233]

The study of trust is multidisciplinary and often trans-disciplinary linking more than one field or discipline. The disciplinary variations characterizing trust suggest inherent conflicts and divergent assumptions that serve to strain the creation of an overarching conception or theory of trust. For psychologists, trust is often cast in terms

---

[228] Bhattacharya, R., T. M. Devinney, & M. M. Pillutla. 1998. A Formal Model of Trust Based on Outcomes. *The Academy of Management Review*, 23, 459-472. Similarly, Rousseau, D. M., S. B. Sitkin, R. S. Burt, & C. Camerer. 1998. Not So Different after All: A Cross-Discipline View of Trust. *The Academy of Management Review*, 23, 393-404 at 394 suggest there is "no universally accepted scholarly definition of trust."

[229] Simmel, G. 1950. The Sociology of George Simmel. In K. Wolff (Ed.). Glencoe, IL: The Free Press; Seligman, A. 1997. *The Problem of Trust*. Princeton, NJ: Princeton University Press; Newton, K. 2001. Trust, Social Capital, Civil Society, and Democracy. *International Political Science Review*, 22, 201-214.

[230] For instance, as a component of social capital.

[231] Barber, B. 1983. *The Logic and Limits of Trust*. New Brunswick: Rutgers University Press.

[232] Weber, L. R., & A. Carter. 2003. *The Social Construction of Trust*. New York: Plenum Publishers.

[233] Rousseau, D. M., S. B. Sitkin, R. S. Burt, & C. Camerer. 1998. Not So Different after All: A Cross-Discipline View of Trust. *The Academy of Management Review*, 23, 393-404.

of the internal cognition of individuals.[234] In the field of economics, trust is often framed in terms of rational choice theory and the calculus of interactions based on exchanges in markets.[235] Political scientists, using frameworks to understand the aggregation of choices, often view trust in terms of fiduciary relations or in establishing networks and associations of common interest.[236] Sociologists often frame trust in terms of the properties and characteristics of relationships.[237] In short, there is no distinct or dominant theory encapsulating the multiple aspects or conceptions of trust. Nor perhaps should there be. Indeed, trust is described as situational and context-based and dependant on myriad factors.[238]

There are however some overarching generalizations that are cross-disciplinary and parsimonious. In this respect, I offer four broad characteristics of trust.[239] The first characteristic is that risk must be present in order for trust to exist. Risk is defined as the perceived probability of loss. Risk is said to be a social construct based on present perceptions and prior knowledge, both of which can be biased.

Risk assessments are based on judgments related to uncertainty and therefore "must be selected as much on the basis of what is valued as on the basis of what is

---

[234] Deutsch, M. 1960. The Effect of Motivational Orientation on Trust and Suspicion. *Human Relations. 13:123-139.*; Rotter, J. B. 1967. A New Scale for the Measurement of Interpersonal Trust. *Journal of Personality*, 35, 651-665.

[235] North, D. C. 1990. *Institutions, Institutional Change, and Economic Performance.* New York: Cambridge University Press.; Williamson, O. E. 1993. Calculativeness, Trust and Economic Organizations. *Journal of Law and Economics*, 30: 131-145.

[236] Barber, B. 1983. *The Logic and Limits of Trust.* New Brunswick: Rutgers University Press; Putnam, R. D. 2000. *Bowling Alone: The Collapse and Revival of American Community.* New York: Simon and Schuster.

[237] Lewicki, R. J., D. J. McAllister, & R. J. Bies. 1998. Trust and Distrust: New Relationships and Realities. *The Academy of Management Review*, 23, 438-458; Weber, L. R., & A. Carter. 2003. *The Social Construction of Trust.* New York: Plenum Publishers.

[238] Rousseau, D. M., S. B. Sitkin, R. S. Burt, & C. Camerer. 1998. Not So Different after All: A Cross-Discipline View of Trust. *The Academy of Management Review*, 23, 393-404.

[239] Ibid who offer a cross-disciplinary summary of the concepts, causes and consequences of trust.

known."[240] The methods of integrating perceptions, values and knowledge of acceptable

risk is subjective and based on judgments, some shared, and some divergent. Since risk

is thought to be socially constructed and negotiated within the context of specific

problem, technical approaches to risk management often fail where experts and the public

disagree on the nature of the risk.[241] The source of disagreement can lead to exploitation

of power since "whoever controls the definition of risk controls the rational solution to

the problem at hand. If risk is defined one way, then one option will rise to the top as the

most cost-effective or the safest or the best. If it is defined another way, perhaps

incorporating qualitative characteristics and other contextual factors, one will likely get a

different ordering of action solutions. Defining risk is thus an exercise in power."[242]

One result of this exercise in power can be pernicious labeling or stereotyping to

influence risk assessments. When labeling or stereotyping becomes a characteristic of

risk communication, defying the negative stereotype is seen as key to improving

perceptions of trust and credibility.[243] Indeed, portraying adversaries or opponents in a

denigrating way to promote self-interest and political opportunism in risky situations is

far from new and dates back at least to the time of Niccolò Machiavelli. Conversely,

willingness to risk also creates opportunities for risk-taking that carry the potential for

positive outcomes.

---

[240] Douglas, M., & A. Wildavsky. 1982. *Risk and Culture: An Essay on the Selection of Technical and Environmental Dangers*. Berkeley: University of California Press at 80.

[241] Kunreuther, H., & P. Slovic. 1996. Science, Values, and Risk. *The Annals of the American Academy of Political and Social Science*, 545, 116-125.

[242] Slovic, P. 1999. Trust, Emotion, Sex, Politics, and Science: Surveying the Risk-Assessment Battlefield. *Risk Analysis*, 19, 689-701 at 699.

[243] Peters, R., V. Covello, & D. McCallum. 1997. The Determinants of Trust and Credibility in Environmental Risk Communication: An Empirical Study. *Risk Analysis*, 17, 43-54.

A second characteristic of trust is the dynamic ebb and flow of relationships. In this sense, trust is not a static phenomenon but rather involves three phases. The first is the building phase where trust is formed and reformed. The second is the stability phase where trust exists and foments. The last phase is the dissolution phase where trust declines. A related issue to these phases of trust is the notion that trust is fragile and typically created slowly but destroyed quickly. Negative events (trust destroying) are more noticeable than positive events (trust building) and thus are seen to be far more likely to influence trust.[244]

Third, trust exists as a "multilevel" phenomenon operating and interacting on individual, group, and institutional levels.[245] Trust can also occur between individuals or between individuals and inanimate organizations and institutions.[246] There is a gradation not only in the scale but also related to the intensity of trust between individuals. Some refer to trust as thick (whereby personal relations are strong, frequent and nested in wider networks) versus thin (whereby trust rests on more generalized relationships as may be the case between strangers in a small town).[247] Similarly, others discuss trust as possessing generalized versus particular elements.[248]

---

[244] Slovic, P. 1993. Perceived Risk, Trust, and Democracy. *Risk Analysis*, 13, 675-682.

[245] Rousseau, D. M., S. B. Sitkin, R. S. Burt, & C. Camerer. 1998. Not So Different after All: A Cross-Discipline View of Trust. *The Academy of Management Review*, 23, 393-404 at 393. Similarly, Tyler, T. R., & R. M. Kramer. 1996. Whither Trust? In R. M. Kramer & T. R. Tyler (Eds.), *Trust in Organizations: Frontiers of Theory and Research*. Thousand Oaks, CA: Sage Publications describe trust scales as macro (organizations), meso (social networks) and micro (individual).

[246] Moore, S. A. 1995. The Role of Trust in Social Networks: Formation, Function, and Fragility. In D. A. Saunders, J. Craig & E. M. Mattiske (Eds.), *Nature Conservation 4: The Role of Networks* (pp. 148-154). Surrey, New South Wales: Beatty and Sons.

[247] Putnam, R. D. 2000. *Bowling Alone: The Collapse and Revival of American Community*. New York: Simon and Schuster at 136 states, "Thin trust is more useful than thick trust, because it extends the radius of trust beyond the roster of people whom we can know personally."

[248] Warren, M. 1999. *Democratic Theory and Trust*. In M. Warren (Ed.), *Democracy and Trust* (pp. 310-345). *New York*: Cambridge University Press.

78

The fourth characteristic involves the various forms of trust. First, a deterrence-base form of trust emphasizes a utilitarian consideration involving sanctions that foster or enhance cooperation. Cooperation does not necessarily have to result from trust but rather can result from coercion or fear. For example, control regimes such as legal contracts are a common form of deterrence-based trust and signal the absence of trust. These arrangements can hamper the emergence of trust and therefore "may not be trust at all but may be closer to low levels of distrust."[249]

The second form of trust is termed calculus-based trust that exists not only because of a threat of deterrence but also from credible information (reputation of good intentions and competence of another) or based on some type of certification. In these situations, parties "trust but verify" under limited conditions and exchanges. These conditions can, for instance, be financial but not personal. For example, calculus-based trust may occur through a loan to a friend with a word of mouth agreement based on a past experiences that were favorable.

Lastly, relational forms of trust develop from repeated interactions and lead to reciprocal arrangements. In these situations, repeated interactions (including past cycles of exchange, risk-taking, and fulfillment of expectations) strengthen the willingness to rely on others and "expand the resources brought into the exchange."[250] In contrast to deterrence-based trust, relational trust entails both the enhancement of positive intentions and absence of negative intentions giving rise to a condition of high trust to low distrust. Like a positive feedback loop, positive interactions lead to increasing interdependence

---

[249] Rousseau, D. M., S. B. Sitkin, R. S. Burt, & C. Camerer. 1998. Not So Different after All: A Cross-Discipline View of Trust. *The Academy of Management Review*, 23, 393-404 at 399.
[250] Ibid at 399.

and likelihood that new opportunities and initiatives will be pursued. Exchanges based on relational trust are more resilient than calculus-based trust which often terminate once a violation occurs. Ultimately, relational trust can lead to a "shared identity" involving "shared information, status and concern" and thus is viewed as "trust at its broadest."[251]

Relational trust (also termed interactional trust) has been the focus of much scholarship.[252] In a relational sense, trust is a social construct that "emerges out of the interactions between individuals and it serves to order these relationships by influencing interaction."[253] Trust is built and based on repeated interactions and fulfillment of expectations in the past and leads to an ability to act in confidence, with firm reliance and faith on the integrity, ability or character of individuals or groups of individuals.

Related to the four characteristics of trust outlined above are various outcomes associated with trust and trusting relationships. There is general agreement that trust has the potential to enable cooperative behavior, promote adaptive endeavors such as network relations, reduce harmful conflict, decrease transaction costs, and facilitate effective responses to future crises.[254]

---

[251] Ibid at 400.

[252] Seligman, A. 1997. *The Problem of Trust*. Princeton, NJ: Princeton University Press; Weber, L. R., & A. Carter. 2003. *The Social Construction of Trust*. New York: Plenum Publishers.

[253] Weber, L. R., & A. Carter. 2003. *The Social Construction of Trust*. New York: Plenum Publishers at 5.

[254] Rousseau, D. M., S. B. Sitkin, R. S. Burt, & C. Camerer. 1998. Not So Different after All: A Cross-Discipline View of Trust. *The Academy of Management Review*, 23, 393-404.

Numerous studies point to the importance of trust as a precursor or outcome of

certain natural resource planning processes.[255] In addition research recognizing the

general role of trust in natural resource planning situations, there are numerous other

studies that identify more detailed outcomes or opportunities that result, for example;

enhancing individual or group learning; building relationships; improving relations with

government; teaching citizenship or inculcating civic virtue; leading to creative solutions;

allowing dialogue to flourish; promoting fairness in procedural efforts and notions of

justice; and validating multiple forms of knowledge. Table 4 lists the links between

opportunities and outcomes with principal works associated with the study of trust in

natural resource planning.

---

[255] Beierle, T. C., & D. M. Konisky. 2000. Values, Conflict, and Trust in Participatory Environmental Planning. *Journal of Policy Analysis and Management*, 19, 587-602; Carr, D. S., S. W. Selin, & M. A. Schuett. 1998. Managing Public Forests: Understanding the Role of Collaborative Planning. *Environmental Management*, 22, 767-776; Carroll, M. S., & W. G. Hendrix. 1992. Federally Protected Rivers: The Need for Effective Local Involvement. *Journal of the American Planning Association*, 58, 346-352; Conley, A., & M. A. Moote. 2003. Evaluating Collaborative Natural Resource Management. *Society & Natural Resources*, 16, 371-386; Moore, S. A., & R. G. Lee. 1999. Understanding Dispute Resolution Processes for American and Australian Public Wildlands: Towards a Conceptual Framework for Managers. *Environmental Management*, 23, 453-465; Ostrom, E., J. Burger, C. B. Field, R. B. Norgaard, & D. Policansky. 1999. Revisiting the Commons: Local Lessons, Global Challenges. *Science*, 284, 278-281.

Opportunity from / Outcome of Trust	Principal works
Enhancing individual and /or group learning	Brechin, S. R., P. R. Wilshusen, C. L. Fortwangler, & P. C. West. 2002. Beyond the square wheel: Toward a more comprehensive understanding of biodiversity conservation as social and political process. Society and Natural Resources, 15, 41-64; Halvorsen, K. E. 2003. Assessing the effects of public participation. Public Administration Review, 63, 535-543; Stankey, G. H., S. F. McCool, R. N. Clark, & P. J. Brown. 1999. Institutional and organizational challenges to managing natural resources for recreation: A social learning model. In T. Burton & E. Jackson (Eds.), Leisure Studies at the Millennium. State College, PA: Venture Publishing
Building relationships	McCool, S. F., & K. Guthrie. 2001. Mapping the dimensions of successful public participation in messy natural resources management situations. Society and Natural Resources, 14, 309-323.
Improving relations with government	Poisner, J. 1996. A civic republican perspective on the National Environmental Policy Act's process for citizen participation. Environmental Law, 26, 53-94.
Leading to creative solutions	Leach, W. 2004. Are trust and social capital the keys to success? Watershed partnerships in CA and WA. In P. Sabatier (Ed.), Swimming upstream; Snow, D. 2001. Coming home: An introduction to collaborative conservation. In P. D. Brick, D. Snow & S. Van de Wetering (Eds.), Across the great divide: Explorations in collaborative conservation and the American West. Washington DC: Island Press; Wondelleck, J. M., & S. L. Yaffee. 2000. Making Collaboration Work: Lessons from innovation in natural resource management. Washington, D.C: Island Press.
Teaching citizenship or inculcating civic virtue	Kemmis, D. 1990. Community and the Politics of Place. Norman, OK: University of Oklahoma Press.
Allowing dialogue to flourish	Dietz, T. 2003. What is a good decision? Criteria for environmental decision making. Human Ecology Review, 10, 33-39; Dryzek, J. S. 2004. Pragmatism and democracy: In search of deliberative publics. Journal of Speculative Philosophy, 18, 72-79; Shannon, M. A. 1990. Building trust: The formation of a social contract. In R. G. Lee, D. R. Field & W. R. Burch (Eds.), Community and forestry: Continuities in the sociology of natural resources (pp. 229-240). Boulder: Westview; Yankelovich, D. 1999. The Magic of Dialogue: Transforming Conflict into Cooperation: Simon and Schuster.
Promoting fairness in procedural efforts and notions of justice	Lawrence, R. L., S. E. Daniels, & G. H. Stankey. 1997. Procedural justice and public involvement in natural resource decision making. Society and Natural Resources, 10, 577-589; McClaran, M. P., & D. A. King. 1999. Procedural fairness, personal benefits, agency expertise, and planning participants' support for the Forest Service. Natural Resources Journal, 39, 443-458; Smith, P. D., & M. H. McDonough. 2001. Beyond public participation: Fairness in natural resource decision making. Society and Natural Resources, 14, 239-249
Validating multiple forms of knowledge	Bardwell, L. 1991. Problem framing: A perspective on environmental problem-solving. Environmental Management, 15, 603-612; Hajer, M. A. 1995. The Politics of Environmental Discourse: Ecological Modernization and the Policy Process. Oxford, England: Clarendon Press; Williams, B. A., & A. R. Matheny. 1995. Democracy, dialogue, and environmental disputes: The contested languages of social regulation. New Haven: Yale University Press.

Table 4. List of linkages to opportunities and outcomes and principal works associated with trust in natural resource planning.

There have been several studies linking wildfire planning and management to trust.[256] Several case studies have found trust to be a strong predictor of respondents' approval of the government to make proper decisions about the use of prescribed burning and mechanical fuel reduction.[257] In another longitudinal study, citizens supported thinning and prescribed burning treatments, yet trust waned over the course of sampling from 1996 to 2000 regarding how the Forest Service was to implement responsible and effective fuel reductions programs.[258] Trust is also related to perceptions of competence in terms of how an agency implements hazardous fuel reduction treatments.[259]

[256] Burns, S., C. Sperry, & R. Hodgson. 2003. *People and Fire in Western Colorado: Methods of Engaging Stakeholders*. In P. N. Omi & L. A. Joyce (Eds.), *Fire, fuel treatments, and ecological restoration: Conference proceedings*. April 16-18; Fort Collins, CO. Proceedings RMRS-P-29. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 475 p.; Ingalsbee, T. 2003. *From Analysis Paralysis to Agency-Community Collaboration in Fuels Reduction for Fire Restoration: A Success Story*. In P. N. Omi & L. A. Joyce (Eds.), *Fire, fuel treatments, and ecological restoration: Conference proceedings*. April 16-18; Fort Collins, CO. Proceedings RMRS-P-29. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 475 p.; Liljeblad, A., W. Borrie, & A. Watson. 2005. *Monitoring Trust as an Evaluation of the Success of Collaborative Planning in a Landscape-Level Fuel Hazard Reduction Treatment Project in the Bitterroot Valley, Montana*: Final Report, USDA Forest Service, Rocky Mountain Research Station; Mendez, S. R., M. S. Carroll, K. A. Blatner, A. J. Findley, G. B. Walker, & S. E. Daniels. 2003. Smoke on the Hill: A Comparative Study of Wildfire and Two Communities. *Western Journal of Applied Forestry*, 18, 60-70.
[257] Vogt, C. A., G. Winter, & J. S. Fried. 2005. Predicting Homeowners' Approval of Fuel Management at the Wildland-Urban Interface Using the Theory of Reasoned Action. *Society and Natural Resources*, 18, 337-354; Winter, G., A. Vogt, & S. McCaffrey. 2004. Examining Social Trust in Fuels Management Strategies. *Journal of Forestry*, 102, 8-15.
[258] Toman, E., & B. Shindler. 2003. Fuel Reduction Strategies in Forest Communities: A Longitudinal Analysis of Public Support. *Journal of Forestry*, 101, 8-15.
[259] Vogt, C. A., G. Winter, & J. S. Fried. 2005. Predicting Homeowners' Approval of Fuel Management at the Wildland-Urban Interface Using the Theory of Reasoned Action. *Society and Natural Resources*, 18, 337-354.

There has been a proliferation of wildfire research related to risk.[260] Risk and risk

assessment are significant factors in mandates for wildfire planning.[261] Research in

wildfire management that examines human actions to reduce risk has revealed that

individuals undertake complex, highly situational cause-effect evaluations that involve a

person's willingness to assume costs and make sacrifices.[262] Individuals also prefer to

look to others to implement risk reduction programs, such as their neighbors or

government agents, rather than exert the forethought or personal commitment to reduce

risk.[263] Generally, if personal costs are high, in terms of time, effort, or financial burden,

individuals are less likely to take actions to reduce risk, even if the potential

consequences are high.[264] Additionally, if the probability of a risk event is low, people

are typically unmotivated to take preventative action to reduce risk.[265] Risk assessments

are also complicated by the uncertainty of applying different management techniques

(including no action).

---

[260] See generally, Borcher, J. 2005. Accepting Uncertainty, Assessing Risk: Decision Quality in Managing Wildfire, Forest Resource Values, and New Technology. *Forest Ecology and Management*, 211, 36-46; Fairbrother, A., & J. Turnley. 2005. Predicting Risks of Uncharacteristic Wildfires: Application of the Risk Assessment Process. *Forest Ecology and Management*, 211, 28-35; Field, D. R., & D. A. Jensen. 2005. Humans, Fire, and Forests: Expanding the Domain of Wildfire Research. *Society and Natural Resources*, 18, 355-362; Haight, R. G., D. T. Clelan, R. B. Hammer, V. C. Radeloff, & T. S. Rupp. 2004. Assessing Fire Risk in the Wildland-Urban Interface. *Journal of Forestry*, 102, 41-48; Carlton, D. 2004. A Scalable Wildland Fire Risk Assessment. *Imaging Notes*, Winter; Miller, C., P. B. Landres, & P. B. Alaback. 2000. *Evaluating Risks and Benefits of Wildland Fire at Landscape Scales*. In L. F. Neuenschwander & K. C. Ryan (Eds.), *Crossing the Millennium*; McCaffrey, S. 2004. Thinking of Wildfire as a Natural Hazard. *Society and Natural Resources*, 17, 509-516.

[261] For example, the word 'risk' appears over 35 times in the HFRA.

[262] Daniel, T. C., E. Weidemann, & D. Hines. 2002. *Assessing Public Tradeoffs between Fire Hazard and Scenic Beauty in the Wildland-Urban Interface*. In P. Jakes (Ed.), *Homeowners, communities, and wildfire: Science findings from the national fire plan* (pp. 36-44). St Paul, MN: USDA Forest Service, General Technical Report NC-231.

[263] Ibid.

[264] Fischhoff, B., P. Slovic, & S. Lichtenstein. 1979. Weighing the Risks: Which Are Acceptable? *Environment*, 2, 17-20.

[265] Kunreuther, H., & M. Pauly. 2004. Neglecting Disaster: Why Don't People Insure against Large Losses? *Journal of Risk and Uncertainty*, 28, 5-21.

In other research related to wildfire risk assessments, participants of a focus group study in Michigan were only weakly supportive of investments in fire fighting infrastructure, were unlikely to take all possible steps to safeguard their own properties, and resolute in their emphasis on solutions that reduce the number of fire ignitions.[266] Other research demonstrates that despite the threat of wildfire in communities, residents are often unwilling or reluctant to take measures to reduce risk from wildfire on their property.[267] While ex-urban residents are capable of discerning the potential wildfire hazards, they often have other priorities for their property, especially sustaining a preferred visual aesthetic.[268]

Unquestionably, wildfire and its externalities, such as smoke, pose significant risks for individuals and communities in terms of health and property damage. Identifying and agreeing on various risk assessments is often a wicked problem with competing goals and uncertainty. While there is a role for science in risk assessments, the belief "that science can and should drive policy goes beyond naiveté into near delusion. The revolution in wildfire policy did not come from science: it emanated from esthetics, ethics, and economics, from beliefs and values for which its holders sought scientific sanction."[269] Thus, the existence and tension between many values associated with the risk of living with wildfire is understandable in wildfire planning. Trust can

---

[266] Winter, G., & J. S. Fried. 2000. Homeowner Perspectives on Fire Hazard, Responsibility, and Management Strategies at the Wildland-Urban Interface. *Society and Natural Resources*, 13, 33-50

[267] Cortner, H. J., P. G. Gardner, & J. G. Taylor. 1990. Fire Hazards at the Urban-Wildland Interface: What the Public Expects. *Environmental Management*, 14, 57-62; Gardner, P. G., H. J. Cortner, & K. Widaman. 1987. The Risk Perceptions and Policy Response toward Wildland Fire Hazards by Urban Home-Owners. *Landscape and Urban Planning*, 14, 163-172.

[268] Daniel, T. C., E. Weidemann, & D. Hines. 2002. *Assessing Public Tradeoffs between Fire Hazard and Scenic Beauty in the Wildland-Urban Interface*. In P. Jakes (Ed.), *Homeowners, communities, and wildfire: Science findings from the national fire plan* (pp. 36-44). St Paul, MN: USDA Forest Service, General Technical Report NC-231.

[269] Pyne, S. J. 2004. *Tending Fire: Coping with America's Wildland Fires*. Washington, DC: Island Press at 12.

85

strengthen the ability of individuals to agree on risk or take certain risks. Trust, in its multiple forms, seems integral in the process and outcome of wildfire planning.

2.5.2. The role of ownership in wildfire planning

The meaning of ownership is evolving from legal and jurisdictional issues of title over land and related resources to a more conceptual notion that the public has interest in and a sense of responsibility for stewardship of natural resources. An objective of many natural resource planning processes is to create a sense of ownership in the process and decisions resulting from them.[270] Ownership in a natural resource planning process is predicated on the assumption that if individuals are intimately and authentically engaged, a sense of ownership in the plan will be created, leading to greater chances for political support and implementation.[271] The term ownership is increasingly used in public land or

---

[270] Cestero, B. 1999. *Beyond the Hundredth Meeting: A Field Guide to Collaborative Conservation on the West's Public Lands*. Tucson, AZ: Sonoran Institute; McCool, S. F., & K. Guthrie. 2001. Mapping the Dimensions of Successful Public Participation in Messy Natural Resources Management Situations. *Society and Natural Resources*, 14, 309-323; Van Riper, L. 2003. *Can Agency-Led Initiatives Conform to Collaborative Principles? Evaluating and Reshaping an Interagency Program through Participatory Research*. Unpublished Ph.D. dissertation, School of Forestry, University of Montana.

[271] Wondelleck, J. M., & S. L. Yaffee. 2000. *Making Collaboration Work: Lessons from Innovation in Natural Resource Management*. Washington, DC: Island Press.

environmental policy scholarship.[272] The term is also used in scholarship associated with

sociology, education and curriculum development, and organizational behavior.[273]

While a sense of ownership has been discussed as an objective of natural resource

planning, the term has only been summarily discussed and defined. I expand and clarify

the definition of a sense of ownership to include three distinct characteristics:

1. A sense of ownership in process (whose voice is heard),

2. A sense of ownership in outcome (who has influence over decisions),

3. A sense of ownership in distribution (who is affected by the process and

   outcome).

---

[272] see for example, Burns, S., C. Sperry, & R. Hodgson. 2003. *People and Fire in Western Colorado: Methods of Engaging Stakeholders.* In P. N. Omi & L. A. Joyce (Eds.), *Fire, fuel treatments, and ecological restoration: Conference proceedings.* April 16-18; Fort Collins, CO. Proceedings RMRS-P-29. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 475 p.; Buyukdamgaci, G. 2003. Process of Organizational Problem Definition: How to Evaluate and How to Improve. *Omega*, 31: 327- 338; Ehrmann, J. R., & M. T. Lesnick. 1988. The Policy Dialogue: Applying Mediation to the Policy-Making Process. *Mediation Quarterly*, 20, 93-99; Hajer, M. A. 1995. *The Politics of Environmental Discourse: Ecological Modernization and the Policy Process.* Oxford, England: Clarendon Press; Jarvi, C. K., & D. E. Wegner. 2001. Parks and Recreation Professionals as Community Change Agents. *Parks and Recreation*, January 22-32; Kearney, A. R., & S. Kaplan. 1997. Toward a Methodology for the Measurement of Knowledge Structures of Ordinary People: The Conceptual Content Cognitive Map. *Environment and Behavior*, 29; Lachapelle, P. R., & S. F. McCool. 2005. Exploring the Concept of "Ownership" in Natural Resource Planning. *Society and Natural Resources*, 18, 279-285; Oregon Watershed Forum. 1992. *Improving Local Efforts to Resolve Watershed Management Problems, A report from the Oregon Watershed Forum, March 17-18*; Thompson, J. R., W. F. Elmendorf, M. H. McDonough, & L. L. Burban. 2005. Participation and Conflict: Lessons Learned from Community Forestry. *Journal of Forestry*, 103, 174-178; Todd, B. 2004. Tragedy Averted: The Promise of Collaboration. *Society & Natural Resources*, 17, 881-896.

[273] Barufaldi, J. P. 1987. *Perspectives in Research in Science Education: A Legacy and a Promise.* Presidential address at the meeting of the National Association for Research in Science Teaching, Atlanta, GA.; Gusfield, J. 1989. Constructing the Ownership of Social Problems: Fun and Profit in the Welfare State. *Social Problems*, 36, 431-441; Himmelman, A. 1996. On the Theory and Practice of Transformational Collaboration: Collaboration as a Bridge from Social Service to Social Justice. In C. Durham (Ed.), *Creating Collaborative Advantage*: London: Sage Publishers; Loseke, D. R. 1999. Thinking About Social Problems: An Introduction to Constructionist Perspectives. Hawthorne NY: Aldine de Grunter; Mattessich, P. W., & B. R. Monsey. 1992. *Collaboration: What Makes It Work-a Review of Literature on Factors Influencing Successful Collaboration.* St. Paul, Minnesota: Amherst H. Wilder Foundation; Schneider, J. W. 1985. Social Problems Theory: The Constructionist View. *Annual Review of Sociology*, 11, 209-229.

The first characteristic of a sense of ownership involves the processes by which

voices are heard and considered legitimate or valid. Whose voice is heard often

determines who defines the problem or situation. Problems can be defined or "framed"

so as to either benefit or harm individuals in terms of claims, meanings and viability. The

framing of problems drives underlying assumptions, guides strategies taken and

ultimately influences the quality and acceptability of a plan.[274] The privileging of

particular ideas, forms of knowledge and definition of problems influences interactions

between individuals and the choices they make to address a situation. Hence, the "lens"

used to view a problem influences the strategies toward resolving that problem.

Situations viewed through conflicting "lenses" will tend to be antagonistic.

Recent scholarship in political ecology is concerned with "communities of

expertise" recognizing knowledge is often unevenly distributed, is not necessarily "right"

and may involve both traditional, experiential or "lay" knowledge and technical

information.[275] How various ideas and types of knowledge are privileged and integrated

requires innovation that "raises the prospect not only of citizens interacting with experts,

but also of citizens *as* experts and experts *as* citizens."[276] A sense of ownership

---

[274]Bardwell, L. 1991. Problem Framing: A Perspective on Environmental Problem-Solving. *Environmental Management*, 15, 603-612; Gray, B. 2003. Framing of Environmental Disputes. In R. Lewicki, B. Gray & M. Elliott (Eds.), *Making Sense of Intractable Environmental Conflicts: Concepts and Cases* (pp. 11-34). Washington DC: Island Press.

[275] Watts, M. 2000. Political Ecology. In T. Barnes & E. Sheppard (Eds.), *A Companion to Economic Geography* (pp. 257-274). Oxford: Blackwell at 264. Political ecology seeks to uncover relationships between social and environmental change using a variety of environmentally related disciplines in the social and environmental sciences. While agreement on an exact definition of political ecology is diffuse among practitioners, there is general agreement that environmental changes and ecological conditions are the product of political processes and often affect different actors unequally. For a broad overview of political ecology see, Ferguson, A., & B. Derman. 2005. Whose Water? Political Ecology of Water Reform in Zimbabwe. In L. Gezon & S. Paulson (Eds.), *Political Ecology across Spaces, Scales, and Social Groups* (pp. 61-75). New Brunswick, NJ: Rutgers University Press.

[276] Paehlke, R., & D. Torgerson. 1990. *Managing Leviathan: Environmental Politics and the Administrative State* (pp. 310). Peterborough, Ontario: Broadview Press at 299, *authors' emphasis*.

challenges conventional notions of the "culture of technical control"[277] described earlier and redesigns conventional citizen-expert interactions.[278]

Admittedly, science can and has provided helpful and often critical information used in planning. However, science can also be used to forward a political agenda, either through the "scientizing of politics" or in using science defensively as a barrier to regulation.[279] "Scientism" is the belief that science is inherently capable of solving almost all human problems and often serves as a mechanism of control as to whose voice is heard and considered legitimate.[280] As previously noted, the desirability of the conditions are judgments informed by science but ultimately determined by factors of social and politically desirability.[281] In the digital age, also termed the "Age of Information, America culture grossly overvalues the importance of information as a form of knowledge and undervalues the importance of cultivating good judgment. It assumes, falsely, that good information automatically leads to good judgment."[282]

---

[277] Yankelovich, D. 1991. *Coming to Public Judgment: Making Democracy Work in a Complex World.* Syracuse: Syracuse University Press at 9.

[278] Williams, B. A., & A. R. Matheny. 1995. *Democracy, Dialogue, and Environmental Disputes: The Contested Languages of Social Regulation.* New Haven: Yale University Press.

[279] Doremus, H. 2005. Science Plays Defense: Natural Resource Management in the Bush Administration. *Ecology Law Quarterly,* 32, 249-305 at 249.

[280] Caldwell, L. K. 1990. *Between Two Worlds: Science, the Environmental Movement and Policy Choice.* New York, NY: Cambridge University Press at 67. Scientism is similar to the term "high modernist ideology" used by Scott, J. 1998. *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed.* New Haven: Yale University Press at 4 who remarks that high modernist schemes hold "little confidence …in the skills, intelligence, and experience of ordinary people" at 346.

[281] Burchfield, J. 2001. Finding Science's Voice in the Forest. In P. D. Brick, D. Snow & S. Van de Wetering (Eds.), *Across the Great Divide: Explorations in Collaborative Conservation and the American West* (pp. 236-243). Washington DC: Island Press.

[282] Yankelovich, D. 1991. *Coming to Public Judgment: Making Democracy Work in a Complex World.* Syracuse: Syracuse University Press at 10.

The use of science in natural resource planning as a form of power is increasingly discussed and studied.[283] The control of knowledge and information in terms of how science is gathered, presented, disseminated, and ultimately distorted, acts as a significant source of power in planning situations. In some situations as previously discussed, science functions as a "pathology of power."[284] Power in this sense is reified through the enterprise of scientific pursuits and emphasis on claims of "validity" of information.

Power and domination are fundamental tenets of a political ecology framework and involve not only issues of discourse and how problems are defined but also physical power and threats through sanctions or other punitive actions. Power is the ability to impose one's will in the face of resistance while domination implies a more consistent and patterned structure of control exerted consistently to gain and hold control.[285] Domination can take many forms including domination through external sanctions (usually through threats), domination through informal cooptation (the granting of power to a powerful external constituency without the formal recognition of responsibility), domination through power-sharing formal cooptation (sharing of responsibility but not power such as advisory councils), domination through constellation of interests (colluded control over needed resources), and cooptation domination (key bureaucrats in line with

---

[283] See for instance, Fischer, F. 2000. *Citizens, Experts, and the Environment: The Politics of Local Knowledge*. Durham: Duke University Press; Friedmann, J. 1994. The Utility of Non-Euclidian Planning. *Journal of the American Planning Association*, 60, 377-381; McCool, S., & G. H. Stankey. 2003. *Advancing the Dialogue of Visitor Management: Expanding Beyond the Culture of Technical Control*, George Wright Society Biennial Conference, April 14-18 (pp. 9). San Diego, CA; Williams, B. A., & A. R. Matheny. 1995. *Democracy, Dialogue, and Environmental Disputes: The Contested Languages of Social Regulation*. New Haven: Yale University Press.

[284] Williams, B. A., & A. R. Matheny. 1995. *Democracy, Dialogue, and Environmental Disputes: The Contested Languages of Social Regulation*. New Haven: Yale University Press at 53.

[285] Power is defined in a "Weberian" sense by West, P. C. 1994. Natural Resources and the Persistence of Rural Poverty in America: A Weberian Perspective on the Role of Power, Domination, and Natural Resource Boundary. *Society and Natural Resources*, 7, 415-427.

90

the ideology or interests of external constituencies).[286] In short, many tactics are used to initiate or maintain domination over a planning process.

One such tactic to initiate or maintain domination is the use of "vilifying discourses" to sway individuals who may not have expertise in a particular area.[287] A central tenet of Foucault's work on power relates to truth formed through discourse and imposed and enforced through social systems and practices.[288] Others simply refer to these tactics of imposing truth claims using contemporary media outlets as sophisticated forms of propaganda referred to as "the manufacture of consent."[289] Various types of discourse and threats of domination can be used to control or impose a sense of ownership of ideas, forms of knowledge and definition of problems. Discourse and domination can also influence the outcome of a decision making process.

The ability to have one's voice heard is a key characteristic of a sense of ownership. An ability to have one's voice heard is related to how a problem or situation is defined. For this reason, it is critical to provide opportunities for individuals to listen to and negotiate the definitions of others. Ultimately, when definitions are imposed, resistance follows. Not having an ability to have one's voice heard diminishes a sense of ownership in a situation. second characteristic of a sense of ownership involves who has influence over decisions. There is a link between the definition of the problem and

---

[286] Ibid.
[287] Brogden, M. J., & J. B. Greenberg. 2005. The Fight for the West: A Political Ecology of Land-Use Conflicts in Arizona. In L. Gezon & S. Paulson (Eds.), *Political Ecology across Spaces, Scales, and Social Groups* (pp. 41-60). New Brunswick, NJ: Rutgers University Press at 45. Similarly, Escobar, A. 1995. *Encountering Development: The Making and Unmaking of the Third World.* Princeton: Princeton University Press refers to the discursive practices that shape relationships by legitimizing certain explanations and approaches to nature and economy to the exclusion of others.
[288] McHoul, A., & W. Grace. 1993. *A Foucault Primer: Discourse, Power and the Subject.* New York: New York University Press.
[289] Herman, E. S., & N. Chomsky. 1988. *Manufacturing Consent: The Political Economy of the Mass Media.* New York: Pantheon Books.

having a voice in the outcome. A sense of ownership reallocates influence or direct authority over decision-making and the execution of actions. Negotiating a redistribution of influence or direct authority over decision-making is complex, particularly within the current legal institutional structures guiding natural resource planning and scales of planning that involve local, regional, state, federal and now international jurisdictions and sovereignty. While citizens may have a desire or feel a sense of responsibility to influence or authorize decisions, they may not have opportunities to do so.

The redistribution of influence over decisions, however little is conceded or allocated to citizens, will always remain a political task fraught with both legal and social obstacles. Citizens acting only in a consultative role but without some form of delegated power has been referred to as merely a gesture of "tokenism."[290] Some degree of influence over decision making authority is fundamental to achieve a public presence in natural resource planning since, "people will not do the hard work of collaboration over extended periods of time if their work is going to be merely advisory to the 'experts.' The kind of people with the skill and perseverance to make collaboration work will not long be satisfied with a governance structure that leaves either the most important decisions over the issues they have labored so hard to resolve, or the crucial follow-through oversight of management, in hands other than theirs."[291] This decision making is also fundamental to democracy since, "democracy means nothing if it does not mean making decisions ...collaborators must be decision makers. ...that is the most strongly democratic statement a group of people can make ...this vibrant democratic movement in

---

[290] Arnstein, S. R. 1969. A Ladder of Citizen Participation. *Journal of the American Institute of Planners*, 35, 216-224 at 217.
[291] Kemmis, D. 2001. *This Sovereign Land: A New Vision for Governing the West*. Washington, DC: Island Press at 129.

the West cannot finally allow the ultimate decision-making power over so much of the region's territory and its future to continue to reside in Washington."[292] In contemporary American culture, "people refuse to participate only where politics does not count—or counts less than rival forms of private activity. They are apathetic because they are powerless, not powerless because they are apathetic."[293]

Engaging diverse publics in ways that establish a sense of ownership does not move legal accountability for decisions away from agencies and to a more nebulous and diffuse public. Case law supports the notion that abdication of legally-sanctioned authority, federal statutes included, is inviolate.[294] Agencies must retain legal responsibility and accountability and current law does not allow this to be changed since this is necessary to allow citizens to seek redress against the government. While direct decision making authority may be a legal impossibility, there are other more tacit forms of promoting a sense of ownership in wildfire planning by providing information, promoting alternative public participation processes, encouraging different forms of knowledge to be used in planning and allowing more interaction between scientists, managers and citizens.

---

[292] Ibid at 153.

[293] Barber, B. R. 1984. *Strong Democracy: Participatory Politics for a New Age*. Berkeley: University of California Press at 272.

[294] See Barker, A., H. Chamberlain, J. Eyre, B. Gomez, J. Hofberger, J. Jones, A. Kingston, M. McBride, K. Robinson, D. Smith, M. Smith, M. Smith, & R. Ressetar. 2003. The Role of Collaborative Groups in Federal Land and Resource Management: A Legal Analysis. *Journal of Land, Resources, and Environmental Law*, 23, 67-141; Karkkainen, B. C. 2002. Collaborative Ecosystem Governance: Scale, Complexity, and Dynamism. *Virginia Environmental Law Journal*, 21, 190-243. See specifically, National Park and Conservation Association (NPCA) v. Stanton, 54 F. Supp. 2d 7 (DDC 1999) where the court held that the Secretary of the Interior cannot wholly delegate responsibility to a local entity that is not bound by the statutory obligations applicable to the Secretary in administering NPS land and components of the National Wild and Scenic River System. Congress' creation of the Advisory Commission to support NPS did not eliminate the Secretary's duties, as detailed and critiqued in Diedrich, J., & J. Vail. 2004. *The River Partnership Paradigm: Legal Authorities and Case Study*. Washington, DC: USDA Forest Service.

Planning is the act of linking knowledge to action. If the process of linking knowledge to action is intermittent, public interaction and dialogue "remains purely symbolic unless it is connected to the institutional means for action."[295] When a sense of ownership over decisions is recognized, individuals take more seriously the process of learning and decision making.[296]

The third characteristic of a sense of ownership concerns its distribution across diverse social, political and ecological scales. This last characteristic involves who is affected by the action and how decisions are distributed, accepted and "owned" spatially. This characteristic of a sense of ownership can involve both the individuals in the physical place where the plan originates and larger scales of engaged citizens linking regional, national and even international interests. The distribution of ownership is often limited to the interaction of a small group of special interests, for example, scientists, agency personnel or environmentalists. Yet, when a sense of ownership is widely shared across a large cultural and ecological landscape, it may increase the likelihood of implementation.

Together, the three characteristics of a sense of ownership lead to greater likelihood of broad social and political acceptability. As seemingly difficult as it may be to implement a sense of ownership, successful examples abound, notably in the western United States involving issues of forest or watershed management.[297] The Upper Clark

---

[295] Williams, B. A., & A. R. Matheny. 1995. *Democracy, Dialogue, and Environmental Disputes: The Contested Languages of Social Regulation.* New Haven: Yale University Press at 62.

[296] Barber, B. R. 1984. *Strong Democracy: Participatory Politics for a New Age.* Berkeley: University of California Press at 234 notes, "give people some significant power and they will quickly appreciate the need for knowledge, but foist knowledge upon them without giving them responsibility and they will display only indifference."

[297] For specific examples of ownership, see Lachapelle, P. R., & S. F. McCool. 2005. Exploring the Concept of "Ownership" in Natural Resource Planning. *Society and Natural Resources,* 18, 279-285.

94

Fork Steering Committee in Western Montana exemplifies a sense of ownership of process and outcome and its extensive distribution. The committee was formed in 1991 with a legislative mandate to produce a water management plan for the Clark Fork River.[298] The group was allowed to both define the problem and design solutions while knowing their plan, if legal and applicable, would eventually be implemented by the Montana Legislature. Although members of the committee included citizens and agency staff with divergent interests, backgrounds and knowledge bases, the management plan they crafted became a bill that passed the legislature nearly unanimously.

A second example of a sense of ownership involves the management direction developed for the Bob Marshall Wilderness Complex among a diverse group of citizens and agency staff using a collaborative planning approach.[299] Participants were able to agree to a management plan knowing the agency would accept the plan if all parties were able to resolve their differences at the table. Twenty years later, participants continue to meet to periodically update the plan. Other examples of a sense of ownership in a planning process or outcome include the Applegate Partnership,[300] the conflict between off road vehicle use and endangered species on Cape Cod National Seashore,[301] and the Inimin Forest Management Plan in California.[302] A process in the Great Bear Rainforest

---

[298] Olson, E. A. 2002. Water Management and the Upper Clark Fork Steering Committee. In R. Brunner, C. Colburn, C. Cromley, R. Klein & E. Olson (Eds.), *Finding Common Ground: Governance and Natural Resources in the American West* (pp. 48-87). New Haven: Yale University.

[299] McCool, S. F., & J. L. Ashor. 1984. *Politics and Rivers: Creating Effective Citizen Involvement in Management Decisions*. In J. S. Popadic, D. I. Butterfield, D. H. Anderson & M. R. Popadic (Eds.), *1984 National River Recreation Symposium* (pp. 136-151). Baton Rouge, LA: College of Design, Louisiana State University.

[300] Rolle, S. 2002. *Measures of Progress for Collaboration: Case Study of the Applegate Partnership*. Portland, OR: Gen. Tech. Rep. PNW-GTR-565, U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station.

[301] Barry, D. J. 1998. Cape Code National Seashore, Off Road Vehicle Use. *Federal Register*, 63(36):9143-9149.

[302] Duane, T. P. 1997. Community Participation in Ecosystem Management. *Ecology Law Quarterly*, 24, 771-797.

in British Columbia exemplifies a sense of ownership in long-term planning to protect 5.1 million acres of coastal temperate rainforest described by BC Premier Campbell as "an unprecedented collaboration between First Nations, industry, environmentalists, local governments and many other stakeholders in how we manage the vast richness of B.C.'s coast for the benefit of all British Columbians."[303] In these processes, a sense of ownership enabled creative solutions that most likely would not have been considered using a synoptic approach. These processes were also likely less costly in the long-term by avoiding litigation and enhancing chances for future interaction and experimentation. Ultimately, a sense of ownership of these processes led to broad social and political acceptability." Public venues involving natural resource issues can become places of ownership where interpretations of problems and the strategies taken to address them are defined, understood, accommodated, acted on and widely shared or owned.

The characteristics of a sense of ownership described above can be applied to wildfire planning. The process of developing the CWPP calls for identifying and prioritizing areas for hazardous fuel reduction, recommending the types and methods of treatments and, identifying essential community infrastructure for protection. This process requires the negotiation over whose voice is heard regarding ideas, types of knowledge and definitions of wildfire problems. Implicit in all of these objectives are judgments of risk related to prioritizing areas, recommending treatments, and identifying infrastructure. The CWPP process and outcome also require negotiation and agreement over who has influence over decisions and who is affected by the outcome.

---

[303] Environment News Service. 2006. *Conflict to Consensus: British Columbia Protects Great Bear Rainforest:* accessed Mar. 5, 2006: http://www.ens-newswire.com/ens/feb2006/2006-02-08-08.asp.

There is a small body of wildfire studies that may inform the concept of a sense of ownership. While there has been a recent proliferation of wildfire social science research,[304] some note a need for critical analysis for understanding the various social consequences of decision making at various spatial and temporal scales.[305] There has however been some research on issues of scale in wildfire planning. There is great ambiguity in definitions and a resulting comprehensive measurement of an "at-risk community."[306] Multiple political ownerships will also complicate the definitions and assessments of risk in various communities. In the United States (lower 48 only), up to 85 percent of the community wildfire protection zone is on private land and correspondingly, treatments will need to work across public-private jurisdictions.[307] Scale also influences perceptions of how and where treatments should be applied with disagreements over treatments in remote areas or in treating the home protection zone.[308]

In summary, I have presented a general definition and discussion of trust and a sense of ownership and their application to natural resource planning in general and wildfire planning in particular. I now turn to a discussion of trust and a sense of ownership within the context of community wildfire protection planning and offer a series of broad propositions to conclude this chapter.

---

[304] For a overview of wildfire social science research, see Cortner, H. J., & D. R. Field. 2004. Introduction to the Special Issue: Humans, Fire, and Forests: The Reemergence of Research on Human Dimensions. *Society and Natural Resources*, 17, 473-475.

[305] McCool, S. F., J. A. Burchfield, D. R. Williams, & M. S. Carroll. 2006. An Event-Based Approach for Examining the Effects of Wildland Fire Decisions on Communities. *Environmental Management*, 37, 437-450.

[306] Wilmer, B., & G. H. Applet. 2005. *Targeting the Community Fire Protection Zone: Mapping Matters*. Washington, DC: The Wilderness Society. The community wildfire protection zone is defined as "the area surrounding homes at risk of wildland fire" at 7 and corresponds with the definition outlined in Fed. Reg. 66(106) 43384-43435, Aug. 17, 2001.

[307] Ibid.

[308] Cohen, J. 2000. Preventing Disaster: Home Ignitability in the Wildland-Urban Interface. *Journal of Forestry*, 98, 15-21 suggests that the most critical area for the protection of structures from wildfire occurs within 30-40 meters of a household in what has been called the "home ignition zone."

2.5.3. The role of trust and ownership in Community Wildfire Protection Planning

The objective of the CWPP is to identify and prioritize areas for hazardous fuel reduction, recommend the types and methods of treatments and, identify essential community infrastructure for protection. Furthermore, an integral step of the CWPP involves incorporating "local expertise" in the establishment of Community Base Maps to identify areas of value and risk.[309]

The definition of an at-risk community includes federal and non-federal lands. As such, the HFRA provides opportunities to strengthen education, technical assistance, and financial assistance for non-industrial private forest landowners to "encourage willing property owners to reduce fire risk on private property."[310] The CWPP also encourages individual citizens to act, with recommendations "that homeowners and communities can take to reduce the ignitability of structures throughout the area addressed by the plan."[311] Citizens may prefer to shirk responsibility rather than exert the forethought or personal commitment to reduce risk. If risk is perceived as either too high or too low, citizens are typically unmotivated to address risk. An assessment of risk is therefore a critical component of developing the CWPP. When assessments of risk are incongruent, conflict may arise, particularly if values of great importance are at stake.

---

[309] Society of American Foresters. 2004. *A Handbook for Wildland-Urban Interface Communities.* Bethesda, MD at 6.
[310] HFRA, Sec 103 (d)(2).
[311] Society of American Foresters. 2004. *A Handbook for Wildland-Urban Interface Communities.* Bethesda, MD at 3.

98

Based on these aforementioned statements, therefore:

Proposition 1. Community wildfire protection planning is predicated on agreement of perceived risk.

Trust is a condition guiding social interactions resulting from interpersonal and organizational relationships. Trust influences relationships and is exhibited in several forms. As a deterrence-base form, trust emphasizes a utilitarian consideration involving sanctions that foster or enhance cooperation. As a calculus-based form, trust exists because of credible information, a reputation of good intentions, competence of another, or based on certification. In a relational form, trust develops from repeated interactions and leads to reciprocal arrangements. In these situations, repeated interactions strengthen the willingness to rely on others, expectations of future behavior and likelihood that new opportunities and initiatives will be pursued. Relational trust can also lead to a shared identity and collective vision of the future.

In a CWPP, individuals can exhibit deterrence-based, calculus-based or relational trust. Each of these forms of trust leads to different consequences. Based on these aforementioned statements, therefore:

Proposition 2. Community wildfire protection planning involves trust exhibited in deterrence, calculus and relational forms and with differing consequences.

Recall the three characteristics of a sense of ownership in planning as the process of determining whose voice is heard, who has influence over decisions and who 'owns' or is affected by decisions. The process of identifying actions is a process of negotiation and prioritization of certain voices over others. In the western United States where wildfire is a natural and once common occurrence, wildfire planning requires agreement

99

of objectives and goals and in "fashioning an environment in which we can better control the fires we do not want and promote those we do."[312] Negotiation is often involves questions of how the work will be done, who will pay for it, what criteria will be used to decide if it is working and who will judge the outcome? The wildfire planning process involves both science and values, often competing and uncertain.

As previously discussed, scientism can serve as a pathology of power whereby certain truth claims are privileged over others. However, the ideas, type of knowledge or information that is gathered, presented, disseminated, or distorted can serve as a significant source of power in planning situations. The CWPP provides a forum for various forms of knowledge to be presented, debated and prioritized, in essence a forum in which voices can be heard. Involvement of a local community is likely integral in wildfire planning since "fire is a creature of context; it synthesizes its surroundings."[313]

A sense of ownership also involves the process of deciding who has influence over decisions. While the proposed actions that result from the CWPP are solely "recommendations" to be "considered," they do offer the potential for individuals to affect decisions and change policy.[314] Individuals are also given authority to conduct a "multiparty monitoring, evaluation, and accountability process" in order to assess the positive or negative ecological and social effects of authorized hazardous fuel reductions.[315]

---

[312] Pyne, S. J. 2004. *Tending Fire: Coping with America's Wildland Fires*. Washington, DC: Island Press at 114.

[313] Ibid at preface, xv and also notes various treatments must be site specific and the greater the detail, the greater the chances of success.

[314] HFRA, Sec. 103 (b) (1).

[315] HFRA, Sec.102 (g)(5).

100

A sense of ownership also involves the spatial distribution of actions in terms of who is affected by decisions. One of the objectives of the CWPP is to work across boundaries. Within the WUI, these plans are directed to be "a seamless guide for fuel reduction across ownerships, identifying those treatments to be completed by public agencies and those to be completed by private landowners."[316] The methods by which individuals "hear" particular voices, "allow" allies or adversaries to act, and impose actions broadly across a landscape, all influence wildfire planning. Based on these aforementioned statements, therefore:

Proposition 3. Community wildfire protection planning is influenced by perceptions of how problems are defined, who has authority to act and who is affected by the action.

Trust and a sense of ownership are linked to each other within the context of wildfire planning. Community wildfire protection planning involves the negotiation of ideas, forms of knowledge and definitions of problems. Plans must also be codified and ultimately have an affect on individuals under its jurisdiction. Community wildfire protection planning involves determinations and judgments related to risk and involve the interaction of individuals applying various forms of trust (deterrence to relational). A sense of ownership over whose voice is heard, who has influence over decisions and who is affected by the action depends in large part on agreement of risk, and expectations from past interactions. A CWPP will be contingent on how trust and a sense of ownership

---

[316] US Department of Agriculture Forest Service, & US Department of the Interior Bureau of Land Management. 2004. *The Healthy Forests Initiative and Healthy Forests Restoration Act: Interim Field Guide*. FS-799, Washington, DC: U.S. Department of Agriculture, Forest Service. 58 p. at 36.

101

have been carried out in the past with expectations for the present and future. Based on these aforementioned statements, therefore:

Proposition 4. There is a relationship between trust and a sense of ownership in community wildfire planning.

A sense of ownership over ideas, forms of knowledge and definitions of problems are not evenly distributed across a landscape and can be either complicated or complemented by physical notions of land ownership. Likewise, trust is complex and exists in many forms and scales. Various notions of a sense of ownership and trust may not be complementary and may result in tensions for not only the CWPP process but also in its outcome. Based on these aforementioned statements, therefore:

Proposition 5. Trust and a sense of ownership influence the outcome of community wildfire planning.

While these five propositions do not characterize the entire framework offered in Chapter 2, they do provide a proximate framework to guide a discussion in the Chapter 4. I use these propositions so that I can refocus the results toward the conceptual framework and direct the discussion in a more structured and nuanced way.

2.6. Summary

In this chapter, I have provided the conceptual framework guiding the research. I critiqued natural resource planning in the United States in general and wildfire policy in particular. I examined contemporary natural resource planning based on critical antecedents that continue to influence how planning is executed and how knowledge is

used. I described the political issues of control over planning processes and outlined the complexities associated with changing scales of analysis and ecological characteristics of planning and discussed wildfire policy. I described the notion of being 'public' regarding wildfire planning including the conditions leading to being public. I next examined impediments to being public and conditions that advance being public in the context of wildfire planning. I presented literature on transactive planning theory, theories of deliberative democracy and sense of place and noted trust and a sense of ownership as common themes and significant elements. Last, I defined and discussed trust and a sense of ownership within the context of natural resource planning in general and wildfire planning in particular and concluded with several broad propositions.

Chapter 3. METHODOLOGY

3.1. Overview

My goal for this chapter is to outline the specific methodological approach guiding this research. I begin with a description of the extended case method as a general framework guiding the research. I next explain the characteristics of the sample including the rationale for the study location and rationale for choosing specific individuals. I then describe the data collection techniques involving four broad areas; collection and review of general literature; use of semi-structured, in-depth, face-to-face interviews of individuals and groups of individuals; participant observation; and collection and review of secondary data pertaining specifically to the CWPP (plans, reports and articles). I next detail the use of an Interview Schedule to direct the interview process. Last, I outline the data analysis process and conclude with a brief discussion addressing the limitations of the methodological framework.

3.2. Using Extended Case Method to guide the methodological framework

This research is guided by a methodological framework used largely by anthropologists termed the extended case method. The extended case method primarily uses participant observation and interview techniques to move case studies beyond usually noted limits. The essence of the method is use of "reflexive" science that takes as its premise the "intersubjectivity of scientist and subject to study."[317] The extended case method is not directed at establishing a definitive truth about the existing world but at the continual improvement of existing theory. Under the extended case method, context is

---

[317] Burawoy, M. 1998. The Extended Case Method. *Sociological Theory*, 16, 4-33 at 4.

104

retained while extending existing theory to suit the particular case. The method seeks to take a social situation as a point of empirical examination and "extend" the theory to which it may apply.

Under the positive science method, procedural objectivity and the minimization of context effects are regarded as the loftiest of goals through techniques that emphasize the "four R's" of data collection and analysis: reactivity, reliability, replicability, and representativeness.[318] Using this method, scientific pursuits are directed toward control of scientific procedures, falsification of theory and generalized explanations of phenomena.

In contrast, a reflexive method of science challenges the need to control context effects and recognizes an intrinsic relation of scientist to object. This method acknowledges the inherent inability to control for context effects. Instead, this method attempts to enjoin what positive science separates: participant and observer, knowledge and social situation, and situation and field location. However, reflexive science is also limited by situational conditions termed "power effects" exemplified through processes of domination, silencing, objectification and normalization.[319] While the challenge for positive science is to minimize and control for context, reflexive science recognizes and celebrates context and situation and seeks to reduce the effects of power.

Resulting from practitioners at the Manchester School beginning in the late 1950's, the extended case method recognized tensions resulting from context effects of traditional survey methods and sought to challenge positivist methods to science, such as

---

[318] Ibid.

[319] Ibid at 22 to 25 describes four types of power effects: *domination effects* whereby a power struggle exists between "intrusive outsider and the resisting insider"; *silencing effects* whereby the crystallization of interests excludes, marginalizes, or distorts voices; *objectification effects* whereby social forces and their structures are seen as existing in an autonomous dynamic simultaneously shaped by and shaping an external field of forces; *normalization effects* whereby reconstructing theory is seen as a coercive process of "fitting" both field site and theory to case.

105

numerically-based survey research, with a more reflexive method. Under a positive

method to science, context effects are minimized whereby the observer attempts to

"control" the participant and corresponding situation. This is accomplished by

minimizing interview, respondent, field and situation effects. [320]

The extended case method recognizes that both methods (positive and reflexive)

of science have limitations and thus seeks to promote the coexistence and

interdependence of the two methods. With the extended case method comes the

recognition that the scientist alters the world they study, the data are idiosyncratic, yet

implications of the research can extend from the local to the "extralocal," even if only

one case is studied. The two methods of science are not seen to be mutually exclusive

but rather "just as reflexive methods can serve survey research, so positive methods can

serve the extended case method."[321]

The goal of the method is not in discovering a universal truth, but in the continual

improvement or reconstruction of existing theory. The process of extending or

reconstructing theory is not prescribed and cannot be reduced to a set of uniform

procedures. The weight of evaluation instead lies with the product since extension or

reconstruction can achieve a number of goals, some of which seem contradictory; it can

push theory forward, make it more complex, lead to more parsimonious theory with

greater empirical content, or lead to the discovery of new and surprising facts.

---

[320] Ibid at 12 who describes four types of context effects: *interview effects*, whereby the interview schedule itself (for example, order or form of questions) significantly affect responses; *respondent effects*, whereby the meaning of questions has an irreducible ambiguity; *field effects*, whereby interviews conducted at different points in time or in different places are shaped by extraneous conditions and; *situation effects* whereby meaning, attitudes, and even knowledge differ by social context.
[321] Ibid at 29.

The extended case method seeks to "extend" the practice of social science in four areas: intervention, process, structuration and reconstruction. First, this method attempts to "extend" the observer to the participant by embracing and making explicit the "intervention" of observer to the participant. The relationship and interaction between observer and participant cannot be ignored. Often there is tacit opposition to being "studied" by an outside "intruder." The intervention by the social scientist can however be used as a valuable component of the research process since "a social order reveals itself in the way it responds to pressure. ...Any group will often put up a great deal of formal and informal resistance to being studied at close quarters—resistance that discloses much about the core values and interests of its members."[322] Instead of trying to control for this intervention, the extended case method both makes explicit and exploits the interaction or resistance between participant and observer.

Second, this method extends observations over space and time whereby processes or social forces including history and "macrostructures" are evoked to inform situational "regimes of power." These power structures are influenced by factors such as money, skill, education, and prestige, and supported by schemas such as norms, beliefs, and theories. The extended case method seeks to understand these processes, their interactions and the context within which they exist.

Third, this method extends out "from process to force" involving a vertical or integrative strategy of connecting cases. Evoking the principal of structuration involves "locating social processes at the site of research in a relation of mutual determination with an external field of social forces."[323] For example, these social forces would include

---

[322] Ibid at 17.
[323] Ibid at 20.

107

the structure of class or globalization reproduced in the various cases being studied. In contrast to positive science that reduces and seeks out common patterns among diverse cases where context is discounted (termed a segregative or horizontal strategy), the extended case method employs a comparative strategy that seeks to connect the anomalies of various cases while "tracing the source of small difference to external forces."[324] Cases are viewed as being far from independent but rather exhibit mutual determination with factors that can inversely influence each other. The purpose is to causally connect cases, and "instead of reducing cases to instances of a general law, we make each case work in its connection to other cases."[325] Consequently, external forces, such as class or corporate regimes of power inform the particular case being studied.

Last, the extended case method seeks not to confirm existing theory but rather to extend or reconstruct theory. Likewise, the refutation of theory is not a cause of dejection, but an opportunity for theory expansion or reconstruction. When the anomalies overwhelm adherence to theory, the impetus is to "abandon our theory altogether and start afresh with a new, interesting theory for which our case is once more an anomaly."[326]

The use of the extended case method in this research was chosen for several reasons. The extended case method applies reflexive science to ethnography and case study techniques.[327] First, the research question and objectives pertaining to trust and a

---

[324] Ibid at 19.
[325] Ibid at 19.
[326] Ibid at 20.
[327] Ethnography involves the description of specific human behavior patterns, beliefs, institutions, and all other products of human work and thought. See for instance Geertz, C. 1973. Thick Description: Toward an Interpretive Theory of Culture. In C. Geertz (Ed.), *The Interpretation of Cultures*: Basic Books. Case studies involve techniques to gather insight into complex, emergent phenomena where multiple social pressures and variable potential outcomes are present. See for instance Yin, R. K. 1984. *Case Study Research: Design and Methods*. Beverly Hills: Sage Press.

108

sense of ownership that I highlight are complex social phenomena. As such, the use of survey research was rejected and instead I privilege participant observation and face-to-face interview techniques (described below) in order to reveal the complexities and contextual elements associated with the research objectives. My objective was to capture in rich detail the role of trust and a sense of ownership in community wildfire planning. This rich detail could more effectively be captured using narratives instead of numerically-based survey research method.

Second, the exploratory nature of face-to-face interviews using a semi-structured interview schedule uses rough parameters to direct the conversation but also encourages and allows the participant the ability to reference and describe what he or she feels is important. Allowing the participant to directly contribute to and influence the character of the data set expands the diversity and richness of the data set and links critical social forces that can uncover or reveal interesting, unexpected or nascent issues.

Last, the extended case method makes power and resistance prominent characteristics during the data collection and analysis stages. Power and resistance are integral issues related to my research objectives and necessitate prominent recognition in the research method.

3.3. Characteristics of the sample: Rationale for study location

The sampling process was essentially a two stage operation; the study location and the study population. First, I selected the case studies. I sought a situation in which a current community wildfire protection planning process could be described and explored. I chose two study locations for several reasons. First, I wanted to be able to

109

compare relevant information between the two case studies in order to present both similarities and points of departure between the two planning processes. Second, the choice of only two case studies was made so that the research would be manageable without being overwhelming in terms of travel and data generated from individuals involved in the two processes. While I could have conducted a national or regional survey of the role of trust and a sense of ownership in CWPP, I instead chose to use a case study method and concentrate on eliciting detailed descriptions from individuals who were directly involved or were interested, knowledgeable or engaged in wildfire planning. A national or regional survey would have been problematic and presented both logistical issues in terms of applying extended case method and eliciting the rich detail that I felt a study of trust and a sense of ownership warranted.

I chose two study locations in which CWPP's were currently or had recently taken place; the Bitterroot Valley and the Seeley-Swan Valley. I chose these locations for several reasons. First, there is the practical consideration of my ability to access public meetings and meet with individuals involved in the planning efforts. The ability to conduct personal, face-to-face interviews allowed me to become more familiar with the individuals, develop a rapport and build a sense of trust, and acquire a more complete understanding of the situation from on-the-ground visits with individuals in the location of the planning efforts. My second consideration for choosing these study locations was based on the stages of development of the two planning efforts. There are relatively few CWPP's currently being drafted as these planning efforts have resulted from recent legislation. Consequently, the choice of communities that have begun or completed the process of drafting a CWPP is relatively small. Both of these CWPP's had recently

110

competed or were in the process of revision and thus individuals could fairly easily recall details associated with the process.

My third consideration for choosing these two study locations involved the receptivity of individuals to participate in the research. Individuals who were knowledgeable, engaged or interested in the planning efforts were actively solicited and willing participants of the research. I encountered no overt opposition to conducting the research in these two areas.

My last rationale for the study locations involved the long history of wildfire management and close cultural connection of many individuals to natural resource planning and management in these two areas. Both areas have relied on natural resources as a principal component of the regional economy in the past or present. Both areas have an extensive history of confronting the threat of major wildfires both in the distant and recent past. Both areas have experience with conflict due to the spatial distribution of land tenure, the evolving nature of economic pressures and both exogenous and local wildfire policy processes. Given this intimate relationship to both natural resource management and wildfire, individuals in these locations could recount and speak with acute concern on these issues. In this sense, participants in these two study locations can respond to and comment on a common stimulus, in this case the interaction with local natural resources, the threat of wildfire, and the ability to participate or influence the community wildfire protection planning process.

3.4. Characteristics of the sample: Rationale for choosing specific individuals

The second stage of the sampling process was to select specific individuals within the two case studies. The process of selecting respondents applied a combination of purposive and snowball sampling. The objective for choosing individuals was to obtain a diversity and richness of perspectives regarding the role of trust and a sense of ownership in the CWPP.

The criteria for choosing the sample included individuals with an active interest, background or ability to influence the CWPP in the two areas. The purposive sample expanded to landowners, including new and longer-term landowners, to gain insight regarding potential impacts of the CWPP on private land. Criteria for inclusion in the sample was not limited to those who actively participated in the planning process.

The goal of this research is depth of insight and not generalizability to other areas. Sample size was not predetermined for this research, rather discovering and representing a diversity of opinion was sought in order to provide a rich understanding of the context and the variety of positions/philosophies within which the planning process is taking place. The goal was to elicit information from an individual or group of individuals providing for an in-depth understanding of issues outlined in the research objectives while producing a data set that would not be overwhelming in terms of the amount of data produced. In other words, interviews were conducted which provided for a wealth of information while still allowing for analysis and reporting to occur in a timely manner.

Representatives of the Forest Service in the Bitterroot Valley, the Bitterroot RC&D, timber operators, and members of environmental groups, among others, were initially contacted in the summer of 2004 to begin the sample of individuals that had been

112

actively following wildfire issues in the Bitterroot Valley. Later, representatives of the

Forest Service in the Seeley-Swan Valley, timber operators, the MT Department of

Natural Resource and Conservation and the Ecosystem Management Research Institute,

among others were contacted in the spring of 2005 to begin the sample of individuals that

had been actively following or engaged in wildfire issues in the Seeley-Swan Valley.

Other respondents were then identified by those interviewed as having knowledge and

experience with the CWPP in the two areas.

The final group of 50 interviews contained Forest Service employees, retirees

from the Forest Service, fire chiefs, loggers, representatives from environmental

organizations, consulting foresters, representatives of national level natural resources

policy organizations, unaffiliated landowners, county employees, consulting planners and

Montana Department of Natural Resource and Conservation (DNRC) employees. For the

sake of confidentiality of the respondents, greater detail about their occupations or

positions in the relatively small Bitterroot and Seeley-Swan Valleys has been withheld.

Tables 5 and 6 present a breakdown of study participants by category for each CWPP.

Bitterroot CWPP Study Participant Category	Total
Current Forest Service Employees	2
Retirees from the Forest Service	3
Fire Chiefs	2
Loggers	4
Representatives from Local Environmental Organizations	6
Consulting Foresters	2
Representatives from National-Level Natural Resources Policy Organizations	2
Unaffiliated Landowners	5
TOTAL	26

Table 5. Total study participants in Bitterroot CWPP by category.

113

Seeley-Swan CWPP Study Participant Category	Total
Current Forest Service Employees	3
Retirees from the Forest Service	1
Fire Chiefs	1
Loggers	2
Representatives from Local Environmental Organizations	3
Consulting Foresters	5
Representatives from National-Level Natural Resources Policy Organizations	2
Unaffiliated Landowners	4
County Employee	1
MT DNRC Employee	2
TOTAL	24

Table 6. Total study participants in Seeley-Swan CWPP by category.

It is important to consider that there is considerable overlap with each of these categories. For instance, a member of a non-government organization (NGO) may have also been a landowner and discussed private property issues as well as issues associated with their NGO affiliation. Similarly, a government representative may have been a member of the local volunteer fire department and discussed issues germane to both affiliations.

3.5. Data collection

I used a multiple-method approach to collecting data related to my research objectives. These methods follow four broad areas of,

1. Collection and review of salient literature,

2. Semi-structured, in-depth, face-to-face interviews of individuals and groups of individuals,

3. Participant observation,

4. Collection and review of secondary data pertaining specifically to the CWPP (plans, reports and articles).

The specific details associated with each of these methods are outlined below. First, I conducted a thorough collection and review of pertinent literature related to the research objectives. This literature included scholarship in natural resource planning, public involvement in government in general and natural resource planning in particular, trust, the emerging concept of a sense of ownership and wildfire policy in the United States. I reviewed, organized and presented the information in order to reveal and clarify how the assembled scholarship is related and informs the current topic of Community Wildfire Protection Plans.

Second, I compiled a list of individuals and organizations with an active interest, background or ability to influence wildfire policy or planning. This list was compiled by reviewing participant lists in the original or revision of the two CWPP's. The list of participating individuals was made available by the organizers of the two planning processes. I also obtained names from the CWPP organizers of other individuals or organizations who they thought might have an active interest, background or ability to influence wildfire policy or planning. Individuals were contacted by telephone, explained the research objectives and then interview meeting times were scheduled. There were no individuals who refused to discuss CWPP or participate in an interview. While there were several individuals who did not return calls, I later discovered that messages had not been delivered and subsequent interviews were not scheduled.

All of the interviewees were assured that their participation was voluntary and the narratives they provided would be anonymous. A total of 50 individuals were

interviewed producing approximately 31 hours of recorded interview data. Interview length was not fixed but interviews lasted between 30 and 90 minutes. I used an Interview Schedule (detailed in the subsequent section) to direct but not dictate the conversations. I continuously reviewed data both during and after the interview to ensure that topics were fully explored and adequately covered. I took notes during the interviews and transcribed the notes to a desktop computer in order to review the interview process, examine if topics in the interview schedule had been covered and determine if new topics had emerged.

Interviews continued from the summer of 2004 through the summer of 2005 until repeated patterns of responses were observed and I judged that a thorough review and examination of the research objectives had been reached. During this period, I felt that in collecting information from the 50 individuals that I had covered a diversity of topics and was not collecting new information. Interviews were audio-recorded in analogue (magnetic cassette tape) and digital (mini-disk recorder) form in their entirety and transcribed verbatim by a sub-contracted transcriber. The transcribed interviews amounted to a total of over 1,000 pages of interview data (double-spaced text, 12 point font with one inch margins).

Having a permanent text, and analogue and digital audio record of these interviews allows the use of qualitative data analysis software for organizing the large volume of data generated and facilitates the rigorous, iterative reading and analysis process described below. The interview texts and audio data serve as empirical evidence for some claims or conclusions drawn.

116

Third, I employed a participant observation technique in viewing wildfire-related planning discussions and meetings. These meetings involved the topics that pertained directly to the CWPP or to wildfire policy in general. The meetings included a local private property grant money allocation discussion organized by the Seeley Lake Rural Fire District, several meetings organized by the Native Forest Network pertaining to the Middle East Fork Hazardous Fuel Reduction Draft Environmental Impact Statement issued by the Sula Ranger District of the Bitterroot National Forest, several meetings of the Missoula County Community Wildfire Protection Plan, several outdoor field trips on the Deborgia Community Wildfire Plan and a forum sponsored by the Bolle Center for People and Forests on the topic of National Forest Planning.

Many of the individuals who had participated in my interviews also attended the aforementioned meetings so my objective was to see if and how their perspectives were different from our previous conversations (since the planning processes of both the Bitterroot and Seeley-Swan CWPP had already been completed when I began data collection, I was unable to attend the CWPP meetings). I took notes during these meetings that were used to complement data analysis. Details were noted regarding the action and interaction of various individuals during the formal meetings and in other relevant settings. Note taking during and after the participant observation was transferred into a database for future reference and analysis.

Fourth, I collected, reviewed and analyzed pertinent secondary data including the text and maps of the original and revised CWPP's of the two case studies, other community fire plans in the region and nationally, website information, a handbook on

117

preparing these plans,[328] newspaper articles including numerous letters to the Editor in the Missoulian primarily pertaining to the Burned Area Recovery project and the Middle East Fork Hazardous Fuel Reduction project, previous field work and reports conducted by the Rocky Mountain Research Station in its Bitterroot Ecosystem Management Research Project (BEMRP) and the Aldo Leopold Wilderness Research Institute and Geographic Information System (GIS) data and census information to provide additional quantitative measures of changes in income, land ownership and land prices to create a more useful representation of local natural resource issues, livelihood, class, and land ownership. This information was reviewed and analyzed to provide additional insight on the research objectives.

3.5.1. Using an Interview Schedule

I used an interview schedule to structure the interview process (see Appendix A). The interview schedule contains questions and statements that would direct but not dictate the conversation between myself and the participant. By using an interview schedule, the interviews were guided as per the research objectives but still receptive to the participant's interests. While the interview schedule is based on the research objectives, I was also attentive to emergent topics brought up by individuals and thus participants had opportunities to raise new topics during interviews. In this sense, the face-to-face interviews were exploratory and descriptive with an objective of obtaining a

---

[328] Society of American Foresters. 2004. *A Handbook for Wildland-Urban Interface Communities.* Bethesda, MD.

rich data set with insights about the individual but also topics on trust and a sense of ownership that permeated all of the interviews.

The strength of the interview schedule is its flexibility to allow an emergent conversation to occur and for probing of nascent issues associated with the research objectives. The objective of the interview schedule is to allow for a certain degree of comparability between interviews and to focus the interview on themes relevant to the research objectives.[329] The interview schedule involved five broad areas: background and personal information, the process of developing the CWPP, the outcome of the CWPP, issues of trust and, issues of a sense of ownership.

While I took notes during the interviews, I also took notes on potential follow-up questions, knowledge gaps, and specific or general groups of people to focus on. The interview schedule was continually updated and evolving to more clearly reveal and expand pertinent information. For instance, individuals began to discuss the role of zoning and insurance after the first several interviews. These emerging topics had not been included in the original interview schedule and thus I revised the guide to incorporate this new relevant information.

Questions in all interview schedules were ordered based on an expected flow of the conversation.[330] Opening questions were designed to generate information about a person's background and profession and general knowledge of or participation in the CWPP. Question order was frequently amended based on topics brought up by interview

---

[329] Patterson, M. E., & D. R. Williams. 2001. *Collecting and Analyzing Qualitative Data: Hermeneutic Principles, Methods, and Case Examples*. Champaign, IL: Saga more Publishing.

[330] Much of the approach on using an Interview Schedule was influenced by Yung, L. 2003. *The Politics of Cross-Boundary Conservation: Meaning, Property, and Livelihood on the Rocky Mountain Front in Montana*. Unpublished Ph.D., University of Montana.

119

participants. For example, if a person began to discuss issues of trust, I would continue the conversation in that area and then return to earlier questions when appropriate. This process allowed participants to guide the interview toward topics of importance to them while still covering questions relevant to the research objectives. Wherever possible, the interview began with questions related to a person's background and experience, and later moved into less familiar topics. In this respect, I was more concerned with developing a fluid conversation and establishing a comfortable rapport rather than adhering strictly to the pre-determined order of questions outlined in the interview schedule. When I needed more detail or had a specific question about a response, I would probe topics and direct participants to elaborate on the specifics of a previous conversation. Probes included questions about the meaning of a particular term, clarification about a statement of opinion or elaboration on a specific issue. During each interview, I made notes about probing a previous conversation topic and would then return to those topics at an appropriate break in the conversation.

I tried to improve my interviewing techniques during the data collection period. These techniques involved how to approach an individual to conduct the interview, how to initiate the interview conversation, how to create rapport with people, and how to keep the conversation flowing, and how to keep track of topics covered and follow new topics for the interview schedule. I also informed participants that they would have access to either a full or abridged version of the dissertation and would be invited to the public presentation of the research.

3.6. Data analysis

Analysis of the data occurred throughout the research process with continual revision and evolution of the interview schedule. A thorough analysis of the interviews followed the completion of all the interviews and review of all interview transcripts in the summer of 2005. A thorough review of each transcription was achieved to ensure the accuracy of the transcription and then edits were performed as needed. The final edited transcriptions serve as the data set to be analyzed.

These narrative data sets were loaded onto a desktop computer with the software program QSR NVivo Ver. 1.2 used to code data and perform other subsequent data analysis. The software program was used to organize the data and facilitate the analysis of the interviews. An iterative process guided analysis of each interview. That is, rather than using a method where occurrences of words or phrases were counted, an attempt was made to understand the meaning and significance of words, sentences and ideas from the participant's point of view. The ultimate goal of the data analysis was to understand patterns across individuals and range of perspectives.

Using the software program, segments of the text were assigned textual codes that represent the meaning or significance of the text. An iterative review of transcript data allowed major categories to emerge based on specific perspectives, descriptions, and meanings emphasized by participants in the text. Multiple, iterative stages of coding led to a final coding scheme used as a framework to summarize and represent the data.

This coding scheme represent major topics, ideas and perspectives emerging from the interview data that are shared among many or all of the participants. The final coding scheme does presents broad parameters of topics but does not signify conformity among all participants on the topics. For example, while one broad code may be titled

121

"Transparency," this does not mean to communicate widespread support or obstruction of the code. A more nuanced detail and explanation of the final coding scheme is presented in the Results Chapter.

3.7. Addressing limitations of the methodology

Trust and a sense of ownership are elusive concepts with multiple theoretical suppositions. As such, these concepts are not easy to "measure," understand or predict. With reference to trust, as numerous scholars have noted, the topic is dynamic, ephemeral, context-based, exists at various scales, and is not a discrete variable that can be easily itemized.

Recognizing the myriad complicating issues associated with trust and a sense of ownership, a researcher is faced with determining how best to address this concept in a research design. Given that trust and a sense of ownership are often complex, elusive, subjective, context-based and hard to define, the researcher must determine what methods are appropriate given the nature of the phenomenon.

The choice to use a qualitative interview-based method is based on how to best represent the population while addressing my research objectives.[331] Representation refers to how well a population is being presented. There exists a tension of representing

---

[331] It is important to remember that a qualitative approach is not synonymous with a reflexive model of science. Statistical data based on numerical representation of a phenomenon can also be qualitative. For instance, the eye color of an individual would be a qualitative characteristic but can be represented numerically. Moreover, quantitative methods can also involve interpretation. For more on this, see Patterson, M. E., & D. R. Williams. 2001. *Collecting and Analyzing Qualitative Data: Hermeneutic Principles, Methods, and Case Examples*. Champaign, IL: Saga more Publishing.

populations and trade-offs in terms of efficiency and power.[332] Representation applies not only to the efficiency of selecting a sample (i.e. one that is randomly chosen and provides statically calculable data) but also its power in terms of an ability to adequately and accurately describe a complex social phenomenon. The use of face-to-face interviews that allows for detailed narratives to be expressed and negotiated was favored in order to adequately and accurately describe the complex social phenomena of trust and a sense of ownership in community fire planning. This method is generally corroborated by numerous social science scholars who advocate the use of narratives to study complex social action.[333]

The use of qualitative methodology also elicits concerns of generalizability. Admittedly, the use of face-to-face interviews using a semi-structured interview schedule does have weaknesses. Interviews can vary significantly depending on the participant's

---

[332] Ibid at 30 to 62 offer an extensive discussion on the philosophy of science and what they consider to be tensions in its "normative philosophical commitments." In terms of representation, they note, "While quantitatively imposed structures may be appropriate for representing some psychological and social phenomena, they do not seem to fit well with many concepts currently emerging in the social sciences in general ... using qualitative forms of representation is not because one abhors numbers or finds statistics difficult to understand, but because the phenomenon under consideration requires it (e.g., because the phenomenon is inherently qualitative; because the phenomenon of interest is characterized by a high degree of ambiguity or the need to negotiate the meaning of questions/responses in a way that defies the opportunity for concise operationalization necessary for quantification; because a holistic rather than multivariate understanding is needed). ...when choosing between qualitative and quantitative means of representing or presenting data, researchers must at times struggle with the choice between efficiency and power that can accompany the use of quantitative forms of representation versus maintaining the integrity of the phenomenon being studied (i.e., the phenomenon is inherently a qualitative one)."

[333] Narratives are essentially stories used to express attitudes, values, emotions, and issues of significance and serve ultimately to uncover meaning. Mishler, E. G. 1986. The Analysis of Interview-Narratives. In T. R. Sarbin (Ed.), *Narrative Psychology: The Story Nature of Human Conduct*. New York: Praeger at 243 suggests that all narratives are a form of self-presentation filled with references to a particular self-identity. This identity is linked to a culture that may be structured around an activity (i.e. Community Wildfire Plans), to the social group in which an experience occurs (i.e. an environmental group advocating for or against a certain fuel reduction treatment), and to a more extensive shared identity (e.g., an environmentally-based agenda). In soliciting narratives with individuals through an iterative interview process on the topic of trust and ownership toward Community Wildfire Plans, I uncover "narrative accounts" that detail what Patterson, M. E., & D. R. Williams. 2001. *Collecting and Analyzing Qualitative Data: Hermeneutic Principles, Methods, and Case Examples*. Champaign, IL: Saga more Publishing refer to as the "experiential situation."

123

areas of interest and expertise, communication style, and the rapport between the researcher and the participant. Interviews are not identical and comparisons across interviews are possible, but not exact. The non-random and purposive sampling framework used can also limit the ability to make general statements about the distribution of particular perspectives within a larger population.

The extended case method addresses some of the tensions associated with generalizability of research results. The extended case method derives generalizations by situating the case as anomalous to some preexisting theory or existing body of generalizations. The method recognizes and values context and derives generalizations by distinguishing yet extending the anomalous situation within the larger context. The anomalous nature of the case study serves to broaden an overall understanding of both the particular phenomenon and established social theory and can therefore be considered an act of generalizability. In other words, these case studies can provide analysis and a better understanding about society as a whole rather than just about a population of similar cases (as is presumed with statistical significance tests). This notion, using the case study approach and applying extended case methods, is further clarified as follows:

"The case study gives rise to generalizations through reconstructing theory based on comparative analysis. By working to explain the particulars of a single case, but also why there are differences across cases, it becomes possible to acknowledge the historically specific causality of the case, but to move to broader generalizations by checking how it informs or challenges some preexisting theory which is then reconstructed. The significance of the case relates to what it tells us about the world in which it is embedded."[334]

---

[334] Belsky, J. M. 2004. Contributions of Qualitative Research to Understanding the Politics of Community Ecotourism. In J. Phillimore & L. Goodson (Eds.), *Qualitative Research in Tourism: Ontologies, Epistemologies and Methodologies* (pp. 273-291). London: Routledge at 282.

While limitations may be present using the extended case method, limitations exist for any approach to understanding a phenomenon. The point is to recognize the limitations, state clearly what those limitations are, and match the objectives of the research to the appropriate methodological technique.

Chapter 4. RESULTS / DISCUSSION

4.1. Overview

My goal for this chapter is to present the results of this research. I structure this chapter with a description of wildfire planning in west central Montana in general and the Bitterroot and Seeley-Swan CWPPs in detail. I begin by presenting and comparing prominent characteristics of the Bitterroot and Seeley-Swan CWPPs. I described the socio-political and ecological characteristics and provide an overview of each planning process and present the principal results of the research with reference to trust and a sense of ownership. I conclude this chapter with a broad discussion of the two case studies and the five propositions offered in Chapter 2.

There are several significant characteristics that differentiate the two study sites. The Bitterroot CWPP is considerably larger in terms of total population, total area, and total high risk area. The Bitterroot Valley has also been settled longer and has experienced higher annual population growth rates. Both fire plan areas are experiencing immense changes to traditional economic structures with corresponding increases in property values. Concurrent to changing economic structures is a changing value system focused increasingly on natural amenities and less so on commodity production of natural resources. I present Tables 7 and 8 detailing the principal characteristics of Bitterroot and Seeley-Swan CWPPs including comparisons of the total plan area, risk area and land ownership.

Characteristic	Bitterroot	Seeley-Swan[335]
Population (permanent)	36,070[336]	2,460
Population (seasonal)	unavailable	2,032
Area of CWPP (acres)	1,534,712[337]	568,000
Area high risk (acres)[338]	150,387	30,795
Area high risk (%)	9.8	5.4
Area medium risk (acres)	123,480	74,768
Area medium risk (%)	8.1	13.2
Area low risk (acres)	27,075	unavailable
Area low risk (%)	1.8	unavailable
Area private, non-industrial land ownership (%)	23.9	7.6
Area private, Plum Creek land ownership (%)	0.5	30.6
Area federal land ownership (%)	72.9	53.9
Area state land ownership (%)	2.5	6.4
Area misc. land ownership (%)	0.3	1.5
Treatment goal / year (acres)	unavailable	3,080

Table 7. Principal characteristics of Bitterroot and Seeley-Swan CWPP.

Land ownership defined as high risk	Bitterroot CWPP (acres)	Seeley-Swan CWPP (acres)
National Forest	112,794	11,685
State Lands	0	3,190
Plum Creek	0	5,928
Private	37,593	9,247
Misc. (County, Dept of Transportation)	unavailable	745
TOTAL	150,387	30,795

Table 8. Land ownership area defined as high risk in the Bitterroot and Seeley-Swan CWPP.

There are also significant geographic and ecological characteristics that should be noted. The vegetation characteristics differ between the two areas with more precipitation in the Seeley-Swan area valley bottom allowing for dense vegetation throughout the fire plan area and possibly increasing the risk of wildfire. The geographic

[335] All figures taken from Seeley-Swan CWPP.
[336] 2000 US Census data.
[337] From: http://maps2.nris.mt.gov/mapper/.
[338] In the Bitterroot CWPP, high, medium and low risk are referred to as Priority 1, 2 and 3 areas respectively.

127

layout of the two areas is quite different. The Bitterroot fire plan area is broader than the Seeley-Swan fire plan area with less dense forest stands in or near the densest population centers. For residents of the Seeley-Swan area, potential safe areas and evacuation routes are more limited perhaps adding to a sense of risk.

Both areas exhibit a checkerboard design of land ownership. However, in the Seeley-Swan area, particularly in the northern portion, this checkerboard design is acute. Both areas are experiencing impacts from insects, disease and exotics species. Timber harvesting, particularly in the past 50 years, has altered landscape connectivity in both areas. Fire has historically played a significant role in both areas with suppression being the prominent policy to combat the threat of conflagrations. Recent wildfires have caused considerable impact in terms of a threat to lives, property and economic livelihood for residents in both areas.

Land ownership patterns differ markedly between the two fire plan areas. In the Bitterroot valley, land tenure is dominated by federal control (72.9%) and private property (23.9%). In the Seeley-Swan valley, land tenure is largely influenced by Plum Creek (30.6%) and federal land (53.9%). Private land ownership tends to be more concentrated in the middle of the main watershed valleys in the Seeley-Swan area whereas private land ownership and development in the Bitterroot Valley is more dispersed across the valley bottom.

4.2. The Bitterroot Community Wildfire Protection Plan

4.2.1. Socio-political characteristics

Both the fire plan area and the Bitterroot Valley are located within Ravalli County of Montana. Early settlers began to occupy the west side of the valley in the late 1800's. The establishment of the Bitterroot Irrigation Company and "Big Ditch" irrigation scheme in the late nineteenth century brought more settlement to the valley including an increase in development on the drier east side of the valley for grazing and cattle.[339] Logging became a prominent industry in 1886 to provide logs for the Anaconda Copper Mining Company in Butte. The "Apple Boom" encouraged by the railroads during this same period brought speculators and increased settlement and development. The land became increasingly "balkanized" into discrete community units; for example Stevensville was settled by confederate sympathizers causing partitioning of the valley and exclusion of other settlers for a brief time.[340] In 1960, the population of Ravalli County was 12,341 and as late as the 1960's, the valley was still perceived as very rural whereby "one could motor to Missoula from Stevensville ...at midday, and never see another car."[341]

The Bitterroot Valley has experienced acute population growth in the last 15 years, with the population in Ravalli County increasing from 25,010 in 1990 to 35,811 in 1999; a 43% increase.[342] During the 1990's, this county was the fastest growing in

---

[339] Canton-Thompson, J. 1994. *Social Assessment of the Bitterroot Valley, Montana with Special Emphasis on National Forest Management:* Report prepared by Bitterroot Social Research Institute, Missoula, MT: U.S. Department of Agriculture, Forest Service, Northern Region. 305 p.

[340] Ibid at 7.

[341] Ibid at 7.

[342] Swanson, L. 2001. *The Bitterroot Valley of Western Montana: Area Economic Profile.* Missoula: O'Connor Center for the Rocky Mountain West at 1.

129

Montana and one of the fastest growing in the United States.[343] While the notion that

much of the net migration has resulted from retirees, the greatest growth occurred among

persons in their mid-to-late 40's and 50's; a 112% increase in less than a decade.[344]

Nearly half of all recent immigrants to the valley are from California.[345] The

demographic changes taking place are striking as 70% of high school graduates leave the

valley annually.[346] The northern region of the county is now seen to be a bedroom

community of Missoula to the north with as many as 20 percent of the employed

residents of Ravalli County working and commuting to the city. Figure 1 (following

page) is taken from the fire plan document and presents population density in the fire

plan area.

---

[343] Ibid at 1 as measured by percentage change in population. This change in population is due to "net
migration" or the result of persons moving to the area as full-time residents as opposed to natural change
or the net result of births and deaths.
[344] Ibid at 4.
[345] Diamond, J. 2005. *Collapse: How Societies Choose to Fail or Succeed.* New York: Viking at 60.
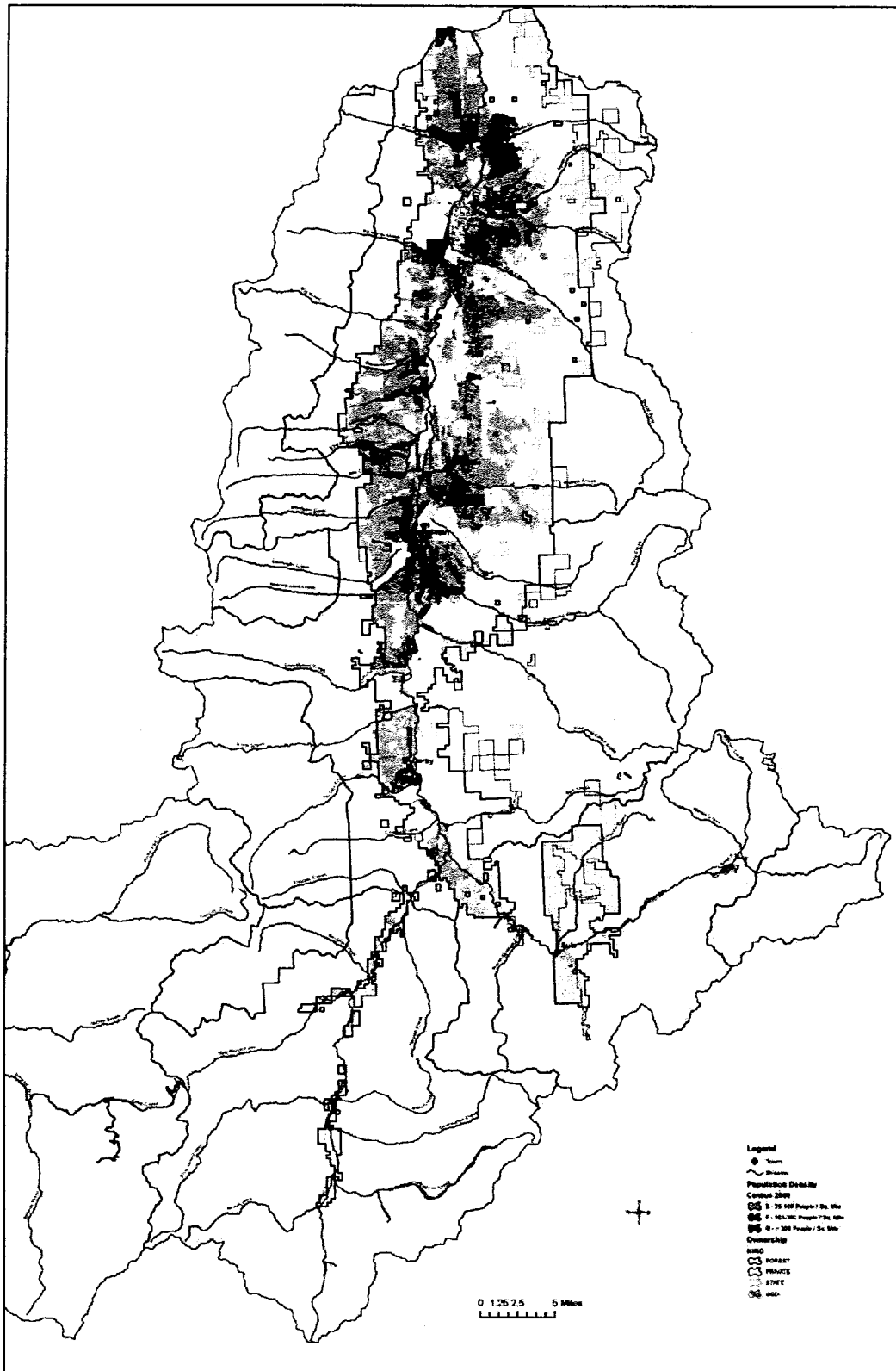[346] Ibid at 30.

130

Figure 1. Population density of Bitterroot CWPP (from Bitterroot CWPP, 2004 ed.).

131

As a result of recent growth, subdivisions have become common in the valley and were recently criticized by Montana's Governor Schweitzer.[347] While home to some of the wealthiest people in the nation, the county is one of the poorest in the state.[348] Land prices are now 10 or 20 times higher than a few decades ago.[349] Outside of two towns and several voluntary zoning districts formed by local voters in some rural areas outside of towns, Ravalli County has neither a county building code nor county-wide zoning. There is currently no growth policy for the valley.

Land uses in the valley have historically been dependent upon timber resources and recreational opportunities. Agriculture has also experienced dramatic changes in recent years with dairy operations decreasing from 400 in 1964 to only nine today.[350] Between 1970 and 1990, nearly 50,000 acres of farmland were taken out of production while the number of suburban tracts doubled.[351] Wood products manufacturing has been a key component of the area's economic base. In the past, the economic role has been primarily as supplier of raw material for lumber processing in the area. Since 1969, which represented a peak timber harvest on the Bitterroot National Forest, timber harvest has declined 87 percent. By 1992, only 13 percent of Ravalli County's basic labor income was related to the wood products and agriculture industries. Changes in global markets and forest policies have lead to a decline in timber resource output from federal

---

[347] McKee, J. 2006. *Bitterroot, Blackfoot Land Exchange Rejected, Missoulian* (pp. available at: http://www.missoulian.com/articles/2006/02/22/news/local/news03.txt). Missoula. According to the article: Gov. "Schweitzer also took a swipe at Ravalli County residents faulting the Blackfoot Challenge for harnessing state and federal resources in planning for the future of their valley. The Bitterroot Valley, which is studded with unplanned subdivision development, could use a little planning, he said. 'That's called deciding your destiny in advance so you're not reactive,' Schweitzer said. 'Plan your community in a way where your children and grandchildren will be proud of what you've done.' "
[348] Diamond, J. 2005. *Collapse: How Societies Choose to Fail or Succeed.* New York: Viking at 30.
[349] Ibid at 59.
[350] Ibid at 57.
[351] Short, D. C. 1994. *Growth and Development in the Montana's Bitterroot Valley: The Valley Is Booming - but Is It a Bust for the Locals?* Unpublished Master of Arts in Journalism, University of Montana at 12.

132

lands. Concerns about threatened and endangered species have further restricted state and federal management actions on public lands. However, while lumber and wood products manufacturing has seen considerable decline in employment and labor earnings throughout the region, in Ravalli County this industry is as large as in any time in its history. In large part due to the development of the log homes industry, Ravalli County is one of only a handful of "forest land peer counties" where lumber manufacturing has actually experienced growth with labor earnings increasing by 79% between 1987 and 1998 to $27.3 million.[352]

There are numerous communities in the fire plan area, with Hamilton, (pop. 3,705) being the largest and serving as the county seat.[353] Other incorporated towns in the county include Stevensville (pop. 2,046), Pinesdale (pop. 1,038), and Darby (pop. 942). Other communities include Florence, Conner, Corvallis, Grantsdale, Sula and Victor. The county is governed by three commissioners, one from each commission district elected to serve six-year terms. The commissioners administer all laws relating to county matters that are passed by the State Legislature.

The fire plan area contains a high percentage of public land, primarily in the higher elevations: 72.9 % is federal land, 2.5% is Montana state land. The valley bottom has a significant portion of private land. Private land ownership consists of two general types: non-industrial private lands (23.9%), and Plum Creek Timber Company lands (0.5%). The ownership of land resembles a checkerboard design described earlier,

---

[352] Swanson, L. 2001. *The Bitterroot Valley of Western Montana: Area Economic Profile*. Missoula: O'Connor Center for the Rocky Mountain West at 13. "Forest land peer counties" are defined as areas throughout the western United States having similar characteristics of non-metro areas in the West nearby small and intermediate regional centers of 30,000 to 100,000 people, and, 2) non-metro areas nearby small and intermediate regional centers that are also nearby large concentrations of Forest Service lands.

[353] All population figures presented here are taken from the 2000 U.S. Census.

particularly on the eastern and western portions of the fire plan area. Figure 2 (following

page) is taken from the fire plan document and presents land ownership in the fire plan

area.

134
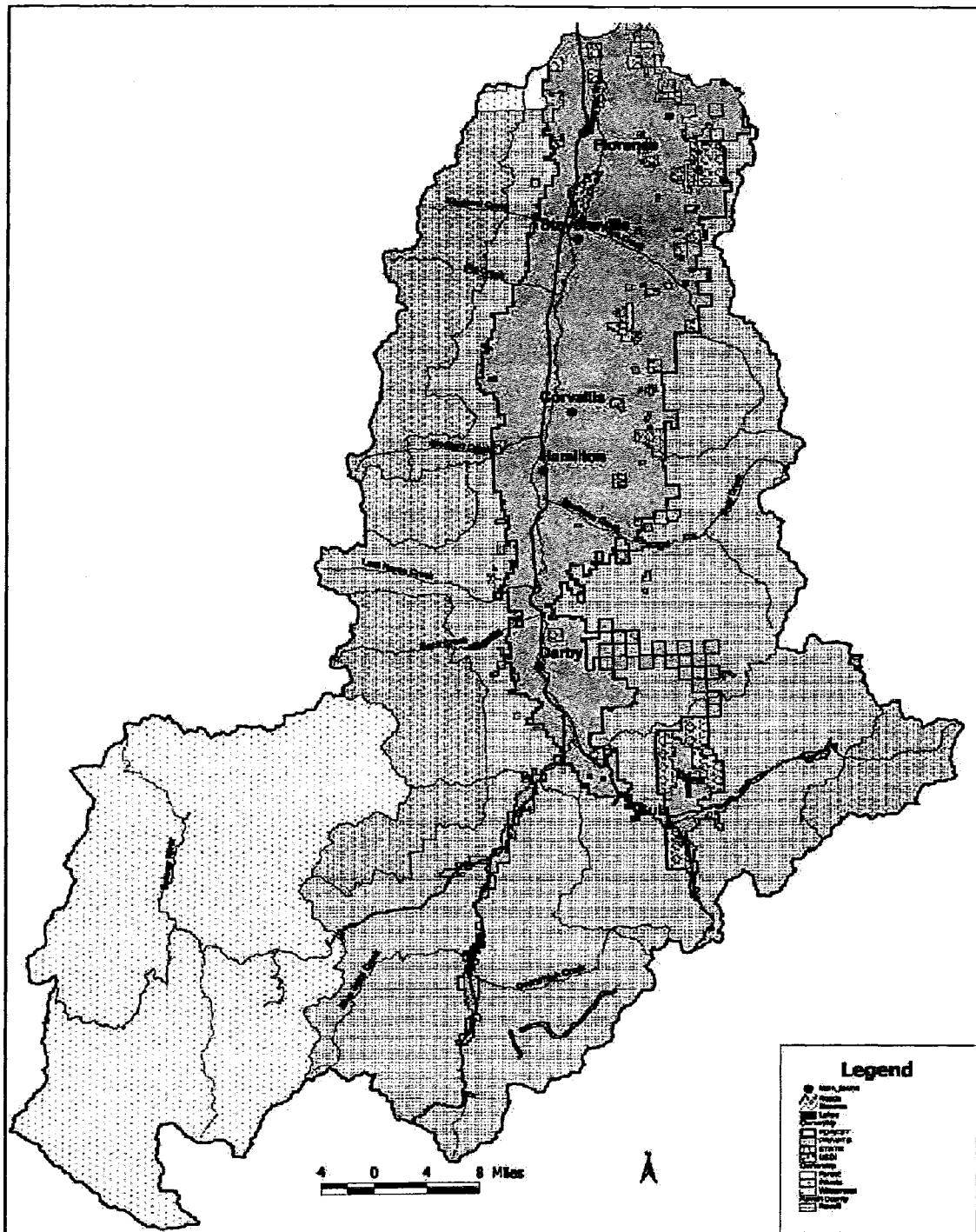
Figure 2. Land ownership in Bitterroot CWPP (from Bitterroot CWPP, 2005 ed.).

135

There has been considerable controversy in this valley regarding natural resource management. In the early 1970's, the Bitterroot National Forest became the subject of national controversy through clear-cutting policies that included plowed terracing on steep slopes and an extensive network of road building. The situation sparked a major congressional investigation into forest practices and laid the foundation for comprehensive legislation that controls the national forests today. The subsequent release of the Bolle Report in 1970 criticized the Forest Service's "overriding concern for sawtimber production" and the "economic irrationality" of timber policies.[354]

Controversy has continued in recent decades between various interests with regard to timber production, critical habitat protection, recreation pursuits and amenity values. The prospect of reintroducing grizzly bears into the Selway-Bitterroot ecosystem has also created considerable controversy in the valley even though an innovative governing arrangement was proposed allowing some citizen control over management.[355]

In the 1960's, approximately 60 million board feet was harvested annually in the Bitterroot National Forest. The amounted has dropped over the last five years to approximately 3 to 4 million board feet annually and has significantly affected the amount of federal funds available to counties further fueling controversy. While Ravalli County received $381,657 in 2005 through the Secure Rural Schools and Community Act, federal budget constraints and reprioritizing has influenced federal allocation to

---

[354] As quoted in Wilkinson, C. F. 1992. *Crossing the Next Meridian: Land, Water, and the Future of the West*. Washington, DC: Island Press at 142.

[355] Cestero, B. 1999. *Beyond the Hundredth Meeting: A Field Guide to Collaborative Conservation on the West's Public Lands*. Tucson, AZ: Sonoran Institute.

136

programs such as the Secure Rural Schools monies and related programs including the Payment in Lieu of Taxes and the 25 percent fund.[356]

There are several significant events that took place recently in the Bitterroot Valley that are of particular relevance to trust and a sense of ownership in wildfire planning. After the fires of 2000, the Forest Service attempted to develop a salvage project (termed the Burned Area Recovery project or BAR) for areas burned in the Bitterroot National Forest (BNF). By February of 2001, the BNF solicited and received public comment on the BAR project which included an EIS required under the NEPA. The BAR outlined details of the proposed timber cuts, roads construction, and restoration activity. While USDA Undersecretary Mark Rey signed a record of decision after the Final EIS had been released, the Forest Service was still accused of avoiding the normal administrative appeals process in an effort to speed up implementation. The District Court rejected the approach and enjoined the salvage operations until the government complied with NEPA rules and criticized the agency's "extra legal effort to circumvent the law."[357]

Judge Molloy ordered the parties to enter a mediated settlement and to take no longer than two days to reach an agreement. On February 8, 2002, the parties agreed on a figure of 60 million board feet of timber to be salvaged from 14,700 acres in numerous separate timber sales and in roadless areas.[358] With regard to restoration, the USFS representatives promised to allocate $25.5 million to stream restoration on 16 miles of

[356] Backus, P. 2006. *Counties Face Cuts in Bush's Budget*. Missoulian.

[357] Wilderness Society v. Rey, 180 F.Supp.2d 1141, 1144 (D. Mont. 2002).

[358] Devlin, S. 2004. "Group Simmers over Wildfire Funds: Environmentalists, Forest Service at Odds over Recovery Plan for 2000 Blazes." *Missoulian* Feb. 7, Accessed Mar 5, 2006, http://www.missoulian.com/articles/2004/02/07/news/top/news01.txt.

stream, reforestation on 33,150 acres, road obliteration on 45 miles of roads, and road storage on 102 miles of roads.[359] The settlement agreement became a formal legal contract negating all previous plans.[360]

To date, the restoration has been completed on only a small percentage of what was originally agreed to and the Forest Service attributed the unfulfilled promises to diversion of budgetary funds to fight wildfires in subsequent fire seasons and without adequate reimbursement from Congress. According to a representative from the local conservation organization, Friends of the Bitterroot, the BNF broke the settlement agreement for certain restoration projects; "It was a matter of trust. We trusted that the restoration work would happen …There is serious, avoidable damage occurring in these watersheds."[361]

Another controversy that has likely influenced trust and a sense of ownership in the Bitterroot Valley is the first proposed HFRA fuel reduction project in Montana which is located on the Bitterroot National Forest in the Middle East Fork area (termed the Middle East Fork project or MEF). The project has sparked several lawsuits regarding both the planning process and the plan itself.

One major controversy occurred when the Bitterroot National Forest prepared for the timber cut by spending more than $160,000 marking trees while the project was still open for public comment and before final decision had been reached. According to a representative of the local conservation organization, the Native Forest Network, "we

---

[359] Sienkiewicz, A. 2006. *Post-Fire Management and Public Lands Conflict: The Bitterroot National Forest and Beyond.* Unpublished Ph.D. dissertation, University of Montana.
[360] Ibid.
[361] Devlin, S. 2004. "Group Simmers over Wildfire Funds: Environmentalists, Forest Service at Odds over Recovery Plan for 2000 Blazes." *Missoulian* Feb. 7, Accessed Mar 5, 2006, http://www.missoulian.com/articles/2004/02/07/news/top/news01.txt

138

find it incredibly disingenuous that during the public comment period, a period where [the BNF] said they would take the public's comment and incorporate it into their plan, they were just moving ahead with the plan that they apparently already have chosen.[362] Forest Service officials had no explanation relating to the NEPA and noted only that the marking crew travels and the BNF took its services when they were available with a BNF District Ranger commenting, "the regional marking crew availability is limited. They rotate around the region to wherever there is a need. Community members here are interested in seeing something done as soon as possible. It just made sense to follow the intent of Congress. We never thought about the controversy that the decision would bring."[363]

A few days later during a press conference at the Forest Headquarters in Hamilton, Montana, the BNF officials ordered USFS law enforcement officers to escort three representatives from Friends of the Bitterroot from the press conference. The conference had been called to allow invited participants to discuss the aforementioned timber cut and before the Friends of the Bitterroot representatives were able to sit down were asked to leave. Some of the citizens barred from the press conference are pursuing a lawsuit for what they call "a series of anti-democratic actions" by certain BNF personnel.[364]

To further complicate the controversy, representatives from the Friends of the Bitterroot group said that in the process surrounding the MEF project, "the Forest Service

---

[362] Moore, M. 2005. "Marked Trees Anger Environmentalists." *Missoulian* Sept. 9, Accessed Mar. 5, 2006, http://www.missoulian.com/articles/2005/09/20/news/local/news03.txt.

[363] Backus, P. 2005. "Agency Defends Thinning Decision in Middle East Fork." *Missoulian* October 9, Accessed Mar. 5, 2006, http://www.missoulian.com/articles/2005/10/09/news/mtregional/news03.txt.

[364] Backus, P. 2005. "Conservationists Barred from Fs Meeting Hire Attorneys, Request Congressional Investigation." *Missoulian* Oct. 5, Accessed Mar. 5, 2006, http://www.missoulian.com/articles/2005/10/05/news/mtregional/news06.txt.

139

ignored nearly 10,000 public comments (98% of the received public comments) that were unfavorable toward the preferred alternative to favor a handful of Sula residents."[365] However, according to a Forest Service spokesperson, "most all of the comments we got on this are form letters, so we take that into account."[366] Regarding the public comments opposing aspects of the MEF project, BNF Supervisor Bull noted that the BNF will do "what's best for the resource" since such decisions are not a "popular vote."[367] A current MEF lawsuit against the BNF is alleging that the Defendants were "deliberately, consistently, and erroneously tampering with the scientific findings of their own soil expert."[368]

The Bitterroot Valley has been the focus of specific natural resource-based social science research. A social assessment in the valley showed that prescribed fire receives mixed support among residents of the Bitterroot Valley.[369] Bitterroot Valley residents in another study revealed a deep cultural connection to the land, strong values toward the natural amenities of the wildlands in the valley contributing to an overall better quality of life and deep concerns with access issues relating to Wilderness and recreation opportunities.[370] A recent study analyzing "values at risk" in the Bitterroot Valley found

---

[365] Backus, P. 2005. "Activists Removed from Bitterroot Forest Office During EIS Press Conference." *Missoulian* Sept. 23, Accessed Mar. 5, 2006, http://www.missoulian.com/articles/2005/09/23/news/mtregional/news08.txt.

[366] Moore, M. 2005. "Marked Trees Anger Environmentalists." *Missoulian* Sept. 9, Accessed Mar. 5, 2006, http://www.missoulian.com/articles/2005/09/20/news/local/news03.txt.

[367] Sienkiewicz, A. 2006. *Post-Fire Management and Public Lands Conflict: The Bitterroot National Forest and Beyond.* Unpublished Ph.D. dissertation, University of Montana.

[368] Woodsbury, T. J. 2006. *Preliminary Injunction Brief.* Accessed Mar. 5, 2006, http://www.nativeforest.org/pdf/MEF_PI_brief.pdf at 3.

[369] Canton-Thompson, J. 1994. *Social Assessment of the Bitterroot Valley, Montana with Special Emphasis on National Forest Management.* Report prepared by Bitterroot Social Research Institute, Missoula, MT: U.S. Department of Agriculture, Forest Service, Northern Region. 305 p.

[370] Gunderson, K., A. Watson, R. Nelson, & J. Titre. 2004. *Mapping Place Meanings on the Bitterroot National Forest: A Landscape-Level Assessment of Personal and Community Values as Input to Fuel Hazard Reduction Treatments.* Report prepared by Aldo Leopold Wilderness Research Institute, Missoula, MT for the BEMRP Research Project.

140

protection of lives and property to be the most critical values with other notable values concerning the efficacy of hazardous fuel reduction treatments at reducing risk, promoting forest conditions that are healthier or more aligned with natural processes, creating unintended consequences, or able to sustain economic and public support for both initial and ongoing treatments.[371]

Regarding wildfire policy, this same study found that respondents generally support allowing "naturally occurring fire" to play a role in reducing fire hazards both inside and adjacent to the Selway-Bitterroot Wilderness. Most respondents supported the need to apply fuel hazard reduction treatments including the use of prescribed burning and recognize the importance of private homeowners to assume responsibility for fuel hazard reduction treatments on private property. However, distrust in goals of fuel hazard reduction treatments were reported whereby some respondents voiced skepticism of a "hidden agenda" for using fuel hazard reduction treatments as another way to harvest more trees.

A numerically-based survey of resident's perceptions of trust of federal land managers with regard to fire management in the valley was completed in 2005.[372] This research revealed that roughly a third of respondents fell into a "low trust" category defined as not sharing common values with the Bitterroot National Forest, feeling that their trust would not be reciprocated and having no expectation the actions of Bitterroot National Forest managers would be reliable, effective, and competent.

---

[371] Burchfield, J., P. Lachapelle, & T. Ubben. 2005. *Integrating Social Science Research with Wildland Fire Science: Assessing Values at Risk from the Bitterroot Community Wildfire Protection Plan.*: Final report of the Research Joint Venture Agreement, 01-JV-11222044-251, between the Aldo Leopold Wilderness Research Institute, Rocky Mountain Research Station, USDA Forest Service, and the University of Montana, College of Forestry and Conservation.

4.2.2. Ecological characteristics

The Sapphire Mountain Range borders the east side of the plan area and the Bitterroot Mountain Range borders to the west. Topography is highly variable with a generally flat valley bottom at an elevation of approximately 3,200 ft rising to steeper sloped mountains over 10,000 ft. The valley bottom contains aspen and cottonwood, primarily along riparian areas. Pasture and grasslands comprise the majority of the valley bottom vegetation. Low elevation forests support ponderosa pine, douglas fir and lodgepole pine. The dominant trees in higher elevations are sub-alpine fir, western larch and whitebark pine. The fire plan area contains nearly the entirety of the Bitterroot River watershed (with the exception of the Lolo Creek watershed) that flows north through the fire plan area into the Clark Fork River. The fire plan area contains populations of large carnivores including mountain lion, marten and lynx and infrequent sightings of wolves.

While termed "Montana's banana belt" because of the comparatively mild climate, rainfall is only approximately 12 to 14 inches per year in the valley bottom. Agriculture and ranching generally require irrigation in order to be economically feasible. Increasing demands for aquifer water is also influencing the availability of water. The Bitterroot River is on Montana's list of "impaired streams" with approximately a third of the Bitterroot Valley's watersheds considered impacted and at risk of soil erosion and one-third already eroded and in need of restoration due to overgrazing, noxious weed infestation or fire impacts to topsoil.[373] There are myriad environmental issues

[372] Liljeblad, A., W. Borrie, & A. Watson. 2005. *Monitoring Trust as an Evaluation of the Success of Collaborative Planning in a Landscape-Level Fuel Hazard Reduction Treatment Project in the Bitterroot Valley, Montana*: Final Report, USDA Forest Service, Rocky Mountain Research Station.
[373] Diamond, J. 2005. *Collapse: How Societies Choose to Fail or Succeed*. New York: Viking at 47.

confronting residents in the valley including increasing scarcity and decreasing quality of water, locally and seasonally poor air quality, and impacts from exotic species.[374] Noxious weeds are increasingly problematic because they out-compete native plant species, reduce fodder to domestic and wild animals and increase erosion rates. It is estimated that Spotted Knapweed has infested 566,000 acres in the Bitterroot Valley.[375]

Low elevation forests have been altered due to logging and fire exclusion practices. Fire traditionally played a significant role in stand development in the fire plan area. The period between 1600 and 1900 experienced frequent fires in most habitat types.[376] Historical records show that ponderosa pine forests experienced a lightning-ignited fire about once a decade before 1910.[377] The forest ecosystems of the Selway-Bitterroot Wilderness to the west have also been shaped primarily by a mixed-severity fire regime with average intervals ranging from about 30 to 100 years.[378] Fire suppression and logging of large diameter trees has resulted in the understory comprised of smaller diameter trees with densities of 30 to 200 trees per acre in some areas increasing the forest fuel load dramatically.[379] Wildfires have recently increased in intensity and extent in some forest types with the summers of 1988, 1996, 2000, 2002, and 2003 especially severe fire years. Over 356,000 acres burned in or near Ravalli County during the summer of 2000 accounting for one-fifth of the Bitterroot Valley's forest. Over 10,000

---

[374] Ibid.

[375] Ibid at 55.

[376] Arno, S. F. 1976. *The Historical Role of Fire on the Bitterroot National Forest*: USDA Forest Service. Intermountain Forest and Range Experiment Station. Research Paper INT-187.

[377] Diamond, J. 2005. *Collapse: How Societies Choose to Fail or Succeed*. New York: Viking at 45.

[378] Arno, S. F., D. J. Parsons, & R. E. Keane. 2000. *Mixed-Severity Fire Regimes in the Northern Rocky Mountains: Consequences of Fire Exclusion and Options for the Future*. In D. N. Cole, S. F. McCool, W. T. Borrie & J. O'Loughlin (Eds.), *Wilderness Science in a Time of Change Conference - Volume 5: Wilderness Ecosystems, Threats, and Management* (pp. 225-232). 1999 May 23-27; Missoula, MT: Proceedings. RMRS-P-0-VOL5. Ogden, UT: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station at 225.

[379] Diamond, J. 2005. *Collapse: How Societies Choose to Fail or Succeed*. New York: Viking at 45.

people were involved in the fire fighting efforts and over 1,500 people in the county were evacuated from their homes with private property losses ranging in the millions of dollars. Fire policy modifications resulting from these recent wildfires are discussed in the following section.

4.2.3. Overview of planning process

The Bitterroot CWPP was generated through the efforts of local volunteers in the Bitterroot, many of whom had participated in an informal citizen advisory group called the Residential-Wildland Interface Task Force, which had formed in 1998 to consider issues of fire protection for rural residents.[380] Instrumental to the function of the task force was the Bitter Root Resource Conservation and Development Area, Inc. (RC&D), a locally-based clearinghouse for natural resource project activity and coordination supported by local governments and the USDA Natural Resources Conservation Service.[381] Through the support and guidance of the RC&D, the task force had taken on a series of community education and small development projects, including a mapping project to identify areas in the county not covered by rural fire protection districts, dry hydrant placement in new residential areas, and information programs that highlighted the role of fire in dry pine ecosystems. The dramatic fires of 2000 and several federal-

---

[380] Background information on the formation of the Bitterroot CWPP taken from Burchfield, J., P. Lachapelle, & T. Ubben. 2005. *Integrating Social Science Research with Wildland Fire Science: Assessing Values at Risk from the Bitterroot Community Wildfire Protection Plan.*: Final report of the Research Joint Venture Agreement, 01-JV-11222044-251, between the Aldo Leopold Wilderness Research Institute, Rocky Mountain Research Station, USDA Forest Service, and the University of Montana, College of Forestry and Conservation.

[381] The Bitter Root RC&D is a 501(c)3, non-profit, non-partisan organization comprised of a network of local community volunteers from 3 western Montana counties; Missoula, Ravalli and Mineral. The purpose of the Resource Conservation and Development (RC&D) program is "to encourage and improve the capability of State and local units of government and local non-profit organizations in rural areas to plan, develop, and carry out programs for resource conservation and development." (MT Public Law 97-98, Sec. 1528).

level actions including the National Fire Plan, the 10-year Comprehensive Strategy and the Healthy Forests Initiative provided additional impetus for community-level action to address wildfire risks, most notably the development of the present fire plan.

The efforts of the Residential-Wildland Interface Task Force had generated an early version of a Community Wildfire Protection Plan even before the passage of the HFRA. By way of meetings held in the fall of 2002 and winter of 2003, volunteers had generated a series of action items to reduce risk to lives and property, provide coordination of fire suppression responsibilities and encourage community education on wildfire hazard. A series of subcommittees were established to deal with specific issues, and a steering committee oversaw the development of the plan. Invitations to key contacts in the Bitterroot were sent out via mail on two occasions, and advertisements of the process for developing the plan were placed in common community information sources, such as the local newspaper. All meetings to develop plan recommendations were open to the public. Among the attendees were representatives of the 12 volunteer fire departments serving the 13 fire districts, representatives from the federal and state land managing agencies, County Commissioners and local citizens.

This first plan, released in April 2003, covered many of the major issues that were identified in the HFRA, but did not organize its action items along the same areas of emphasis as required in the legislation. Thus, some of the same volunteers, fire chiefs, Forest Service officials, and other newly engaged valley residents revised the plan in April 2004 in order to comply with the requirements of the HFRA. The plan's stated purpose also remained the same in the revision as in the original, with the only change being the addition of the final phrase, which is noted in italics in the following statement:

145

"The purpose of this plan is to position fire protection agencies, county leaders, rural communities, valley residents, and forest owners and managers to be better prepared to protect the County's residents and its natural resources from the potentially devastating impacts of wildfire *and promote the natural role of fire in the ecosystem.*"[382]

The plan contains four major sections and several appendices, including a series of maps. The total fire plan area is over 1.5 million acres and spans approximately 65 miles from north to south and 25 miles from east to west in the northern portion and 60 miles from east to west in the southern portion. While designated Wilderness within Ravalli County is part of the land base covered by the CWPP, Wilderness is not specifically addressed in the CWPP because the USFS has an existing fire management plan covering those areas and because federally designated Wilderness is excluded from consideration for treatments under the HFRA. All individuals participating in the planning process were asked to identify areas they felt were at high risk for wildfire. In particular, District Fire Management Officers from the Forest Service, area fire chiefs and volunteer fire fighters from each of the 13 fire districts were asked to identify the high risk areas within each of their districts using factors of slope, egress, structural or population density, vegetative condition, fire history, continuity of vegetation as well as their collective experience in dealing with fires in their districts. A risk assessment map was generated.[383] Figure 3 (following page) is taken from the fire plan document and presents the risk assessment for the Bitterroot CWPP.

---

[382] The entire plan with maps is available at www.bitterrootrcd.org.
[383] The metric used to weight each of these criteria is unknown to the RC&D officers.

146
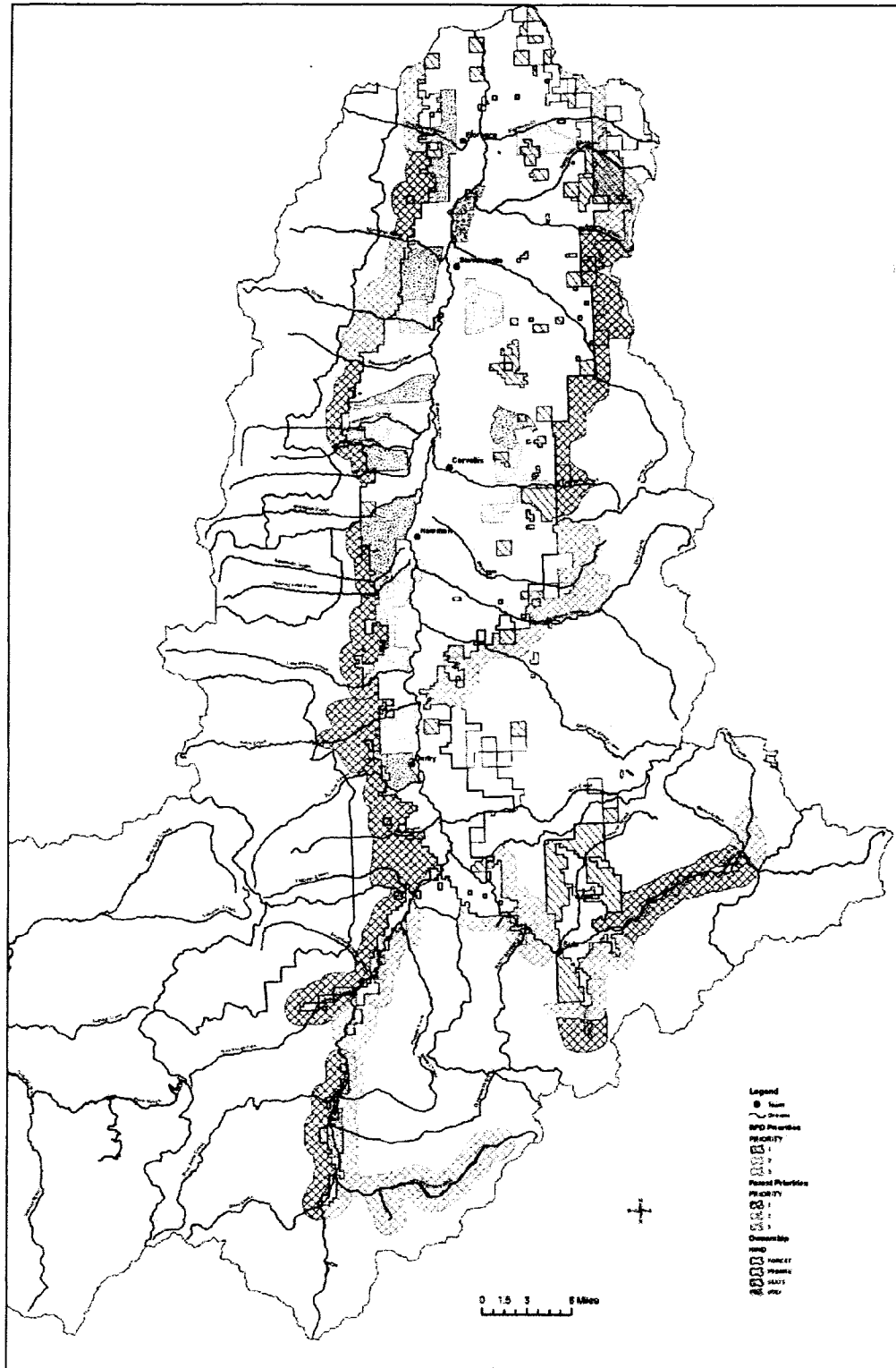
Figure 3. Risk assessment of Bitterroot CWPP showing priority areas for treatments (from Bitterroot CWPP, 2005 ed.).

147

The results of the risk assessment identified 150,387 acres (9.8 % of total fire plan area) in the category of high risk from wildfire. An additional 123,480 acres (8.1 % of total fire plan area) were identified for the moderate risk category. There was been no definitive goal set for conducting annual hazardous fuel reduction treatments on the high risk or moderate risk areas. Because of the 2004 CWPP and the active pursuit by the RC&D for grant monies available through the Western States allotment via the National Fire Plan, the CWPP allowed the RC&D to acquire roughly one million dollars for hazardous fuel reduction treatments on private lands within the wildland urban interface. These treatments have been administered by a retired USFS forester who has returned to work as a member of the RC&D staff to oversee the implementation of the recommended hazardous fuel reduction actions identified in the CWPP.

Currently, the Bitterroot National Forest monitors treatments on USFS lands. The Montana DNRC monitors treatments on State and private lands. The RC&D monitors all treatments administered through their grant programs. There is currently discussion at the RC&D to better coordinate future monitoring and reporting. There have been no further public meetings to update the plan and only slight revisions of the 2004 plan.

4.2.4. Trust in the Bitterroot CWPP

Individuals who commented on the Bitterroot CWPP process and outcome discussed trust as influenced by or based on relationships with individuals, relationships with organizations, and issues of transparency.[384]

For many individuals, trust was described with regard to their relationship to other individuals in the community. In particular, trust was influenced by the quality of the relationship based on a number of factors. The first factor is the "culture" clash of new residents moving in with new values. This phenomenon is occurring in many parts of the western United States and according to several individuals, has influenced their relationships with others in the Bitterroot Valley regarding wildfire planning. In this first example, one individual discusses their frustration and "opposition" resulting from culture clashes that he/she described as "abrasive."

I think everybody brings their culture with them when they move to the valley. When I moved here I think it was still the Bitterroot Valley which was a group of citizens for the most part who had spent most of their lives here and their prime means of support was the timber industry and agricultural type, farming, ranching, that type of thing. And then certainly, as the population grew, a lot of folks moved in here, brought their ideas with them on how things need to operate and their cultures with them and tried to influence those folks who were here, and it certainly was fairly abrasive to those who spent their entire life here. And I think that opposition still exists within the demographic base and exists here in the valley. ...It just brings a whole different perspective to how we do business. (I13)

A second factor influencing trust for many individuals in the Bitterroot were the positive relationships that resulted from one-on-one encounters with neighbors or employees of state or federal land agencies when discussing wildfire planning. One-on-

---

[384] I often use the term "individuals" when discussing the two case studies. I do not imply that all of the individuals in the case study share this perception but rather that more than two individuals and often many in the sample share a similar if not the same perspective.

149

one encounters were seen to enhance trust whereby concerns could be raised,

personalities assessed, and problems and definitions negotiated. These relationships

seemed to bring about an empathy and resulting "ripple effect" of consciousness and

action toward managing the risks of fire as exemplified by the following excerpt.

You can have neighbors that live around you for years and until you go out in your front yard and dig a big hole with a backhoe they may never come over to say "hello." But the minute you do that they come over, "what in the heck are you doing?" And you get to know them and you start talking. And so we found the same thing with both our chipping program and our hazardous fuels program. When we would work with one landowner in a drainage or along a particular section of the face, other landowners would come by and they would say, "well, we like the way that looks." Maybe at first they weren't interested in doing something similar because they couldn't visualize what it was going to look like. And most all of us live in this area because of the aesthetics. And if you know how your forest looks today and you like it, it takes some fairly strong motivation to want to change that, especially if you are not sure you can control how it's going to look. And so suddenly there's a neighbor, there's a landowner in several different neighborhoods who can demonstrate that the treatment looks pretty cool. It opens it up so you can see more wildlife, see more wildflowers but it's not a clear-cut or anything. It's the ripple effect where you're going to treat one landowner here and then pretty soon the landowners over here want to and then over here they want to and this guy is never going to. (15)

Many individuals in the Bitterroot described how people have worked together in

the past, particularly during times of crisis such as past fire events. These one-on-one

relationships have also led to trust within the community but as this excerpt illustrates,

volunteer work and community interaction is becoming more scarce because of the busy

schedules that people have.

I guess it comes from working together, helping each other, being there in times of need. One of the most heartening things about the fires of 2000 occurred as people had to evacuate. And the Forest Service asked us to coordinate some of the volunteer work. And people would call and say, "I've been told I've got to get out of here and I've got 30 head of cattle that I can't leave and do you know, is there any way you can get some help to haul some cattle?" By golly, before the phone was hardly off the hook, get the word out and people with stock trailers and trucks and whatnot would be there and loading. ...That breeds a lot of trust. When we really needed them they were there. Q: In a time of crisis?

150

A: Yeah. A lot of times we don't hardly do that anymore. Everybody's in a hurry. And you hardly get to see your neighbor. But you remember, hey, when the water was up around my neck somebody would reach there and pulled me out and that builds a lot of trust. And, I guess, that's the biggest thing is living together and striving together for a common purpose. (I2)

One-on-one relationships were also seen to be enhanced in the Bitterroot Valley when professional foresters or contractors hired for hazardous fuel reduction treatments met with property owners to discuss treatments and talk about treatment options and more specifically, the trees that would be cut. Implicit in the statements about these one-on-one relationships was how time intensive it can be but that it can lead to better personal relationships and enhanced trust.

That does take, talking people into it, kind of going out and kicking some trees and looking at the place and everything, .and really it almost I think becomes a personal relationship, and that's really where the best education about fuels mitigation comes up. They go spend a couple of hours with Mrs. Smith and say, " here's kind of what would make sense to take out" and Mrs. Smith says, "yeah, but I named that tree." Apparently out in Frenchtown some people actually named their trees. "So, no, we can't take that one out. But can we take this one out instead?" And so that just takes a lot of time. But that really is, I think, probably the only truly effective way to do education about fuels mitigation is one-on-one on the person's own property. We have tried for years and years and years to use brochures and fair booths and try to hold community meetings. They are all poorly attended. The fliers probably don't get read. The fair booth thing may get a little bit of attention, but not a lot. So the only way you can really get people tuned into it is if you can put them in their own very personal circumstances. And that's a very labor intensive undertaking then. ...It really was a lot of outreach. (I39)

In the Bitterroot Valley, one-on-one relationships are further enhanced when individuals take "show-me" trips or field trips to locations demonstrating various fuel mitigation treatments. These trips seem to not only lead to a better understanding of various hazardous fuel reduction treatments, but also to enhanced relationships and trust.

But explaining it one-on-one, why we're doing it, oftentimes they understand. They may want us to do more, but they do understand why we can or can't do some of the things. One-on-one, plus being able to have some concrete examples of what we're doing. ...Come out and see it. I think we need to schedule more show-me trips, whether it's with the public and/or the news media and saying, "okay, here's what we said we were going

151

to do. Here's what we ended up and here's why it either changed or how successful we were." (I4)

Another factor related to trust and individual relationships in the Bitterroot Valley was the topic of federal employees and their often transient status in the community. Specific discussion centered on how often Forest Service employees get transferred, how transience is built into the "system" and as a result, how unengaged certain employees tend to be in a community. This transience can lead to poor relationships and mistrust since these employees tend to not integrate into the community.

You have people not trusting a federal bureaucracy, and partly because the with the Forest Service, you don't have people in the decision-making capacity there long enough to become part of the community. How are you supposed to trust somebody who just came in from Minnesota, is now here in Montana, says "trust me, I'm doing the right thing." They don't even know their resource really well. And before the process is done they're off to California. ...And I think that Forest Service has disenfranchised itself from communities because you don't have people working for them that are part of the community. How can they be? They haven't been there long enough, with the exception of the technicians that don't get promoted to positions of leadership. So, I think there's an inherent flaw there in the way the system works. (I26)

Individuals in the Bitterroot also discussed their ability to trust various organizations associated with wildfire planning. In this first set of examples, relationships with organizations seem to have been damaged and trust impeded as a result of unfulfilled expectations in the past. In this first example, relationships with the government in general or Congress in particular were cited as poor because of past experiences and expectations. While the recognition is made that the Forest Service is blamed for things that are out of its control, nonetheless the result is mistrust.

I think a large part of the erosion of trust happened in the '70s and '80s when the Forest Service went too far in the timber direction, just at the same time that the environmental community was really getting its wings and movement underneath them. And they made some mistakes that they're very hesitant to say were mistakes. And so that's probably a large part of the distrust against the Forest Service, just removing the fact that they're a federal government agency to begin with. And it's the clash of values between, it's pretty

152

easy for those involved to blame the Forest Service when they don't get what they want out of the national forests. And unfortunately, like even with the fire restoration and the stuff that's been in the papers from the environmental community, the Bitterroot National Forest gets the blame for <u>not following through on what was agreed upon</u>, and yet they don't get the money from Congress to follow through to begin with. But nobody really complains to <u>Congress.</u> And that has been going on for way too long. <u>It just amazes me what the agency gets blamed for when it's really politics</u>. (114)

Descriptions of the Forest Service in particular were provided in terms of mistrust from past experiences in the Bitterroot. Associated with many of the descriptions of the relationship to the Forest Service was the notion of transparency (described in more detail later) and how the relationship based on past experiences affects an ability in the present or future to trust.

Well, there's a lot of monitoring that goes on, but <u>I've never seen much evidence that the monitoring is used to change anything. Managers in general would rather pick and choose from the monitoring to support their opinions</u> rather than to look at monitoring and say, "oh, this didn't work out the way we said." ...And <u>most monitoring is simply put into a report and stuck in the file.</u> It's usually conducted by specialists and <u>I don't think that managers tend to use it</u>, other than use it when it supports what they want to do. And then they don't mind pulling out the data and saying," see, it supports what we want to do." ...I think the basic thing that the Forest Service has an obligation to do, I've always felt this way when I was working with them, too, <u>it should not be trying to manipulate public opinion but it should simply be a very professional organization that tells all the facts as accurately as it can</u> and not put out what it wants to. To push a position the Forest Service will put out the facts that support its position and ignore the facts and not put out the facts that don't support its position. I maintain as a profession <u>you have to put it all out there.</u> And if the facts don't support the way you want to go then maybe you aren't going the right way to start with. Maybe you need to change your whole program. (18)

As this next excerpt illustrates, the result of being "lied to" and having promises broken regarding the BAR project in the past has lead to "bitter mistrust of the Forest Service" in the present.

Unfortunately, there is a big trust issue between the conservation community and the Forest Service because <u>we've been lied to</u> and we've had agreements in writing that have been reneged on by the Forest Service and a lot of bad things have happened over the years, <u>so there's a serious trust issue.</u> ...<u>We had a promise</u> that we would give up 60 million board feet of timber harvest for restoration. And the timber harvest went right

153

ahead and the <u>restoration money was taken away</u> to fight fires. And it would probably take an act of congress to get that money back. It's gone. ...And maybe it was a forest-wide, nationwide decision. ...And we were, in terms of the trust issue, if you talk to [name] and others, there is <u>bitter mistrust of the Forest Service because of what happened there.</u> (142)

According to several individuals, there is mistrust of local government based on poor interactions in the past and expectations of similar behavior in the future. In the following excerpt, the perception is that local government is not acting on the best interests of all citizens in the Bitterroot and not concerned with wildfire hazards. According to the following individual, real estate agents are encouraging development in high risk zones and county commissioners are colluding with property developers. This perception has influenced relationships in the Bitterroot Valley and an ability to have trust in the current CWPP.

In this valley, the realtors are selling people property up in the <u>heavy risk zones,</u> dense stands of pine and fir. And with the 2000 circumstances, drought, high winds, lightning, those places can't be protected. The private lands that have been exploited by the development interests for the sake of people moving into this valley. The <u>county government, the commissioners can encourage planning that precludes that development in those high hazard, high risk sites</u> where God himself couldn't save us from the explosive fire conditions of 2000. ...Well, all of this is <u>chaos in the Bitterroot today.</u> So we have <u>a control of county government by the development interests, real estate,</u> and a great <u>failure on the part of the county commissioners</u> to lead off in effective planning, a failure ...But it, again, is dissolution of good democratic practices. It's a recognition that <u>big money is controlling local government.</u> The legislative delegation from this valley represents reactionary interests that are <u>in the pockets of development interests</u> and those who want to take advantage of the national forest resource. (141)

Another influence on relationships with organizations in the Bitterroot Valley was the labeling or stereotyping that often accompanied discussions of the organization. For several individuals in the Bitterroot, their view was that environmentalists are not "that concerned," and generally strive to follow a course of appeals or litigation. For the following individual, stereotypes have created a situation where trust is lacking.

I don't believe the environmentalists are that concerned. They'd like to have us do nothing but defensible space. But they are a little bit reluctant to take on a private landowner and what he wants to do on his land. ...We just see the world differently. In this case the state, local, and federal agencies and those folks, generally speaking, are at odds. Their usual approach is either to file an appeal or a lawsuit. (I2)

Relationships with the Forest Service were also characterized by labeling or stereotyping. One individual representing an environmental organization noted that the Forest Service also gets "blamed" by the logging community and recognizes it is likely because the Forest Service assumes a fiduciary role in forest management and is responsible for decision making.

The logging community tends to want to blame it on the environmental community and the Forest Service. And surprisingly I've seen more blame to the Forest Service by the timber industry. Maybe that's just because it's the agency that makes the final decisions and they're perhaps more angry at the Forest Service than they are at us. But there's a lot of anger directed towards the Forest Service. (I42)

Individuals who considered themselves part of the "environmental community" were also concerned with their organization's relationship with others and the stereotyping and misrepresentation that was said to occur. Several individuals commented that they felt that blame was wrongly directed toward particular environmental organizations in particular or the environmental community in general for causing or exacerbating the wildfire problem.

Of course, the other reason that we really got involved in 2000 was the blame game. We were just so, what I thought, just so many hostile statements coming from people, just really blaming us for the wildfire season of 2000. Us being kind of the environmental community. ...Environmentalists were also very much to blame, according to these GOP folks in the industry for the 2000 fire season. (I24&25)

Several individuals associated with environmental organizations described the invitations to collaborate as disingenuous and only "token" gestures. According to one individual, these gestures did not encourage participation and did not engender trust.

We get invited when they need to have a token environmentalist to make it look like they've been involved. And when they don't need that we don't get invited. ...It feels often like we're being used. ...They've got a couple people in the community here who are labeled conservationists who just go along with, they are really enamored of the uniforms and the authority and the expertise of the Forest Service. And so they'll be invited when they want somebody just to rubber stamp their plan. They'll go to one of these conservationists, have them sign off on it. (I3)

The use of language and rhetoric associated with risk was discussed by individuals in the Bitterroot Valley as influencing trust. A perception for several individuals was that "fear is being exploited" by use of "alarmist rhetoric" in order to move an agenda forward. The words used to describe the threat or aftermath of wildfire include "destruction" and "holocaust." Consequently, the use of certain language and rhetoric to form public opinion was said to influence an ability to trust.

The media and public perception on fire is framed around words such as destruction, destroyed, catastrophic, and holocaust. These are all words that are, every fire season used to describe fire. It's actually incredibly irresponsible on the media's part to use words like that. But is that any different than the way they might report a murder or the way they might report some other thing? It's always, if it bleeds it leads. It's always about sort of exaggerating and really using certain choice words to, really try and get a point across and really make the viewers or the listeners feel as if, wow, this is a really big deal. The logging industry, and a lot of members within the Forest Service, especially the Washington office and the Forest Service leadership obviously know very well the media's sort of propensity to use alarmist rhetoric such as that when describing fire. So they obviously feed that pretty well and kind of stoke that sort of rhetoric when it comes to the way they describe fire. ...And, is this administration, or are the powers that be, do they use fear to influence people's opinions? Not just on forest issues. Maybe on terror issues, maybe on other kinds of issues, Social Security. It's a pretty common tactic now. Let's use fear mongering to get what we want. And by calling these forests devastated, by calling it a catastrophe. ...By using language like that, we're describing forests in very negative terms. ...It fits right in to their, wanting to kind of dupe people or convince people that these forests are destroyed. ...But this move right now that we see on a national level of using these vague terms of forest health and to some extent community protection, and intermingling those the way that they do, to instill a certain set of fears in people. (I24&25)

Several individuals commented that trust had been impeded in the past with specific reference to interactions with the Forest Service during BAR project. There were

156

several comments on the abuse of science to exaggerate claims of extreme risk of wildfire with specific examples cited of the BAR project and wildfire planning in general. The motive of exploiting fear by advocating extreme risk was seen as only to "get out the cut."

But quite frankly, this <u>*whole focus on fire risk prevention appears to me to be a ruse,*</u> *a red herring because what we're seeing on the ground is that areas where fire prevention work, so called fuel reduction work really could be done, isn't done because there isn't any timber in there to make it pay. And where there is timber in there to make it pay it's usually outside of any area where fire risk is a real problem. So there's a lot of logging being done now on this forest, on the Bitterroot National Forest and on other national forests around us here that's done in the name of fuel reduction but* <u>*it doesn't have anything to do with fuel reduction from a scientific, from my point of view, which I think is a scientific point of view.*</u> *And one of the big examples is one of the biggest timber sales in history, or at least proposed, which was the BAR, the Burned Area Recovery Project, which you probably remember just a few years ago. ...And for some of us that are watching the forest and know the forest a little bit, this was* <u>*disingenuous.*</u> *And you talk about trust issues,* <u>*it destroyed whatever kind of trust*</u> *that we had established before then for several very simple reasons. ...But that's a very recent example in my mind of this, what appears to me to be a practice and* <u>*policy of deception in the Forest Service*</u> *to, in the name of fire prevention, because a lot of the public are* <u>*afraid of wildfire.*</u> *And after all of the fires that we've had in the whole western United States over the last few years there's a lot of* <u>*fear of fire.*</u> *And it appears to me that this* <u>*fear is being exploited*</u> *in order to give access to public timber to the timber companies. ...*<u>*They want to get the merchantable timber out of there*</u> *because they're even talking about the willingness to leave out units that are right next to the border of private land that has small diameter fuels that are really a fire risk. They're willing to leave those out of the sale in order to be able to take the stuff which is farther away and where the trees are bigger. And* <u>*everybody knows that the big trees aren't where the fire risk is.*</u> *...And so to me it looks like* <u>*the real focus, the real intention is to get out the cut, once again. Take those big trees.*</u> *(118)*

Transparency was also seen as an influence on trust for many individuals discussing the Bitterroot CWPP. Transparency was described in terms of access to information and general openness of government organizations. Several individuals commented specifically on the Forest Service and the "wall that they put up" and subsequent need to file a Freedom of Information Act (FOIA) request in order to access "some very basic information" on the MEF project.

157

So, again, it's just, this wall that they put up. ...And if you don't file a FOIA request, which is what we more often than not have to do, they're only going to tell you as much information as they feel you need to know. ...But my point is, is, when you talk about transparency and trust, when we have to take a couple hours to fill out a Freedom of Information Act request to get very simple, basic information about this project, and then we have to wait 20 business days for them to respond to the FOIA. And then as in the case of one of our FOIAs that we submitted in December, we've been waiting four months now for information. I'd like someone at the Bitterroot National Forest to not only explain how that increases our trust and transparency and openness with the Forest, but how that results in a better project and how it results in a project being implemented quicker if we have to now wait a total of four months, still don't have the information, for some very basic information. So these are just some of the things that they are doing up there on the Bitterroot National Forest that don't lead us to believe that they're being open, transparent, trustworthy. Again, the frustrating thing about that is they're public servants. If you're not being open, transparent, trustworthy as a public servant and the public finds out about it, there better damn well be accountability and some punishment there. (I24&25)

One Forest Service employee recognized that generally, "we don't keep people as well informed as we should" and "communication is a big problem." The individual recognized how difficult but also how important the dissemination of information is. Noted in this comment is that a "credibility question" occurs externally as a result of poor communication.

When we say we're going to do something we should be doing it. And oftentimes either the laws change or our policy changes and we don't do something or we do something different than we had originally said without telling people about it. People see the end result and they don't understand why we said we were going to do this and what the difference between the end result is. Oftentimes we don't keep people as well informed as we should. We have that problem internally also. Communication is a big problem. When you start something and you don't end up the same way you said you were going to the credibility question comes in. Why not? And it's much more difficult to explain why not to people because they've already got their, they're set in their mind. They're going, something's wrong. But if you keep people informed as you go along of why the changes were made, which is difficult to do over a long project. Some of these projects drag on for three and four years. And to keep everybody informed all the way along, it's important but it's difficult. (I4)

Several individuals comment on a perceived lack of honesty and control of

information specifically citing the Forest Service and the BAR project. This perceived

lack of transparency has lead to decreased trust in the current wildfire planning process.

I mean, I myself, in the last few years have encountered a number of things where I felt the Forest personnel were less than honest, shall we say, to me, or doing things that my reading the law says this is clearly illegal and they say, well, we're doing it anyway. ...There's no question that the Forest Service likes to control information and tends to put out the information that supports their position and does not want to look into stuff that doesn't support their position. As an example, I actually worked for a few weeks for the Bitterroot after the 2000 fires when they were doing what they call their assessment work. And one of the first things we found out was that there was a real lack of information of the effects of post-fire salvage logging. (I8)

There were also several individuals who commented that science was politicized

to distort facts or in representing inaccurate science. The influence of politics from

Washington, D.C. on the local forests was also discussed. Implicit in this discussion is

that a lack of honesty in scientific pursuits in the past results in mistrust in the current

CWPP.

It would be easy if the Forest Service would just be out front and honest. But because, I think, because of the politics of the situation and because of this top down management and the unavoidable influence of the politics in Washington, D.C., we end up with an agency that puts a spin on the scientific data and practices deception ... there's a lot of folks that work within the agency that are very conscientious and produce good science and tell the truth. That these people are suppressed by the agency or much of their work is either ignored or shelved, in some way overlooked so that it doesn't complicate the agenda. I'd really like to see the Forest Service, if at all possible, to be honest and forthcoming, outright with the public. (I18)

4.2.5. Sense of Ownership in the Bitterroot CWPP

Individuals who commented on the Bitterroot CWPP process and outcome

expressed concerns about many of the attributes of a sense of ownership. The

characteristics of a sense of ownership in the Bitterroot CWPP include responsibility, an

159

ability to have one's voice heard, an ability to have influence in the decision making and being affected by the outcome.

The notion of responsibility is a key characteristic of a sense of ownership. The notion of personal responsibility was a common discussion point for many individuals in the Bitterroot. In particular, personal responsibility was discussed in relation to direct involvement in wildfire planning. In the following excerpt, the individual notes that people are "too busy with their daily lives" and even acknowledged his/her own culpability even though he/she knows "what needs to happen."

Citizen responsibility. People need to get involved and find out exactly what the science is behind it. And most people are too busy with their daily lives to even worry about it. Even us who are in the industry, I'm too busy doing my thing to go in there and talk to them, and I know what's right. I know what needs to happen. (120)

Many individuals in the Bitterroot noted that their neighbors tend to forget about wildfire planning since "without smoke in the air' people get complacent. This individual cites the wildfires of 2000 in the Bitterroot and notes that a lack of responsibility occurred soon after the fires disappeared.

You almost have to have a disaster to do it. 2000 came close. If the Blodgett fire had been able to move south into Canyon Creek and then onto Sawtooth and into Roaring Lion we would have a lot more community awareness right now. ...But you almost need the disaster to wake people up. That's the sad part about it. ...I think that the longer we go without smoke in the air the more complacent people will get, and especially with the turnover rate here, with the new people coming in, that that plan could very easily become a dust collector on a shelf without constant reminders. ...To be repetitive, the more seasons we have without fire in the area and smoke in the air the more complacent people will become. (112)

Many individuals had the perception that hazardous fuel reduction treatments on private property were the responsibility of the property owner. In the following excerpt, the individual explains that they took the initiative to become educated and complete treatments on their property and they have expectations that neighbors will do the same.

160

According to this individual, the reasonability of hazardous fuel reduction treatments are a "never-ending scenario." This individual is frustrated about the neighbor's lack of attention or awareness of wildfire risks and notes the reason is a common perception is that "the government's going to take care of us." In this case, the individual feels their neighbor does not have a sense of ownership of the wildfire situation in the region.

That fall, they offered the class down in Darby and we took it and, we took it the following spring. And we discovered that we were really in trouble. ...The thing of it is, is as a homeowner there is no way that you will ever stay ahead of it. ...It's a never-ending scenario. ...we started eight years ago we couldn't get anybody to be the slightest bit interested in making defensible space around their home. I mean, we were talking on deaf ears. ...But the only trouble is that I'll do it but my neighbor doesn't want to do anything. ...And on the other side of this is a personal note. [name] and I both feel this: that we chose to live here so it's our responsibility. It's not the Forest Service and it's not the county and it's not the volunteer fire department that is responsible for protecting our butts. ...We've gotten so, the government's going to take care of us or somebody else is going to take care of us and we don't have to take care of ourselves. And so I guess in terms of the fire plan we have individually tried to adhere to some of the things in the fire plan as an individual. ...We've got one gal who owns 69 acres and worked for the Forest Service. Will not take down a tree. And her property is one that if there's a fire, it's going to go. (16)

As previously noted, the ability to have one's voice heard is another key characteristic of a sense of ownership. An ability to have one's voice heard is related to how a problem or situation is defined and whether there are avenues or forums for individuals to listen to and negotiate the definitions of others. The examples below illustrate the different definitions that people have of various issues associated with the CWPP and the tensions that result.

The first example of a definition that did not correspond to the CWPP involved the spatial size of the plan. Many individuals in the Bitterroot felt that the size of the CWPP area was too large and consequently, a sense of ownership would not be widely shared.

161

The bigger it gets the harder it is to work in it. I think at the local level we have a great rapport with our local ranger station. Work well with them. At the state level with the local guys, no problem whatsoever. You take it up a level and it becomes a little bit more difficult. And the higher you go the harder it is to do it. (I9)

Many individuals also described the significance of community in terms of the spatial characteristics of the land and their personal connection to and use of the land. Implicit in many of the comments is the notion that when community fire planning takes place on a small scale, individuals can offer input since they have a "connection to the landscape" and "know the landscape." Many individuals also commented on the role of experiential knowledge that comes with a connection to landscape and the value of that input in a fire plan.

To be collaborative in the Bitterroot Valley looks very different than to be collaborative in the Swan Valley. Just two examples right here. In the Swan they have community meetings and you get most of the community there because it's a small enough community. In the Bitterroot you can't do that. It's more of a collaborating with interest groups, not with people. ...And I'm not quite sure, I'm not yet convinced that these types of collaborative efforts can work well in urban areas. I think it really is some, the more successful efforts are definitely in the more rural areas where people still have a connection to the landscape and care passionately about it. ...And I think the reason why it works better in rural areas is because people do have a better connection to the landscape and, I mean, in the Swan it is literally most people's back yard that they use. In the Bitterroot Valley lots of people have come here now who come here for the beauty, but that beauty is very static. They don't know the landscape. (I14)

There was great difference regarding definitions of treatments ranging from the use of selective thinning to multiple methods (mechanical and prescribed burning) to a broad-based approach scrutinizing not only fuels but broader issues of roads and grazing to an approach that recognizes the inability to control conflagrations. These first few characteristics of treatment definitions varied in terms of the type of treatment considered appropriate or whether certain treatments were effective or necessary. The first example

162

points to the need for "selective thinning" and that this type of thinning can mitigate the threat of both insect infestation and risk of wildfire.

In my opinion, a good quality selective thinning would ensure or better ensure a longstanding stand of timber, I mean, a forever forest. ...Large, old growth, old growth fir that are dead. They're done and gone. They done died from a little tiny bug. And because, if you don't thin them or a fire doesn't thin them on a low intensity basis they're going to be killed off in massive, massive amounts where it's going to take almost a ground sterilizing event to clean it up. (I20)

Several individuals called for a diversity of treatments and multiple methods depending on the location but with an explicit demand for "good analysis" in order to learn about various treatments.

And so I think the best approach is trying a diversity of perspectives. Some places burn only. Some places thin and lop. Some places take out some big trees. Unfortunately, even if you try those different approaches nobody really does a good analysis of everything that's going on. It can't be done, perhaps. (I14)

Other individuals in the Bitterroot described the need to look more broadly than just thinning to address wildfire issues. Some of the suggestions was that the CWPP needed to address road building and closures, exotic species, and grazing issues to name but a few.

But all of the issues relate back to our ability to prepare for a disaster, and in this case primarily a wildfire. And, again, I think it's because of the experiences we had in 2000 we suddenly saw where some other issues were and some other needs were that we just might not have recognized before. So I hope that some of the future guides for community fire plans really encourage community to think more comprehensively than just hazardous fuels reduction. (I5)

There was considerable disagreement regarding the use of "selective thinning" as an effective treatment option since according to several individuals, climatic conditions and drought will dictate the state of the forests regardless of the treatment. There was also the sentiment that society needs to take a "humble" approach and in areas outside of the home protection zone, let natural systems function unimpeded.

163

The Forest Service also wants to go up in the mountainside and take remnant blocks of Ponderosa and Doug fir, some of which are subject to bug kill, <u>which can't be controlled in accordance with the best scientific information by harvest. But they want to get the last of it. ...I know you can find scientists that believe that. But <u>in the forums we've had with the academic from the university and elsewhere, they say "horse feathers, that that's a fallacy. You can't control those bugs</u> when we have this cycle of drought, these conditions, the bugs do what they're going to do. " (I41)

Another characteristic of the different definitions of hazardous fuel reduction

treatments related to the issue of risk with explicit definitions of how various treatments

will influence the degree of risk. With this first example comes the perception that

logging of "appropriate" larger trees will break up the continuity of the landscape and

provide firefighters an opportunity to deal with a ground fire as opposed to a crown fire.

In the following statement, the notion is that certain treatments are widely supported

through "modeling" and are "well documented."

<u>Appropriate logging with appropriate fuels treatment decreases the fire risk. There's no doubt about that</u>. And, again, there's lots of anecdotal evidence, <u>there's modeling evidence</u>. A logging treatment that just takes out the merchantable logs and leaves all the fine debris behind increases the potential impact of fire, but for a short duration. But prescribed fire or wildfire does the same thing. And this is well documented. ...You need to burn once to kill trees, and ten years later you need to burn again to remove fuels from the site. (I26)

Several individuals in the Bitterroot countered the notion that treatments reduce

the risk of wildfire and stated "there's no scientific basis" to support such evidence.

[Name] and another group of educators and professionals have done some research on the effects of fire and the appropriate ways to go about <u>reducing risk</u> in areas where that's appropriate. And that <u>work has been discounted, discredited by the Forest Service</u> because basically it says that <u>a lot of the Forest Service practices that are stated to be risk mitigating practices have nothing to do whatsoever, there's no scientific basis for that</u>. (I18)

Treatments was also defined in terms of scale. There was wide discrepancy over

the location of various treatments with some individuals discussing the need to treat fuels

on a "larger scale than what we call defensible space" while others were adamant that the

164

home protection zone was adequate to ensure the safety of both person and property. In this first excerpt, the individual posits that both the defensible space near homes and areas farther from structures and into the wildland urban interface are necessary to lessen the risk of wildfire.

We believe that hazardous fuel reduction which is carried out on a little <u>larger scale</u> than what we call defensible space, will over time provide the greatest benefits in terms of reducing the threat of severe damage from wildfire and it will be a little bit easier to maintain and will also help maintain forest health. ...<u>Defensible space won't cut it</u>. If we can get enough of the forest in a condition where a fire can be kept mostly on the ground, then our firefighters will have a chance to contain that fire within some kind of reasonable boundaries. We don't believe we can, or we don't even talk about eliminating fire. We want to encourage fire to play a fairly historic role, but <u>we'd like to avoid some of those catastrophic events</u> that have shown up in fire history. (12)

Many posited that a focus on the home protection zone was not only the most efficient use of resources, but also "backed by the science." An implicit issue for many was the lack of funds (discussed later) to adequately subsidize extensive hazardous fuel reduction treatments and thus there is a need to prioritize areas close to structures to efficiency use available resources and get the most "bang for the buck."

I would hope that land managers would <u>concentrate in areas where population densities are the highest</u> and start in areas where they're going to have the <u>most bang for the buck</u> as far as protecting homes and peoples' lives in those communities where a lot of people live first. (I15)

There was also the statement offered by several individuals that by treating areas outside the home protection zone, the ecological integrity of the forest as a whole would be diminished.

And if there's some grey areas then we have to look at what other values might be lost in those grey areas farther out from the close-in structures. In other words, if <u>we as a society keep building homes farther and farther into the backcountry</u> or whatever and we want all those homes to be just as protectable by, <u>thinning hundreds of acres around roads and homes</u> then what we're going to do is <u>end up with an ecosystem that's largely not going to function.</u> It's going to be missing a lot of things. And I don't think that's

what people necessarily want to live with. We ought to assess the cost of that, both ecologically and economically, because it's a huge job. (I16)

Definitions also differed and conflicted over what was meant by the term "healthy." Several individuals in the Bitterroot commented that the term healthy is subjective and dependent on the orientation of the individual. Implicit in many of the definitions of forest health was that the term evokes various values and hence one individual's definition of the term is not authoritative and does not necessarily promote a sense of ownership among all of the residents in the Bitterroot Valley.

Now they say we want community protection and forest health. But, again, there is no definition of forest health. There's definitions of individual tree health or timber stand health, ...I don't think anyone can give you a great definition of what forest health means. I think our definition of forest health is, and, again, I don't think it's focused on trees. I think we tend to focus our definitions on processes, so not conditions. Which is why a lot of us have huge troubles with this notion of historic baselines. Fires should be like this. The forest should look like this. These are all things that we're basing on extrapolations of data that we have and our impressions of past forest conditions which we know were a result of any number of parameters: climate, the Native Americans, I mean, anything. But we see as a major, I think, need for the forest right now in restoring the health to the forest is restoring those processes. So what do we focus on? We focus on removing the impediments to those processes. And a lot of times those tend, those are human caused impediments to those processes, whether it's roads, whether it's fire suppression, whether it's, logging, those sorts of things. I just really see that, yeah, the Forest Service does have a hard time doing this. And it varies from forest to forest and district to district. (I24&25)

The ability to have influence in the decision making process is another key characteristic of a sense of ownership. Many individuals who discussed the Bitterroot CWPP expressed concerns over who should have influence in decision making. Many individuals in the Bitterroot felt that the current CWPP process was pre-determined and that their involvement would not influence the outcome. The following excerpt is predicated on the notion that without an influence in the decision making structure, trust cannot be generated.

The Forest Service has built a pyramid of straw and toothpicks with public involvement programs that have almost totally failed to generate trust. They have invested millions in the hocus-pocus facilitation that essentially says we're coming to you for guidance, we're hearing what you have to say and almost without fail getting a reaction when they make their final decisions from the concerned public that it has been led down the garden path, that there was no real difference in what the final agency decision was after the so-called public involved sessions than it was before. The decisions had been made in effect before the process started. (141)

Allied to the notion of influence over decisions was the perceived discretionary power of the federal government as a result of the HFRA. In the following excerpt, this individual comments that as a result of the HFRA, the Forest Service now has authority to "control" the national forests and can decide on treatments in any area at their discretion. There is also the perception that the Bush Administration has exerted control over active forest management with several individuals wondering if the HFRA was even necessary. According to the following individual, the perception of disproportionate influence over decision making is linked to a general mistrust of the Forest Service by the public, even for "benign" activities "because they fear what may be behind it."

One of the things that has occurred, and it's been no one thing but just a whole series of things over the years, is there has been a loss of trust among what I call the environmental community of the National Forest for a variety of reasons. And with the current administration and their strong anti-environmental record and knowing that they basically have control now of the National Forest, because they appoint the top people and they can send their directives down the line internally, this creates even more mistrust of what the Forest Service is doing or up to. And so even, now even if the Forest proposes something it may be somewhat benign. There's probably going to be people that will come out and protest it just because they fear what may be behind it. (18)

Many individuals discussed a tension in allowing a "national" versus "local" priority in decision making. Comments by individuals in the Bitterroot ranged from those believing national interests should have more influence in decision making, to those believing local interests should be prioritized, or individuals who felt that there should be a balance between the two. In this first excerpt, the individual comments that the Forest

167

Service should retain final decision making authority, but should be "more receptive" to local interests.

And I don't think that, ultimately our authority lies in the fact that we're owners of these public lands anyway and that the Forest Service works for us through Congress. So in that sense we already have the authority, in an indirect way. So I don't think that, I don't worry about that. If I can have a little bit of input as a citizen or as a citizen group I'm happy with that. And if that input happens to work out well, then we build on that example. If it doesn't work out well then we recoup, think about what we didn't do right and try better the next time. But it needs to be inclusive. We don't want to be working in a bubble. At the same time we're not going to make everybody happy all the time. And that's just part of life. So I want the authority to rest with the Forest Service. That's their job. That's what they were trained to do, and I think for the most part they're good at it. But I'd like to see them be a little more responsive to the citizens' advice and comments. (I15)

Other individuals in the Bitterroot felt that a sense of ownership would be better engendered if more influence in decision making was granted to local interests. This next excerpt illustrates the need to provide local residents more input in the CWPP decision making than national interests.

The people in Washington can't call the shots for Hamilton, Montana. Cannot do it any way, shape, or form. Send out all the directives they want. Can't do it. If you don't get the people at the lowest level to buy into it, it just isn't going to happen. The broad based decisions that we have to somehow protect the forest surely can be made at the highest level and have to be made at the highest level. But how to get it done on an individual basis in every community is different and you've got, the decision process has got to start down lower at the community level. Absolutely. ...Decisions can't be made up so high. It has to come down to the people that have to work with the plan. And that's the only way it's going to be successful. And if you get the lower level management of government involved with the people in the community, with the leaders of the community, whether that's city, county, state, I mean, that's where the whole idea is. So when you want to work, when you want to get a program that's going to work, once again, if you don't get those people involved at the lowest levels, which means the citizens of that community you're just never going to get it done. So the effort that they're making to get the community involved and the local government officials involved is the best way to accomplish the process. They know. They lived here. You go talk to a guy in Washington or you talk to a guy that's lived in the Bitterroot for 60 years, he knows. He knows what's going to work and what isn't going to work. You have to have them involved. (I19)

Several individuals noted that neither the national nor the local interests should have more influence in the decision making in wildfire planning but rather that there should be a "balance." This next excerpt illustrates the difficulty of balancing these interests and notes there is a "grey area" in terms of legal requirements.

The conflict that the Forest Service has in dealing with it is in general you're dealing with a national forest but the <u>only people who are going to respond to most situations are local people.</u> And the local people obviously is <u>not a fair cross section of the national public,</u> particularly on any specific issue that's out there. So even though the Forest needs to deal with local people and solicit their input, at the same time you can't say the Forest has got to do what a bunch of local people say they want them to do because it <u>may not be in the national interest</u> to do so. So the Forest Service officials themselves have <u>an obligation to balance</u> all these conflicting mandates and the wishes of a larger community with the wishes of some local people. I think they do a good job of allowing people to, they go out of their way to try to collect input from folks.
Q: You mean above and beyond the requirements of NEPA and the APA and ...
A: Well, I wouldn't say above and beyond those requirements. But the amount of effort you need to do is not something that's real specific. It's <u>kind of a grey area.</u> (18)

Many individuals in the Bitterroot also commented funding has an influence in decision making. Several individuals commented on the powerful and controlling influence of corporate lobbying associated with passage of the HFRA legislation. The assumption is that the logging industry is powerful and there exists a "systemic political influence at a federal level." The result is that agencies are "failing to fulfill" their obligations "at the expense of the public." For this individual, funding is the ultimate source of influence in decision making and directly affects a sense of ownership in the CWPP.

Frankly, I've been involved in this issue long enough to know now that, I've been through it with numerous administrations and numerous forest supervisors and <u>I don't think it's going to change until the systemic political influence at a federal level is dealt with.</u> The influence of the timber industry, well, of corporate. We can go much bigger. It's much bigger than just timber industry. It's <u>corporate power, corporate lobbying power and money to campaigns and so on, that are the root cause of these agencies failing to fulfill</u> what they were actually set up to do, and that's to look after the public interest. So we have in many different sectors, in many different agencies we have this same problem of

the government looking after the interests of the few, the large corporations and the
<u>*wealthy interests at the expense of the public.*</u> *(I18)*

Funding is also seen as a control mechanism over the process and outcome since

if or when future federal support decreases, then harvesting of commercially valuable

timbers will be required to pay for treatments. This first excerpt is lengthy but provides a

detailed description of the economic cost-benefit rationales performed by the Bitterroot

National Forest in the past and explanation of why there is a need for current subsidies.

And one of my concerns in terms of what the Forest Service does is that my prediction is that <u>*Congress will not fund the Forest Service adequately to do what is talked about in theory in terms of reducing fuels in the forest.*</u> *And there's this idea there that we can somehow pay for it by simply logging enough trees. And what happens internally in the Forest Service, since I worked in the timber sale program for almost 30 years, is the Forest, if it's given an objective it's going to do its best to try to meet that objective. And in order to make the projects economically viable,* <u>*if you have to make them pay their own way out of the woods, you have to go after the biggest trees and the best trees to generate the money to offset logging the crap trees that won't pay their way out of the woods.*</u> *...And the Forest Service for years has always, even its regular timber sale program, has always put crap in with the good stuff and make the logger take it all. And I can see the same kind of thing going on with the healthy forest initiative where in theory they might be supposed to be leaving all the big trees, but* <u>*there'll be this internal pressure to do a lot of cutting of the big trees in order to make these things viable.*</u> *...Well, potentially both technology and just supply and demand factors may raise the value of some of the crap stuff to where that will help out. But I think that pressure is still going to be there because the cost to treat areas to reduce fuels is typically $500 to $1,000 an acre. And* <u>*if you don't have some pretty decent volume you're not going to generate a net value of $500 to $1,000 an acre.*</u> *It's just,* <u>*that's where the problem is.*</u> *When I was still working for the Bitterroot in the early '90s and our timber sale program was obviously on a downhill slide I actually started advocating then to the timber folks that, we didn't call it the wildland urban interface, but that the forest needed to look at doing some fuel treatments along that boundary, what we now call the wildland urban interface, to show that we were trying to help people protect their places from fire and just to show more relevance to local landowners the national forest management. And we started a number of projects, looking at a number of projects on the west side to do just that, and not a one of them ever got done. And it was all* <u>*because economics weren't there. We couldn't generate enough timber volume*</u> *that was valuable to pay for the cost to do the fuel treatment. ...I think it's simply a function of the fact that* <u>*we have already cut, in most of the urban interface area we've already cut out the biggest and best trees.*</u> *They went years and years ago. We've already had second and third cuttings in many of it. So* <u>*we don't have a lot of real high value stuff out there.*</u> *And because we don't really have the high value stuff anymore you can't make an economical sale. (I8)*

170

The last key characteristic of a sense of ownership is the perception of being affected either positively or negatively by the outcome. Being affected by the outcome of wildfire planning involved several aspects in the Bitterroot. The first aspect involves financial obligations and questions of who should be paying for the projects proposed in the plan. Many individuals recognized that it was unfair to burden taxpayers across the country for work being done in the Bitterroot Valley. This next excerpt illustrates the point that local funds do not exist to sufficiently cover the costs of hazardous fuels reduction treatments and therefore require subsidies from the federal government. The individual notes that decisions made through the CWPP are negatively affecting taxpayers outside the area.

By expanding the concept of a wildland urban interface to be along the entire private land boundary and a mile deep, what it does is it dilutes their efforts to the point where it's a disservice to the American taxpayer. ...The taxpayers shouldn't have to foot the bill. (13)

Several individuals also noted that all taxpayers are influenced by the actions of a few wealthy landowners who decide to build houses in hazardous areas. Implicit in these discussions is the inequity that results from the subsidies and the potential lack of a sense of ownership in the outcome.

I don't see any reason why we, the public, should be financing the bill through paying for it through the Forest Service. ...Is it our responsibility, all of us, as taxpayers, to basically subsidize them for living out in those areas? Instead of them standing up and taking responsibility and being accountable for their actions, they're not. ...And as long as we, the public, subsidize these people for living out there and pay for their fire protection I'm sure that's going to continue. ...And I'm saying it's not only unfair, it's unreasonable. ...That means taxpayer dollars. That means subsidizing these people. Paying them to live out there. ...We, the public, shouldn't be up there protecting these people. Who chose to live in forest fire prone areas. It's as simple as that. (17)

171

Zoning was as topic described by many individuals in the Bitterroot. The topic of zoning was seen as a necessary element of the wildfire planning process but also one that would be imposed by a small group of people and influence many private property owners. Consequently, a sense of ownership would not be widely shared. For many individuals, there seemed to be an assumption that residents should have some say over what their neighbors or other private property owners are doing with their property relating to mitigating wildfire risk through hazardous fuel reduction treatments. Many people believe that they should have a sense of ownership over what their neighbors are doing through zoning ordinances.

Private property issues were described by many individuals as inviolate but many also commented that zoning may be appropriate when "my value is reduced because of my neighbor's action …or lack of action." Many individuals discussed the degree of personal responsibility (discussed earlier) that was necessary in order to avoid infringing on personal freedoms through zoning or other state or county-wide regulatory mechanisms that could lessen a risk of wildfire.

But the neighbors to the north have not done anything. And I don't think they every will do anything. It is a frustration because …it does inhibit the things that I can do. I would like to burn our place every three or four years a little hotter than I'm burning it now to reduce the litter, needle layer. But I can't do that because of a fear of it getting away to the north. And they have a tremendous amount of large woody debris, down woody debris on their property which would burn quite hot. …Individual freedom is a huge thing here about we're not going to tell you how to manage your property. I can take you places and show you where if a fire starts or gets on this individual's private land it will endanger all the homes around them because of the amount of fuel that's there. And so that's where I start to draw the line is when my property becomes endangered or my value is reduced because of my neighbor's action. Then I believe I have some say in what my neighbor's doing.
Q: Or lack of action?
A: Or lack of action. (I12)

172

A sense of ownership over what a neighbor is doing can also negatively impact the neighbor who loses their sense of ownership over their private property rights. Many individuals recognized that residents in the Bitterroot Valley are stridently independent and would not favor county-wide regulations pertaining to wildfire treatments or actions on their property.

I don't think that people would be arguing so much about the defensible space as they would be arguing about the fact that they did not want any kind of regulations, period. So it would be a matter of rules and how would we implement the rules and how would we put them into effect? And that would be more of the problem than, I think most people don't have a problem with the fact that you need to have a defensible area. It's that they don't like to be told that they have to actually go ahead and do it, especially in the Bitterroot. They're real strong that way. (I17)

Many individuals commented that a major issue of zoning involves how to enforce regulations or control those who disregard ordinances. The following comment below indicates concern over whether zoning would even be an effective means of controlling hazardous fuels.

Well, they say it's in the same category as weed laws. Where obviously what one person does or doesn't do with weeds affects their neighbor. So, I mean, there is a basis there. I can't say as the weed laws are well enforced either. So, and we probably would not very well enforce fuel treatment rules, even if we had them, but you're right, there's a great reluctance, both to establish the rule and then probably even a greater reluctance to try to enforce the rule. Because it's not an easy thing to enforce locally, if a private landowner doesn't want to ...Just like a private landowner doesn't want to treat weeds on their land. Typically the county government doesn't come in and force the treatment on them. So you'd have the same kind of problems with fuels, as I see it. (I8)

Insurance was a topic frequently described by individuals but dissimilar to zoning in that it was seen as a market-based approach instead of a government-based approach to wildfire planning. Many individuals discussed the role of insurance regarding its necessity, likelihood and details of how it could be implemented. While there seemed to be widespread support for implementing wildfire-related insurance policies in the

173

Bitterroot in order to influence the behavior of private property owners, there was also skepticism as to the potential for implementation and effectiveness. Implicit in many of the discussions of insurance was the anxiety over equating risk with monetary value and the scale at which insurance would apply. The role of insurance was seen to be one way that a sense of ownership could be equitably distributed throughout the Bitterroot Valley, but some wondered if the insurance companies would implement policies in the area because of a lack of financial incentives.

I would love to see county zoning, but I don't think it's going to happen any time soon in Ravalli County. And unfortunately, the insurance companies are starting to kick in in places that you either get insurance or you don't. But the benefit of living here is that there's not a whole lot of people yet. The downside is there's not a whole lot of people yet. Because the more people you get you get county zoning and you get insurance companies coming in and saying we're not going to give you insurance unless you do this to your home. I don't think the insurance companies have the incentive to come up here because they don't lose enough money. It's a blip on their actuarial table. For places like Montana. And you think about the number of acres that burned in California and how many homes that lost as opposed to last summer the number of acres and the very low number of structures. (I14)

4.3. The Seeley-Swan Community Wildfire Protection Plan

4.3.1. Socio-political characteristics

Since 1889, the population of the Seeley-Swan Valley area has increased from a handful of homesteaders to 2,460 year-round residents.[385] Development came slowly to the valley with electrical service arriving in 1952 and telephone service in 1961.[386] The first double lane, surfaced road was finally completed in 1959. All access routes to homes come from Montana Highway 83 through the middle of the fire plan area and the

---

[385] 2000 U.S. Census Bureau data is for Seeley Lake and Condon zip codes only.
[386] Vernon, S. 1990. *Cabin Fever: A Centennial Collection of Stories About the Seeley Lake Area.* Seeley Lake: Vernon.

174

only route in and out for the majority of residents. The two unincorporated communities of Seeley Lake and Condon are in the fire plan area and are located within Missoula County (although the plan extends slightly east and north into Powell and Lake Counties respectively). Each community has a governing body termed a Community Council and while without legal authority, functions to inform the Missoula County Commissioners. Summer occupants account for an additional 2,032 residents. For Seeley Lake, summer residents account for 41% of the total population while in Condon, summer residents account for 56% of the total population. In the last decade, Seeley Lake in particular has observed an increase in seasonal tourists and year-round residential development resulting from relocating retirees and work-at-home professionals. The value of private property has significantly increased in recent years, particularly in the Condon area. Figure 4 (following page) is taken from the fire plan document and presents population density in the Seeley-Swan CWPP.
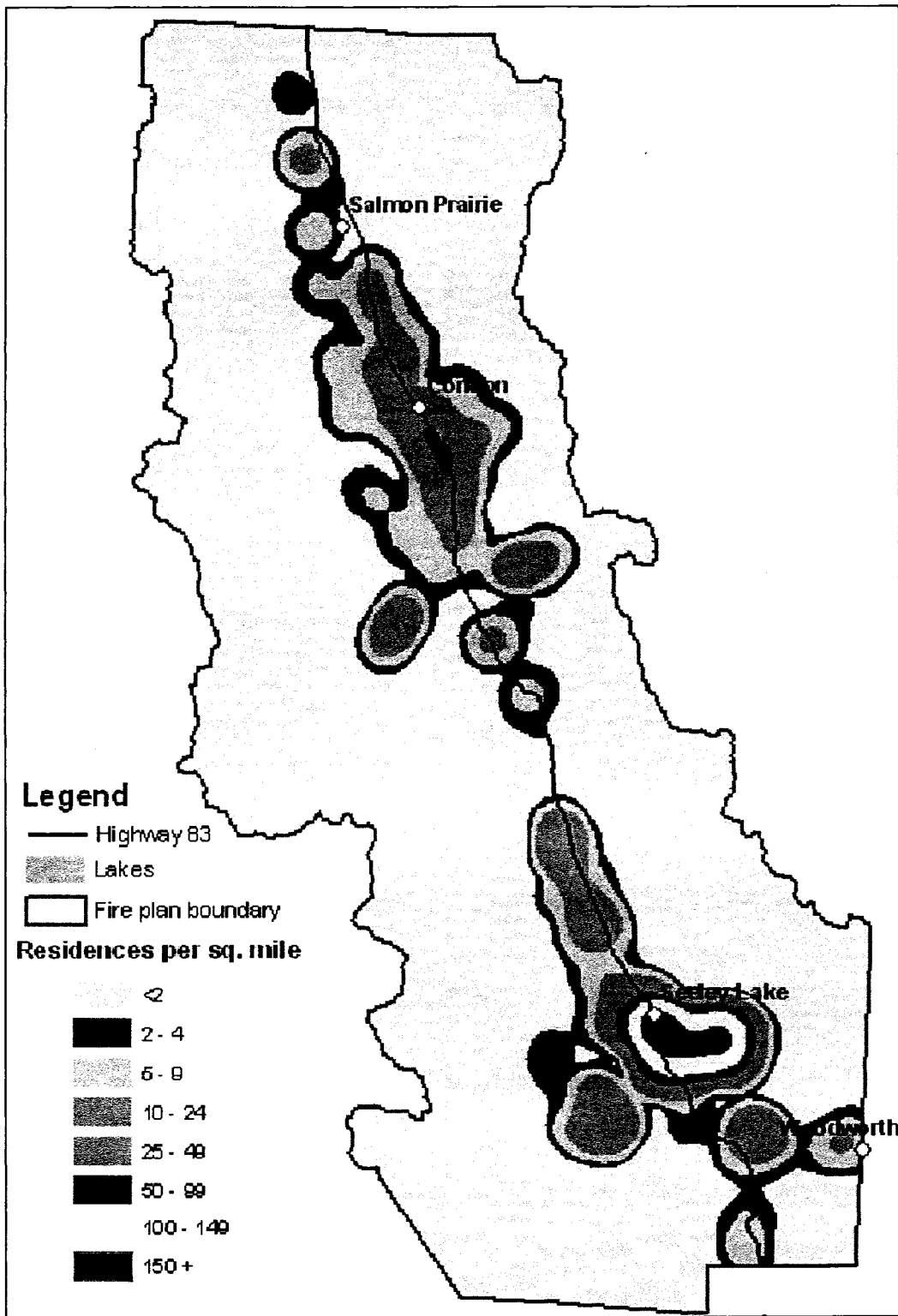
Figure 4. Population density in the Seeley-Swan CWPP (from Seeley-Swan Fire Plan, 2004).

176

The fire plan area contains a high percentage of public land, primarily in the higher elevations: 53.9 % is federal land and 6.4% is state land. The valley bottom has a significant portion of private land. Private land ownership consists of two general types: non-industrial private lands (7.6%), and Plum Creek Timber Company lands (30.6%). Figure 5 (following page) is taken from the fire plan document and presents land ownership in the Seeley-Swan CWPP.

Legend

LAND OWNERSHIP

- ☐ Private
- ░ Plum Creek Timber Co.
- ■ U.S. Forest Service
- ▒ Montana DNRC/FWP

- —— Rivers/Streams
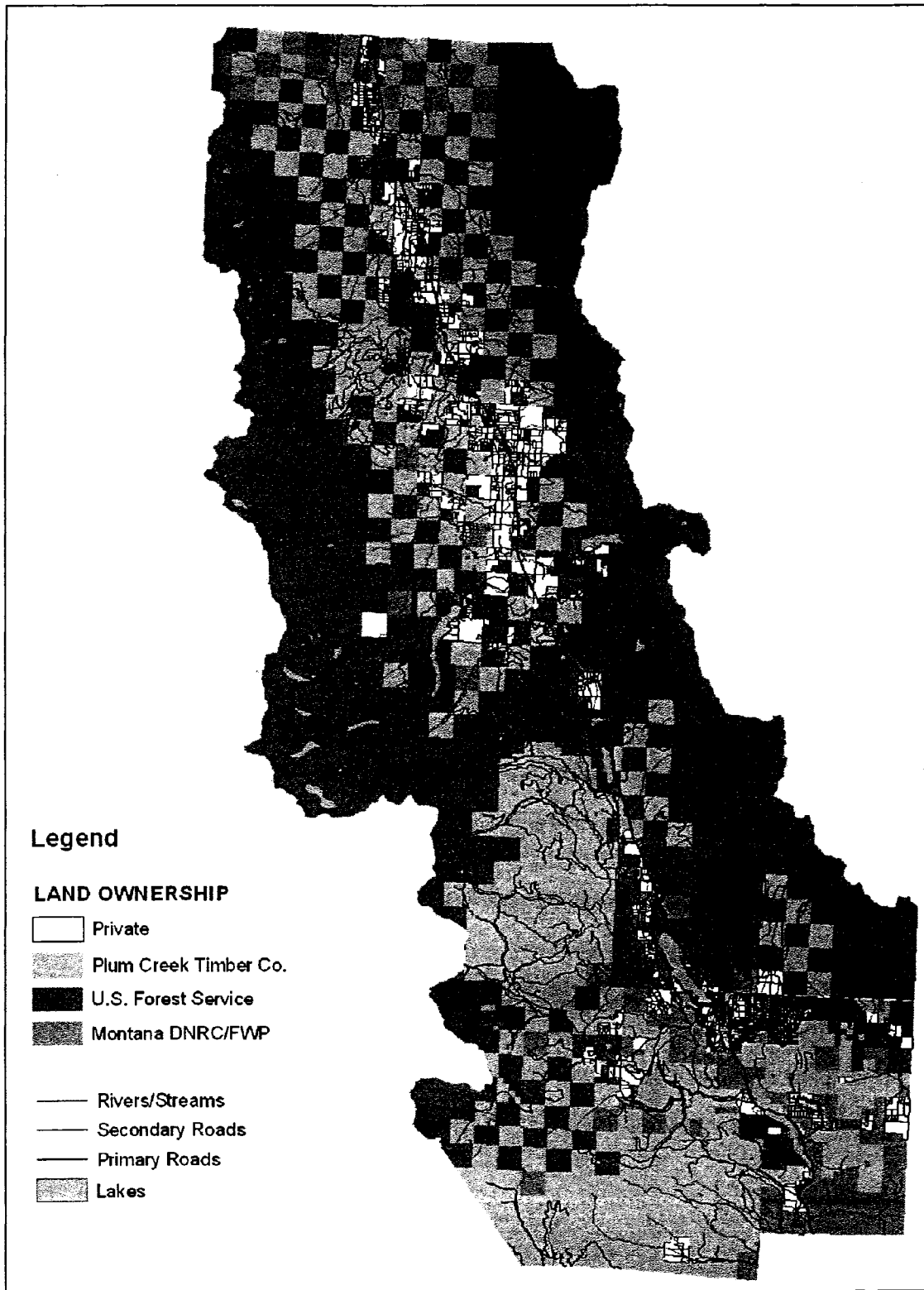- —— Secondary Roads
- —— Primary Roads
- ▒ Lakes

Figure 5. Land ownership in the Seeley-Swan CWPP (from Seeley-Swan Fire Plan, 2004).

Plum Creek Timber Company manages its lands to produce financial returns through forestry operations, but a recent shift has increased emphasis on management for real estate values. As Plum Creek Timber Company increases its sale of lands, expansion of residential properties could increase the overall size of the wildland-urban interface, and increase areas at risk from wildfires. The ownership of land now resembles a checkerboard design described earlier, particularly in the northern portion of the fire plan area.

Land uses in the plan area have historically been dependent upon timber resources. Changes primarily in global markets and domestic forest policy have lead to a decline in timber resource output from federal lands and concerns about threatened and endangered species have further restricted state and federal management actions on public lands. While Pyramid Mountain Lumber Co. has been the dominant employer in the Seeley Lake area and is the oldest surviving independent mill in Montana, there are continual threats of layoffs or total closure.[387]

The residents of the fire plan area are facing many of the challenges of other small communities in the western United States including population expansion, changing economies, increasing tourism and recreation, and concerns for maintaining biological diversity. There are conflicts between interests on a range of issues. For example, since 1989 the community of Seeley Lake has been divided about the establishment of a community sewer system and the unresolved issue continues to be divisive. The area does have positive experience with collaborative problem solving. A natural resource-based process between citizens, state and federal land mangers and non-local corporate

---

[387] Ibid.

179

interests has been well documented in the past showing the challenges and some innovative responses, particularly in the Swan Valley.[388] It is important to note that residents of the Upper Swan Valley have in the past acted independently and are distinct from citizens in the Seeley Lake area in a number or ways, both political and social (i.e. different fire districts, national forest jurisdictions, county jurisdictions, etc.).

While there are only a few studies that focus on social aspects of the area, they are worth mentioning. Over 300 residents of the Swan Valley were surveyed in 1993 with questions to assess trust in private and public institutions.[389] The survey revealed that no institution in the valley was accorded a great deal of trust and the institutions with the least trust were trade unions and out-of-state businesses. Nearly ten years later, similar questions were asked of a sample nearly the same size.[390] The question, "Who Do You Trust as Land Managers?" allowed 13 choices of private and public institutions. The results show that the highest scores went to local residents, the Montana State Land Dept., US Forest Service, Swan Ecosystem Center and Swan Citizen's Ad Hoc Committee (although as the finding explain, the scores were slightly lower among full-time residents than seasonal and non-residents for these land managers). County commissioners, conservation groups, environmental groups, scientists, and the U.S. public scored in the middle, and the least amount of trust was reported for out of state businesses.

[388] Cestero, B., & J. M. Belsky. 2003. Collaboration for Community and Forest Well-Being in the Upper Swan Valley, Montana. In J. Kusel & E. Adler (Eds.), *Forest Communities, Community Forests.* New York: Rowman and Littlefield Publishers.

[389] Jackson, D. H., & M. R. Lambrecht. 1993. *Identification of Preferences for the Future of the Swan Valley: A Summary and Analysis.* Missoula, MT: School of Forestry, University of Montana.

[390] Belsky, J. M. 2004. *Upper Swan Valley Landscape Assessment: Appendix F - Trends and Issues Surveys.* Accessed Mar. 5, 2006: http://www.swanecosystemcenter.com/.

4.3.2. Ecological characteristics

The Swan Mountain Range borders the east side of the plan area and the Mission

Mountain Range borders the west side. Topography is highly variable ranging from

3,250 ft to 9,255 ft on surrounding peaks. The fire plan area contains the headwaters of

two large watersheds. The Clearwater River flows south from the fire plan area to the

Blackfoot River while the Swan River flows north to the Flathead River. The climate is

characterized as cool and temperate with precipitation in the valley ranging from 20 to 32

inches. There is a slight climatic gradient in the plan area with the middle of the valley

being slightly moister than the north and south ends and the area south of Seeley Lake

being the driest.[391]

The fire plan area contains populations of carnivores including wolves, grizzly

bears, wolverines, cougar, marten and lynx. A detailed landscape assessment of the

northern portion of the fire plan area reveals that insects, disease and noxious weeds are

increasingly problematic, stands of old growth are increasingly disconnected, commercial

harvest of non-timber forest products in increasing, and changing ownership of large

tracts of real estate potentially poses significant problems.[392] Low elevation forests across

the plan area, historically supporting ponderosa pine and western larch, have been altered

due to logging and fire exclusion practices. Aspen has also declined in many areas due to

fire exclusion.

Fire has traditionally played a significant role in the fire plan area. In 1900, a

U.S. Geological Survey report stated that as much as 90 percent of the valley had been

---

[391] Ecosystem Management Research Institute. 2004. *Seeley-Swan Fire Plan.* Accessed Mar. 5, 2006:
http://www.emri.org/Projects/slswan_fireplan.htm.

[392] Swan Ecosystem Center. 2004. *Upper Swan Valley Landscape Assessment.* Accessed Mar. 5, 2006:
http://www.swanecosystemcenter.com/.

181

burned over the past 100 years.[393] According to a 2002 field survey, the valley floor is

dominated by short-interval fire regimes with an average fire return interval between 10

and 15 years.[394] Nearly 2900 wildfires were recorded in the last century with over 80%

the result of lightning strikes.[395] In the past, fires in the valley bottom burned slowly

through the ground fuel, keeping stands open while fire in forest stands at higher

elevations was infrequent due to cooler, wetter conditions, allowing increased fuel

accumulations and leading to more intense fires. For many stands in the valley bottom

"non-lethal, low intensity fire regimes now are three to six intervals out of balance."[396]

These stands are now at very high risk of lethal fires and may be "beyond the capacity of

our fire control efforts because of their potential intensity."[397] In 2001, severe drought

conditions resulted in 30 fire ignitions and 2 major fire occurrences in the fire plan area.

In 2003, 57 fire starts were reported with two becoming major fire incidents that required

considerable resources and money to overcome. The increasing fire hazard poses a threat

to the last old-growth stands, people and property in the area.

4.3.3. Overview of planning process

The area of the Seeley-Swan Fire Plan includes the communities of Seeley Lake

and Condon. In the summer of 2002, the Seeley Lake Ranger District of the Lolo

National Forest convened a public meeting to introduce the fire plan community

assistance grant program and discuss wildfire issues in the area. Approximately 30

---

[393] Ibid.
[394] Ecosystem Management Research Institute. 2004. *Seeley-Swan Fire Plan.* Accessed Mar. 5, 2006:
    http://www.emri.org/Projects/slswan_fireplan.htm at 16.
[395] Ibid.
[396] Swan Ecosystem Center. 2004. *Upper Swan Valley Landscape Assessment.* Accessed Mar. 5, 2006:
    http://www.swanecosystemcenter.com/ at Chapter 5.2.
[397] Ibid at Chapter 5.2.

people attended the meeting from the communities of Seeley Lake and Condon and there was consensus that a fire plan was needed. A second meeting was held a few weeks later at the Seeley Lake Volunteer Fire Department to further discuss the community assistance grant program and determine who would officially apply for the grant. This meeting was attended by many of the same individuals present at the first meeting. It was determined at this meeting that the Seeley Lake Rural Fire District would apply for the grant with help from volunteers in the community. The community assistance grant request was submitted to the Montana Department of Commerce, which was administering the federal fire plan grants for the state of Montana. The Seeley lake rural fire district grant request was approved by the Montana Department of Commerce later in 2002. A fire plan committee was formed to supervise the plan development. Members of the committee included representatives of the Seeley Lake Rural Fire District, the Swan Valley Volunteer Fire Department, the Montana Department of Natural Resource Conservation, the USFS Lolo and Flathead National forests. The Ecosystem Management Research Institute, a local non-profit organization located in the fire plan area provided technical assistance in data compilation, GIS development, and plan organization.

In the spring of 2003, the process of gathering information for the plan began. The fire plan committee met once a month over the span of the plan development, except during the fire season of 2003 (August to October) as many of the committee members were occupied with fire fighting in the valley. In all, approximately 12 meetings were held over the course of the year. With the completion of the draft fire plan, two public meetings occurred in Seeley Lake and Condon to gather public comments and response

to the plan. There was no overt opposition by the public to how the planning process occurred or to the contents of the draft fire plan. The plan was released to the public in March 2004 with the stated objective to "compile available information of use in responding to fires or in reducing the risk of fires, furthering the existing coordination and cooperation of fire fighting units in the Seeley/Swan Valley, and developing action steps for addressing fire risks and fire fighting capabilities in the Valley."[398]

The total fire plan area is 568,000 acres and spans 50 miles from north to south and 30 miles from east to west. While designated wilderness within the fire plan is part of the land base covered by the CWPP, Wilderness is not specifically addressed in the CWPP because the USFS already has fire management plans covering those areas. The risk assessment compiled data on fuel hazard ranking and slope, structure densities and evacuation routes.[399] A ranking of high, moderate, low and very low risk were identified. Figure 6 (following page) is taken from the fire plan document and presents the risk assessment of the Seeley-Swan CWPP.

---

[398] Ecosystem Management Research Institute. 2004. *Seeley-Swan Fire Plan.* Accessed Mar. 5, 2006: http://www.emri.org/Projects/slswan_fireplan.htm at 1.
[399] Ibid at 24, hazardous fuels in the area are classified using the "Geyer Fuel Model," however, no further information is provided as to the variables used in the model or relative weightings.
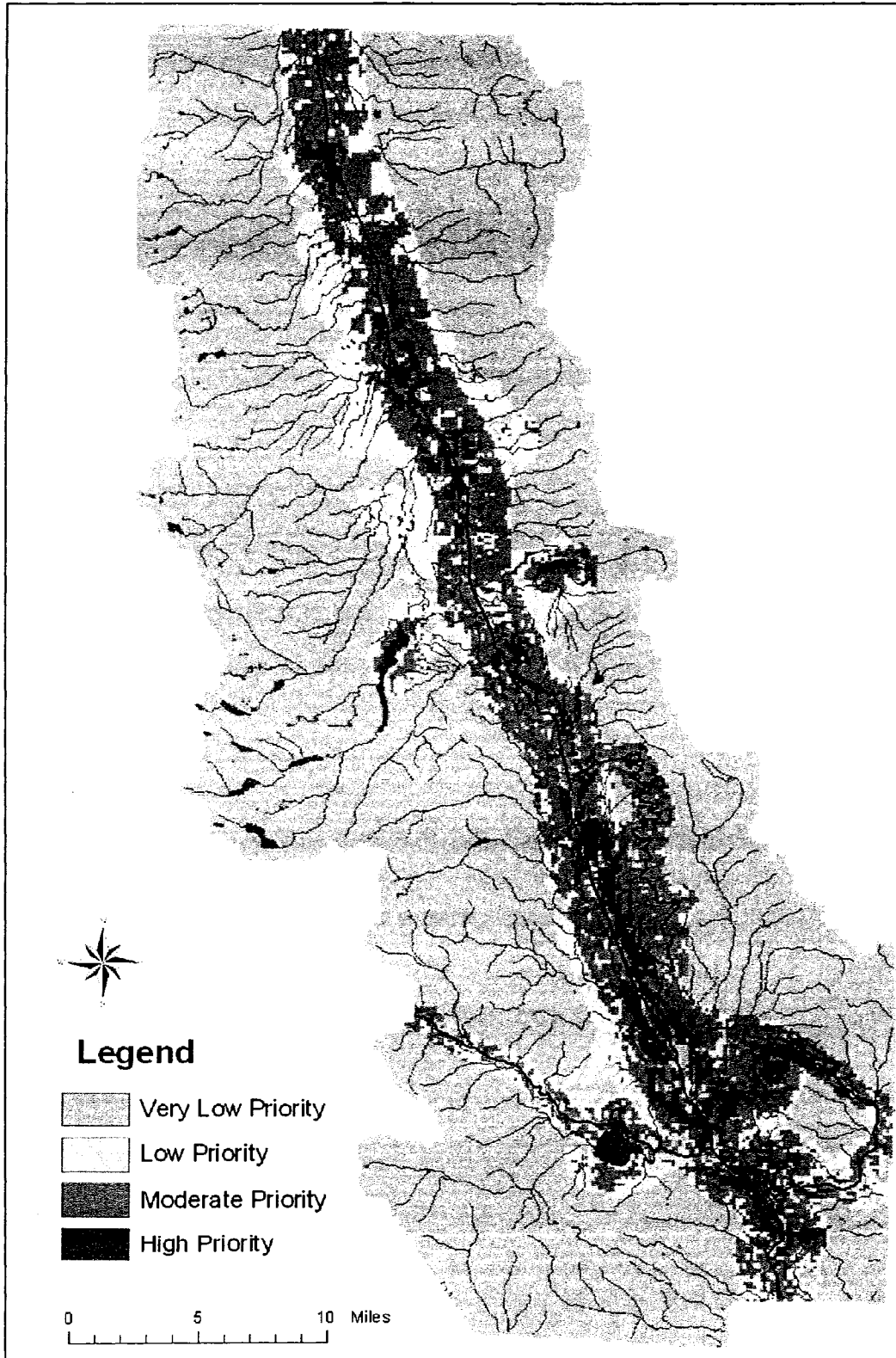
184

Figure 6. Risk assessment in the Seeley-Swan CWPP showing priority areas for treatments (from Seeley-Swan Fire Plan, 2004).

185

The results of the risk assessment identified 30,795 acres (5.4 % of total fire plan area) in the category of high risk from wildfire. An additional 74,768 acres (13.7 % of total fire plan area) were identified for the moderate risk category. A goal of conducting annual hazardous fuel reduction treatments of at least 10% of the high risk areas (3,080 acres) and additional moderate risk areas was identified. While there have been attempts to coordinate monitoring of the CWPP treatments, information on hazardous fuel reduction treatments currently resides with USFS and Montana DNRC. Attempts are now being made by the task force to better coordinate future monitoring and reporting.

There have been no further public meetings or revisions of the 2004 plan. The Seeley Lake Fuels Mitigation Task Force was formed after the plan was released with many of the same members of the fire plan committee and meets monthly to pursue grant opportunities and review grant applications for treatments.

4.3.4. Trust in the Seeley-Swan CWPP

Individuals who commented on the Seeley-Swan CWPP process and outcome discussed trust as influenced by or based on the quality of their relationships with other individuals. In terms of individual relationships, trust was influenced by the quality of the relationship based on a number of factors. The first factor is the "culture" clash of new residents moving in with new values. As with the Bitterroot CWPP, many individuals in the Seeley-Swan described the changing demographic patterns and related economic development that characterize the area. The dynamic between "old timers and new comers" in the Seeley-Swan was discussed by many individuals in terms of how these groups view wildfires and wildfire planning. In this first excerpt, mistrust is

186

implied with newcomers and an "anger" is specifically mentioned toward them because

of financial disparity and lack of experiential knowledge of the land.

It's almost, there is an anger towards them [newcomers] because they don't realize what they've got. And being one that's grown up here, financially-wise you can't afford what they can and they come and they buy it up and they just don't realize the quality of the land, and maybe, I'm biased. I've lived here all my life, but ... From a nature aspect, they don't realize the wealth in the land. (138)

Individuals also described a tension with new residents to the area since they lack

an "understanding or knowledge" of the environment. Furthering this tension is a sense

that new arrivals often do not attempt to understand or "listen" to long-term residents

regarding fire planning and management. This tension has lead to mistrust of the

newcomers.

And the other thing that I think is, harkening back 25, 30 years, the people that were here were ground-based. They understood the workings of the environment and things happen and things respond and, these newer people coming in from the urban environment don't have that appreciation or understanding or knowledge. And I think the fire thing is an example. They don't understand the whole workings of that. So all they can do is listen. Some of them try to listen. Some of them don't try. (148)

While some individuals commented on the changing demographic structure in the

Seeley-Swan Valley, others noted that comparatively, the CWPP area contains many

residents that have a "history of trust" and working together to solve common problems.

I believe, when you take a look at a broader spectrum, certainly outside of Seeley Lake and on a statewide basis and you look at some of the developments that, a new development, for example, where there's never been any homes and all of a sudden there's roads and lots and trails everywhere. Well, in a situation like that there is no continuity. There really isn't any history of trust amongst neighbors or the community. ...In Seeley Lake, they know a lot of the neighbors that are year-round residents, and they trust each other. And so they tend, they are more likely to go along with recommendations that the residents come up with because they have this longstanding relationship. And I think that makes a huge difference. ...There's a lot of open dialog that goes on between neighbors and business owners and others all the time, and churchgoers. There's a lot of community functions that everybody participates in. And that helps build some kind of a collective vision, in terms of going forward and actually keeps everybody on the same page. (143)

One way of improving trust was said to be through one-on-one relationships and related field trips. These opportunities have in the past led to increased understanding of the objectives of a federal land management project and prevented potential litigation by an environmental group. In a one-on-one setting during a field visit, objectives and results are laid out and thus "plain" to see. The field trip brought about a new coalition in what could have turned out to be a litigious situation. The result was enhanced trust in the relationship.

The last project was appealed, but, we brought the appellants out and we worked through that. It worked out well. ...And we <u>walked through it</u>. And, certainly [name] could have litigated the project, but <u>he chose not to after we got on the ground and he saw what we were doing and we talked about what we were doing</u>. And he had a chance to see what we were doing because, here we've already done a lot of the work. And it's hard to argue because most people like it. ...We're <u>pretty plain</u> about what our objectives are and you can see the results for yourself. (130)

Transient federal employees were also discussed by individuals in the Seeley-Swan Valley. Relationships between citizens and federal employees were sometimes influenced negatively because federal employees were thought to be shirking responsibility and not getting involved in conflicts or "debates" but rather were only trying to secure their own promotions. In the following example, the individual explains that employees "didn't know the community" and by not being proactive and getting involved in "contentious" issues in the community, it actually helped the federal employee with future promotions. Transient federal employees have affected some relationships and impeded trust of the individuals.

A lot of the District Ranger positions were, it was a fast track slot for the organization so folks could bump up to different levels. And <u>so you never saw Rangers stay more than two years</u>. They never, <u>they didn't know the community, didn't know the people there</u>. A lot of them, they weren't engaged, they weren't involved. And because they were on a different mission, they were just doing the job that they thought was required. And if no one ever

188

noticed that they had that job, like there was no event, there was nothing contentious or nothing to debate, then that helped them move forward. (I43)

Another issue related to an ability to trust individuals was the notion of leadership in the Seeley-Swan Valley. An assumption that leadership is spawned from the interaction between individuals and leads to enhanced trust was discussed by numerous individuals in the Seeley-Swan. Leadership was described by several individuals as the result of committed citizens working together. These relationships were seen to evolve and eventually enhance a sense of trust. In the following example, the individual is referencing past interactions in the Swan Valley only.

I think there's a couple of things on this side of the divide that's worth mentioning. And that's the progressive thinking of people in the community. There's a core group of folks here that are really positive thinkers. They're progressive. They want to work together as a team. And I think that's a real asset, especially when they tie in with the Swan Ecosystem Center.
A2: And the leadership we have.
A: Real committed to bringing people together.
A2: It just took a lot of commitment of these people to integrate in and work with everybody. (I45&46)

The relationships that individuals had with their local Rural Fire Departments in the past has spawned trust and acceptance of leadership roles, particularly in the development of the CWPP.

In this particular case, the fire plan truly was championed by rural fire. They were in the leadership role. It was not the federal government, it was not the state government. It wasn't county government. And those folks in Seeley Lake have a great deal of, naturally, a great deal of respect and admiration for these rural fire guys that have saved their neighbor's house or showed up on an accident and helped folks. ...Rural fire was in the leadership role, everyone in the community depends totally on rural fire and they perform extremely well and always have. Those folks, they're taking care of their neighbors and have for however many years they've been in existence. So there was an extremely high level of trust. And that helps move things forward. (I43)

Leadership roles were more widely accepted when individuals participated in community-orientated activities. According to the following excerpt, relationships are

189

enhanced and trust results because a Forest Service employee is interested and takes time to participate in community events.

[Name] has a lot to do with the attitudes in our community because there's just all kinds of examples where compromise has been found that wouldn't normally be found between various interests. ...And I just think it's a real statement about the kind of role that [name] has played, to be able to bring all these interested, all these factions together and, everybody's not just saying, "wow, this is perfect." But they're saying "I can live with it." And that doesn't happen all over our country right now. So I have great admiration for [name]. ...I think he's very interested in the community. He's chairman of our Hospital Board. He's been on the Chamber Board. He does a lot of things for the betterment of the community. (138)

4.3.5. Sense of Ownership in the Seeley-Swan CWPP

Individuals who commented on the Seeley-Swan CWPP process and outcome discussed several of the attributes of a sense of ownership. The characteristics of a sense of ownership in the Seeley-Swan CWPP include responsibility, an ability to have one's voice heard, an ability to have influence in the decision making and being affected by the outcome.

The notion of responsibility is a key characteristic of a sense of ownership. As in the Bitterroot, the notion of personal responsibility was a common discussion point for many individuals in the Seeley-Swan Valley. In particular, personal responsibility was discussed in relation to treatments on private property. In the following excerpt, the individual notes that hazardous fuel reduction treatments on private property should be the responsibility of the property owners and can increase the property value and lead to a safer community.

And it's just amazing how people don't want to put money out of their own pocket to protect and enhance their property and even increase the value of their property. That's what's really confusing to me. And so we try to show how it increases the value of their property, how it reduces the chance of property loss or their home loss or something like

190

that and how you can leave wildlife, trees and still make it meet their objectives. And so we just talk to them about what their objectives are and what our objectives are is to have a safe community firewise. (I45&46)

As previously noted, the ability to have one's voice heard is another key characteristic of a sense of ownership. An ability to have one's voice heard is related to how a problem or situation is defined and whether there are avenues or forums for individuals to listen to and negotiate the definitions of others. Not having an ability to have one's voice heard diminishes a sense of ownership in a situation. The examples below illustrate the definitions that people have of various issues associated with the Seeley-Swan CWPP and the influence on a sense of ownership that resulted.

Many individuals recognized that Seeley Lake and Condon were different communities in a number of important ways. Yet, many individuals also recognized that the practical reality of writing and implementing a wildfire protection plan meant that it would be more efficient to include the two communities in one fire plan than to write two separate fire plans. Many individuals agreed that while there were great differences between the two communities, there were also similarities and factors that created dependencies and relationships.

There is a scale characteristic describing the physical place of community when individuals defined the Seeley-Swan Valley in terms of fire management and planning. The excerpts below provide illustrations of the notion that the size of the community fire plan plays a critical role in terms of the ability and the quality of interaction. The definition of scale links the spatial characteristics of community to the ability of individuals to work together on a wildfire plan. When asked about the scale at which fire planning could best take place in their community, individuals frequently discussed the

191

physical characteristics of the community in terms of the size of the area and related

topography. A common notion was that a larger area tends to lead to "complication in

communication and coordination" since "small communities seem just to be more open

and accepting."

There's not a whole lot of difference between Condon and especially down to Placid Lake
as far as fire situation. You got the general north-south orientation of the valley and so
it's pretty good that way. At least, the farther you stretch it out the more complication in
communication and coordination *and things. So that's another thing to keep in mind as*
far as what your area is is how you can keep your act together. ...But small communities
seem just to be more open and accepting. *You don't have the special interest groups that*
come and rise to power and start beating the drums and doing things. The trust level in
these small communities, *...I think that's just the history of wherever you go in small*
communities. You always have your little petty things in a community. Some of these
people like to fight, I guess. But still it's always pretty small potatoes compared to when
you get to the organized groups in the larger towns *and them things. (148)*

Several individuals specifically compared the Seeley-Swan CWPP area to the

Bitterroot CWPP area. These individuals noted there tended to be more similarities

between the communities in the Seeley-Swan CWPP than in the Bitterroot CWPP that in

turn encouraged community participation since many of the people in the Seeley-Swan

Valley have more of a history of interaction.

The Seeley-Swan Fire Plan is a fairly confined area. *And once you get out beyond, if you*
get five miles out of town either direction, five or ten miles, then it is totally rural for
quite a distance. *In the Bitterroot you have similar makings of Seeley Lake at Florence,*
at Stevensville, at Victor, at Darby, at Sula. But when you try to work all of them
together, they're not, the folks from Florence don't regularly deal with, on a daily basis,
the folks in Darby. *And a lot of them know each other. ...I think the difference is just, is*
more to do with spatial distribution. (143)

Other individuals commented more specifically on the history of working together

in the Seeley-Swan area. In the following excerpt, the individual notes that residents

have been encouraged to interact in community development projects and that in previous

planning processes, "we've insisted that they all come to the table and that communities

192

have a voice in it." This sense of ownership in the process is said to engender trust in the

past and led to trust in the present CWPP.

The Healthy Forest Initiative process of including and being collaborative has been in play here for over a decade or more, since 1990. And so, at least for the community here, it was just <u>more of what we've already learned to do pretty well</u>. And so it <u>slipped right into the system and just worked fine</u>. In other places where <u>they haven't practiced getting along, it may be a little rougher</u> road getting going. <u>I'm proud of this community because we've worked a lot on breaking down some boundaries and working together. If you take a look at the map, there's the checkerboard ownership. And <u>every other square mile is managed by somebody else</u>. And <u>the only way you can do anything well is if you start working together</u>. You know, <u>you can't do anything called ecosystem management one square mile at a time</u>. ...But I think a lot has to do with the fact that <u>we've insisted that they all come to the table and that communities have a voice in it</u>, too, so that people in the community have a chance to sit at the table and have <u>opinions that are valued and listened to</u>. (I36&37)

There also seemed to be common definitions of wildfire risk in the Seeley-Swan

Valley. Many individuals commented that definitions of risk are widely shared in the

valley as many recognize that nearly all of the residents are at risk because of the

vegetation and topography of the valley. In the excerpt bellow, the individual compares

the Bitterroot Valley to the Seeley-Swan Valley and notes that there is more moisture

which translates to more fuel during a wildfire and hence more risk.

When the Bolls Fire was burning and Crazy Horse Fire were burning, and then there was one over on Monture. There were fires on three sides of Seeley Lake. And that was about the same time that the fire plan was being really molded and discussed. Now it had already been set in motion prior to that. But what it did is it accentuated the need, <u>because in one fell swoop all of Seeley Lake would have been gone. In fact, <u>a little wind change one afternoon would have done a number</u>. So having escape routes, having folks concentrate on managing their fuels. In a place like Seeley Lake where the vegetation is, we grow a lot of plants in Seeley Lake. <u>It's a lot moister climate than Missoula or the Bitterroot</u>, and so there's a lot of regeneration or understory that comes all the time. You have accumulating biomass just from growth of plants every year. And there hadn't been a lot of treatments. (143)

Since many people agreed on definitions of risk in the Seeley-Swan Valley, there

was more congruence on the type and scale of hazardous fuel reduction treatments as

exemplified by the following excerpt.

*I haven't talked to one person in the community who has any controversy with what's
gone on with the thinning. Most people realize with what happened in 2000 and 2003 that
something had to be done here. And this is where we live. We want to do everything we
can to protect our community. ...But people are more concerned because they realize
what fire will do to us. ...I think that people are very aware of what needs to be done
around here. (144)*

The ability to have influence in the decision making process is another key

characteristic of a sense of ownership. While there was little discussion or tension in

perceptions of individuals being able to influence the CWPP process, many individuals in

the Seeley-Swan commented that funding has an influence in decision making. Implicit

in the discussions on funding were concerns that expectations by citizens were being

created to cover the costs of hazardous fuel reduction treatments on both public and

private land. According to the following excerpt, by controlling subsidies to protect

communities, Congress is influencing the CWPP process by creating "expectations" and

"promises" of funding.

*Ultimately, I hate to say it but I'm a little bit skeptical if people are investing too much,
too many of their hopes and dreams into a CWPP because the funding is going in the
wrong direction. There's a lot of expectations out there that we've got a plan in place
and so we're going to have this funding coming in that's going to take care of all of our
needs when that's not happening. And my fear is that there is a lot of, the last thing the
agency needs is for people's expectations to be, not met again. ...As far as making
promises and setting of expectations. But the realities on the ground is the funding is not
getting there, it's just not. (140)*

Another individual commented that subsidies will have to continue into the future.

The reality for this individual is that the federal government will have to play a role in

terms of influencing on the ground results in the Seeley-Swan and that local subsidies

will not be sufficient to "get any kind of real results done."

If we're going to get any kind of real results done, yeah, it's going to have to be federal money because ...I haven't heard of any place in Montana that was appropriating local property tax dollars for fuels mitigation. (139)

The last key characteristic of a sense of ownership is the perception of being

affected either positively or negatively by the outcome. Being affected by the outcome

of wildfire planning involved several aspects. The first involves financial obligations and

questions of who should be paying for the projects proposed in the plan. Many

individuals recognized that it was unfair to burden taxpayers across the country for work

being done in the Seeley-Swan Valley. This next excerpt illustrates the point that local

funds do not exist to sufficiently cover the costs of hazardous fuels reduction treatments

and therefore require subsidies from the federal government. The individual notes the

HFRA has created a "social program" functioning as a "money sink." In addition to

treating hazardous fuels, funding will also be necessary to address exotic weed and

wildlife problems that result from treatments. According to this individual, the ability to

provide further hazardous fuel reduction treatments will require subsidies and

consequently taxpayers will be unduly burdened.

Well, first you have to ask me if I really think that I want to spend my taxpayers' money saving some individual that built his house out in the middle, I don't figure I owe him, personally. He built his house out there and he won't lift a finger to save himself. Why should I care? I feel the same way about people, my tax money building somebody's house back in a flood plain for the fifth time. We've just made the United States Government the fire department for the entire rural west to protect people from the folly of building their houses out in the woods and then not lifting a finger on their own behalf to save their own butt ... ...Is this going to encourage more people to build out there? I think yes, it is. This is built in to make the problem, an exacerbated problem. ...If I protect you, don't I have to protect him? And if I protect you in the first place, now don't I have to keep it up? I mean, this is just a money sink forever. ...And that maintenance is going to be a lot worse than they think. They get in there and stirring the dirt up, they're

195

going to get exotic weeds. Which means they've got to treat the exotic vegetation now. But you can't do it with pesticides because it makes five fingered kids. Well, we'll burn it. Oh, really? How many acres are we going to be able to get away with burning and dumping smoke? ...Exotic weeds, smoke, fire, maintenance, but we biologists call that habitat enhancement for deer, right in people's back yards. And then what we got around here, we got these things called bears and cats and maybe wolves are going to follow the deer right down there in the wintertime. Now we got collisions with cars and people's dogs and this, that, and the other. Nobody's thought about that, either. It's a social program. It's a pretty good piece of work in the sense that there clearly is a transfer of payments from Easterners. So we're going to subsidize. It's a transfer of payments. (129)

As in the Bitterroot Valley, zoning was as topic described by many individuals in the Seeley-Swan. The topic of zoning was seen as a necessary element of the wildfire planning process but also one that would be imposed by a small group of people and influence many private property owners. Consequently, a sense of ownership would not be widely shared. For many individuals, there seems to be an assumption that residents should have some say over what their neighbors or other private property owners are doing with their property relating to mitigating wildfire risk through hazardous fuel reduction treatments. Many people believe that they should have a sense of ownership over what their neighbors are doing through zoning ordinances.

While many recognized that state or county-level zoning was necessary to curtail development and reduce wildfire risk in the Seeley-Swan Valley, most stated the idea was unpopular because of traditional values of "independence" in Montana.

Zoning, it's a tough thing. I think wherever it starts, it's always tough. Seeley Lake and Condon are unincorporated communities. Most are in Montana. And so the government plays a fairly limited role in unincorporated communities. Basically it's run by a series of boards. And so there's a lot of freedom and there's a lot of independence and you're accustomed to that. (130)

While many agreed that zoning is unpopular, the main problem was seen to be the enforcement of zoning regulations that could lead to "controversy."

196

Zoning could be a reality. It could be a tough sell, too, though, because most of the people that come here come here for a reason. Because they're trying to get away from the zonings. They're trying to get away from all of the bureaucracy of the areas that they were at. But there are guidelines that we can follow. But as far as enforcing them, it could have some controversy. (144)

The use of insurance was a also topic described by individuals in the Seeley-Swan. Insurance is a characteristic of a sense of ownership since, as with zoning, policies set by one group of people can affect a large population. Many individuals discussed the role of insurance regarding its necessity, likelihood and details of how it could be implemented. Insurance policies were described in terms of being the "stick" to force property owners to be more responsible in terms of mitigating the risk of wildfire. In this example, insurance affects many residents by "blanketing the risk over everybody."

The one stick that maybe could be used, or a stick maybe would be, I keep hearing about insurance companies and altering rates because of conditions around people, basically reflecting actual risk, which is what insurance is supposed to do, rather than just kind of blanketing the risk over everybody, of being more specific as far as a risk factor, if you will. That might be a stick that would work for some people. Not all, of course. The implementation could be difficult. But I'm sure insurance companies are big and smart enough. They could figure out a way to make it happen if they wanted to. (131)

4.4. Discussion

In this section, I review and discuss the results in the two case studies. The section is divided into three sub-sections. In the first two sub-sections, I discuss the major results of each case study. In the third sub-section, I discuss the role of trust and a sense of ownership in CWPP more generally and present a brief discussion of each of the propositions I offered in Chapter 2.

4.4.1. The Bitterroot CWPP

Trust and a sense of ownership in the Bitterroot CWPP was enhanced or impeded by a number of factors. Trust in the CWPP was enhanced by one-on-one relationships that occurred both on formal field trips or in informal meetings and discussions between individuals. Many individuals described the value of interacting in a personal manner with those involved in the CWPP but also recognized how difficult it can be in terms of time. Trust seemed to be impeded however, by a number of factors, some of which were not able to be controlled by those involved or in charge of the CWPP.

The first factor that individuals said had impeded trust was the changing demographic characteristics in the valley and the perceived lack of interest of wildfire issues by newcomers. While some individuals recognized that not all newcomers were complacent when it came to wildfire planning, statements concerning newcomers generally were not positive. Overall, newcomers were described as not being trustworthy. Individuals working for the Forest Service who were seen as transient and only working in the community temporarily and to further their own careers were also described as untrustworthy. Second, organizations, including the Forest Service and several environmental groups, were labeled or stereotyped (often under false pretenses) and also described as not being trustworthy. However, many of these stereotypes were the result of accurate assessments of past situations including the BAR and MEF projects. These historical precedents have for many individuals in the Bitterroot Valley translated to a lack of trust of various organizations involved in the present CWPP. Transparency was another topic that many individuals described as impeding trust in the CWPP. Again, based on past experiences in the Bitterroot, namely the BAR and MEF projects,

198

individuals noted a lack of transparency with the Forest Service and felt that the agency could not be trusted with the current fire planning process.

The forth factor influencing trust in the Bitterroot CWPP was what several individuals described as the use of rhetoric to move an agenda forward. Several individuals felt that the Bush Administration or the timber lobby had exploited fear in order to profit from wildfire planning processes. Several individuals also noted that science had been misused or exploited by the Bush Administration, the timber industry or other advocates of timber cutting to misinform residents of the valley about the risks of wildfire and consequently the individuals or organizations involved with the current CWPP process could not be trusted.

A sense of ownership in the Bitterroot CWPP was influenced by perceptions of personal responsibility, an ability to have one's voice heard, an ability to have influence in the decision making and being affected by the outcome. Many individuals commented on the lack of personal responsibility of their neighbors or other citizens in the Bitterroot Valley. Many felt that as soon as past fires were extinguished, people would forget about their responsibilities to protect their own or the property of others. For this reason, many individuals felt that their neighbors or other citizens did not share a sense of ownership of wildfire responsibilities.

An inability to have one's voice heard diminished a sense of ownership in the CWPP. Many individuals felt that because they had different definitions of the wildfire problem or situation in the valley, their voice would not be heard in the planning process. Many individuals commented that they felt the Bitterroot CWPP would simply not provide an opportunity for voices to be heard. Many individuals defined problems or

situations that they felt would not be addressed in the CWPP including the geographic size or scale of the present CWPP area, their definition of the type and scale of hazardous fuel reduction treatments, and their definition of forest health. For many individuals, the perception was that their voices would not be heard in the process regarding the negotiation of definitions of particular problems or situations.

Many individuals felt that their involvement in the CWPP would not influence decisions. Several individuals commented that they thought the outcome of the CWPP was predetermined and their invitation to join the process was only a token gesture. For this reason, a sense of ownership in the decision making process was lacking. There was also conflict in perceptions of the scale at which decisions should be made. Some felt that local residents should have greatest influence in the decision making, while others thought national forests dictate a national presence and authority in decision making while others felt there should be some kind of balance between the two. These contrasting definitions did not enhance a sense of ownership in the CWPP. Funding was also seen to be an influence in the decision making process with problems associated with corporate lobbying and the necessity of subsidies for the long-term viability of the CWPP. Again, contrasting definitions of the role and influence of funding on decision making did not enhance a sense of ownership in the CWPP.

Lastly, many individuals described either being negatively or positively affected by an outcome associated with the CWPP or some associated wildfire policy. The topic of requiring taxpayers across the country to fund services in the Bitterroot was a common discussion point with many noting the unfair burden being placed on taxpayers to fund treatments. Others expressed displeasure that they were being burdened by subsidizing

wealthy property owners living in the WUI and that fire planning was further encouraging development in the WUI. Zoning and insurance were also topics discussed by individuals in the Bitterroot Valley. Insurance and zoning can be also be considered characteristics of a sense of ownership since policies set by one group of people can affect a large population. Many individuals felt that insurance or zoning were likely to curtail development in the WUI and affect the behavior of property owners. However, many also described the unlikely possibility of either insurance or zoning playing a significant role in wildfire planning in the near-term.

In summary, trust and a sense of ownership in the Bitterroot CWPP process and outcome are predicated on the quality of past and present relationships, definitions of the wildfire problem or situation and an ability to influence authority. While the CWPP may have enhanced trust in certain ways through one-on-one interactions with particular citizens in the Bitterroot Valley, there is a history of mistrust in the valley that according to many individuals, influences their ability to have trust in the current CWPP process or outcome. The CWPP likely has not enhanced trust or a sense of ownership in the Bitterroot Valley. However, the lack of trust or sense of ownership in the current CWPP is not the result of the current efforts of the CWPP planning personnel, but rather the long history of interactions in the valley pertaining to natural resource management on state and federal land and more specifically, the recent conflicts related to the BAR and MEF projects.

201

4.4.2. The Seeley-Swan CWPP

Trust and a sense of ownership in the Seeley-Swan CWPP was enhanced or impeded by a number of factors. As was the case in the Bitterroot CWPP, trust was enhanced by one-on-one relationships that occurred both on formal field trips or in informal meetings and discussions between individuals. Many individuals described the value of interacting in a personal manner with those involved in the CWPP.

Many individuals noted that changing demographic characteristics in the valley and the perceived lack of interest of wildfire issues by newcomers. However, many noted that because of the small population in the valley, these newcomers could be contacted easily and perhaps integrated into the community. Newcomers were also provided a free video by the Seeley Lake Rural Fire Department that many people felt had an influence in their attitudes and behavior. As the case in the Bitterroot Valley, individuals working for the Forest Service who were seen as transient and only working in the community temporarily and to further their own careers were also described as untrustworthy.

Leadership was a quality referred to by many in the Seeley-Swan as important for enhancing trust and improving relationships. Members of the local rural fire departments and certain members of the Forest Service were held in high regards by some individuals because of their proactive interactions in the community in the past and what some said were proven leadership qualities.

A sense of ownership in the Seeley-Swan CWPP was influenced by perceptions of personal responsibility, an ability to have one's voice heard, an ability to have influence in the decision making and being affected by the outcome. Many individuals

commented on concerns for personal responsibility of their neighbors or other citizens in the Seeley-Swan Valley. However, many felt that most citizens in the valley were concerned and well informed about wildfire issues.

Many individuals felt that they shared similar definitions of the wildfire problem or situation in the valley. In particular, risk was commonly defined for individuals in the Seeley-Swan with many people recognizing and discussing the dense vegetation throughout the valley, particularly near the populated areas, and the lack of safe retreats from the valley in the event of a wildfire. Since many people agreed on definitions of risk in the Seeley-Swan Valley, there was more congruence on the type and scale of hazardous fuel reduction treatments. Many individuals also agreed with the size of the CWPP area and felt that although the Upper Swan Valley and the Seeley Lake area were different in many ways, it was a practical and efficient geographic area for crafting a fire plan. Many individuals also commented that residents in the Upper Swan Valley had a history of collaborating in natural resource planning processes and had on occasion interacted with residents of the Seeley Lake area. For this reason, several individuals felt that there was trust of residents throughout the valley and consequently a good possibility that the CWPP would be effective.

Many individuals felt that their involvement in the CWPP would influence decisions or that other citizens participating would look out for their best interest. Funding was seen to influence decision making but many noted funding problems were not the result of CWPP personnel. However, many individuals were concerned about the need for federal subsidies to maintain treatment efforts in the long-term and would ultimately influence how fire planning is executed in the future.

Lastly, many individuals described being affected by an outcome associated with the CWPP or some associated wildfire policy. The topic of requiring taxpayers across the country to fund services in the Seeley-Swan was a common discussion point with many noting the unfair burden being placed on taxpayers to fund treatments. Others discussed that the current federal subsidies were creating expectations that the government would continue to fund both public and private hazardous fuel reduction treatments in perpetuity.

Zoning and insurance were also topics discussed by individuals. As was the case in the Bitterroot, many individuals felt that insurance or zoning were likely to curtail development in the WUI and affect the behavior of property owner but many also described the unlikely possibility of either insurance or zoning playing a significant role in wildfire planning in the near-term.

In summary, trust and a sense of ownership in the Seeley-Swan CWPP process and outcome are predicated on the quality of past and present relationships, definitions of the wildfire problem or situation and an ability to influence authority. In the Seeley-Swan Valley, the CWPP enhanced trust and a sense of ownership of many of the individuals. In contrast to the Bitterroot Valley, there is not a history of mistrust in the valley that according to many individuals, influences their ability to have trust in the current CWPP process or outcome. However, the trust or sense of ownership in the current CWPP is not only the result of the current efforts of the CWPP planning personnel, but rather from a history, albeit brief, of interactions in the valley pertaining to natural resource management on state and federal land and the proactive achievements of many citizens.

4.4.3. The role of trust and ownership in Community Wildfire Protection Planning

I have organized and presented the results and discussion around the two case studies. I now turn to a broader discussion of trust and a sense of ownership in CWPP by structuring this section on the five propositions I introduced earlier.

Proposition 1. Community wildfire protection planning is predicated on agreement of perceived risk.

Risk was a topic that varied widely among sampled individuals. While there was general agreement that risk tends to be ephemeral and residents forget about risk as soon "as the smoke clears," there was also great diversity in both the definitions of risk and specific methods of mitigating risk.

Individuals in both study sites discussed the notion that as a perception of risk among residents diminishes, so to does the necessity to engage in a community fire planning process. A diminished sense of risk seems to relate to a diminished reliance or need for relationships. For example, several individuals in the Bitterroot noted their neighbors did not perceive wildfire as a high risk and thus would not interact or cultivate meaningful relationships. Several individuals in the Bitterroot also noted that personal relationships and one-on-one encounters with neighbors did result in a "ripple effect" that seemed to encourage understanding and empathy and thus resulted in a consciousness and perceived need to take action toward managing the risks of wildfire.

Risk was also defined by some as a function of their own or their neighbor's personal responsibility in terms of comfort level and willingness to take "appropriate" steps to decrease certain hazards. There was great frustration by some individuals that

205

certain residents were not as proactive as they should be, both in terms of community and personal planning. Consequently, as several individuals noted, when personal responsibility is lacking, those with an ability to implement strategies such as zoning and insurance policies (discussed in relation to the next proposition and the notion of deterrence-based trust) introduce their perception of risk on everyone.

Various perceptions of risk also seem to influence definitions of community. According to several individuals, there seems to be greater volunteerism and "working together" for a "common purpose" during a time of crisis or when there is an increased sense of risk. This perceived risk builds a sense of community and breeds trust.

There were differences about the necessity and types of treatments to mitigate wildfire risk. The treatment type was defined in terms of the scale of the treatment with some individuals discussing the need to treat a "larger scale than what we call defensible space" while others were adamant that the home protection zone was adequate to ensure the safety of both person and property. Uncertainty in terms of natural processes and whether there was anything that could be done to mitigate risk was also recognized and disputed.

Several individuals described how their anxiety and sense of risk increases depending on the geography of the landscape with specific descriptions and comparisons of the physical differences between the Seeley-Swan and Bitterroot CWPP areas. These individuals recognized that the Seeley Swan area receives slightly more moisture and thus tends to influence the type and density of vegetation in the valley and near the two population centers of Seeley Lake and Condon. This seems to increase a sense of risk in the Seeley-Swan area. Furthermore, escape routes seems to be more confined and limited

for Seeley-Swan residents. With this understanding came more congruence for residents of the Seeley-Swan regarding perceptions of risk and resulting actions necessary to mitigate hazards.

Language and rhetoric associated with risk were discussed by many individuals in the Bitterroot. A perception for several individuals was that "fear is being exploited" by use of "alarmist rhetoric" in order to move an agenda forward. This influenced the ability to trust certain individuals and organizations since the primary motive was seen to be resource extraction for profit and secondarily as protecting communities from risk of wildfire.

The implications of risk on trust and a sense of ownership are significant. Relationships that are strained because of lack of responsibility or the use of rhetorical language to exploit fear tend to impede trust. Lack of personal responsibility can also lead to zoning or insurance premium hikes that diminish the potential for trust and a sense of ownership. Furthermore, when definitions of hazardous fuel reduction treatments methods differ or are incommensurate, trust and a sense of ownership will be affected. In contrast, close personal relationships based on one-on-one interactions and on field trips and a sense of community based on an ability to pull together during a time of crisis or heightened risk led to enhanced trust.

To summarize risk in the context of the two study sites, there appears to be great discrepancy in terms of perceived risk and methods of mitigating risk for individuals discussing the Bitterroot CWPP. Individuals discussing the Seeley-Swan CWPP seem to have more agreement on risk and the methods of mitigating risk. This may be the result of the geography of the valley and resulting lack of egress and denser vegetation in the

207

populated areas. However, in the Bitterroot CWPP area, there are other circumstances that may also contribute to a lack of agreement on risk including past relationships and issues of transparency discussed below.

Proposition 2. Community wildfire protection planning involves trust exhibited in deterrence, calculus and relational forms and with differing consequences.

Trust in the two study sites existed in a deterrence, calculus and relational form. Many individuals in both study sites described relationships with other individuals based on a high degree of trust. The consequence of repeated interactions was reciprocal arrangements, cycles of exchange, and fulfillment of expectations that all seem to be characteristics of relational forms of trust.

In both study sites, the consequences of one-on-one interactions and related field trips and *charrettes* seem to be a high degree of trust and positive relationships. Often, through personal interaction came the development of trustworthy relationships and an empathy for different perspectives, definitions and authority related to wildfire planning.

Community was defined by several individuals in terms of citizens who work together to create a "collective vision." In the Seeley-Swan area, several individuals commented that "being collaborative has been in play here for over a decade" and consequently individuals have "come to the table" and "have a voice" in community planning. As a result, relationships that were once antagonistic are now more positive and past advisories are "valued and listened to." Many agreed that in the Seeley-Swan area, there is a "history of trust amongst neighbors."

Leadership was an attribute associated with relationships spawned from individual interactions. Leadership was a consequence in part from interactions between

208

individuals and in turn allowed individuals to trust each other to act with authority. Some Forest Service employees and rural fire department volunteers were discussed in both study sites, but in particular in the Seeley-Swan area, these individuals were seen as upstanding and trustworthy because of their proactive involvement in community affairs and leadership qualities. Leadership roles were more widely accepted when individuals participated in community or volunteer activities. Leadership based on and reinforced from past relationships allowed the planning process to go forward in the Seeley-Swan area unchallenged. Citizens seem to trust community leaders to carryout the fire plan in the best interest of the community. For many individuals commenting on the Bitterroot CWPP, past relationships have been strained for a number of reasons and consequently, there is a lack of trust for leaders in the community.

Sampled individuals also discussed their personal relationships with organizations. Many individuals viewed organizations in a calculus-based form of trust. Some individuals described the presence of trust but also the need to verify. The Forest Service was frequently cited as an organization that was trusted but only under certain circumstances and only when the organization was transparent (a topic covered under a subsequent proposition). While often described in general terms, the ability to access information from organizations, specifically the Forest Service or more generally, the government, influenced the quality of the relationship and the perceived need to use a calculated approach to trusting the organization.

Zoning and insurance were frequently discussed by many individuals in both study sites. Zoning and insurance both seem to be a consequence of deterrence-based forms of trust since they are characterized by control regimes (such as legal contracts) or

209

sanctions that signal the absence of trust. Many individuals discussed the scale and outcome (discussed in detail later) of zoning and insurance and concerns that authority (discussed later) for specific regulations have the potential to be imposed by a small group of people and influence many private property owners. Regarding zoning, many individuals in both study sites felt that private property owners should have some say over what their neighbors or other private property owners are doing with their property with regard to wildfire risk and hazardous fuel reduction treatment. The notion of personal responsibility (discussed later) was prominent since "my value is reduced because of my neighbor's action …or lack of action." While some individuals felt that private property should be subject to county or state-level regulations or standards, others felt that landowner should not be regulated for various activities since "their assets are at risk." However, the reality of imposing zoning or related regulations was remote since the common sentiment for many was a "freedom" and "independence" and inability to change and accept new rules or regulations because "you're accustomed to that." The additional factor of how to potentially enforce future zoning regulations was mentioned in both study sites.

Zoning and insurance function through legal mechanisms and therefore are a consequence of a lack of trust. In contrast, trust seems to have been enhanced through individual relationships and as a consequence of repeated interactions in the past continues to produce reciprocal arrangements, cycles of exchange, and a fulfillment of expectations.

210

Proposition 3. Community wildfire protection planning is influenced by perceptions of how problems are defined, who has authority to act and who is affected by the action.

Differences over definitions of problems or issues were apparent in both study sites. Many individuals had various definitions, many of them conflicting, over issues of responsibility. Many felt their fellow citizens had a personal responsibility to act a certain way (either participate in meetings or mitigate the risk of wildfire by executing hazardous fuel reduction treatments) yet, authority to force citizens to take on responsibility was lacking. There was a common perception that for most of the residents in the Bitterroot Valley, they are simply "too busy with their daily lives" to be involved in the CWPP. While individuals commented that the majority of residents trust authorities to do what's best, others felt that expectations have been created that "the government's going to take care of us" no matter what happens and that this expectation has created complacency and passivity toward treating fuels or participating in wildfire planning. There were strong convictions that personal responsibility is lacking in many areas and residents who do not take action on their property, become a risk to the whole community.

Individuals held conflicting definitions related to transparency or accountability, particularly with the Forest Service in the Bitterroot Valley. For some, the Forest Serve has in the past shirked its obligation to communicate with the public or provide a context where people "feel that they're being heard genuinely." In addition, descriptions of being "lied to" and having promises broken in the past has led to "bitter mistrust of the Forest Service." Many of these comments referred to the past salvage logging issues on the Bitterroot National Forest.

211

There were also multiple definitions and contested meanings over the notion of community. When asked to define the appropriate scale at which community fire planning was most appropriate, individuals in both study sites spoke of spatial characteristics of the area including the geography and vegetation and relational characteristics in terms of how individuals work together and form partnerships. A common notion was that a larger area leads to "complication in communication and coordination" since "small communities seem just to be more open and accepting." There was a general perception that in the case of the Seeley-Swan CWPP, it "is a fairly confined area" and therefore, "you get most of the community there because it's a small enough community." The quality of interaction is also influenced by people's experience and connection with the landscape so that during wildfire planning, people can "really talk about it in detail." Yet, in the case of the Bitterroot CWPP, several individuals recognized that the planning area is large and changing demographics create different and often discordant definitions of community and common visions since "the folks from Florence don't regularly deal with, on a daily basis, the folks in Darby."

Definitions of hazardous fuel reduction treatments were also widely conflicting in the Bitterroot Valley. While some individuals felt that during fire planning, planners should think holistically and "more comprehensively than just hazardous fuels reduction," others defined the problem with more cynicism in that communities had just better get used to living with wildfires since there is no treatment likely to make any difference. Science was often used to bolster the argument of appropriate hazardous fuel reduction treatments with differences ranging from the need for "selective thinning" outside the wildland urban interface to a focus solely on the home protection zone. For

each of these views, positions were defined as "backed by the science." There was also an economic and efficiency component to definitions of treatments whereby certain individuals felt that their definition was the most efficient use of resources.

Another set of definitions associated with hazardous fuel reduction treatments relates to the previously discussed issue of risk with explicit descriptions of how various treatments will influence the degree of risk. Again, the notion of conflicting science (with evidence for instance of computer "modeling") helped to bolster arguments. Several individuals in the Bitterroot countered the notion that treatments reduce the risk of wildfire and stated that a scientific basis for certain perspectives had been discounted and discredited by the Forest Service. Again, the notion of mistrust of the Forest Service was evoked. Various definitions of forest health were also highly contested for several individuals in the Bitterroot. For some, the notion of forest health and related departure from a "healthy" standard is used to move an agenda forward, notably a commodity-oriented approach. While several individuals defined the forest health issue in terms of a complex system of "too many variables," the notion of complexity also seems to breed mistrust because "people are somewhat confused" as to who is "right." In short, as the previous discussion suggests, conflicting definitions of responsibility, community, risk, and treatments led to mistrust between individuals and organizations and also a lack of a sense of ownership in wildfire planning in the Bitterroot Valley.

There was also great disparity between perceptions of who should have authority to act. Regarding fire planning in general, there was a perception in the Bitterroot that "decisions had been made …before the process started" or that the process is "hocus-pocus facilitation" and "all rigged from the beginning." Consequently for many

213

individuals discussing the Bitterroot CWPP, the perception of a predetermined process did not garner trust. Past experiences in the Bitterroot brought a perception that public planning processes were just "window dressing" used to "create the illusion" of a public process but that there was already a "preset agenda." Many individuals discussed the HFRA in general and perception that agencies now have authority to "go anywhere with that act," meaning authorities are able to decide on treatments in nearly any forested area and at their discretion. Again, the perception of far-reaching control is linked to an ability to trust actions by the Forest Service, even for "benign" activities "because they fear what may be behind it." These perceptions are based on past actions and expectations of similar behavior, again particularly for individuals commenting on the Bitterroot CWPP.

A commonly disputed topic for individuals in the Bitterroot Valley involved the scale at which fire planning decisions should be made. The authority to control a process and outcome ranged from entirely local to entirely federal to some merging of the two. Some individuals felt that "people at the lowest level" have to "buy into it" because the local residents "have everything they own at stake." Related to this perception was that "they don't have a clue back East what our situation is here" and hence "people in Washington can't call the shots for Hamilton, Montana." Several individuals also discussed striking a balance of decision making authority between local and national interests. A common notion was the need for fire planning to be "meaningful" and provide a "genuine" process to "hear" the public. While several individuals felt that federal statutes must be supported, local interests should also be able to influence a decision since a decision maker would be "kind of a fool not to take that advice." The

214

execution of this middle ground approach is to "walk a fine line" allowing both local and national control over fire planning. Others felt that federal interests needed to trump all others with authority resting solely with federal land managers.

Proposition 4. There is a relationship between trust and a sense of ownership in community wildfire protection planning.

Recall planning is the process of linking knowledge to action. Trust is also future oriented involving expectations associated with risk and uncertainty. Trust reduces some sense of risk and uncertainty by allowing actions to go forward based on expectations developed from past behavior. A sense of ownership is predicated on negotiation over types of knowledge and an ability to act. Thus, there is an intricate relationship between trust, a sense of ownership and planning.

In this research, I note that control over definitions of problems, especially how risk and hazardous fuel reduction treatments are defined is closely aligned to how a plan is carried out, who participates and who resists. In addition, the relationship between trust and a sense of ownership is manifested and influenced by issues of transparency, funding, and decision making authority.

Transparency in terms of access to information, openness of the process and general honesty was an issue that seemed to influence trust for many of the sampled individuals discussing the Bitterroot CWPP. Transparency was often discussed with regard to the Forest Service and their perceived deliberate "control of information." Many individuals commented on the lack of honesty in the Forest Service or "misleading" conduct in past processes in the Bitterroot. Others stated that information had been "suppressed by the agency" or that the Forest Service would "distort facts" in

215

terms of the science used to support decisions. A perception of a lack of transparency and the control of information led to or increased mistrust as to the motives of actions. Misinformation "backed by science" was also seen to justify certain treatments based on impacts from insects, disease, past burns or risk of conflagrations. In the Seeley-Swan CWPP, transparency was not a significant issue in both the development of the CWPP or in past natural resource planning situations. There also seemed to be trust for the individuals organizing the CWPP and common definitions of problems and actions to address them.

In the previous discussion of various definitions of risk, I presented statements relating to "fear" and "alarmist rhetoric" used to move an agenda forward. The use of fear as a strategy to control individuals was seen as a reason to mistrust individuals and organizations such as the Forest Service or the Bush Administration with a perceived motive of extracting commercially valuable timber instead of protecting communities from wildfire risk.

Another issue linking trust and a sense of ownership were issues of funding. Funding serves to control a planning process since many believed it is not economically viable to treat small diameter fuels and thus the program would require massive subsidies and hence be controlled by Congress. While several individuals felt that the CWPP was a "paper exercise," and "just a ploy" in order to "get the cut out" with techniques of information manipulation and deception, others recognized that taxpayer's are unduly burdened by what was described as a "money sink." Many individuals in both study sites recognized that subsidies are required for the long-term viability of protecting communities and are thus creating "expectations." In this sense, funding, or lack thereof

216

is a form of control since the perception is that subsidies would eventually disappear thus requiring the harvesting of commercially valuable timbers in order to pay for the program.

There was also the notion that trust is linked to decision making authority with several individuals in the Bitterroot commenting that they are "not going to really want to put a lot of energy into something if they don't think that the other side, the other person, the other agency is going to actually follow through." Trust is also influenced as a result of not being "heard genuinely" and shirking an obligation of public involvement associated with managing federal lands.

Proposition 5. Trust and a sense of ownership influence the outcome of community wildfire protection planning.

The last proposition is predicated on the issues of outcome and a sense of ownership distribution related to who is affected by the outcome. I structure this section on three broad issues associated with trust and a sense of ownership and the outcome of community fire planning.

First, I note that differences in definitions associated with wildfire planning have influenced the outcome of the CWPP. Contested meanings and differences in definitions seem to pervade the discussions of the sampled individuals. These contested meanings and definitions include relationships, a sense of responsibility and community, agreement on risk and appropriate actions to mitigate risk. There are also contested meanings and definitions associated with authority in terms of who makes decisions, how information is accessed and presented and how actions are implemented.

217

Trust pervades the notion of relationships, both between individuals and with organizations. Trust in many cases strengthened the relationships of individuals associated with the CWPP. For example, in Seeley Lake, individuals hold members of the rural fire district and certain Forest Service employees in high regard, attributing a great degree of trust to them based on past actions and expectations of future behavior. In the Bitterroot CWPP, many individuals also held members of the rural fire districts in high regard but were leery of other officials associated with various organizations (for example the Forest Service) because of poor relationships and failure to fulfill expectations in the past such as the BAR project. Science was often used to bolster arguments related to definitions of risk, appropriate treatments and forest health and was often seen as suspect and thus subverting trust by adversaries. Trust was also linked to transparency and accountability and in the case of the Bitterroot CWPP, there was distrust of various organizations and individuals because promises were not kept, information was lacking or was purposefully misconstrued.

In terms of a sense of ownership, there was also great discrepancy in definitions over who would define the issue, who should act on the issue and who would be affected by the outcome. Recall that a sense of ownership is predicated on the notion that planning assumptions are laid out and available for critique, hidden agendas exposed, creative solutions identified, and learning occurs. A sense of ownership in the Seeley-Swan CWPP seems to have occurred in that members of the community participated and sanctioned the plan and recommendations. However, the Bitterroot CWPP has experienced more controversy with members of the community resisting participation and not trusting the motives of the planning officials. Contested meanings and

definitions of community, risk and treatments, and a history of poor relationships with the Forest Service also serve to undermine a sense of ownership for the Bitterroot CWPP.

The outcome of the CWPP in both study sites seems to be influenced by trust and a sense of ownership in myriad ways. In the case of the Bitterroot CWPP, trust for many individuals was not present at the beginning of the CWPP and was not bolstered by the process. Several individuals had the notion that the officials in charge of the CWPP had a "pre-set agenda" and the process was just "window dressing." Others felt that information used in the process was misconstrued or not available and the process itself would not ameliorate these tensions. Knowledge, and the science used to acquire, define and support it, was seen as a form of power used to discredit adversaries and further an agendas.

Discrepancies and tensions over definitions of risk, treatments and forest health were also not addressed as a result of the Bitterroot CWPP. The outcome in the Bitterroot CWPP thus seems to be further indignation and grandstanding over meanings and definitions instead of empathy and accommodation over views of fire planning. Ultimately, the Bitterroot CWPP process and outcome has not legitimized or strengthened existing relationships, definitions or meanings of authority and may lead to further tensions, lack of participation and cooperation and the potential for legal challenges.

In the Seeley-Swan CWPP, trust for many individuals was present at the beginning of the CWPP and was further bolstered by the process. Many individuals had the notion that the officials in charge of the CWPP were competent and would act in the best interest of the community. One-on-one interaction between individuals and related

site visits and field trips also seem to have contributed to relationship building. Many individuals discussing the Seeley-Swan CWPP had similar perceptions of risk and the treatments necessary to mitigate the risk of future conflagrations. Information presented during the planning process was largely agreed upon and much of the science introduced during the process was not contested. Discrepancies and tensions over definitions of risk, treatments and forest health were not a debilitating factor during the planning process. The outcome in the Seeley-Swan area thus seems to have furthered relationship building, and an agreement on or understanding of various definitions and the acceptance of various forms of authority. For the Seeley-Swan CWPP, the process and outcome seems to have legitimized or strengthened existing relationships, definitions or meanings of authority and may even have eased tensions, increased participation and cooperation and lessened the potential for legal challenges.

However, in both study sites, the outcome of the CWPP is only one issue within a larger context of changing values and landscapes, both of which are seemingly out of many people's control. In the Seeley-Swan area, many expressed concern over future divestment of Plum Creek lands and in the Bitterroot area, many discussed the implications of the lack of zoning and inability to curtail of the actions of private property owners. The notion of access and control over private land dominates concerns for many individuals in both study sites as many recognized the "sanctity" of private property. Tensions and lack of agreement also exist in both study sites over the role that the federal government should play in the planning process. While most individuals felt that the federal government should play a fiduciary role in the management of fire planning, both coordinating and implementing fire plan recommendations, there was great discrepancy

220

in how much decision making authority or influence local communities would play ranging from no authority or influence to complete control.

Second, there was great concern about the appropriate scale by which community fire planning would take place. For this reason, size matters in the CWPP. The scale of community was contested and based on among other issues, an ability for individuals to "know" the landscape and personally interact with other residents. For example, many individuals described the tensions that have resulted from new comers moving to the area and related changing economies. The interactions between differing demographics are key in terms of developing a sense of trust and in ensuring equity and justice. For example, the scale at which zoning and insurance is implemented affects various populations differently. In addition, decisions based in Washington, D.C. influence Montana residents but they also influence tax payers across the nation, a notion that several individuals noted may not be equitable. The notion of scale in terms of geography and topography also play important roles relating to definitions of risk, community, treatments and forest health.

Wildfire planning is further influenced in terms of scale by regional, national or global interests as noted by several individuals. For example, the Smurfit-Stone Container Corporation in Missoula that produces various types of paperboard products was recently influenced by a tariff agreement with China that could in turn influence how lands are treated and how small diameter wood products in the area are used. In addition, if federal subsidies diminish, the future of CWPP is called into question. Scale was also a factor in determining or identifying the degree of risk that was acceptable (how does an impending drought influence risk?), the types of treatments that were appropriate (should

221

they be only home protection, include the WUI or extend farther beyond the WUI?), the distribution of costs (who should pay and who should receive payments?), and the structure of decision making (who should have authority to act in wildfire planning decisions?).

Third and last, the CWPP has great potential to influence trust and a sense of ownership because it is cross-jurisdictional and attempts to view wildfire in a multidimensional light (i.e. it does allow for and encourage multiple actions to take place including prescribed burning, small diameter treatments, education, grants, co-generation using biomass to create energy, etc.). It is of course up to communities to determine how multi-dimensional they intend to be, but the potential is there. The program also is ill-defined in terms of boundaries and can therefore be cognizant of and focus on natural function and natural boundaries or for instance incorporate into existing watershed governing structures. With this degree of flexibility, CWPP's can begin to tap into existing community relations built on trust to further its cause.

4.5. Summary

In this chapter, I have presented the results of the two case studies and discussed these results with respect to the five propositions introduced earlier. I note that trust and a sense of ownership are an integral part of the planning process and outcome. In particular, I note that CWPPs are predicated on agreement of perceived risk and when perceived risk is contested, both trust and a sense of ownership become impeded. A CWPP involves trust exhibited in deterrence, calculus and relational forms. Each of these forms carry differing consequences related to trust and a sense of ownership. I note that a CWPP is influenced by perceptions of how problems are defined, who has

222

authority to act and who is affected by the action. When these definitions and perceptions are discordant, both trust and a sense of ownership are affected negatively. Consequently, I note a relationship exists between trust and a sense of ownership and ultimately influences the outcome of a CWPP. These relationships have implications for future community wildfire protection planning and future research detailed in the following chapter.

223

Chapter 5. CONCLUSIONS

5.1. Overview

My goal for this chapter is to present a summary of the research problem and framework, discuss limitations of the study, provide a brief summary of the findings, and discuss implications for both wildfire planning and the conceptual framework. I conclude with a series of questions applied to future research. The chapter is organized under five main sections, study limitations, summary of findings, discussion of applied and conceptual implications, and directions for future research.

5.2. Study limitations

The potential limitations of this study concern the following four issues: difficulties in "measuring" trust and a sense of ownership; issues of generalizability; deficiencies in "probing" or exploring tangential information during data collection; and the sample size and related issues of representation.

The first limitation is based on the judgment that trust and a sense of ownership are difficult phenomena to "measure" because they are context specific and because individuals may have difficulty describing and defining them. Recall the statement made in Chapter 2 that trust is said to be situational and context-based, dependent on a myriad of factors, and not easily reducible to its component parts. Similarly, a sense of ownership is not easily reducible to discrete variables but rather is best studied holistically within the context in which it takes place. Definitions and meanings of a situation are often different and are therefore difficult to compare and contrast between individuals. What is understood and relevant in one context to one individual may not apply in another context or to another individual.

224

While there were particular meanings and descriptions of the CWPP that were similar and comparable between individuals, each individual presented idiosyncrasies that are difficult to compare, contrast, or describe. The challenge I faced was to provide a detailed, coherent and convincing presentation while keeping the presentation and discussion of the data to a manageable size. While I was able to capture many common meanings and definitions in rich detail, it was often at the expense of losing the finer points and descriptions that were important to particular individuals. For example, one individual discussed lack of organizational concern for sedimentation and effects of hazardous fuel reduction treatments on the aquatic components of the landscape. While this was an important definitional element of fuel treatments for one individual, it was not shared widely among other individuals in the sample and thus not discussed in the results. I had to balance what I felt was sufficient detail in the face of overwhelming evidence collected during the data collection and analysis phases.

Trust and a sense of ownership are also difficult issues for individuals to comment on, describe, specify and characterize. Trust and a sense of ownership are often understood not in and of themselves but rather through activities or processes related to the relationships, cooperative endeavors, behaviors, choices, expectations and definitions associated with their world. While individuals may have difficulty describing the phenomena of trust and a sense of ownership in the abstract, they can speak to these issues through circumstances within specific contexts about which they are familiar and have strong opinions. Circumstances may not be similar across individuals and therefore comparing statements or ideas between individuals becomes difficult.

225

However, I maintain that examining situations holistically and within a specific context allows individuals to draw on specific examples, interject qualifiers and draw conclusions and contradictions while often recognizing themselves the inherent difficulty of characterizing situations in strictly black and white terms (i.e. trust is present or it is not). For this reason, quantitative measures, often with standardized questions (using a Likert-type scale with items such as 'strongly agree' and 'strongly disagree') fail to capture the unique and qualifying issues so critical when discussing complex and context-based phenomena such as trust and a sense of ownership in wildfire planning. This is not to argue that one method is better than another but rather to suggest that the appropriate method depends on the phenomenon being studied and the objectives sought. For my research, I felt the study of trust and a sense of ownership was better achieved using the methods applied in this research than other social science methods, particularly those that are numerically-based and statistically-driven. While any method presents problems in terms of "measuring" trust and a sense of ownership, there is no correct method, only better or worse methods depending on the context and objectives. What I lack in terms of efficiency and ability to generalize through random sampling methods to other populations, I gained in power in terms of depth, insight, clarity and richness of information. This brings me to the second limitation of generalizability.

The second limitation of this research involves a limited ability to generalize to another population. This study represents the views of certain individuals in two locations. There are literally hundreds of CWPPs that have already been implemented or are in the process of being written for which these results could potentially be applied, compared and contrasted. Yet, generalizing these specific results and implications to

226

every CWPP would be a gross over-simplification. The two locations outlined in this research are unique in many social and ecological characteristics and contain descriptions, definitions, and meanings specific to these two areas only. For the individuals who provided the bulk of the data for this research, context matters. The strength of this research is its depth of insight of the specific context. While some may view this as a severe limitation, it may also be regarded as a considerable strength in terms of the rich data set created, lessons learned and results inferred. One assumption guiding this research was that context matters and that it may not be possible to draw specific implications to another area, or if generalizations are drawn, they are made with guarded qualifications.

A third limitation of this research was a lack of probing or exploring more tangential information during data collection. Recall my earlier statement that negative events (trust destroying) are more noticeable than positive events (trust building) and thus are seen to be far more likely to influence trust. While many individuals commented on negative events (such as the "culture clash" between different residents, transience of federal employees, lack of personal responsibility, lack of transparency, use of rhetorical language, etc.), these individuals may not have commented on similar positive events to the same degree (although many commented on some positive events such as "one-on-one" interactions, and working together during times of crisis). I could have been more resolute in my efforts to adapt my interview schedule to orient questions or statements toward understanding the full spectrum of perspectives on both negative and positive events. Such questions could have included: Did newcomers enhance trust in the area?

Did transient employees contribute positively to the community in any way? Are most citizens responsible in terms of managing their property in an appropriate way?

Again, the challenge I faced was accomplishing the research objectives while collecting, presenting and discussing the data in a manageable and timely way. Exploring every personal angle or all opinions on a spectrum of possible definitions and meanings relating to trust and a sense of ownership would likely have proven overwhelming. Additionally, exploring every tangent with every individual (for instance, asking every individual about stream sedimentation after it had come up once) would have created an excruciatingly lengthy interview schedule and may not have allowed time for the individual to explore other tangents that they felt were significant or pertinent to the CWPP.

The fourth limitation of this study is that it does not represent the views of all residents in the two study areas, nor does it purport to represent the perspectives of the entire participant categories (i.e. logger, retired Forest Service employee, etc.) detailed in Chapter 3. My research represents a limited group of individuals described as having an active interest, background or ability to influence the CWPP in these two geographic areas. The perspectives of other categories of people or stakeholders are not represented.

5.3. Summary of findings

In this section, I summarize the basic premise of problems and issues facing wildfire planning in west central Montana, discuss the framework used to better understand these issues, describe my research objectives and end with a summary of the research findings.

It has been argued that contemporary natural resource planning has entered an era of turbulence, described by "analysis paralysis" and increasingly characterized by inaction, appeals, litigation, animosity, distrust and occasionally even threats and violence. The causes of this turbulence are varied and complex but originate largely from competing goals and values, scientific uncertainty, changes in the scales of analysis, a focus on procedure instead of substance and a history of land disposition and development resulting in fragmentation and conflicting management mandates. Further compounding these issues is a reliance on synoptic models of planning combining a technocentric approach that limits public dialogue and minimizes the interaction between citizens and "experts."

Wildfire planning exhibits many of the aforementioned characteristics. Wildfire, particularly in west central Montana, is predicted to increase in frequency, intensity and size in the coming years in part from continued drought and accumulated hazardous fuels from nearly a century of active fire suppression policies. Concurrent are residential developments in high-risk areas occurring at a breakneck speed and the evolving and more amenity-oriented values of new migrants to the area. Community Wildfire Protection Plans are now promulgated under the Healthy Forests Restoration Act to allow the public a forum to address the planning and management of wildfires across multiple political jurisdictions.

Wildfire planning is a uniquely public affair since to be effective it requires a collective responsibility in terms of planning, prevention, and accommodation. Yet, many of the dilemmas facing contemporary natural resource planning described previously serve as barriers to being "public." The terms trust and ownership are

increasingly cited as crucial elements in determining the potential for being public in natural resource planning processes. Trust and a sense of ownership in a wildfire planning process can promote learning and adaptive endeavors and network relations, stimulate creative solutions, enable cooperative behavior, reduce conflict and transaction costs, and facilitate relationship building and effective responses to future crisis. Trust and a sense of ownership can also lead to greater chances of political support and implementation.

Given the potential of trust and a sense of ownership in wildfire planning, my research question was: What is the role of trust and a sense of ownership in Community Wildfire Protection Planning? My three principal objectives were to determine the role of trust and a sense of ownership in planning, the conditions that enhance or limit them and to establish how trust and a sense of ownership impedes or promotes the process and outcome of the CWPP. These objectives are addressed below in the summary of findings.

I identified two areas in west central Montana, the Bitterroot Valley and the Seeley-Swan Valley, that had recently conducted or were in the process of revising their CWPP. I applied the extended case method to guide my data collection and analysis because it allowed the use of an ethnographic and case study technique with participant observation and face-to-face interviews to capture in rich detail the role of trust and a sense of ownership in a CWPP. Additionally, the method encouraged participants to reference and describe what they felt was important, and made power and resistance prominent characteristics during the literature review, data collection and data analysis stages. I sampled 50 individuals with an active interest, background or ability to

influence the CWPP in the two areas producing over 1,000 pages of transcribed interview data.

While the CWPP may have enhanced trust in certain ways through one-on-one interactions with particular citizens in the Bitterroot Valley, there is a history of mistrust in the valley that according to many individuals, influences their ability to have trust in the current CWPP process or outcome. The CWPP likely has not enhanced trust or a sense of ownership in the Bitterroot Valley. However, the lack of trust or sense of ownership in the current CWPP is not the result of the current efforts of the CWPP planning personnel, but rather the long history of interactions in the valley pertaining to natural resource management on state and federal land and more specifically, the recent conflicts related to the BAR and MEF projects.

In the Seeley-Swan Valley, the CWPP enhanced trust and a sense of ownership of many of the individuals. In contrast to the Bitterroot Valley, there is not a history of mistrust in the valley that according to many individuals, influences their ability to have trust in the current CWPP process or outcome. However, the trust or sense of ownership in the current CWPP is not only the result of the current efforts of the CWPP planning personnel, but rather from a history, albeit brief, of interactions in the valley pertaining to natural resource management on state and federal land and the proactive achievements of many citizens.

Regarding a comparison of the two study sites, relationships seem to have been enhanced in the case of the Seeley-Swan CWPP with citizens showing trust toward the local rural fire districts who headed the planning effort. The CWPP brought about new coalitions, in part through one-on-one interactions or reinforced existing relationships.

231

While there were conflicting definitions of personal responsibility (in particular, how individuals should treat their private properties), in general, residents in the Seeley Swan area did share common definitions of risk. These shared definitions of risk perhaps existed as a result, as several individuals specified, from the recognition of the density of vegetation throughout the valley, particularly near the population centers, and the few exit routes available to residents. Definitions of community were also widely shared and owned in the Seeley Swan area, perhaps as a result of the smaller size of the area and population. While there were concerns about funding for the future and how zoning or insurance could influence the Seeley-Swan Valley, various manifestations of authority were recognized and accepted with little objection as to how decisions would be made or how transparent past processes or the current CWPP had been. In the Seeley-Swan CWPP, these factors translated to a sense of ownership of the plan and little overt tension exhibited during the planning process or as a result of the outcome.

In contrast, some relationships between citizens and local officials in the Bitterroot Valley may have deteriorated as a result of the CWPP. The quality of relationships in the Bitterroot Valley was not so much influenced by the CWPP itself but by past natural resource planning experiences and interactions (notably the BAR and MEF projects). Many individuals concerned with the Bitterroot CWPP held diverse and often conflicting definitions of responsibility, community, risk, treatment types and scale and forest health. Different manifestations of authority were not widely recognized or accepted. Many individuals expressed concerns or objections as to how decisions would be made, how transparent the current CWPP was, or that decisions had already made before the planning process had begun. As the Bitterroot CWPP illustrates, when

232

relationships are strained, definitions are not widely shared, or when authority is manifested in ways that individuals or groups do not recognize as legitimate, trust and a sense of ownership diminish and the result can be resistance and actions carried out to overwhelm the competing relationships, definitions and authority.

5.4. Implications for wildfire planning

The process of creating a CWPP has great potential to bring together diverse constituencies, address complex landscape-scale issues and work across multiple political jurisdictions. While generalizing to other locations is difficult because context is critical in terms of trust and a sense of ownership, I will attempt to describe implications for CWPPs that may apply in similar contexts.

First, individuals involved in CWPP's should recognize the importance of relationships, definitions and authority in creating trust and a sense of ownership. In particular, a recognition of context is critical in terms of understanding how past relationships might influence present interactions, how definitions have been and continue to be formed and refined and how authority has been manifested, accepted or resisted through time. Certain historical precedents seem critical in determining the ability of diverse interests (both individuals and organizations) to form trusting relationships and own a CWPP process and outcome. Relationships may be enhanced when CWPP participants engage in "one-on-one" interactions or conduct on-site field trips, group-oriented *charrettes* and other hands-on opportunities for learning. While it may be beyond the capacity of organizers of a CWPP to address issues associated with transient federal employees, individuals should at the least be cognizant of the dynamics caused by these issues.

233

One significant implication resulting from this research is that scale seems to be a critical element impeding or promoting trust and a sense of ownership. Differences of scale influenced definitions of communities (i.e. the "appropriate" size of a CWPP), risk (extent of hazardous conditions and proximity to fire), treatments (where the treatment should take place), influence over decisions (local to federal control), and funding (local revenue generation versus federal subsidies). In general, as the scale gets larger, more variety is introduced leading to more individuals participating or affected, more conflict over meanings and definitions, greater involvement of differing government entities and ultimately a more tenuous or intricate environment for enhancing trust and a sense of ownership.

Control is another issue in which wildfire planning organizers and participants should be cognizant. Control can be exerted through a number of methods: institutional inertia that tends to accept the status quo; control over access information; control over decision making; and control over funding used to move an agenda forward. Definitions of risk can also be a means of control as those who are able to use rhetoric and instill fear to promote impending danger will be better able to dominate a process and outcome through persuasion or coercion. The type of knowledge that is validated and authenticated can also be a source of control. When authority is perceived as abused or not widely recognized, methods can be devised to resist and overwhelm authority by various counter-forces or opposing means of domination. Ultimately, control can lead to marginalization, of both people and the environment. The marginalization of people can result in poor turnout in planning processes, strained relationships, economic vulnerability through regulations imposed from afar, and a failure to trust those with

authority or participate in future wildfire planning efforts. An understanding of the sources and manifestations of control and potential for resistance seems critical in future CWPP efforts.

Federal and state natural resource management agencies can begin to move forward with planning processes that support or promote trust or a sense of ownership. Agencies can recognize the importance of establishing or promoting trust and a sense of ownership in planning processes and outcomes. In doing this, the focus changes from merely producing a planning document to influencing relationships both in the present and for future planning processes.

Agencies can also begin a series of experiments that are congressionally sanctioned and judicially sound. Increasingly, there are demands to implement experiments in natural resource planning.[400] There are myriad proposals that have been designed in part to enhance trust and a sense of ownership. One direction is to implement the "Region 7" concept that would begin a process of experiments to advance public involvement in public land management and the accessibility of public arenas to citizens.[401] Specific to public land planning, the Region 7 concept is proposed to allow for "innovative solutions to be tested and evaluated at sites throughout the national forest system" and would establish a national competition (using a "blue ribbon" commission made up of "respected representatives of all major natural resource stakeholders") for selecting projects, emphasize the "experimental, adaptive" nature of projects, and

---

[400] As has been suggested by Lee, K. N. 1993. *Compass and Gyroscope: Integrating Science and Politics for the Environment.* Washington, DC: Island Press; Gunderson, L. H., C. S. Holling, & S. S. Light. 1995. *Barriers and Bridges to the Renewal of Ecosystems and Institutions.* New York: Columbia University Press; Poisner, J. 1996. A Civic Republican Perspective on the National Environmental Policy Act's Process for Citizen Participation. *Environmental Law,* 26, 53-94.

[401] Kemmis, D. 2003. Region 7: An Innovative Approach to Planning on or near Public Lands. *Land Use Law & Zoning Digest,* 55, 3-9.

authorize and encourage projects "across a range of administrative and geographic scales."[402]

Experimentation is also a key element in adaptive management along with the crucial role of learning from policy experiments, the iterative link between knowledge and action, the integration and legitimacy of knowledge from various sources, and the need for responsive institutions.[403] The potential for both learning and promoting trust and a sense of ownership in experimental planning processes is great.

A CWPP has the potential to divide communities if the processes used are such that relationships suffer, definitions are confused and blurred, and existing authority is resented and fought. For individuals who feel marginalized, either due to poor relationships, incommensurate definitions or abusive authority, there are methods at their disposal to threaten, counter or overwhelm the CWPP process and outcome. The tools available to those who feel they are marginalized include publicly discrediting individuals or organizations with authority, exposing abuses of transparency, reallocating funds to move their agenda forward, making threats of litigation, overt and hostile criticism, or devising more benign means of media or public relations campaigns to inform and educate on myriad issues including risks, treatments, forest health, and abuses of authority.

However, CWPP processes can also be spaces where participants establish or build on existing relationships, discern acceptable or agreeable definitions and negotiate new or permissible types of authority. Planning processes stressing these qualities can

---

[402] Ibid at 6.
[403] Stankey, G. H., R. Clark, & B. T. Bormann. 2005. *Adaptive Management of Natural Resources: Theory, Concepts, and Management Institutions* (pp. 73). Portland, OR: USDA Forest Service, Pacific Northwest Research Station, PNW GTR-654.

236

have a transformative effect on trust and a sense of ownership. Planning processes can also enhance the ability to trust and own by clearly outlining mechanisms of monitoring and evaluation pertaining to both process and outcome. A CWPP can, in certain circumstances, bring about new coalitions and implement plans that are widely accepted. As my findings suggest, when trust and a sense of ownership are not widely shared, the potential for being public may decrease and impede broad social or political acceptance or implementation. However, these planning processes have the potential to become places of trust and a sense of ownership where interpretations of problems and the strategies taken to address them are defined, understood, accommodated, acted on and widely shared. Clearly, CWPPs have the potential to bring communities of interest and place together with broad agreement through enhanced trust and a sense of ownership.

This research suggests that a CWPP may provide an opportunity for enhancing trust and a sense of ownership if various processes used articulate relationships, definitions and authority. While CWPPs are only "recommendations" for officials to "consider,"[404] with no promise that recommended actions will indeed be carried out, lead agencies or organizations should recognize that both trust and a sense of ownership imply a shift in power, whether in direct decision making authority or through more tacit forms of control over problem definition and strategy execution. A forum to express these frustrations, build relationships, negotiate definitions and debate existing manifestations of authority may serve to relieve much of the turbulence surrounding wildfire planning.

---

[404] HFRA, Sec. 103 (b) (1) states, "The Secretary shall consider recommendations under subsection (a) that are made by at-risk communities that have developed community wildfire protection plans."

237

The implications from this research to other CWPPs or to other natural resource planning processes are complex and depend on myriad situational factors. Many factors, particularly in the context of the "New West," are outside of the control of CWPP participants but should nonetheless be recognized. These factors include not only the results described above, but also larger struggles over livelihoods, changing demographics, evolving land use patterns, and assorted values associated with people and places that continue to intensify and diversify.

5.5. Implications for extending conceptual framework

In this section, I discuss the implications of this study regarding the conceptual framework I presented in Chapter 2. In particular, I discuss how the findings might reinforce, contradict or "extend" the literature on trust and a sense of ownership, and more broadly on being public in natural resource planning.

I previously discussed the three forms of trust as deterrence-based, calculus-based and relational-based.[405] Relational forms of trust develop from repeated interactions and lead to reciprocal arrangements.[406] My findings suggest that trust does develop from repeated interactions as exemplified by "one-on-one" contact between individuals, trust in leaders in communities, and definitions of community based on historical interactions. In the Seeley-Swan CWPP process and outcome, relationships may be considered reciprocal arrangements in that individuals did not obstruct but rather sanctioned the CWPP effort. In contrast, deterrence-based trust can produce limited cooperative arrangements but often as a result of coercion or a fear thereby signaling the absence of

---

[405] Rousseau, D. M., S. B. Sitkin, R. S. Burt, & C. Camerer. 1998. Not So Different after All: A Cross-Discipline View of Trust. *The Academy of Management Review*, 23, 393-404.

[406] Ibid.

trust. The use of rhetorical language, lack of transparency and labeling and stereotyping, as described by some of the individuals associated with the Bitterroot CWPP, can be considered a form of deterrence-based trust that signals the absence of trust. Regarding calculus-based forms of trust, some individuals described the presence of trust but also the need to verify actions with the Forest Service, for example, cited as an organization that was trusted but only under certain circumstances. My findings do support the notion that trust exists in these differing forms.

I also noted in the conceptual framework the ebb and flow of trust whereby trust can be formed, enters a stability and then a dissolution phase. Trust is also said to be fragile and is typically created slowly (based on positive trust building events) but destroyed quickly (based on negative trust destroying events).[407] Negative events (trust destroying) were described by many individuals based on a perceived "culture clash," transient federal employees, stereotyping, lack of government accountability, use of rhetorical language, misuse of science, a perceived "pre-set agenda," and a lack of transparency. Individuals also described learning to trust others through a process of repeated interactions over time. My findings do support the notion that trust has various phases and can be quickly destroyed.

The conceptual framework posits that risk must be present in order for trust to exist,[408] and that defining risk is an exercise in power.[409] Labeling or stereotyping is also a characteristic of risk communication.[410] Related to this notion is the use of "vilifying

---

[407] Slovic, P. 1993. Perceived Risk, Trust, and Democracy. *Risk Analysis*, 13, 675-682.
[408] Rousseau, D. M., S. B. Sitkin, R. S. Burt, & C. Camerer. 1998. Not So Different after All: A Cross-Discipline View of Trust. *The Academy of Management Review*, 23, 393-404.
[409] Slovic, P. 1999. Trust, Emotion, Sex, Politics, and Science: Surveying the Risk-Assessment Battlefield. *Risk Analysis*, 19, 689-701.
[410] Peters, R., V. Covello, & D. McCallum. 1997. The Determinants of Trust and Credibility in Environmental Risk Communication: An Empirical Study. *Risk Analysis*, 17, 43-54.

discourses" to sway individuals who may not have expertise or experience in a particular area.[411] The results from this study suggest that risk plays a significant role in the CWPP. Definitions of risk were contested and served as an exercise in power through the use of rhetorical language to exploit fear or by emphasizing one's credentials as a "scientist" or reference to "best science" to define an issue. Particular definitions of risk in this study influenced how problems were framed, how policies would be implemented and how and where certain hazardous fuel reduction treatments would occur. When definitions of risk were opposing or incommensurate, trust was impeded and a sense of ownership absent. Similarly, definitions of responsibility, community, treatments and forest health served as a way to control the CWPP process and outcome in terms of how science was used, who used it and where treatments would and would not be applied. My findings do support the connection of risk to trust and a sense of ownership.

In Chapter 2, I offered literature suggesting that if the probability of a risk event is low, people will typically be unmotivated to take preventative action to reduce risk.[412] This literature is supported as many individuals felt that many of their fellow citizens were not taking personal responsibility for maintaining their property, were not properly informing themselves, or tended to disregard risk "as soon as the smoke was gone."

I provided literature suggesting that the framing of problems drives underlying assumptions, guides strategies taken and ultimately influences the quality and

---

[411] Brogden, M. J., & J. B. Greenberg. 2005. The Fight for the West: A Political Ecology of Land-Use Conflicts in Arizona. In L. Gezon & S. Paulson (Eds.), *Political Ecology across Spaces, Scales, and Social Groups* (pp. 41-60). New Brunswick, NJ: Rutgers University Press at 45.

[412] Kunreuther, H., & M. Pauly. 2004. Neglecting Disaster: Why Don't People Insure against Large Losses? *Journal of Risk and Uncertainty*, 28, 5-21.

240

acceptability of a plan.[413] My findings indicate that the framing and definition of problems did drive underlying assumptions, and guided the strategies taken, for instance with the treatment of fuels on lands not only in the home protection zone but also farther out in the WUI. I can therefore "extend" my findings to support the literature on problem framing within the current context.

I noted in Chapter 2 that trust and a sense of ownership have the potential to enable cooperative behavior, promote adaptive endeavors such as network relations, reduce harmful conflict, decrease transaction costs, and facilitate effective responses to future crises. While I did not collect sufficient data to support or contradict all of these outcomes or opportunities based on trust and a sense of ownership, I can offer several inferences. First, several of these items, such as enabling cooperative behavior, and promoting adaptive endeavors such as network relations, seem to be an outcome of the Seeley-Swan CWPP. In addition, a decrease in transaction costs, and the facilitation of effective responses to future crises may also result, however, I have no data to support or contradict such inferences. While there was some cooperative behavior and networking between certain factions in the Bitterroot CWPP, (i.e. between various rural fire districts, the RC&D office, and federal and county government officials), there was also considerable friction in terms of other individuals and organizations who mistrusted and felt little or no sense of ownership in the CWPP process and outcome.

My findings suggest that the quality of trust and a sense of ownership are conditional on the types of relationships, the convergence of definitions and a common

---

[413]Gray, B. 2003. Framing of Environmental Disputes. In R. Lewicki, B. Gray & M. Elliott (Eds.), *Making Sense of Intractable Environmental Conflicts: Concepts and Cases* (pp. 11-34). Washington DC: Island Press; Bardwell, L. 1991. Problem Framing: A Perspective on Environmental Problem-Solving. *Environmental Management*, 15, 603-612.

241

agreement on various manifestations of authority. As noted in Chapter 2, domination can take many forms including external sanctions, informal cooptation, power-sharing formal cooptation, constellation of interests, and cooptation domination.[414] My findings suggest that domination has occurred, either resulting from or further amplified from past experiences through the CWPP, in terms of threats of external sanctions (i.e. Congressional subsidies that may be withdrawn), informal cooptation (i.e. power granted to rural fire departments to write and implement plans), power-sharing formal cooptation (i.e. sharing of responsibility but not power through the CWPP), constellation of interests (i.e. various organizers of the CWPP working together to implement the plan) and cooptation domination (i.e. participant's arguments about the logging industry generating rhetoric and colluding with the Bush Administration to carry the policy forward). As my findings suggest, these forms of domination and others not discovered, have resulted in diminished trust and sense of ownership for many of the individuals sampled, particularly those associated with the Bitterroot CWPP. Acts of counter-domination by some of the sampled individuals, as well as others in the general population, are likely being devised at present and may result in an inability to engage in future planning efforts.

I earlier offered that citizens acting only in a consultative role but without some form of delegated power in public engagement processes can be seen as merely a gesture of "tokenism."[415] While some individuals believed that granting individuals the opportunity to "sit" at the proverbial planning table constituted an act of delegating

---

[414] West, P. C. 1994. Natural Resources and the Persistence of Rural Poverty in America: A Weberian Perspective on the Role of Power, Domination, and Natural Resource Boundary. *Society and Natural Resources*, 7, 415-427.

[415] Arnstein, S. R. 1969. A Ladder of Citizen Participation. *Journal of the American Institute of Planners*, 35, 216-224 at 217.

power, others expected to have more influence in the decision making process of the CWPP. My findings do support the notion that individuals may view a consultative role as insufficient and as a result, not engage in the CWPP.

In summary, as a result of this research, theories or frameworks of trust and a sense of ownership in wildfire planning can perhaps be extended by recognizing the significance of three critical issues: 1) how relationships are perceived and practiced, 2) how definitions are shared and owned, and 3) how authority is manifested and accepted. While the characteristics of these three issues are complex and contain situational elements relative to the two study sites, they may also extend to other similar situations and inform an understanding of how trust and a sense of ownership are reified and serve to impede or promote other processes and outcomes associated with wildfire planning.

5.6. Future research

While I listed three main objectives in this study, a forth implicit objective was to identify a set of questions that might prove useful in future applications, both applied and academic. Below, I list several areas of study stimulated by this research followed by specific questions that would broaden an understanding, both for theory and application, of wildfire planning specifically, and natural resource planning in general.

First, relationships were improved by one-on-one interactions and field trips that were learning-based. Future research could examine these types of experiences and interactions as guided by the following questions: What are the specific dynamics associated with on-site field trips, group-oriented *charrettes* and other hands-on opportunities for learning that enhance relationships? How do these experiences and interactions specifically contribute to enhancing trust or a sense of ownership? What are

243

the legal and social impediments to these types of field-based activities and how can they be overcome?

Individuals described problems that they felt resulted from federal employees being transient and detached from the community. Incentives that encourage transient federal employees to move on after only a short period were described as "built into the system." What are the systemic characteristics of federal employment that encourage or create incentives to be transient and how can this be overcome? How can federal employees be further encouraged to interact with and get to know both the communities where they reside and the resources they are charged with supporting? If the "system" cannot be changed, how can communities accept or better adapt to the transient characteristics of federal employees?

Organizations were often referred to in pejorative terms or stereotyped and labeled, often under false pretenses. How does stereotyping and labeling affect the potential for trust and a sense of ownership in different contexts? How do various public forums and private interactions serve to reinforce or alter these existing stereotypes and labels?

Second, there are myriad issues associated with the definitions I listed in Chapter 4. Contested definitions pertained to responsibility, community, risk, treatments and forest health, leading to numerous future research questions as to how these definitions are formed, reinforced and negotiated between various individuals and organizations. For example, how do various public processes and private interactions serve to reinforce or alter existing definitions of responsibility? Many individuals noted that certain federal agencies were not "listening" or "receptive" or accountable in terms of "promises." What

244

constitutes adequate "listening" or being "receptive" and what are the specific

mechanisms and actions, including legal and cultural, that contribute to definitions of

adequate accountability? Education was described as the responsibility of either federal

or county organizations or the responsibility of the individual. Who is responsible for

educating citizens on wildfire issues and how effective are various educational techniques

coming from various sources?

Definitions of communities were diverse, with many individuals noting that the

spatial characteristics of the community contribute to the overall quality of planning.

What are the spatial characteristics of other communities that may enhance trust and a

sense of ownership in planning? What are the tensions that result from incongruent

bioregional and political delineation of boundaries? Perceptions of risk and risk

assessments were defined in diverse and often conflicting ways. How can future research

build and apply an already extensive scholarship of risk in wildfire planning? How is

trust and a sense of ownership enhanced when definitions or assessments of risk are

incommensurate? A discussion of "best science" often accompanied definitions of risk,

hazardous fuel reduction treatments, and forest health. What types of processes can best

address the negotiation of these various definitions? What types of processes best

incorporate both scientific and experiential knowledge to negotiate a sense of ownership

and foment trust on risk, hazardous fuel reduction treatments, and forest health? How do

various demographic characteristics correlate to trust in risk assessments?

Third, various manifestations of authority were significant in this research.

Further study of how authority is reified and resisted in other contexts would prove

valuable. Additionally, how are alternative decision making structures accepted, who do

245

they threaten and who do they empower? What types of different decision making structures could be applied to CWPPs? How could experimentation with different decision making structures proceed? What affect does a redirection of spatial scale in decision making structures have on trust and a sense of ownership in CWPPs? How does the use of citizen monitoring projects influence established authority? How can existing institutions and related institutional frameworks be redesigned or reformed to better address issues of a sense of ownership and trust? To what degree do existing decision making rules and regulations in other contexts help or hinder the notion of trust and a sense of ownership? To what extent are various decision makers prepared to promote engagement and share responsibility for the creation of plans and management of areas under their jurisdiction? Do decision makers have the capacity to address issues of trust and a sense of ownership and implement planning processes that enhance trust and a sense of ownership? Can natural resource agencies that take a lead in CWPPs effectively engage citizens in contentious environments and enhance trust and a sense of ownership? What social and political conditions would be needed to more effectively engage citizens and create trust and a sense of ownership? Who benefits from planning processes that result from increased trust and a sense of ownership? What are the costs of restructured planning processes and who pays them? To what extent does trust and a sense of ownership threaten or strengthen access to information and decision-makers in various contexts?

Lastly, there are myriad questions related to the notions of how trust and a sense of ownership could be further evaluated. I noted that a qualitative, descriptive and exploratory research method was most appropriate to address the stated objectives in this

research. How can other methods be used to complement and inform the qualitative methods used in this study? How can quantitative methods be constructed to recognize the complexity of context that seems so vital in the study of trust and a sense of ownership? What would be the result of studies in different contexts with different population sizes, demographics, economic structures, political jurisdictions and ecological conditions? Can more longitudinal studies be accomplished by analyzing changes and effects over longer temporal scales? How would different spatial scales influence research methods and outcomes? Can studies incorporate research on trust and a sense of ownership in other situations such as endangered species management or climate change? Future research could include analyses of other stakeholder groups or use other methods of sampling and analysis with the same group.

Ultimately, future research could benefit by various studies on the relationship between spatial and temporal scales, decision making structures, and the social and biophysical context of a CWPP. Recognizing the dynamic, stochastic and often conflicting interplay of social and biophysical processes inherent in CWPP's, fundamental questions regarding the myriad conditions that promote trust and a sense of ownership in other natural resource planning situations are all relevant for future research.

5.7. Concluding remarks

As these results suggest, achieving trust and a sense of ownership requires more than simply holding the occasional public meeting or soliciting public comments intermittently. Achieving trust and a sense of ownership means trust and a sense of

247

ownership become fundamental objectives of public engagement processes, where citizens become integral in the design and implementation of planning processes. The social pathologies undermining citizen involvement in planning processes and outcomes are countless, and providing a detailed critique is beyond the scope of this research. Yet, there is great latitude in existing statutes related to methods of engaging citizens in planning processes and there is also a public desire to engage. Many natural resource planning dilemmas may benefit from a focus on trust and a sense of ownership.

The act of exhibiting trust and a sense of ownership is the act of both being public and allowing for opportunities to be public; an act that is absolutely critical in both planning and democracy. A sense of trust and ownership attempts to challenge the notion that 'unencumbered' citizens with little opportunity for meaningful interaction is not only vacuous but fundamentally antithetical, not only to wildfire planning, but more broadly, to the loftiest ideals of a robust democracy.

Appendix A: INTERVIEW SCHEDULE

(version 8.3.05) I # _____ date _____

Remind: The interview is anonymous/confidential.

Personal information:
How long have you been a resident of the -- Valley? Are you a forest landowner? How many acres of forest do you own? Have you done any hazardous fuel reduction treatments on your property?

Opening/Background Questions:
What was your role in the CWPP? Were you asked to participate in the CWPP? How did you hear about the CWPP? Do you know anyone who participated in the process? What was your / their overall impression of the process and outcome? Tell me about representation in the CWPP? Who was missing? Why?

What types of hazardous fuel reduction treatments are appropriate in the -- Valley? What considerations should guide the selection of the method of treatment? Are there specific locations in the -- Valley where hazardous fuel reduction treatments should happen first? Why?

Questions related to Trust:
1. In what respect is trust important in a CWPP?
2. How did trust influence the potential for interactions between individuals? What aspects undermined or promoted interactions? Under what conditions is trust enhanced? Under what conditions is trust weakened?
3. How does trust influence the potential for interactions between citizens and organizations?
4. How do you view organizations that manage wildfires in this area? Do you have examples to back up your views? What is your relationship with individuals that work for various organizations concerned with wildfire?
5. What conditions led to trust / mistrust in past wildfire planning situations? Past natural resource planning situations?
6. What are the outcomes from a breach of trust?
7. How have various relationships changed as a result of the CWPP?
8. How does staff turnover influence trust?

Questions related to Ownership:
1. How do you view wildfire? When is it a threat / risk? How does science influence your view of risk?
2. Who do you include as part of this community? Who should be included in this CWPP? Why?
3. How are different problems framed in this community?
4. Who frames them and whose sense of a problem takes precedence?

5. How do these problems relate to on the ground changes / influences in wildfire planning and management?
6. What is the role of citizens in crafting a CWPP?
7. What is the incentive for individuals to participate in wildfire planning?
8. How much decision making authority should individuals in a community have in a CWPP? Is decision making authority essential for citizens to come to the table? What alternative processes should citizens and agency personnel use when conducting wildfire planning? What should the decision making structure of this process be? How does decision-making authority influence trust?
9. Who will be affected by the decisions and actions of this plan?
10. How could zoning influence wildfire planning?
11. How could insurance influence wildfire planning?
12. How does funding influence the CWPP process and outcome?

Questions about the future:

How will this CWPP change the way people interact in the community? What will be the result of this CWPP? Will things change for the better / worse? In what way?

Wrap up

Is there anything else you want to add; anything about your experience here or about issues we haven't touched on? How did this interview go?

Tape Off

Who else would you recommend I talk with? (can say that you recommended them?)