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USING PLACE ATTACHMENT TO DETERMINE THE ACCEPTABILITY OF RESTORING FIRE TO ITS NATURAL ROLE IN WILDERNESS ECOSYSTEMS

By

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Thesis

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in Recreation Management

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Using Place Attachment to Determine the Acceptability of Restoring Fire to its Natural Role in Wilderness Ecosystems

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This study was conducted to explore the social dimensions of wilderness fire management. I set out to answer the question what role does an individual's attachment to place play in determining the acceptability of management actions directed towards fire? I feel that problems will arise if management agencies attempt to restore natural fire regimes to wilderness areas without accounting for the effects on meanings and values different people attach to landscapes.

I used a qualitative method and conducted guided interviews with 27 people from three different groups: (1) fire and wilderness management personnel from the Bitterroot National Forest, (2) residents of the Bitterroot Valley, and (3) people who recreate in the Selway-Bitterroot Wilderness. I used an established framework for mapping place meanings to guide the analysis of this study. It identifies four different meanings people attach to places: (1) inherent/aesthetic, (2) instrumental/goal-directed, (3) cultural/symbolic and (4) individual/expressive meanings. The goal of each interview was to determine the meaning each individual attached to special places and whether they find the current approach to fire management acceptable. All four meanings were represented by the respondents, and a majority of them found the current approach to fire management in the SBW acceptable. They felt that fire is a natural and positive agent of change on the landscape and that to truly be Wilderness the Selway-Bitterroot should be characterized by a naturally occurring fire regime. Only two of the twenty-seven respondents in this study found the current approach to fire management in the SBW unacceptable.

This study attempted to make it clear that accounting for meanings people attach to a particular landscape can be useful when managers are implementing new programs or prescriptive actions that may alter the physical conditions of a site. Wildland fire has the potential to significantly alter the conditions of places. The social impacts of these changes should be accounted for in the early stages of forest planning. It would be useful for managers to work closely with the public to identify special places and how they would like to see them managed. By doing this managers can gain acceptance for new programs.

ACKNOWLEDGEMENTS

I would like to dedicate this to my mother Donna who did not get to see me finish this process. She and my father taught to me to finish what I start and to persevere. I know she would be proud.

I would like to thank my wife Heather for her support throughout this process, her patience, understanding and sacrifices helped make it all possible. Thanks also goes to my father Horace who helped support me throughout the last few years. I would also like to thank my committee chair, Stephen McCool for his patience and guidance over this project. My other committee members, Ron Wakimoto and Sarah Halverson have also been very patient, understanding and supportive throughout the last few years. I would also like to thank Mike Patterson for his guidance and for sharing his expertise in place attachment and qualitative research methods.

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CHAPTER 1: WILDERNESS, FIRE and TIES TO THE LAND

Introduction

The notion of wilderness has been a fascination of our society for many decades and has led to thousands of publications and discussions of what wilderness is and how it should be managed. Wilderness as defined by Section 2c of the 1964 Wilderness Act is "an area where the earth and its community of life are untrammeled by man, where man himself is a visitor who does not remain" (Sec. 2c). Often wilderness areas are viewed as nearly pristine landscapes where nature guides itself and the influence of man is limited. However, a wilderness free of human influence is an ideal view of the nature of wildlands in the United States. The character of these wildlands, however, continues to be compromised because of impacts from a variety of sources. A few examples are recreational pursuits, fire suppression, and impacts from surrounding communities such as air pollution, aircraft over flights, mining leases, livestock grazing, and development along its boundaries (Cole and Hammitt 2000; Cole and McCool 2000; Cole and Landres 1996). In spite of this, managers from four federal agencies are required to maintain wilderness character by the Wilderness Act (Sec. 4b).

Wilderness Management and Policy

The idea of managing wilderness is often seen as a paradox. If wilderness is defined as an area free of human influence then active management can be seen as an attempt to control nature. Early wilderness proponents viewed wilderness as a landscape where natural processes operate with limited human influence. According to Turner (1996) the Wilderness of today is far removed from the ideal that influenced early wilderness policy. He claims that Wilderness areas are no longer truly wild and do not

represent what Muir, Marshall and Leopold envisioned. This loss of wildness is attributed to management actions and the policy that guides them. Turner (1996: 110) notes that "wilderness of the Wilderness Act permits the state to control fire, insects, diseases, and animal populations; build trails; graze livestock; and mine ore."

The language used in the 1964 Wilderness Act does not help resolve this debate. Cole (1996) asserts that the Act established three conflicting goals. One aim of the Act is to preserve wildlands in their natural condition. Naturalness is equated to conditions similar to what existed before European colonization of North America. A second goal of the Act is that wilderness areas remain untrammeled by man. Untrammeled was explained as "a need to secure the preservation of some areas that are so managed as to be left unmanaged--areas that are undeveloped by man's mechanical tools and in every way unmodified by his civilization" (Landres et al. 2000: 377). Untrammeled is synonymous with uncontrolled, unimpeded, self-willed, and free. The use of this term raises questions of what managers should and should not be allowed to do. The third goal refers to one of the many reasons wilderness was established. Specifically it is the provision of "opportunities for solitude or a primitive and unconfined type of recreation" (Sec. 2c). Along with recreation Sec 4(b) adds that "wilderness areas shall be devoted to the public purposes of recreational, scenic, scientific, educational, conservation, and historical use."

Recreation and other wilderness uses exert influence on ecosystems and wilderness character. Acceptable levels of impact are not delineated by the Wilderness Act. This is where the goals conflict. Mangers are faced with the dilemma of preserving natural conditions while avoiding intentional manipulation, or trammeling, and providing

opportunities for use by recreationists, ranchers, prospectors, etc. Cole (1996: 15) feels "the task of wilderness management is largely to optimize the tradeoffs between these three goals." For example, managers are often faced with the dilemma of whether to limit recreational use in favor of preserving naturalness, or to actively restore natural conditions degraded by recreation activities. The decision must be made by the manager as to which value is most important. On the other hand, Worf (1997: 31) interprets the Wilderness Act as establishing clear direction: "to provide for the protection of these areas, the preservation of their wilderness character, and for the gathering and dissemination of information regarding their use and enjoyment as wilderness." According to Worf (1997) this is not a mandate to optimize recreation or any other type of use. Simply put, the Wilderness Act mandates that managers allow natural processes to operate as freely as possible (Worf 1997).

Many of the problems managers face today may not have been imagined by the writers of the Wilderness Act. For example, the problems associated with changes in ecosystem structure due to an aggressive fire exclusion policy were not apparent in the early 1960's when wilderness policy was being debated (Landres et al. 2000). Fire was initially seen as an enemy and a threat to the survival of forests, wildlife, humans living adjacent to wildlands, and wilderness ecosystems themselves. Therefore, exclusion has been the focus of most wild fire management programs throughout the past century.

Fire Management

Fire management programs began to evolve in the 1970s when agencies began to accept fire as a natural disturbance process essential to the structure of some ecosystems. The National Park Service incorporated a 'let it burn' policy that emphasized the

importance of fire as a natural process. But the Yellowstone fires of 1988 that burned approximately 570,000 hectares forced land managers to re-evaluate fire management policy and fully consider the ramifications of past actions (Agee 1993). All natural fire programs were suspended until improved management practices were in place (Agee 1993). As of 1997, only 58 of the 398 Forest Service wilderness areas had approved fire programs that allowed the management of lightening ignited fires (Parsons 2000b).

The exclusion of fire has led to other problems. The consequences of fire exclusion have created a situation that is increasingly unmanageable (Housley 1985; van Wagtendonk 1985; Agee 1993; Keifer et al. 2000; Landres 2002). Fire exclusion, in fire dependent ecosystems, significantly alters them in a number of ways outlined by Cole and Landres (1996). For example, changes in vegetation composition, such as the conversion of park-like ponderosa pine stands to the dense cover of Douglas-fir forests, not only alters the structure of ecosystems that were designated wilderness, they also provide habitat for insect infestations (Cole and Landres 1996: 173). Fire exclusion has limited the structural diversity of landscapes by reducing regional floral and faunal diversity (Cole and Landres 1996). Parsons (2000a) argues that by eliminating fire from fire-adapted systems, managers created conditions that vary greatly from those prior to European colonization and in turn threaten the goal of preserving natural systems.

However, managers cannot establish one overarching policy of when to let fires burn or when to suppress fire. This stems from the range of variation among fire regimes in forest ecosystems. In dry forest types, high fuel loads that build up without frequent fire increases the chance of high intensity catastrophic fires (Cole 2000; Landres 2002). In moist forest types characterized by infrequent stand replacing fires the nature of the

system may not have been significantly altered by exclusion (Agee 1993; Arno et al. 2000; Landres 2002). As Landres et al. (2000: 379) point out "lightning-ignited fires are usually allowed to burn, but human-ignited fires are not, even if their ecological benefits to the health of the ecosystem would be identical." Aside from the ecological evidence that points to fire exclusion as a destructive policy, cannot fire suppression and overt exclusion be construed as attempts to control nature and a trammeling of wilderness character?

Reintroducing Fire

One option wilderness managers have to restore ecosystem health and wilderness character is to increase the number of management-ignited fires and naturally ignited fires. By burning more acres, management could potentially restore the role of fire in ecosystem functioning (Christensen 1995; Parsons 2000b). Reintroduction of fire to these systems will no doubt cause unnatural changes—which could be construed as trammeling Wilderness—but the longer managers wait the greater the potential for catastrophic stand replacing fires. However, many argue that management ignited fires used to preserve the wilderness character of a system is unnatural and in violation of the Wilderness Act (Worf 1985a; Parsons 2000b).

Those who argue against management ignited fire believe that striking a match is a trammeling of the wilderness character and will do little to restore the natural role of fire in the ecosystem (Barrett 1999; Worf 1985b). One important factor that comes into play here is the seasonal differences of natural fire and management ignited fire. The appropriate conditions under which to burn (chosen by managers) will not be in the hot, dry fall when most natural ignitions occur but in the spring when seasonal conditions are

less likely to produce uncontrollable fires (Worf 1985b). The downside to this is that out of season fire does not serve the same ecological purpose or lead to the same ecological consequences as naturally ignited fire.

Fire in Wilderness

The Wilderness Act provides little direction on the use of fire as a management tool. The vague language used states that managers must choose the minimum tool required to meet wilderness objectives. The only mention of fire is in Sec. 4(d): "measures may be taken as may be necessary in the control of fire, insects, and diseases…" Therefore "if wilderness is to truly be preserved in its 'natural condition,' ways must be found to allow natural ignitions to burn…" (Parsons 2000a: 276). Is it logical to forgo long-term benefits, reducing the influence of humans, due to short-term impacts to wilderness character?

Mackay (1987) argues that allowing fires to burn is consistent with management objectives but to be successful managers must take into account the effects on recreation and visitor experiences. McCool and Dowell (as quoted in Mackay 1987) found that some individuals feel fires result in the loss of recreation settings. People often find burned sites unappealing for a period of time. Many fear that fire kills wildlife, destroys habitat, and upsets valued view sheds and scenic vistas. There is belief that desirability will increase overtime as vegetation recovers and individuals reap the benefits of better visibility and access through areas. Mackay (1987: 25) notes that "fire's impact on recreation can be minimized by considering recreation experiences and values when formulating fire management plans."

Sense of Place

Along with onsite interactions in wilderness landscapes, managers must also acknowledge that people form lasting attachments to places. Place attachment or sense of place is "a subjective experience or view of place description of the meanings, images, and attachments people give to specific locations" (Galliano and Loeffler 1999: 1). Altering the visual aesthetics of a particular place may have a significant effect on people's attachment to that place. Whether or not an individual's sense of place can adapt to changes to the visual or physical resource through burning is unknown. Accounting for meanings people attach to a particular landscape can be useful when managers are implementing new programs or prescriptive actions. Sense of place can be thought of as a relationship based on "the collection of meanings, beliefs, symbols, values, and feelings that individuals or groups associate with a particular locality" (Williams and Stewart 1998: pg 19).

Place Meanings

The relationship individuals form with a physical space or resource needs to be understood before responses to changing environmental conditions due to management action or inaction can be predicted (Williams and Roggenbuck 1989). When people attach meanings to physical space 'places' are created (Williams et al 1992). They are "symbolic environments created by human acts of conferring meaning to nature…, of giving the environment definition and form from a particular angle of vision and through a special filter of values and beliefs" (Greider and Garkovich 1994: 1). The meanings that are developed vary from individual to individual.

Williams and Patterson (1999) identify four classes of meanings that people attach to landscapes. Inherent/aesthetic meanings "are associated with immediate

feelings of pleasantness and interest that appear to be innate reactions to landscape properties" (Ulrich et al. as quoted in Williams and Patterson 1999: 146). Instrumental/goal- directed meanings are associated with the natural environment's capacity to fulfill the behavioral or economic needs of the individual. Cultural/symbolic meanings are derived from the "cultural, historical and geographical contexts of day-to-day life…for example, the same forest can symbolize ancestral ways of life, valued commodities, or essential livelihood to different groups of people" (Williams and Patterson 1999: 147). Individual/expressive meanings are associated with a sense of self that has evolved in a particular place. In other words places and experiences in them help people define who they are.

How individuals or groups react to changes in the natural environment is influenced by the meanings they attach to places and the landscapes they create. "Members of the group act with the intuitive knowledge that their relationships to the natural environment could be no other way" (Greider and Garkovich 1994: 8). The socially constructed landscapes are reflections of themselves. Altering the natural environment may have a profound affect on how individuals and groups interact with each other and the landscapes they have created.

Statement of the Problem

I feel that it is inevitable that problems will arise if management agencies attempt to restore natural fire regimes to wilderness areas without accounting for the affects on meanings and values different groups attach to landscapes. It is possible that members of the community adjacent to wilderness areas, visitors to the wilderness area and the people responsible for its management may attach completely different meanings to the

ecosystem. How each group reacts to the management of fire will depend on the meaning they assign to the natural environment. The existence of divergent views will make it difficult to determine acceptable means to restore the role of fire as a natural form of disturbance to wilderness ecosystems.

Management agencies and researchers have recognized that fire is an important part of forest ecosystems and wilderness fire policy has been re-evaluated several times. Surveys of the public have shown an increase in the general knowledge of fire's role in forest ecology and a growing acceptance of allowing fires to burn in wilderness (Taylor 1990; McCool and Stankey 1986). "Politically, restoring fire will be difficult because of the risk to property and visitors both within wilderness as well as on adjacent lands" (Cole and Landres 1996: 173).

Any decision managers make about fire in wilderness will no doubt affect the nature of wilderness character. "Public attitudes about fire policy and visitors' perceptions of fire effects are clearly recognized as having important implications for forest management" (Taylor and Daniel 1985: 398). Accounting for how management actions will affect an individual's attachment to a particular place is necessary if managers are to determine how prescriptions will influence wilderness character.

I would like to know if managers, visitors, and community residents find the restoration of fire to wilderness ecosystems they are attached to acceptable. Would an active management approach such as increased burning alter the meaning each group has given to a particular place? How does sense of place influence people's attitudes toward fire? Do fire managers' attachments to their place of business influence their willingness to allow fires to burn? **The research question I pose is: What role does an**

individual's attachment to place play in determining the acceptability of management actions directed towards fire?

Study Objectives

This study will attempt to gain an understanding of what wilderness means to different groups who interact with the landscape. This project will focus on the effects of restoring fire to wilderness ecosystems by allowing natural fires to burn or implementing management ignited fires. This research will aim to determine how an individual's sense of place influences their ability to accept management actions aimed at the preservation of natural conditions, ecosystem processes, and wilderness character through the reintroduction of fire as a natural disturbance. Sense of place has been identified as an important interaction between humans and the environment that cannot be overlooked by management agencies. Managers have the ability to preserve the value of wilderness by examining the effects of their prescriptions on the meanings people have attached to the natural environment.

More specifically, the objectives of this study are to:

1. Determine the range of place attachment visitors, members of the surrounding community and fire managers have developed with a specific wilderness setting;
2. Determine the acceptability of using naturally ignited fire to preserve wilderness character and ecological integrity;
3. Determine the acceptability of management ignited fire as a tool in wilderness management;

4. Determine the acceptability of a continuation of a fire exclusion policy to preserve wilderness character;
5. Determine if shared meanings exist among the divergent groups through their respective attachments to place.

The next chapter is a thorough review of the literature and research done on place concepts, fire management, and social acceptability. In Chapter 3 I discuss the methodology chosen to conduct this study. Chapter 4 is a discussion of the results. Chapter 5 begins with a summary of the results and follows with the conclusions I made. I also discusses the limitations of this particular study, details how this study may be useful for managers, and it also makes some suggestions for future research.

CHAPTER 2: LITERATURE REVIEW

LINKING SENSE OF PLACE AND SOCIAL ACCEPTABILITY

Introduction

This project aims to determine if the social acceptability of restoring fire in wilderness ecosystems is influenced by the sense of place held by managers, visitors, and community residents. Restoring a fire regime will affect user groups, the communities surrounding the wilderness and the publics that value the existence of wild landscapes. Not only can fire prevent people from using a portion of the wilderness, it can alter the visual aesthetics of the area for years to come, and may also threaten property adjacent to wilderness areas. I feel that how each group reacts to the management of fire will depend on the meanings they assign to the natural environment and specific places. Also, the existence of divergent views may make it difficult to determine socially acceptable means of restoring the role of fire to wilderness ecosystems.

The chapter begins by reviewing a variety of definitions of the concepts of sense of place/place attachment. This will include how other authors have explored the importance of places to individuals and groups and why attachments are formed. The chapter moves on to discuss why an understanding of sense of place is important for managers of wild landscapes. I will address the importance of socially acceptable decision making, how judgments of acceptability are formed and how sense of place may be influential. The final portion of this chapter will be a series of working propositions derived from my literature review.

Sense of Place/Place Attachment: What is it?

Sense of place and place attachment are often used interchangeably in the research literature. I will discuss both terms throughout based on how it is used in the literature. Each concept focuses on two common themes (1) nature and (2) people's interactions with nature. Cantrill (1998: 303) noted that among the wide range of definitions for sense of place most authors seem to agree that "a sense of place is the perception of what is most salient in a specific location, which may be reflected in value preferences or how that specific place figures in discourse." Sense of place can be thought of as a relationship based on "the collection of meanings, beliefs, symbols, values, and feelings that individuals or groups associate with a particular locality" (Williams and Stewart 1998: 19). Sense of place is often noted as an affective bond between people and geographic locations (Tuan 1974; Mitchell et al 1993; Eisenhauer et al. 2000; Hidalgo and Hernández 2001).

Place attachment is "a subjective experience or view of place description of the meanings, images, and attachments people give to specific locations" (Galliano and Loeffler 1999: 1). According to Altman and Low (1992: 5) "the word attachment emphasizes affect; the word place focuses on the environmental settings to which people are emotionally and culturally attached." They refer to place as physical space that has been given meaning through social interactions. Interactions and experiences within places instill an appreciation for locales, and individuals often care for the physical condition of settings (Mitchell et al 1993; Eisenhauer et al 2000). Place attachment is believed to be a feature of people's experiences and interactions with natural settings

(Norton and Hannon 1997). These relationships extend beyond an individual's judgment of the utility of a place for certain activities. Attachment has been viewed as a meaningful description of the role places play in the lives of individuals and groups (Shumaker and Taylor 1983).

One way to gain a better understanding of the role places play in people's lives has been to examine the components of place. Several theorists have noted that places are comprised of (1) physical settings, (2) meanings and (3) social interactions and experiences of individuals and groups (Brandenburg and Carroll 1995; Gustafson 2001). Physical settings are undoubtedly a necessary component of place. They are the foundations that people use to build relationships and develop environmental values and beliefs (Norton and Hannon 1997). Agnew (as quoted in Gustafson 2001: 6) stated that meaningful places are based in a geographic setting and develop in a social context. The characteristics of place do not appear to know any bounds. Altman and Low (1992: 5) note that "places vary in scale, size and scope, tangible versus symbolic, known and experienced versus unknown or not experienced."

Place attachment has been noted to have two basic dimensions that are expressed in studies. Williams and colleagues (Williams and Roggenbuck 1989; Williams et al. 1995; Williams 2000; Williams and Vaske 2003) have attempted to discover if different meanings associated with places are distinguishable and if self-response questionnaires can demarcate the differences. Their work has shown that two dimensions of place attachment are consistently distinguishable. They are defined as (1) functional—the importance of a place in providing features and conditions that support specific goals or desired activities, and (2) emotional/symbolic—a psychological investment with a setting

that has developed over time (Williams and Vaske 2003). Functional meanings are also referred to as place dependence—how dependent someone is on a particular place to fulfill their needs. A wilderness area near someone's home may be a place they visit for exercise; in this case the user may be dependent on nothing more than the trail system. Emotional/symbolic meanings are referred to as place identity—how some individual uses a particular place to help define who they are. The same hiker may also feel proud to live near a place where nature has remained untrammeled.

Why Form Attachments?

Before managers and planners can instill place concepts into the decision making process I think it is imperative that they gain an understanding of the reasons people form attachments with physical settings. Eisenhauer et al. (2000) discovered in their study of southern Utah that the two most frequently cited reasons attachments were formed were (1) a result of interactions with family and friends in a geographic setting, and (2) the environmental features and characteristics of settings. Respondents (36.9%) indicated that special places were created as a result of family activities, family traditions or heritage. They also indicated (34.2%) that the uniqueness or mysteriousness of the environment, its scenery, climate, geology, pristineness or wildlife were important factors in determining their sense of place. Cantrill (1998) found similar results in studying the community of Munising, Michigan on Lake Superior. Respondents were asked a series of questions like 'why did you move here?' and 'what qualities in this area compel you to say it's so special?' Cantrill (1998) noted that 42% of the statements made by respondents referred to social characteristics of the place and that 39% of the statements made referred to the natural features of the area.

Place attachment is influenced by social interactions and relationships with community members, family and friends. Altman and Low (1992: 7) assert that "places are repositories…within which interpersonal, community and cultural relationships occur." Some have suggested that it is these relationships that people are really attached to versus the physical space (Altman and Low 1992; Hidalgo and Hernandez 2001). The physical characteristics of spaces provide the setting for the development of these relationships. Place attachment is most likely a combination of both social and cultural interactions and the environmental characteristics of a setting (Brandenburg and Carroll 1995). For example, in a study of the Chiwawa River drainage in central Washington, Mitchell et al. (1993) found that attachment is exhibited as an emotional bond with the landscape. This bond was built by years of interactions with family and friends at particular sites. Visitors "expressed a strong desire to introduce or share with others the places of their affections" (Mitchell et al. 1993: 33). If this drainage experienced a stand replacing fire the attachment may be lost and the drive to share the places may subside.

Why is it important?

1. Settings become special places

Wildlands provide more than just resources that can be commodified and sold for economic benefits. They also provide special places where people live, work, play and reenact traditions for spiritual growth (Williams et al 1992; Brandenburg and Carroll 1995). According to Tuan (1977: 6) "what begins as undifferentiated space becomes place as we get to know it and endow it with value." Natural resource managers have been issued a challenge: to meet a wide array of needs, desires, and values of all interested parties (Brandenburg and Carroll 1995). Mitchell et al (1993: 37) assert that

"at the heart of today's forest management issues is emotion." They state that the 'felt' perceptions of forests are as real and important as the biophysical aspects.

2. Places are symbolic-how people relate to natural world

Places are also referred to as 'landscapes.' They are "symbolic environments created by human acts of conferring meaning to nature (and) of giving the environment definition and form from a particular angle of vision and through a special filter of values and beliefs" (Greider and Garkovich 1994: 1). They feel that these socially constructed landscapes are reflections of the individuals or groups that create them. "Our understanding of nature and of human relationships with the environment are really cultural expressions used to define who *we* were, who *we* are, and who *we* hope to be" (Greider and Garkovich 1994: 2). Greider and Garkovich (1994) add that the meanings people create for landscapes are illustrations of how people define the proper relationships between themselves and the environment.

Places often symbolize "local and national heritage, ways of life, recreation opportunities, scenic views, valued commodities, rare habitat, or sacred rite" (Williams and Patterson 1996: 518). Natural resources are places with history that people care about and they embody a sense of belonging and purpose that gives meaning to people's lives (Williams et al 1992: 44; Kaltenborn 1998). The creation of landscapes represents a need to preserve personal and community identity, and the maintenance of natural capital and human well being (Greider and Garkovich 1994; Stedman 1999). Massey (as quoted in Gustafson 2001: 6) notes that what makes places unique to some people is their linkage to the outside world. In this regard places are, in part, the intersection of people's perceptions of the locale to the global environment. Some places may be viewed as

special because few other places like them exist in the world. The meaning people assign to places extends beyond the physical characteristics of the site. The symbolic nature of attachment makes each place unique and possibly irreplaceable.

3. Places mean different things to different people

Galliano and Loeffler (1999: 6) point out "one location often becomes several places." They identify two methods of giving places meaning, one being through personal experience and the other from shared perceptions with family and other community members. Lee (1972) found that urban park settings are places individuals seek out to share experiences with other similar individuals. Social groups often expressed similar meanings. He stressed that managers cannot operate a park as free undifferentiated space, to do this would ignore the existence of different place meanings for different groups (Lee 1972). This can also be illustrated by looking at a forest dependent community. Some families may obtain their livelihood from timber and may view the forest as a place for economic opportunities. Other families who have a history of hunting in the forest may have an emotional attachment to places. For others "it may be a place of great spiritual significance, steeped in ancestral importance" (Galliano and Loeffler 1999: 6).

Landscapes are continuously created and recreated through social interactions and environmental changes (Altman and Low 1992; Greider and Garkovich 1994; Vorkinn and Riese 2001). Different groups may exude different perceptions of space, no one inherently more important than another—but the place dependence may vary. Although these place meanings may seem mutually exclusive to members of each group, they do exhibit one commonality—attachment. Dan Kemmis (as quoted in Galliano and Loeffler

1999: 9) notes "members of communities are unified by their interpretation of a place as valuable." The existence of this unification stresses the importance of understanding the role places play in people's lives.

Fournier (1991) describes three dimensions that collectively characterize meanings attached to objects: tangibility, commonality and emotionality. Tangibility refers to whether the meaning is found in the object or if it exists in the mind of the individual via experiences with the object. Tangibility can also be referred to as the functionality of an object or setting. Wilderness areas can represent many things to individuals. To some it is a place to explore and camp without the use of ATVs, snowmobiles, bikes etc. To others it is a place to conduct research on functioning natural processes.

Emotionality refers to experiences, arousal and intensity of attachment (Fournier 1991). Williams and Patterson (1999: 143) note that "emotionality is the most variable and individualized aspect of meaning and consequently a focal point for natural-resource conflict." This dimension refers to feelings attached to specific experiences that become part of an individuals psyche. For instance, a lake or stream in the wilderness where an angler caught their first fish becomes a special place because of the excitement and emotions related to the first catch.

Commonality refers to the degree to which meanings are shared or solely individual in nature (Fournier 1991). "Shared meanings allow for effective communication and facilitate social integration" (Williams and Patterson 1999: 143). A wilderness area symbolizes a wide range of things to people. To many it is a place where nature is uninfluenced by humans, a place where they can observe wildness and natural

processes affecting the landscape. Individuals take this culturally defined meaning and translate it into a favorite place for hiking, hunting, fishing, camping, rock climbing, nature study etc.

Each dimension contributes a different meaning to an individual's place attachment. For example, a hiker's attachment to a wilderness area may begin with a commonly held appreciation of wilderness for its opportunity for solitude. During their visit the hiker will experience any number of emotions from fear to elation. Their experiences in the wilderness and beliefs about wilderness influence the meanings they attach to the setting. It may be a place of beauty, a place to climb mountains, a place to share with friends, a place that helps define one's self or all of the above.

Williams and Patterson (1999) identify four classes of meanings that people often attach to landscapes. Each of these meanings is based on the three dimensions described previously—tangibility, commonality and emotionality: (1) Inherent/aesthetic meanings "are associated with immediate feelings of pleasantness and interest that appear to be innate reactions to landscape properties" (Ulrich et al. as quoted in Williams and Patterson 1999: 146); (2) Instrumental/goal-directed meanings are associated with the natural environment's capacity to fulfill the behavioral or economic needs of the individual; (3) Cultural/symbolic meanings are derived from the "cultural, historical and geographical contexts of day-to-day life…for example, the same forest can symbolize ancestral ways of life, valued commodities, or essential livelihood to different groups of people" (Williams and Patterson 1999: 147); (4) Individual/expressive meanings are associated with the place's ability to determine a sense of self. In short, places help

people define who they are. Figure 1 illustrates how the place meanings relate to each of the three dimensions.

How can it be useful?

1. Incorporate different meanings into planning—i.e. ecosystem management

An assessment of place attachment can provide the opportunity for researchers and managers to share knowledge and can be a tool to incorporate a range of meanings into the planning process. "Places can present the necessary contextual setting to achieve collaboration and integration among various disciplinary functions" (Galliano and Loeffler 1999: 8). Incorporating place into land management planning may allow managers to find and discover common values and meanings among divergent stakeholder groups (Brandenburg and Carroll 1995: 396; Galliano and Loeffler 1999). On the other hand, it may muddy the waters even further by uncovering a number of mutually exclusive meanings. Even still, Brandenburg and Carroll (1995) argue that focusing on place attachment has merit because it requires planners to create frameworks that incorporate sensitivity to place in land management desired by the public. They also feel that place provides the context for "managers, social scientists, and stakeholders (to) work together to discover techniques that provide a richer understanding of (the range) of people's values and attachments" (Brandenburg and Carroll 1995: 396).

Galliano and Loeffler (1999) note that until recently social science research was not included in land management strategies due to the difficult nature of applying such knowledge. The main focus of resource management agencies was on the tangible, instrumental/goal directed, economic opportunities the land offered. "This resulted in an

expanded detachment of people from the resource planning process and a seemingly stronger emphasis on commodity production" (Galliano and Loeffler 1999: 7). Assessing place meanings can help land managers address this imbalance (Sime 1995).

The push for a new paradigm namely 'ecosystem management' is due in no small part to the failure of traditional approaches to understand and legitimize emotional and symbolic meanings of natural resources (Williams and Patterson 1996: 508). Galliano and Loeffler (1999) note that until recently natural resource management has been perceived by its relations to the physical environment or economic opportunities. "Intangible features were relevant only if they could be commodified, turned into economic goods" (Galliano and Loeffler 1999: 8). This focus resulted in the creation of place meanings that did not reflect the full range of attachments. Expanding this focus would allow managers to see that single watersheds should not be managed as one place with one meaning (Galliano and Loeffler 1999). A single watershed may be defined by a variety of meanings like good for wildlife viewing, spiritual growth, admiration of natural processes, timber production, recreation access, etc.

The ecosystem approach emphasizes the importance of looking beyond single uses and small units of analysis by focusing on a landscape level of analysis. "The concept of place embeds these resource attributes back into the system of which they are a part, reminding managers that resources exist in a meaning-filled spatial (and temporal) context. Recognizing and understanding this context is the principal contribution of social science to ecosystem management" (Williams and Patterson 1996: 508-509). This approach aims to both develop an understanding of the social aspects of landscapes and

expand the recognition of place meanings and attachments (Williams and Patterson 1996).

Galliano and Loeffler (1999) note that one of the greatest challenges facing ecosystem management is making the connections between the biophysical and social aspects of wildlands. They suggest that understanding the bonds people create is a logical approach to establishing this connection (Galliano and Loeffler 1999: 9). Ecosystem management must include a human dimension and an effort to manage for the sustainability of the places that exist across the landscape (Overdevest et al. 1997; Williams and Patterson 1999). The success of ecosystem management depends in part on ensuring "place management…become(s) as essential as key wildlife habitats or productive timber sites to agencies like the Forest Service and the BLM" (Williams as quoted in Galliano and Loeffler 1999: 8).

As stated previously, traditional management approaches often ignore the existence of meanings that people attach to locations. "As a result, (attachment oriented) users are frustrated as they watch their valuable places slip away, and they have no control…what is lost may perhaps never be replaced or substituted" (Mitchell et al 1993: 35). Schreyer and Knopf (as quoted in Mitchell et al 1993: 35) suggest people with a developed sense of place and established meanings "may be more sensitive barometers for change and indicators of quality places for all users." Vorkinn and Riese (2001) believe that individuals with a strong attachment have a drive to protect and care for special places and will oppose environmental degradation. However, they note that "people may be unaware of the extent of their place attachment until an environmental disruption forces acknowledgment" (Vorkinn and Riese 2001: 251). Accounting for place

meanings in the planning process can prevent disruptions in place and loss of attachments. Galliano and Loeffler (1999) suggest that the identification of places in the planning process can build a stronger community and will give them a better understanding of the potential changes to their natural surroundings.

After attachments are formed losses can create a stressful situation for community. "An examination of disruptions in place attachment demonstrates how fundamental they are to experience and the meaning of everyday life" (Brown and Perkins 1992: 279). In conducting a study of place meanings in the interior Columbia River Basin, Galliano and Loeffler (1999) found that community members did not want to see their places change. "Changes could be unsettling to communities if not handled with sensitivity" to place attachments (Galliano and Loeffler 1999: 11). This notion is illustrated by the proposal of a campground along the Metolius River in central Oregon. The USFS set out to meet the increasing demands for river recreation experiences by providing more access on and off the Metolius. "To the people who hold stake in the Metolius River, however, any changes to this place may be viewed as a direct threat to the fundamental meaning of their cultural community" (Galliano and Loeffler 1999: 11). The USFS held public meetings to gain an understanding of the community's concerns regarding the development of a campground and eventually dropped the proposal.

Stedman (1999) noted that some individual's definitions of landscapes are inherently change-aversive constructs oriented towards preserving established meanings in the face of social and environmental changes. This is reflected in timber communities calling to preserve logging as a way of life in opposition to newcomers attempting to assert their values over traditional ones. Stedman (1999) notes that in some cases the

established meanings of places are romanticized in the community and considered more valid than other conflicting meanings. He adds that overall community sustainability may depend on the existence of differing attachments to places. Communities that acknowledge their diversity may be more resilient and adaptable to social and environmental change (Stedman 1999).

2. Explain and predict reactions to management actions

A number of researchers focusing on place concepts have attempted to gain an understanding of the types of attachments people form and how assessments could be used to inform planners and managers of the social aspects of resource management decisions (Williams et al 1992; Brandenburg and Carroll 1995; Galliano and Loeffler 1999; Eisenhauer et al 2000). It is assumed that by obtaining a better understanding of the bonds people create managers may be able to predict and explain reactions to management actions (Williams et al 1992; Brandenburg and Carroll 1995; Williams and Stewart 1998: Eisenhauer et al 2000). For example, if fire were allowed to assume its natural role in wilderness, people's attachment to places within a wilderness area may be threatened. If a fire burned through a sub-alpine habitat type dominated by lodgepole Pine (which needs high intensity fire to regenerate), the visual impact of a seemingly barren and destroyed ecosystem could result in loss of attachment. Consequently, some users who do not understand the role of fire, or have a strong attachment to place may question wilderness policy.

Concerns are heightened about management actions when affective bonds with places are present (Eisenhauer et al 2000). Cantrill (1998) feels that not recognizing and accounting for the range of perceptions and meanings attached to settings can work to

distance individuals in the community from one another and the agency responsible for the management of natural resources. By including a range of public definitions and perceptions of places in the decision making process managers will be able to see that significant places do exist within the landscape, and this should allow them to implement "standards and guidelines that will maintain the salient characteristics of those places" (Galliano and Loeffler 1999: 9).

The body of research on sense of place suggests that the cognitions people use to relate to the natural environment can be observed and are quite powerful in the generation of responses to natural resource policy (Cantrill 1998: 303). According to Eisenhauer et al. (2000) it is important for managers to recognize and address attachments when planning actions that may alter the attributes of a place. An assessment of the variety of place meanings attached to a setting provides a general understanding of the social expectations of natural resource management (Galliano and Loeffler 1999). For example, a stand replacing fire in dry forest types once dominated by ponderosa pine (adapted to low intensity fires) could be detrimental. In that, sense of place could be lost if the fire removes the environmental features of the setting to which people are attached. The biophysical attributes that were lost or damaged can be symbolic to individuals. These symbols may be the foundation of some people's attachment to the setting. The loss of an old growth ponderosa pine someone climbed in as a child, picnicked under with family and friends, etc. could result in a loss of attachment. The damage to fish habitat due to increased sediment and turbidity could displace anglers who have fished the same spot since childhood. If managers chose to remove hazardous fuels through management ignited fire and to restore low intensity fire to maintain the ponderosa pine habitat they

could prevent such losses. However, people living in the wildland/urban interface may not want fires burning on forested lands nearby if they believe it threatens the safety of their homes.

Kaltenborn (1998) conducted a study in the Norwegian high Arctic to determine if sense of place could be used in the production of environmental impact assessments (EIA). The main focus of an EIA is to predict singular and cumulative effects of a proposed action on individuals and groups. He argues that EIAs should attempt to bridge the gap between natural and social science to gain an understanding of the entire system that will potentially be affected. "A well informed impact assessment covering social issues should address the well-being or quality of life of affected interest groups… consequently, one should map a broad range of place or landscape meanings, not merely the functional or economic aspects of social conditions" (Kaltenborn 1998: 171). While Kaltenborn (1998) found little support for using sense of place to predict perceptions of environmental conditions, he did find that place concepts are useful when attempting to predict reactions to impacts. He noted that sense of place is very individualized and complex and would be difficult to incorporate into the EIA process. Kaltenborn (1998) stated that tools need to be developed to help managers incorporate the diverse array of meanings the public holds for a landscape.

3. Address conflicts between different groups

There are a number of other benefits of incorporating place aspects into management frameworks. One that warrants focus is mapping place meanings to address conflicts over management actions. Williams (2000) states that focusing on a sociocultural view of meanings results in several beneficial outcomes. It causes planners

to examine the values people hold, where they come from, how they vary, how they are negotiated in society, how they are used in conflict situations, how they are impacted by modernization and development, and how they influence policy decisions (Williams 2000: 81). This approach gives managers the ability to develop means of addressing social conflicts between divergent groups and helps them understand why conflicts emerge.

Conflicts over land management have arisen in part because many forms of public participation and discourse led to oversimplification of the issue at hand and polarization of stakeholders (Wilkinson as quoted in Brandenburg and Carroll 1995: 395-396). Brandenburg and Carroll (1995: 396) note that the traditional approaches to resource management and planning are not equipped to explore possible commonalities that may extend beyond group lines. Traditional land management planning paradigms are top down approaches that call for planners to define problems, set objectives and identify the best alternatives. Only at the end of this process is the public involved (Overdevest, McNally and Hester 1997). Asking for input after alternatives have been chosen gives little opportunity for a discussion of the conflicts at hand.

Overdevest et al. (1997) outline a bottom up approach that allows planners to interact with stakeholders in the beginning stages of the planning process. Their method allows for a discussion of which interests conflict and allows planners to develop alternatives that will truly benefit all interested parties. They suggest using an assessment of the range of attachments associated with the given landscape to gain an understanding of the values present and explore the possibility of shared meanings. "By understanding the relationships between place values and other values, this system could enable

planners to minimize conflicts by balancing social, economic and ecological goals" (Overdevest et al. 1997: 99).

Place Attachment and its linkage with Social Acceptability

Changes to the environmental characteristics of landscapes without consideration of place meanings can be damaging to communities and are not likely to be accepted by people to whom that setting has a special meaning (Galliano and Loeffler 1999). "When any of the attributes that comprise a meaningful place are threatened by any type of change, whole communities may come to the defense of their place" (Galliano and Loeffler 1999: 11). According to Greider and Garkovich (1994) even proposed changes to landscapes can result in social impacts. They cite an example of a community in the western US that was drastically divided by a proposal to divert water from agricultural uses to electricity production at a power plant. "One group of community residents asserted a quasi-religious meaning to the use of water in irrigated agriculture, strongly opposed the transfer, and condemned neighbors who supported the transfer. Another group symbolically attached to water the meanings associated with the rights of private property and, just as strongly, supported the transfer" (Greider and Garkovich 1994: 13). These opposing viewpoints led to the creation of divergent landscapes and a loss of community cohesiveness.

It has already been noted that forests and management practices have different meanings and implications for different individuals and groups. Hansis (1995) suggests that certain practices may be found acceptable only if the alternative would result in more environmental degradation. I feel that the reintroduction of fire into wilderness ecosystems may be deemed acceptable if people believe it will curb the myriad of

problems associated with exclusion. Place meanings may be shattered by unnatural, catastrophic burns that were caused by excessive fuel build up from years of fire exclusion. Others who view fire as a destructive force may not find any application acceptable. For example, individuals who view the wilderness as simply a beautiful place may not want to see any scorched earth.

Hansis (1995) studied people's perceptions of clearcutting and found that acceptability varied according to the values different people associated with national forests. Responses were often associated with economic aspects of timber cutting. However, Hansis (1995) did realize that acceptability did not depend solely on the individual's relation to or opposition to the practice of cutting timber. "The set of values that a person has and the spatial and temporal context in which a person lives both interact with each other and are reflected in the acceptability of clearcutting" (Hansis 1995: 100). The environmental context, which comprises place attributes and leads to the creation of meanings, is an important factor to account for when trying to determine the acceptability of any action (Hansis 1995).

Competing social values and meanings of forests (between and among resource managers and the public) may limit the ability to provide effective solutions to management issues and establishing a socially acceptable management direction (Stankey 1996: 101). Many of the issues managers face cannot be solved by simply finding a technical solution (Stankey 1996). For example, the complex nature of wildland fuels has been exacerbated by the past decades of fire exclusion. Exclusion has resulted in an unnatural build up of fuels and in turn has made it more difficult to fight fires, and increased the risks to the people who live in and around forests (Keane et al, 2002). There

is no simple solution to this problem. Homes will continue to be built in the wildland/urban interface, and people will continue to attach special meanings and values to wildland settings. Changes to the natural environment either through catastrophic fire or widespread fuel treatments will affect the meanings people attach to landscapes. "In contrast to technological fix solutions which appear to by-pass people, concern with the creation and preservation of places reflects an attempt to provide an optimum psychological fit between people and their physical surroundings" (Sime 1995: 27). Focusing on place attachments and meanings would integrate natural and social science in planning and could lead to socially acceptable management actions. Stankey (1996) suggests that it is likely that judgments of acceptability form in relation to how people relate to the landscape. "The meaning attached to special places might constitute the most significant attribute influencing decisions about acceptability" (Stankey 1996: 104).

Social Acceptability—The What and Why?

Simply put, a socially acceptable management action commands the understanding and support of the affected community (Stankey 1996). According to Brunson (1996: 9) social acceptability is the "result of a judgmental process by which individuals compare the perceived reality with its known alternatives; and decide whether the real condition is superior to the most favorable alternative condition." For example, many communities lying adjacent to vast national forests are threatened by wildfire due to unnatural fuel loads and dry conditions. One option to protect the community is to thin out the forest and remove some of the fuel present to reduce to the risk of catastrophic fires. Another option is to not reduce fuels, let the forest burn and hope that the fire management agencies will have the resources, skills and ability to protect the homes in

the interface. There is a great number of other options available but the contrast between these two illustrates the notion of acceptability loosely defined above. The members of the community are faced with tradeoffs—trading an ideal situation for a more realistic, less than perfect one. In essence, they will weigh the costs and benefits of each option and determine which will have the least impact on their personal lives and property. While thinning the forest may not be desirable to some homeowners, the added protection and piece of mind may outweigh the cost of hoping the fire can be suppressed when it occurs.

The notion of acceptability exists on several premises. First, ecosystems are socially constructed—the biophysical attributes of the system are given meanings and values and in turn become places. The public develops notions of what it deems acceptable for the management of public lands. This notion can be realized by attempting to override conditions imposed by managers deemed unacceptable through public participation and litigation. Second, personal experience, knowledge, values and beliefs influence public conceptions of acceptability and the willingness by society to bear the costs associated with something less than perfect (Stankey 1996). Similar to place meanings, what society values and the management approaches necessary to realize and sustain those values can change. Stankey (1996) notes that conditions and practices deemed acceptable at one point in time and space (or place) cannot be expected to remain the same.

Understanding acceptability and how it can change requires the identification of specific attributes that shape judgments. This includes an individual's level of knowledge and understanding of practices and conditions (Stankey 1996; Shindler et al.

2002). Practices are defined as any management prescriptions implemented, and conditions are the outcomes of those actions. Stankey (1996) notes that understanding the purpose of a given practice does not necessarily lead to acceptance of the conditions. "For instance people might express great opposition to the practice of clearcutting, but at the same time support the conditions that result from it, e.g. wildlife habitat, wildflowers" (Stankey 1996: 104). With regards to wildfire hazard reduction, many people know how management ignited fire works and have an understanding of its benefits to the ecosystem and surrounding communities. At the same time, many people are unwilling to accept the smoke associated with burning. Stankey (1996) and Shindler et al (2002) have stated that the extent to which increased knowledge changes values, attitudes, or reactions to practices is unclear; it may even increase the level of opposition to some actions.

The situational, spatial, and social context of any action also influences how judgments of acceptability are made (Stankey 1996; Kakoyannis et al. 2001). The situational context reflects past management actions in the area surrounding the site that will be affected by proposed actions (Kakoyannis et al. 2001). For example, the acceptance of cutting timber in national forests may depend on how many other stands have been cut in the same drainage. The issue at hand here is not simply cutting timber. The negative response exerted by some people in the community is in response to cutting too much timber in one place (Stankey 1996).

The spatial context reflects the importance of specific sites or places to individuals or groups (Kakoyannis et al. 2001). "People not previously involved in management decisions often become mobilized when an undesirable practice is slated to

occur in a highly valued location" (Kakoyannis et al 2001: 11). As stated above, managing ecosystems requires sensitivity to place. For example, some researchers have found that timber practices are accepted by the public in a general sense, but not when they will take place in familiar, highly valued locations (Brandenburg and Carroll 1995; Kakoyannis et al 2001). The same theory holds true for the disposal of toxic wastes reflected by the 'not in my back yard' sentiment (Stankey 1996).

The social context refers to the demographic characteristics of an individual or to membership in a group (Brunson as quoted in Kakoyannis et al 2001: 11). It is believed that demographics (e.g. age, gender, class, religion, education, income, political affiliation) can influence the creation of environmental values (Kakoyannis et al 2001). Perry and Pope (as quoted in Kakoyannis 2001:11) found that females, younger generations, the highly educated, and people with high household incomes hold higher levels of concern than their counterparts. Kakoyannis et al (2001) also note that group membership can also influence acceptance of certain forest management practices. Individuals working in the timber industry may hold human centered values in regards to forest management while individuals associated with environmental organizations like the Sierra Club may hold more nature centered views.

Understanding the range of contexts that perceptions of landscapes and forest management actions exist in is only part of the process. Kakoyannis et al (2001) point out a number of other factors that come into play when judgments of acceptability are at hand. Judgments are also influenced by the level of trust held by society for resource management agencies. According to Kakoyannis et al (2001: 12) research has shown that public distrust in natural resource management agencies is one of the principle obstacles

to finding increased public acceptance of forest management decisions. This lack of trust often results in another factor—society's perception of risk associated with management action or inaction. For example, the 2000 fire season was a wake up call for the public and managers as well. Fires in the Bitterroot Valley burned approximately 307,000 acres and damaged or destroyed more than 70 homes (Bitterroot-NF 2003a). I assume that some of the residents of the Bitterroot valley may have lost trust in the agency in charge of managing the National Forest. It is possible that these individuals do not feel that the USFS has the ability to protect their property from future wildfires. I also assume that some element of the community may be weary of treatments like management ignited fire or allowing naturally ignited fires to burn because they do not trust the agency's ability to manage either type of fire.

One reason resource professionals need to be concerned with acceptability is because current legislation requires public participation in the planning process—managers are responsible for implementing practices that different interest groups find acceptable (Hansis 1995). Shindler et al (2002: 5) note that without public support "the ability to successfully implement resource management practices or conditions that fail to achieve social acceptance is questionable, even if the action is generally judged as economically sound and needed." New approaches to forest management aim to address the public's needs and a wider range of values than traditional schemes. As stated above, this has been suggested as a logical approach to incorporating the biophysical and social aspects of landscapes in the planning process. It has also been noted as a means of determining the bounds of socially acceptable resource management (Stankey 1996). According to Stankey (1996:104-105) "there is a need to consider how this increasingly

varied spectrum of interests can be taken into account" mainly because forest managers have a limited ability to know what the public wants.

It has been suggested that acceptability of the ends may rely on acceptability of the means—the ecosystem management approach must be seen as the best means to achieve biodiversity and ecological and social sustainability (Brunson 1996). According to Brunson and Kruger (1996: 1), former Forest Service Chief Dale Robertson defined ecosystem management as "the use of an ecological approach to achieve multiple-use management of the national forests and grasslands by blending the needs of people and environmental values in such a way that (they) represent diverse, healthy, productive, and sustainable ecosystems." Meeting the objectives set out by Robertson requires managers to know both how natural systems function and are sustained and how social systems function and are sustained, as well as their relation to each other (Brunson and Kruger 1996). The only way to formulate appropriate, implementable management actions is to incorporate both scientific/technical expertise and an understanding of the dimensions, i.e. place meanings, which influence judgments of acceptability in the planning process (Stankey 1996).

Place Meanings 'Revisited' and Working Propositions

This project will attempt to address how three different groups' sense of place influences their judgments of acceptability. I feel that the residents of the adjacent communities, visitors to the wilderness area and its managers will each exhibit a discernible attachment to place. In general, their attachments will vary by how dependent each individual is on the setting and what meaning is most salient for them. However, I do believe that the members of each group may reflect more than one type of attachment

to place. In this section I will establish working propositions to help guide my data analysis. As stated previously I will use the framework for mapping place meanings developed by Williams and Patterson (1999). I will rely heavily on their work and in some places only cite it by the year it was published. "This framework recognizes four approaches to understanding the meanings people assign to natural landscapes: inherent/aesthetic, instrumental/goal directed, cultural/symbolic, and individual/expressive" (Williams and Patterson 1999:144). Traditional approaches to resource management have focused on the first two meanings simply because they are easier to grasp. The preceding pages have tried to make it clear that all meanings are important when planning to manage public resources. Each meaning will influence how an individual judges the acceptability of restoring fire or continuing to exclude fire. It is my belief that each group will exert a range of meanings; in some cases individuals from different groups may attach similar meanings to the landscape. Thus, my first working proposition is

WP1: The distribution of meanings will be equal across all members of each group

Inherent/Aesthetic Meanings

Aesthetic meanings are characterized as tangible, commonly held, and emotionally evocative. They are tied to the physical features of the natural world; they reflect a shared basis for evaluating the quality of amenity resources; and they are associated with immediate feelings of pleasantness and interest that appear to be innate reactions to landscapes (Williams and Patterson 1999). Others have theorized that aesthetic meanings are more than just superficial concern for landscapes. Williams and

Patterson (1999) cite several studies that suggest natural landscapes promote healing and mental restoration. They add that inherent/aesthetic meanings can be isolated from other meanings of the landscape and can be mapped and provide a widely shared and valued basis for natural resource decision making (Williams and Patterson 1999). Individuals who value the visual quality of landscapes may not find the restoration of fire acceptable since the character of the setting will be altered. Thus,

WP2: Individuals who exhibit inherent/aesthetic meanings will find the restoration of fire unacceptable.

Instrumental/Goal-Directed Meanings

Historically, the predominant way of assigning meaning to natural landscapes was to assess a resource's capacity to promote behavioral or economic goals (Williams and Patterson 1999). According to Williams and Patterson (1999: 146) "humans are viewed as rational planners who select the best options within a system of socio-physical opportunities and constraint." From this perspective appraisals of the natural environment are made based on its potential to fulfill the individual's goals. Instrumental meanings reflect tangible properties of the landscape (e.g. trees for timber, streams for fishing); they reflect shared biological or functional relationships (e.g. water for irrigation, swimming, fishing) and cultural associations (e.g. nature as an escape from everyday life); and they represent narrowly defined appraisal of resources as products, services or experiences which lacks the depth of other emotional reviews (Williams and Patterson 1999). Instrumental meanings imply that landscapes are interchangeable and reproducible given that the replacement provides the same goal-fulfilling opportunity. This meaning does overlook the intangible attributes of landscapes people create. A low

creeping burn here and there may mean an individual has to look elsewhere for firewood, but a stand replacing fire could result in lost attachments. People who see the wilderness only as a place of business, a place to exercise, or a place that provides resources like fish and wildlife for consumption, minerals, and water for irrigation are not likely to accept actions that may keep them from achieving their goals. Thus,

WP3: Individuals who apply instrumental/goal directed meanings to the wilderness area will find the restoration of fire unacceptable.

Cultural/Symbolic Meanings

These meanings move beyond the stimulus based meanings above and focuses on the socially constructed attributes that exist in a cultural, historical, and geographical context. As stated previously "the same forest can symbolize ancestral ways of life, valued commodities, or essential livelihood to different groups of people" (Williams and Patterson 1999: 147). This implies that one setting can encompass a wide variety of different meanings and can become more than one landscape. From this perspective Williams and Patterson (1999) note that geographic settings are valued "as places that people become attracted to and even attached to because such places possess emotional, symbolic, and spiritual meaning." Cultural/symbolic meanings are tied to specific environmental attributes and the socialization process individuals undergo in and around the natural environment. The emotional aspect of this meaning is an enduring affection for a place built up through past experiences and interactions in the setting. This meaning is not a direct result of one experience but is an emotional investment in the landscape built up over time and passed down to other generations (Williams and Patterson 1999).

People who view wilderness as wild and free, as a place where nature shapes the landscape, not human intervention, are likely to view fire as a natural process. Thus,

> **WP4: Individuals who exhibit cultural/symbolic meanings will find the restoration of fire acceptable.**

Individual/Expressive Meanings

This type of meaning implies that individuals have the ability to assign intangible and relatively unique meanings to places. Individual/expressive meanings, unlike the first two listed, do not apply to the separable features of the natural environment. They focus on specific holistic landscapes (Williams and Patterson 1999). This identification or attachment to places helps individuals define who they are. Expressive meanings do evolve over time and are a product of past experience and ties to the setting. Williams and Patterson (1999) note that some have argued individual meanings are not useful for resource management because they do not reflect shared values and perceptions. This argument overlooks the fact that people do create individual meanings and will react to resource management actions on the basis of these meanings (Williams and Patterson 1999). Individual/expressive meanings are also passed down and can be shared among group members and therefore should not be overlooked. “People are likely to resist management actions that threaten their individual sense of self” (Williams and Patterson 1999: 149). Fire exclusion is an active manipulation and is can be viewed as humans prohibiting a natural process. This contradicts the meaning of wilderness and may conflict with some individual’s sense of self. Thus,

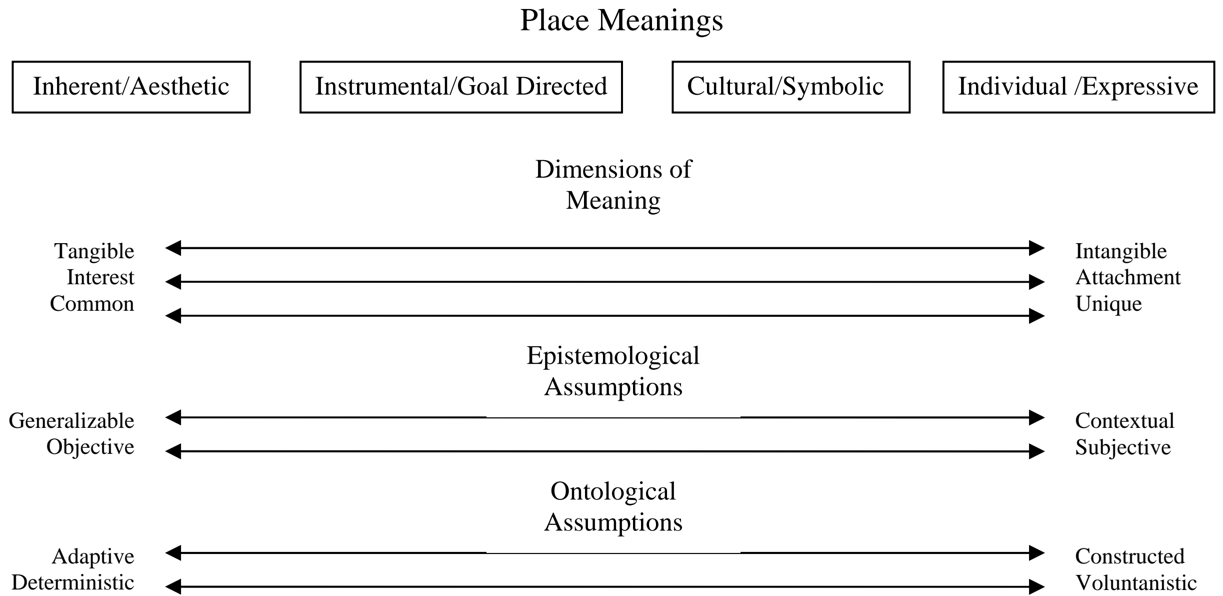
> **WP5: Individuals who exhibit individual/expressive ties to the wilderness will find the restoration of fire acceptable.**

* * *

Summary

This chapter attempted to argue that meanings people attach to landscapes are useful pieces of information managers should account for when implementing new programs or actions that may alter the physical conditions of a site. How people define a place will undoubtedly influence their willingness to accept management actions. Different groups may exude different perceptions of space and accounting for these differences is necessary when attempting to predict the ramifications of any management action. It can be assumed that altering the natural environment may have a profound affect on how people interact with each other and socially constructed landscapes. Shared meanings can help to tie a community together. The existence of this unification stresses the importance of considering places and their creation in planning and resource management (Galliano and Loeffler 1999). This chapter illustrated the need to incorporate place meanings into land management practices and planning. According to Williams and Stewart (1998: 20-21) sense of place "captures the rich variety of human relationships to resources, lands, landscapes, and ecosystems that multiple-use utilitarianism … approaches to management failed to include." Simply focusing on use and economic values of resources is not sufficient for managing public resources where social landscapes have emerged (Williams et al 1992). Economic values like timber or minerals are important, but cultural ties, emotional attachments, and other values visitors attach to places should be accounted for.

Figure 2.1: Landscape meanings (adapted from Williams and Patterson 1999: 144)



CHAPTER 3: METHODS

This chapter is a discussion of the methodology chosen to conduct this study. It begins with a description of the study area, followed by a discussion of how fire is managed in the area. I also touch on recent fire activity in and around the study area. I then discuss the population and how I developed my sample. The chapter ends with a discussion of how the data was collected and analyzed.

Study Area

I have chosen to study the Selway-Bitterroot Wilderness Area's (SBW) natural fire management program and its administration on the Stevensville and Darby Ranger Districts (RDs) of the Bitterroot National Forest. Portions of the SBW in these districts, totaling 205,380 acres, have recently been included in the Forest Service's natural fire program. Prior to 1997 fires that began in these districts were suppressed due to potential damage to property and life at the wildland urban interface.

Area Description

The SBW, established by the 1964 Wilderness Act, straddles the border of north central Idaho and western Montana (Law et al. 1997). It covers 1.2 million acres within four national forests. The Stevensville and Darby RD's are situated on the eastern side of the Bitterroot Range. This side of the Range is characterized by glaciated canyons with cirque basins at their head and U-shaped valleys draining west to east into the Bitterroot River. The eastern edges of many of these U-shaped valleys are populated with residential homes and businesses, and the Bitterroot Valley in general is one of the fastest growing areas in the state of Montana.

Management of wildland fire in the SBW is carried out by following direction given by the Selway Bitterroot Fire Management Guidebook (Law et al. 1997). It was developed to delegate authority and responsibility to declare a fire either natural or human caused and whether or not to take suppression action. It replaces the individual fire management plans of the Nez Perce, Clearwater and Bitterroot National Forests (wilderness in the Lolo NF is managed by the Bitterroot NF) in an attempt to coordinate the management of fire in the SBW regardless of which forest or district a fire occurs within (Law et al. 1997).

The crest of the Bitterroot Mountain Range creates significant weather patterns east of the divide. The west-east orientation of the U-shaped valleys combines prevailing southwesterly winds with evening down-canyon winds, which can result in rapid fire spread toward the wildland urban interface in the valley floor. Due to the potential for rapid fire spread the natural fire program boundary is generally located 2-5 miles from the interface (Law et al. 1997).

This physical landscape, prevailing weather patterns, and the proximity of private land do curtail opportunities for some natural fires on the east side of the divide in the Stevensville and Darby RDs but the inclusion of the cirque basins at the head of each canyon increases the size of the maximum manageable area for the Moose Creek and Powell RDs. Maximum manageable area (MMA) is defined by the USFS as the perimeter drawn around a fire area by managers to show the total area a fire can influence before effects and impacts could be determined negative. The cirque basins are generally oriented north-south and provide managers a better opportunity to allow natural fires to burn (Law et al. 1997).

Fire Management

In 1972 the Forest Service implemented their first two pilot natural fire programs in the White Cap and Bear Creek drainages of the SBW. The success of these programs led to the expansion of the program boundaries to include the entire wilderness and over 270,000 acres outside the wilderness. See Figure 3.1 for a map of the natural fire program.

The program was implemented to meet Forest Service management objectives for wilderness and fire management in the greater Selway Bitterroot area. Forest Service wilderness fire management objectives are to:

1. Permit lightning-caused fires to play, as nearly as possible, their natural ecological role within wilderness.
2. Reduce, to an acceptable level, the risks and consequences of wildfire within wilderness or escaping from wilderness. (Law et al. 1997: i-7)

These objectives provide a framework within which other land management objectives are achieved. General Forest Service fire management objectives are:

1. to integrate consideration of fire protection and use into the formulation and evaluation of land and resource management objectives, prescriptions and practices
2. to provide a cost-effective level of wildfire protection on National Forest System lands commensurate with the threat to life and property and with the potential for resource damage based on hazard, risk, values and management objectives
3. to minimize the sum of (a) the fire program cost, plus (b) the net change in the value of planned resource outputs due to fire
4. to protect, maintain, and enhance the production and quality of national forest resources through fire protection and use of prescribed and natural fire (Law et al. 1997: i-7)

Before a fire can be considered beneficial to the forest a number of criteria must be evaluated first and a burn plan must be created within 72 hours of the detection of a

fire. There are 8 specific criteria covered in the guidebook. If any are met the fire will be suppressed. They are summarized and listed here:

(1) if it is person caused,

(2) if it threatens the boundary of the program,

(3) if it threatens life or property,

(4) if fire management resources are strained (very active season),

(5) if the fire could exceed the MMA,

(6) if air quality outside the boundary will be significantly effected,

(7) if the natural fire program lacks funding, and

(8) if the line officer has other concerns with the safe management of the fire

(Law et al. 1997: 2-1 thru 2-5).

Successful implementation of the natural fire program in the SBW would result in the designation of all fires which meet the forest management objectives as natural fires, and all fires which would result in adverse consequences for forest resources and adjacent landowners as wildfires. All fires allowed to burn in the program boundary are considered successes because fire was allowed to play its natural role in the ecosystem (Law et al. 1997: i-7).

Recent Fire Activity

The 2000 fire season was notably one of the most active and costly fire seasons in Montana and Idaho in 90 years. The Bitterroot National Forest encompasses 1,557,883 acres and about 20% or 307,000 acres of National Forest burned that season (Bitterroot-NF 2003a). Over 1,700 residences were threatened, 1,500 valley residents were evacuated, 70 homes, 170 other structures, and 94 vehicles were destroyed (Bitterroot-NF

2003a). Approximately 3,500 acres burned in the SBW, and over 90 percent of the fire was low severity burning (Bitterroot-NF 2003a).

The 2003 season was not as active in the Bitterroot as 2000 was. Only three large fires burned in the BNF, all in the Stevensville RD; several small fires burned and were contained before reaching over 100 acres. "In July, the Big Creek fire burned about 1,400 acres near Victor. August lightning lit up the Gold 1 fire, which burned more than 8,000 acres and the Cooney Ridge fires burned about 1,300 acres of Bitterroot National Forest land" (Smith 2003). There were also a number of fires that burned in the SBW and the adjacent Frank Church River of No Return Wilderness. Only two of the 20 lightning caused fires on the Bitterroot NF met the prescriptions and were allowed to burn in the SBW (Nez Perce-NF 2003).

Population

There are three types of participants that are included in this study. They are

1. Managers: Fire Management Officers, Assistant Fire Management Officers, District Rangers, Wilderness Managers and Specialists, Forest Supervisors and other Fire Staff Officers. Each of these positions plays a role in the natural fire program.
2. Valley Residents: Each member of the community adjacent to the SBW has the potential to be affected by the natural fire program due the risk of escaped fires and threats to life and property.
3. Recreationists: Members of this group travel to the SBW for a specific purpose (fish, hike, nature study, etc.) Their ability to pursue or enjoy their time spent in the SBW can be influenced by the natural fire program.

I chose these categories because I was trying to get a picture of the different types of people who would come to a public meeting to discuss wilderness fire management. I assumed that there would be some blurring of the lines between groups. For example I assumed that the recreators and managers could have been considered residents and could have concerns about wildfire from the same point of view the residents expressed. Even some of the managers may be recreators and even residents. The residents also may call themselves recreators. I was specifically looking for people who have spent time in the SBW, working, recreating, or even both. I felt that this approach was valid because a public meeting would likely include managers, people who live next to the forest as well as people who may travel an hour or more to recreate within in it. The sample represents people whose primary role in the community can be identified as recreator, resident adjacent to the forest, and forest manager.

Sample

I used qualitative methods to conduct this study and it is important to note that the sample is not intended to be a statistically sound representation of the population. Manager, valley resident and recreationist populations are represented to the same degree, I set out to interview eight individuals from each group. Since I focused on the Stevensville and Darby RDs, I felt it was only appropriate to sample the managers in charge of the program from the Bitterroot National Forest Supervisor's Office, and the RDs.

To sample the recreationist population a snowball sampling method was used. This method was chosen because it is noted as one of the best methods to use to locate people with certain attributes necessary for a study (Berg 2001). I was looking for

individuals who spent a lot of time recreating in the SBW and had possibly developed some form of attachment to places in the Wilderness. First, I contacted different clubs who visit and have an interest in the management of the SBW and solicit members who are willing to be interviewed. I used members of clubs because they have expressed more interest in recreation and concern about the area's management than a casual user. Once I made contact and interviewed one individual I asked them if they knew anyone else I could talk to about this issue. I continued to seek out people to interview until I reached eight.

To sample the valley resident population I used a snowball sampling method. This method was used to attempt to locate people who met certain criteria (Berg 2001). I was looking for individuals who lived near the BNF boundary and spent time recreating in the SBW. I used the contacts from the recreation and manager sample to locate other members of the community that would be willing to be interviewed. I selected individuals who live in the Big Creek drainage near Victor because of the recent fire activity as well as other residents on the west side of the valley near the forest edge. I interviewed seven residents, and due to circumstances out of my control one interview session turned into a group interview made up of four individuals. According to Berg (2001) group interviews are not the best way to observe individual meanings. However, Berg (2001) also notes that socially constructed meanings do emerge in group settings and the give-and-take interactions between group members can lead to reactions and comments that may not have occurred in a one-on-one setting. I included the data from this session because it is useful, meanings did emerge, and each individual spoke freely about the SBW and management of fire in it.

Data Collection and Analysis

According to Williams and Roggenbuck (1989) much of the research on recreation settings has been focused on the physical attributes of a setting and what is necessary to support specific recreational pursuits. A majority of this research assumed that settings are substitutable based on the availability of similar attributes. However, much of the work on place concepts (noted in previous chapters) has revealed that attachments to settings extend beyond the usefulness of a site for a specific activity and include a number of social, cultural, and emotional bonds with places.

Most of the empirical research on place attachment and place meanings has focused on testing the usefulness of quantitative measures (Williams and Roggenbuck 1989; Williams et al. 1995; Williams 2000; Williams and Vaske 2003). This body of work has identified two dimensions of place attachment that are distinguishable: place dependence and identity. The framework I chose to use identifies four different meanings people attach to places: (1) inherent/aesthetic, (2) instrumental/goal-directed, (3) cultural/symbolic and (4) individual/expressive meanings (Williams and Patterson 1999). No scales have been developed to measure these four meanings as independent dimensions of attachment.

To analyze the data, I used qualitative methods. The interviews were guided by questions related to two themes: (1) the meaning individuals attach to a place and (2) their acceptability of wilderness fire. The analysis of the interviews was interpretive. This method was used to obtain intricate details about the phenomenon of attachment that can be difficult to extract or learn about through conventional approaches (Strauss and

Corbin 1998). The responses were not coded numerically because the type of data I collected does not lend itself to hypothesis testing.

The data consisted of taped interviews and transcriptions of each interview. The goal of the analysis was to create an organizing system that allowed a more holistic understanding of what places mean to these individuals (Patterson 2002). The analysis was conducted for each interview and consisted of two parts. The first part was an idiographic (individual) analysis which involved "viewing each transcript as a whole and relating separate passages…to its overall content" (Thompson, et al. 1989). The next step was a nomothetic (across individuals) analysis done to relate the interviews to each other and identify common patterns (Thompson et al. 1989; Mick and Buhl 1992). This method allowed me to identify common themes with regards to place meanings and acceptability. The organizing system coded the data into categories. This system illustrated how individuals relate to a specific place and how they responded to fire in that place. My interview guide can be found in Appendix A.

Summary

This chapter began by discussing my study area which is portions of the Selway-Bitterroot Wilderness Area located on the Stevensville and Darby Ranger Districts of the Bitterroot National Forest. I chose this area because these portions of the Wilderness were added to the natural fire program in 1997. This addition basically made the maximum manageable area for the adjacent ranger districts larger—meaning fires on those districts are allowed to grow closer to the Bitterroot Divide before suppression actions need to be taken. In this study I attempted to gain a picture of the people who might show up to a public meeting on wilderness and fire management by interviewing

recreators, residents of the west-side of the Bitterroot Valley, and managers from the Stevensville, Darby, and Hamilton, MT offices. This study set out to uncover the meaning each individual attached to particular places in the Wilderness Area and how they respond to fire in places that are special to them. The analysis was guided by a set of Working Propositions that were established in Chapter 2. The goal of the analysis was to create an organizing system that allowed me to discover common themes and patterns between the individuals I interviewed.

Figure 3.1: Map of the Selway Bitterroot Wilderness Fire Program as of 1997 (Law et al. 1997)

CHAPTER 4: RESULTS AND DISCUSSION

Part 1: Introduction and Organization of the Chapter

This Chapter is composed of three parts. The first portion (Part 1) is an introduction to the data and illustrates how the chapter is organized. The second section (Part 2) is organized into four principal sections. Each of the four sections will focus on one type of meaning from Williams and Patterson's (1999) framework for mapping place meanings. In each section the associated working proposition will be restated and the evidence to support or reject the proposition will follow. The working propositions in Chapter 2 propose that, based on the type of meaning, individuals will respond to fire in one of two ways, either accepting or rejecting the current approach to management. The second portion of each section will illustrate how the respondents felt about fire and whether or not they found the management of fire in the Selway/Bitterroot Wilderness Area (SBW) to be socially acceptable. The end of each section will address the working proposition and whether or not it was held to be false. The final portion of the chapter Part 3) summarizes the results displayed from the previous pages.

As stated in Chapter 2, this project addresses how three different groups' sense of place influences their judgments of acceptability. My approach was based on the proposition that the residents of the adjacent communities, visitors to the wilderness area and its managers would each exhibit a distinguishable attachment to place. I have used the framework for mapping place meanings developed by Williams and Patterson (1999). "This framework recognizes four approaches to understanding the meanings people assign to natural landscapes: inherent/aesthetic, instrumental/goal directed, cultural/symbolic, and individual/expressive" (Williams and Patterson 1999:144). I noted

that each meaning will influence how an individual judges the acceptability of restoring fire or continuing to exclude fire.

As stated in Chapter 3, the data to be displayed in this Chapter and accompanying tables was collected using qualitative methods. The interviews were guided by questions related to two themes: (1) the meaning individuals attach to a place and (2) their acceptability of wilderness fire. The analysis of the interviews has been interpretive:

- First, I transcribed the interviews from tape recordings, read through them more than once if needed, and made copious notes.
- I then organized the quotes by group, one table for recreationists, one table for managers, and one table for residents. Each table comprised several columns: The columns represented themes that I found reoccurring within the group. These themes helped me identify what types of meanings the respondents were expressing and how they viewed the Wilderness and its management.
- Once the meaning each individual expressed was identified, I created a new table for each type of meaning. Several themes occurred across the original groups and they were carried over into the new table showing how the themes related to the types of meanings. This portion of the analysis was done to organize the quotations by which meaning the respondents expressed.

Some of the themes were expressed by members of the same group that expressed different meanings. For instance two of the recreators may have expressed that the amount of solitude in the SBW made it special to them. These two individuals did not necessarily exhibit the same meaning, one may have a cultural/symbolic attachment and the other may have an individual/expressive attachment. I have included some of these

quotes in the following pages and explain how each one relates to the meaning they expressed and how they feel about Wilderness fire.

The Respondents

The respondents totaled 27 people in all. They varied in age, sex, race and occupation. I interviewed eight individuals for the recreation group. All of the respondents in this category were Caucasian males. Their approximate age range was thirty to seventy. I interviewed an engineer, an environmental activist, a retail worker, a former wilderness researcher, contractors, a retired airline pilot, and a retired member of the armed services. Four of the individuals identified themselves as hikers/backpackers, three were backcountry horsemen, and one identified himself as an avid bow hunter. Their quotations are coded **01-##.**

I interviewed eight individuals for the management group. Seven of the respondents in this category were Caucasian males and one was a Caucasian female. Their approximate age range was thirty-five to seventy. I interviewed three District Rangers, one retired Fire/Wilderness Research Scientist who worked on the SBW's Prescribed Natural Fire Management Plan, one Wilderness Ranger, one Wilderness Manager and two Fire Management Officers. All of the individuals had experience with wildland fire use on the Bitterroot National Forest. Their quotations are coded **02-##.**

For the resident group I interviewed eleven individuals. Seven of the respondents in this category were Caucasian males, two individuals were Native American females and two were Native American males. Their approximate age range was thirty to eighty. Four of these individuals were interviewed in a group setting. This group interview was originally supposed to be two separate interviews but when I arrived one of my contacts

did not show and the other individual thought it would be a good idea to bring some other people into the conversation. I interviewed a computer technician, a soil scientist, a retired guide, two outfitter/guides, a retail store owner, a group of representatives of the Confederated Salish and Kootenai Tribes and a Forest Service employee (not in fire management). Three of the individuals identified themselves as hikers/backpackers, four were backcountry horsemen, and the Tribal representative group is made up of two elders who grew up in the Bitterroot Valley and still visit the area for recreational and ceremonial purposes, the other two were part of the Tribal Culture Committee which has recently focused on mapping place names in the Selway/Bitterroot area. The Salish and Kootenai Tribes consider the Selway/Bitterroot area the heart of their aboriginal territory. The resident group quotationss are coded **03-##.**

Data: The Interview Process and Background Information

In the first portion of the interview each participant was asked "How long have you been visiting/working/living near the SBW?," "Did you grow up here or Why did you move here?," for the managers "Why did you choose to take a job on the Bitterroot National Forest?," "What types of things do you do in the Forest?," and "Why do you choose to recreate in the SBW? Or live near its borders?" Table 4.1 displays the main reasons people cited for moving to or continuing to live in or near the Bitterroot Valley.

Table 4.1 Reasons why respondents live in the Bitterroot											
Recreators = REC-0#, Managers = MGR-0#, and Residents = RES-0#											
Lives in the area because of the recreation opportunities	REC-01	REC-03	REC-04	REC-05	REC-06	REC-07	REC-08	RES-01	RES-03	RES-07	
Moved to the area because of a job opportunity	REC-02	MGR-01	MGR-02	MGR-03	MGR-04	MGR-05	MGR-06	MGR-08	RES-02	RES-05	RES-06
Grew up in the area	MGR-07	RES-04a,b,c,d		RES-08							

From the recreation group all but one respondent stated that they lived in or near the Bitterroot Valley because of the recreational opportunities the wilderness provides. The other individual moved here because of a job directly related to the wilderness. None of the individuals grew up in the Bitterroot and all claimed that the proximity to wildlands was a major reason they live in this part of Montana.

Only one of the managers actually grew up in the Bitterroot Valley and decided there was no better place to live and work. The nature of Forest Service employment often requires people move around the country to advance in their field, this was the case for the remainder of the managers. Each one wanted to live and work in western Montana as part of their professional advancement or for personal reasons. Two of them mentioned that the Wilderness Area was a big part of the decision and one mentioned the ability to be involved with a fire use program helped bring them to the Bitterroot NF.

Six of the eight residents interviewed stated that they moved to the Bitterroot Valley because of the opportunities the wilderness provides, be it hunting, hiking, horseback riding, etc. One of these individuals moved there for a job and fell in love with the area. The two outfitter/guides moved here specifically to be outfitter/guides in the Bitterroot Valley. One of the individuals grew up in the Bitterroot and has no desire to leave. As stated previously I interviewed members of the Confederated Salish and Kootenai Tribes. None of the members of the Tribal Representatives lived in the Bitterroot valley at the time of the interview but all still consider it home. I approached them because I was aware that the area was special to them and that they had a strong

relationship, it is their aboriginal homeland, and they have a history of using fire to maintain it.

The next part of the interview focused on the individual's attachment to the SBW. Participants were asked a series of questions about their relationship to the SBW. The first part consisted of the following questions "What comes to mind first when you think about the SBW?" "Anything else come to mind?" and "Which is more important to you?" They were also asked how they would describe the area to someone who had never been to Montana and what made it unique. The last portion consisted of questions pertaining to special trips and places in the SBW. I used their responses to this set of questions to acquire a sense of what meaning each individual applied to the Wilderness.

Table 4.2 Place Meanings Observed

	INHERENT/ AESTHETIC	INSTRUMENTAL/ GOAL DIRECTED	CULTURAL/ SYMBOLIC	INDIVIDUAL/ EXPRESSIVE
Recreators	01-03 01-05	01-01 01-07	01-02 01-06	01-04 01-08
Managers		02-08	02-01 02-02 02-04 02-06 02-07	02-03 02-05
Residents	03-01	03-02 03-03 03-05	03-04a,b,c,d	03-06 03-07 03-08

Several themes were identified as to what makes the SBW special to the respondents: (1) characteristics of the wilderness, (2) importance to personal life, (3) the importance of history in the Wilderness Area be it fire or human, (4) for the managers—

the characteristics of their jobs, (5) a strong connection to the place, and (6) a rooted lifestyle. These themes illustrate what is important about the wilderness area to each individual and help identify what kind of meaning each one attached to the SBW.

Working Proposition #1

As stated in Chapter 2 it is my proposition that each group will state a range of meanings; in some cases individuals from different groups may attach similar meanings to the landscape. Thus, my first working proposition is: **The distribution of meanings will be equal across all members of each group.** As you will see in the following pages, this proposition was not supported. Table 4.2 shows which place meanings were observed during data analysis and the break down for all respondents in their respective groups. All four meanings were expressed by the respondents, and no group exhibited only one meaning. Only one group, the managers, did not have any member express an inherent/aesthetic meaning. In the total sample, three individuals expressed an inherent/aesthetic meaning, six individuals expressed instrumental/goal directed meanings, eleven (recall 03-04 represents 4 respondents, one interview) expressed cultural/symbolic meanings and seven expressed individual/expressive meanings.

The final section of the interview helped gain an understanding of how the respondents felt about fire and its management in the SBW. Participants were asked about their experiences during the 2000 and 2003 fire seasons and how those affected their lives, what they thought about past and current approaches to fire management, how they would like to see fire managed in the Wilderness and places special to them, if wildfire affects their relationship to the Wilderness, and if fire management decisions affect choices they have made about recreating/living/working in the vicinity of the

SBW, managers were also asked how they determined fire use was acceptable to the public.

Figure 4.1 displays general feelings the respondents expressed towards fire and its

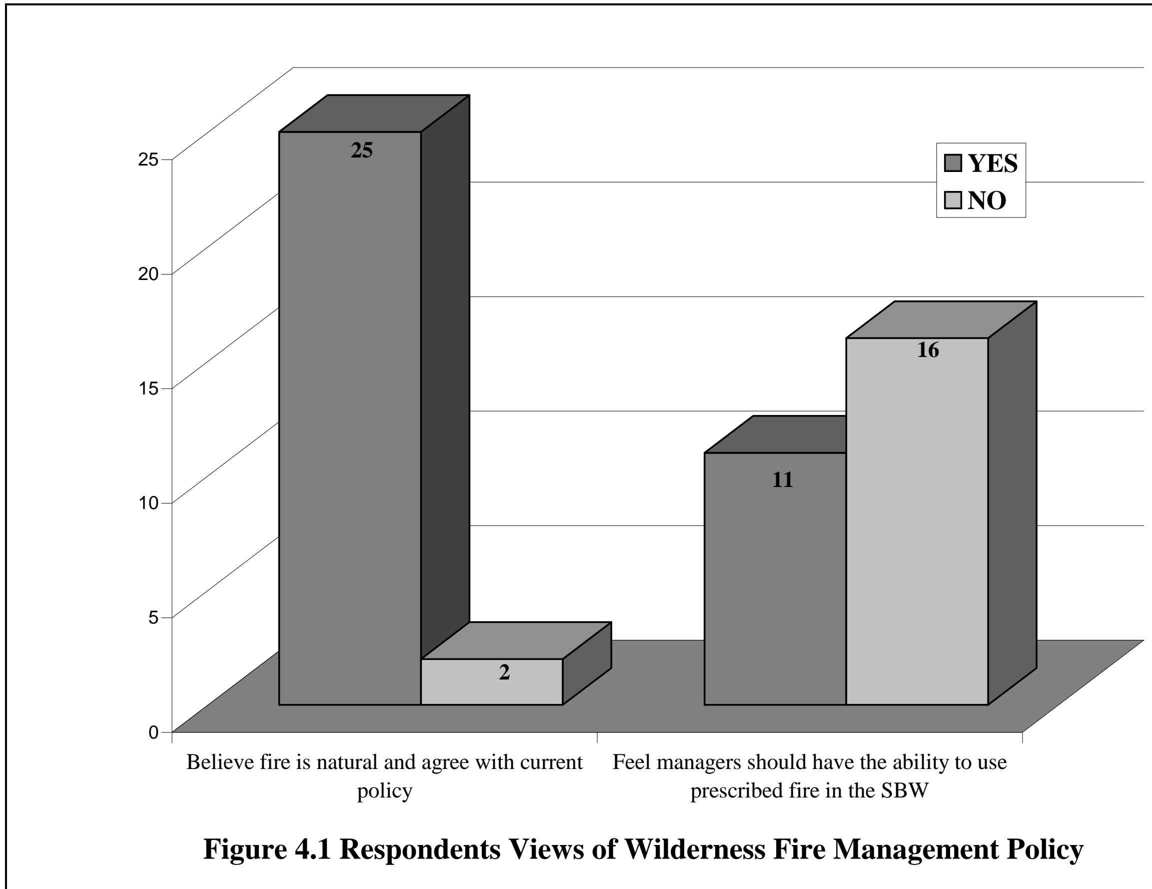


Figure 4.1 Respondents Views of Wilderness Fire Management Policy

management. Twenty-four of the respondents were working and/or living in or near the Bitterroot Valley during the 2000 wildfire season; and their memories of that experience were vivid.

Twenty-five of the individuals felt fire was a natural part of the landscape and that fire should be allowed to play its natural role in the wilderness. Of the other two respondents one did not feel fire was a good force of nature and felt it destroyed “virgin” landscapes, the other understood the need for fire but felt special places should be spared from any fire.

Only eleven of the respondents feel that managers should have the ability to use management ignited fire inside the Wilderness boundary.

All of the managers felt proud of the progress that had been made with regards to wildland fire use and several mentioned a need to expand the program outside of the Wilderness boundary. Each respondent was familiar with the fact that management allowed some fires to burn in the Wilderness. A few individuals did express the need for some discretion on the part of managers when it came to allowing natural fires to burn, they did not want to see vast amounts of the wilderness burned all at one time. Some individuals felt that fire can produce a sense of loss, and there were mixed reviews on how well fire was managed and whether or not managers should light fires inside the wilderness boundary. Several individuals acknowledged that fire does affect their lives but they have accepted it and learned ways to deal with it.

Part 2: Data-Meanings and Acceptability

As stated previously this portion of the Chapter is organized into four sections. Each section focuses on one of the meanings identified by Williams and Patterson (1999) and the respondents that expressed those meanings. First I discuss inherent/aesthetic meanings, next instrumental/goal directed meanings, then cultural/symbolic meanings and lastly individual/expressive meanings. The first portion (A) of each section discusses the characteristics of each meaning followed by the associated working proposition from Chapter 2. In the second portion (B) I display the data by using direct quotes from the interviews I conducted. I explain how each quote relates to the place meaning identified. In the third section (C) I again display quotes but here the focus is on the respondents'

acceptability of fire in the SBW. The final portion (D) summarizes the results and addresses the working proposition.

Section 1: Inherent/Aesthetic Meaning

As stated in Chapter 2 inherent/aesthetic meanings are characterized as tangible, commonly held, and emotionally evocative. They are tied to the physical features of the natural world; they reflect a shared basis for evaluating the quality of amenity resources; and they are associated with immediate feelings of pleasantness and interest that appear to be innate reactions to landscapes (Williams and Patterson 1999). Others have theorized that aesthetic meanings are more than just superficial concern for landscapes. Williams and Patterson (1999) cite several studies that suggest natural landscapes promote healing and mental restoration. I proposed that individuals who value the visual quality of landscapes may not find the restoration of fire acceptable since the character of the setting will be altered thus: **Individuals who exhibit inherent/aesthetic meanings will find the restoration of fire unacceptable.**

A. Place Meanings Identified

The apparent theme that occurred among the individuals who expressed this meaning is the Characteristics of the Wilderness. They spoke about the vastness of the area, the opportunities for hiking, skiing, horseback riding, hunting, etc, and the array of beautiful places to visit. Another important value is the ability to get away from everyday life. The following respondents mention several characteristics and the interest they find in them:

> **(01-03)** "It's hectic enough on the outside, when you are back in the wilderness there is no motorized use, which is important to me…Beauty without end…It's a place to go where you can travel, endlessly. You could be back in the Selway all summer and never see another soul if you so desire.

> **(01-03)**Any of these places are spectacular…I like Blodgett, you know they had the burn in there, and it's a little bit more open now. And you can have some really neat vistas, there's a lot of drainages that are so tight it's hard to see out of. Tin Cup is another one; there is some good vistas there."

> **(03-01)** "I enjoy hunting, so I do a little of that. I am not a fisherman, but in the summer I just enjoy going up, riding my horse up, waiting around, seeing what's there you know. It's pretty."

This individual felt that the beauty of the area is more than skin deep, and appreciates all the elements that make up the scenery. The aesthetic appeal makes the experience what it is:

> **(01-05)** "It's a neat place, a little game, some good fishing in the high lakes, beauty, it's got natural beauty, we do take pictures everywhere we go…Usually our trips in this area are in the fall up Big Creek or Bass, one of those. Just a day or so, fish, have lunch. It's a beautiful time of year you know, the larch all turning, the little bushes. And beauty means a lot of different things to different people…a lot of people don't look deep into it. They don't have that much experience being out so they look what I call skin deep, that's all they're looking at, like driving down the interstate and taking a quick glance, they are not really looking at it, taking it in. They're just going too fast maybe. Say you're fishing and so what if you catch one or two or none or a whole bunch…just looking around while you're fishing, like Bass Creek we've always enjoyed that because sometimes when I've been up there fishing with my spin rod I was watching goats at the same time and things like that."

The third individual who expressed this meaning enjoys being able to get out and see beautiful places in the SBW. The accessibility of the SBW is also important, but it is the vast amount of beauty present that draws him into the Wilderness. His favorite spots are marked by beauty and he enjoys observing the natural aesthetic appeal all over the area:

> **(03-01)** "I would say the beauty of it. I just really like going up there. I have certain trails I like better than others just because of the beauty of them. I would say what's really great about it is the access, like I say there is so much access, any drainage has a trail going up it. Each one of them is different than another one...That's what I enjoy; the ability to get up there and enjoy it, the serenity of it, and what you see up there, each one is different."

> **(03-01)** "Well I really like Big Creek, you get up there, just to where you start up to that landslide, big snow slide, avalanche, and I had never seen anything like that before, so that was really something, to see how that came from way up there and went down and just took everything out. And then when you get up there you can split off and go towards the South Fork, its just beautiful going out that way. I mean that's really pretty up around the lake up there in Big Creek. There is always a lot of Moose up there, that's just a really pretty area."

B. Social Acceptability of Fire

The three respondents who expressed an inherent/aesthetic meaning feel that the natural fire policy in place is good, and they understand the importance of fire on the landscape. They also understand the sacrifice of beautiful scenery is short term, necessary, and that places do recover. The first individual feels that the current approach is "best" for the health of the ecosystem and would not have a problem with managers lighting fires in the wilderness:

> **(01-03)** "I think we are better off now with the policy we have, letting it burn and just watching…there is certainly much more habitat for the animals, the birds, the mammals in general. It improves the scenery after you get over the black. I think its better for the overall health. It doesn't burn as hot when it does burn, you don't have that tremendous fuel load and it doesn't sterilize the ground like in some places…I think that there probably should be some ignitions started, certainly I don't see a problem with that, I would endorse that."

The second individual wanted to be sure managers kept a close eye on fires burning in the Wilderness and would not like to see thousands of acres burned at once:

> **(01-05)** "Wildfire does a lot of good. But it's hard to put an actual opinion on it because its different, different areas I think need to be managed differently than others…Fire has its place you know, and its does some good when it's not real hot. On second thought I'd hate to see it burn you know half of the wilderness up; if you burn a few sections or 1000 acres that's one thing…I can't see sending crews in to fight every spot fire, we need fire back there, but sometimes it needs to be stopped, or contained."

This individual does find beauty in its aftermath, and would not have a problem with management ignited fire in the Wilderness:

> **(01-05)** "There's no doubt about it I've seen it, fire areas are not beautiful for several years, but I have to say some of these areas you can't look at in just two or three year cycles, you have to think long term, so you're not thinking you burn today and tomorrow its going to look ugly. It's got to go through the pattern, regrowth, snags falling out decaying on the floor; it's not an instant process which as humans we want. Lets burn it this year, get it all down next year and grow six foot trees, it just doesn't happen like that…You burn it in August and before the fall you've got certain things coming back, not great big pines, but there it is, beauty is still there, it's just small."

> **(01-05)** "I'm not against prescribed burns in the wilderness; I think one of the best tools is management. Some areas maybe should be burned if the conditions are right; especially burning under snow line, like they do outside of wilderness already…No it wouldn't (affect my view of wilderness); in fact it might help it, getting certain areas that haven't had it for many years…I don't see using that as a tool as bad; I think it might help us."

The following individual felt that fire did affect his lifestyle and he has learned to deal with it. This person does not want to see the Forest Service lighting fires in the wilderness:

> **(03-01)** "I think it probably would (affect my relationship), they wouldn't be my favorite areas, but like I said it's got to happen. I don't think it would be a good idea to try and manage fires up in there, its too far back. And if it burns one place, people go to another place for awhile while it renews itself. There are so many areas to go to around here I don't think it would affect people that much. That's my opinion, I am sure a lot of people don't want to see anything happen to it. I think nature should just take care of itself."

> **(03-01)** "Oh sure it did, because they had most of the trails closed around here. If I wanted to ride up in I could go south of here and come up. I couldn't use the trails, it didn't bother me, and I understood that. It sure did affect me."

> **(3-01)** "I think some things we're just better off letting nature take care of it rather than trying to help. I don't know…I just think nature can take care of itself, its taken care of itself for a long time and our interfering in it, I know sometimes they have to fight it, if there's homes, but that's not in the wilderness. I think we are better off just letting it go."

The same person also acknowledges that fire's aftermath is not pleasant, but he does feel it is inevitable and necessary:

> **(03-01)** "I hate to see it because its ugly afterwards, but it will, it has grown back in a lot of areas where there was fire before, I know that."
>
> **(03-01)** "I mean it was a constant a problem and it's not pretty, seeing all those dead trees everywhere. I don't know how…fire is something that has to happen; I believe that, its something that's going to happen eventually, its just part of nature. It'll take a long time to fix it back up."
>
> **(03-01)** "Fires are not fun, I think that if you live some place where that could happen you just have to be aware of that."

C. Summary of results and Working Proposition #2

Individuals who exhibit inherent/aesthetic meanings will find the restoration of fire unacceptable. This proposition was not supported. On the other hand these individuals found the restoration of fire to the SBW acceptable. They acknowledged that fire significantly changed the condition of the forest but they also stated that fire was a natural and necessary part of nature.

Section 2: Instrumental/Goal Directed Meaning

As stated in Chapter 2, the predominant way of assigning meaning to natural landscapes has been to assess a resource's capacity to promote behavioral or economic goals (Williams and Patterson 1999). According to Williams and Patterson (1999: 146) "humans are viewed as rational planners who select the best options within a system of socio-physical opportunities and constraint." From this perspective appraisals of the natural environment are made based on its potential to fulfill the individual's goals. Instrumental meanings reflect tangible properties of the landscape (e.g. trees for timber, streams for fishing); they reflect shared biological or functional relationships (e.g. water for irrigation, swimming, fishing) and cultural associations (e.g. nature as an escape from

everyday life) (Williams and Patterson 1999). Instrumental meanings imply that landscapes are interchangeable and reproducible given that the replacement provides the same goal-fulfilling opportunity. I stated that people who see the wilderness only as a place of business, a place to exercise and get away from it all, or a place that provides resources like fish and wildlife for consumption are not likely to accept actions that may keep them from achieving their goals. Thus: **Individuals who apply instrumental/goal directed meanings to the wilderness area will find the restoration of fire unacceptable.**

A. Place Meanings Identified

The recurring themes expressed by the respondents in this category are (1) the Characteristics of the Wilderness and the opportunities it affords e.g. the vastness of the wilderness, the amount of solitude that can be found, its wild nature, and the accessibility and array of opportunities; (2) for the managers—the characteristics of their job, its complexity and challenges; and (3) a rooted lifestyle in the area.

Characteristics of the Wilderness

The following three individuals value the wilderness area because it gives them the opportunity to camp, hunt or fish surrounded by gorgeous scenery, observe a natural functioning ecosystem, and they can hike, ski, or ride horseback for miles on end, without running into too many people:

> **(01-01)** It's a place where I can go and where other people who really want to be in the woods can go and get away from civilization, pretty much right away. I mean its right there...Its got tremendous amount of entertainment value. It's a place where you can go and ski, backcountry ski, ride mountain bikes do a lot of things. I mean the wilderness itself with the boundary lines are you cant ride a bike but, that boundary line moves around so there's just a lot to do."

> **(01-07)** "I tend to like places where there is water; the Selway River itself is very special as well as any number of lakes. I tend to prefer high lakes that have granite shore lines and sort of sub alpine forests. What makes it special…again the remoteness of it and the wildness of it, the cleanness of it, the lack of human intervention. I am one of these people that tries to appreciate everything as it is, for its own unique features. Every time you turn around you're looking at something a little bit different than from last time."

> **(03-03)** "Go down to the Selway River to the end of the road and pack in about 10 miles or so, up the White Cap River, been there quite a few times. Mostly because its some open country and you can see game good, there is lots of good streams, fishing is good except I don't do a lot of it. Yeah, so that's kind of a special spot, and there is good fish there too, I've caught quite a few fish in there."

> **(03-03)** "Well it depends, if we are going on an elk hunting trip it's the game, but if you're just going on a summer trip it's just I like to get down into that country because its so unusual, its pretty open…Well if your successful getting a lot of elk, game has a lot to do with it. If you can catch big fish out of a high lake that's a thrill."

When this individual finds personal time, he enjoys taking advantage of the vast opportunities the Wilderness provides:

> **(03-05)** "As far as personal time, a lot of the uniqueness is going to different places you know. So we don't hit one spot…we tend, on personal time, to try and go places we haven't been to."

Characteristics of the Job

This individual is a manager who has only been working on the Bitterroot for a couple of years. The relationship to the SBW that has developed is centered on work and the complexities of managing a public resource:

> **(02-08)** "From a wilderness standpoint…fuels is one of the big ones, because there is so much, that's a long strip of that urban interface out here. The prevailing wind and the potential for that fire to come off the forest onto private land, that's one of the bigger issues."

> **(02-08)** “A real eye opener for me was the fire season we had this year. I had a chance to spend a lot of time in the air, saw the valley from a helicopter and I got a real feel for what’s happening with this urban interface.

This individual’s relationship as a hunter and guide is strengthened by getting to know an area better and being able to expect what’s over that next ridge:

> **(03-02)** “Becoming connected with it, hunting it year after year, seeing the changes, just becoming part of it. I think if you’re into a brand new chunk of country when your not really intimate with the land you know and elk goes two ridges over and you’ve never been there before its not quite as neat as when the elk goes two ridges over and you know exactly where he’s probably going to be laying down when you get there. So the more I’m in the same piece of country the more special it is to me.”

A rooted lifestyle

These two individuals are both outfitter/guides who came to the Bitterroot valley specifically to be outfitter/guides, and stated they wouldn’t do business any where else. They spoke about their experiences guiding and hunting in the Wilderness:

> **(03-02)** “It was pretty exciting right off, getting the first permit, getting going. It’s kind of become a job over the years. There’s all kinds of trips that stand out in your mind, one after another, you know hunting trips. The most memorable experiences were ones where we had exceptionally good hunting or an exceptionally good time.”

> **(03-05)** “I mean every trip has its own…I mean some are pretty routine, you have a nice summer trip where there’s good weather and nice people. I think the clients stand out more.”

B. Social Acceptability of Fire

Two of the respondents in this group did not find the current approach to wilderness fire management socially acceptable. One person did understand the need for fire but felt special places were not adequately cared for and that more discretion should be used when managers decide which fires they will allow to burn:

> **(01-01)** "It's all good to say that we need to have a cleanse every now and then that's true but, not in my favorite spot…It became less of a habitat for winter elk. There wasn't enough area for them to move around in and there wasn't enough for me to hike around in either. It was a lot different than it used to be."

> **(01-01)** "It [2000 Season] burnt down huge expansions of forests in places like you know Blodgett here which I think was totally mismanaged. That's not a place that you want to say lets let it burn. This is a tourist's area and also a local's area."

The fire in Blodgett Canyon was not a wildland fire use incident, but the individual applies the same sentiment to other favorite places:

> **(01-01)** It's like a different planet sometimes. I don't want to hang out in the woods where it's all burnt; it's not that much fun…I don't find its totally abhorrent its interesting but, you know its natural, when you've lived in the bitterroot for a long time and you have favorite places you want to go and they burn down it's a little hard but, I've adapted to it."

The other person who does not agree with the current management approach views fire as a destructive force on the landscape and does not believe the Forest Service has the ability to manage wildland use fires:

> **(03-03)** "I'm not in favor of them letting wildfires burn, sometimes yes, but they blew it that year up in the Bob Marshall, what was that 2000, earlier than that…it went across the Dry Fork and over to the east side and clear out close to Augusta, it went bananas and they could have contained that and got it stopped right at the Dry Fork but they just let it burn. That one was real controversial because it destroyed so much country. That produces good game feed that's a plus, but it's not a plus for being in cotton picking burned up snags all the time."

While this individual did express an instrumental/goal directed meaning, his aversion to fire is not based on the belief that his ability to hunt elk will be diminished, but on the belief that the beauty of the landscape is lost forever and people who recreate on it will have less desire to spend time there:

> **(03-03)** "Well what it [2000 Fires] did was burn a lot of nice country on this west face which is going to be forever ugly, its always been beautiful."

> **(03-03)** "I think there is so much use of the mountains, the timbered country, by people who come for recreation, and I think that affects them when they see it all burned and they don't have the desire to go there as much. You pretty much have to be a hunter and think well you know there is still elk here, its all ugly. Anyway, that's the way I feel about it, I don't like to see it get out of hand. It's lost forever. It's not like 20 years later its going to be better because its not. Not in our lifetime, its not."

The following three respondents feel that fire is a natural force and it is a positive agent of change in the Wilderness. They understand its role on the landscape and appreciate the benefits fire generates:

> **(01-07)** "I think we definitely have to restore fire to the landscape. I think that is an important part of any forest management, especially forest in the wilderness. Fire is as much a part of the ecosystem as salmon and wolves are. I mean it's got to be there."

> **(03-02)** "In my way of thinking I think it enhances the wilderness. Ever since the fires our elk hunting has by far been better. The elk herd in the Bitterroot has tripled since 1983, I think it's a better place because of the fires."

> **(03-05)** "Spending time back in the bigger Selway, not these canyons, but back further in there on the Idaho side it needs fire, it needs it bad…I know there are outfitters over there that are just praying for fire you know, to help those elk."

The following individual compares the parts of the Selway to other places where fire hasn't been suppressed. He acknowledges the difference and understands the need for fire:

> **(03-02)** "I probably think that's a good thing. For example I spend quite a bit of time down in the Salmon River Breaks in the Frank Church in July and August and to me that country is as natural looking as any country should be. Great big ponderosas and you can see it burns and it burns often and it's not quite as catastrophic as what you see here and I think it's because of the lack of fire suppression. I think you are actually looking at a genuinely healthy forest. Versus here where the fir and all the junk trees were allowed to grow because of fire suppression it puts us in harms way."

Both of these individuals are outfitter/guides and both have accepted the fact that fire affects their lives and have found ways to deal with it:

> **(03-02)** If you build on the edge of a river by gosh sooner or later you might get flooded and if you live on the edge of a forest sooner of later you might get burned out. Get your insurance and deal with it, and don't look for some kind of handout after your place burns up and don't blame the forest service for it and don't blame anybody for it, take responsibility. You built your house on the edge of the forest that was your decision."

> **(03-05)** "We just made it more clear to the clients that…we kind of push this trip cancellation insurance, that they go buy it on there own, that way if it does happen they can get there money back and they're not screaming at us all the time. Because we have no control over it. We didn't start it we didn't want it we can't put it out."

One mentioned that management ignited fire in the Wilderness should be considered, it is our responsibility to take care of the land as best we can:

> **(03-02)** "To me it's special, but not so special to the point where I don't believe man should have a hand in it. I think we need to be responsible with what we have been fortunate enough to have in our backyard. I think we need to take care of it and I certainly think we should partake in the care, the stewardship of the land."

Two of the respondents who find fire acceptable do not want to see managers lighting fire in the Wilderness Area. This individual feels it is a threat to the integrity of the Wilderness Area:

> **(01-07)** "Generally in the wilderness my philosophy is the least amount of management that we can possibly get away with, the less management the better. I know there are some places where the wilderness comes relatively close to, not so much structures but adjacent forest lands…maybe there has to be some management on the non-wilderness side so those wilderness fires can be allowed to burn and have some sort of a buffer before they get to the houses."

The other individual, the manager in this group, does not see a need to light fires inside the boundary because human caused fires are not a part of the historical regime.

> **(02-08)** "For here I can say it is, if you go back and look at our historic starts we just don't have man caused fires in the wilderness. We have a lot of man caused fires in that lower elevation, that strip of managed forest where we get all the use. So as far as we're concerned we're not missing a lot of opportunities without man caused fires."

The manager in this group feels, due to successes they have had in the past with wildland fire use, that there is a growing group of community members who have accepted fire use and support the program:

> **(02-08) "**We're gaining on public perception of fire as far as the wilderness goes. People still refer to it as our let it burn policy and we are trying hard to kind of change that perception to fire management vs. let it burn; that we are actually watching what's happening and monitoring it and ready to take action when we need to. We've proven up on that here recently and people have been watching real close what we are doing, so the acceptance level as far as the public in the Bitterroot is changing."

This manager also feels the Forest Service needs to focus on success stories, continue education, outreach and public involvement activities to keep support and gain more acceptance.

> **(02-08)** "Anything would have been suppressed immediately. But just as circumstances happen we were pretty successful and so now we have a good barrier to work with and we did a lot of public involvement, public information sessions to get the word out and let them know what we were doing and what the value of doing that was."

> **(02-08)** "We've had a pretty intense series of public meetings prior to coming out with the draft and one of the issues we spent a lot of time talking about was the fire use and where we think we can allow fires to play a natural role. So we are basing it all on that. And as well as some of the successes we've had to utilize fire to create some barriers for the long term."

C. Summary of Results and Working Proposition #3

Individuals who apply instrumental/goal directed meanings to the wilderness area will find the restoration of fire unacceptable. Two of the individuals in this

group did provide support for this proposition. They viewed fire as destructive and interfering with not only their goals and desires, but that of other members of society. This proposition was held to be false by the other four individuals in this group. They found fire to be a natural part of the ecosystem and appreciated the fact that its role was present in the SBW.

Section 3: Cultural/Symbolic Meaning

As stated in Chapter 2 these meanings move beyond the stimulus based meanings mentioned previously and focus on the socially constructed attributes that exist in a cultural, historical, and geographical context. Williams and Patterson (1999) note that geographic settings are valued "as places that people become attracted to and even attached to because such places possess emotional, symbolic, and spiritual meaning." Cultural/symbolic meanings are tied to specific environmental attributes and the socialization process individuals undergo in and around the natural environment. The emotional aspect of this meaning is an enduring affection for a place built up through past experiences and interactions in the setting. This meaning is not a direct result of one experience but is an emotional investment in the landscape built up over time and passed down to other generations (Williams and Patterson 1999). As stated previously, people who view wilderness as wild and free, as a place where nature shapes the landscape, not human intervention, are likely to view fire as a natural process. Thus, **Individuals who exhibit cultural/symbolic meanings will find the restoration of fire acceptable.**

A. Place Meanings Identified

Several themes were common to people who expressed this meaning, namely: (1) characteristics of the wilderness, (2) the importance of history, fire and human, in the

Wilderness Area, (3) the characteristics of their jobs, and (4) a strong connection to the place. These respondents stressed the importance of the SBW to society and the world at large. They spoke about the opportunities it affords people in western Montana and beyond, and how people can have an authentic wilderness experience. They mentioned the sheer size of the Wilderness and its wild nature and the amount of solitude people can find.

Characteristics of the Wilderness

This individual admires the authenticity of the SBW and the vast array of opportunities it provides the surrounding communities:

> **(01-02)** "It's large enough to have some outstanding wilderness qualities. You can get a long way from a trailhead I think its, it must be at least as big as the Bob Marshall, two pretty big ones, and I think they are both pretty authentic wilderness areas."

> **(01-02) "**You can do a lot of things there, if you're an elk hunter it's a good place to go, if you're a fisher it's a good place to go, if you just want to experience wilderness and stretch your legs it certainly is a good place…it just has a lot of appeal certainly for people from Missoula or the Bitterroot Valley it's readily accessible."

This individual focuses on the benefits Wilderness bestows upon the adjacent communities. In this case, the cultural and ecological value of the untrammeled wilderness is held above personal needs:

> **(01-06)** "I try and tell people in the valley who say what good is wilderness, I never get out there—I say wow, the water that is coming right down in here to the valley is coming out of there, all these things you see as usable, you like to see the birds, they are coming out of there and the wildlife. There are all these useful things in the wilderness that flow out into the valley and that happens every day and every night whether we see it or not….So I think it, wilderness around us, unindustrialized lands refresh the quality of life we have tremendously in ways that people don't see and not many really appreciate it. But that's what's great about it. That's what it represents to me."

These individuals spoke of the wildness of the area and how it contributes to the authenticity of the SBW. One mentioned the Selway River, which runs 47 miles of its course surrounded by Wilderness Areas. The others spoke of the trail system and the vast area it explores. To them, it helps make the Selway/Bitterroot an authentic Wilderness:

> **(02-01) "**One of the defining pieces of the Wilderness is the Selway River. I've been down the river a couple a times, one of the benefits of my job, so that certainly stands out in my mind…probably one of my most unique wilderness experiences, because it's the only real wilderness river…the Selway is special because it is so wild. That probably stands out a fair amount in my mind."
>
> **(02-02)** "Depending on who I was talking to, I think that would be a lot of the basis of what I would describe is that they can have a real wilderness experience in the SB. There is a lot of trailless country; there is not a lot of use in many many areas. It's pretty diverse. People use wilderness for a lot of different reasons, whether its day hikes or an extended hunt or whatever, so I wouldn't have one stock answer."
>
> **(02-04)** "It is the wildest place I've ever been in terms of just trails that are hard to find and country that just beats you up and not seeing anybody or anything for days and days and days. I think it's pretty unique from that perspective. Its one of the wildest wildernesses I've ever worked in."
>
> **(02-06)** I've been in the Anaconda Pintlars and its more high elevation; the Cabinets is this long skinny thing, this is just so vast and that's what helps make it so powerful. It's varied, its rugged, it's not real tame. It's magnificent and we're incredibly lucky to have it"
>
> **(02-07)** "As far as what's the most important I think is the fact that it doesn't get a lot of use, use is minimal and the use that does occur back there is use by folks who enjoy being there. The reason most folks are back there is probably either to enjoy the remoteness of the area, certainly the fact that our population continues to grow it tends to force more people into those areas due to the fact that they are trying to get away and try and exist on there own. They try and replicate what it must have been like 100s of years ago and be able to do that. I think each and every one of us has that instinct in us and would like to do that at some point in our lives."

The Importance of Fire History and Human History

These respondents mentioned that the human history of the area was important to preserve and they mentioned that the history of fire and fire management was an important part of what the wilderness means to society:

> **(02-04)** "I think the historic aspects of that wilderness, how people interacted with the Selway Bitterroot for many years and some of that has been preserved and some of it hasn't, over the years we burned many lookouts and other buildings and some of that we regret now, you know the kind of resources we lost. I think we have come a little ways in that we understand that the historical aspects of wilderness are just as important as the natural aspects, at least that's my philosophical feeling."

> **(02-07)** "It somewhat replicates the history of our forests based on the fact that there hasn't been a whole lot of management activity back there and has wildland fire use in those areas. So it kind of exemplifies how forests evolve naturally."

Characteristics of the Job

These two individuals speak about the role they play in managing such a special place and what it means to help manage a place for the benefit of this generation and those to come:

> **(02-02)** "I've been involved in wilderness for probably close to 40 years in one way or another, professionally and personally. And its pretty holistic in the way I approach it, its not that I just go to beautiful places, its not that I just go for solitude. I get pretty involved in the whole meaning of wilderness and the proverbial wilderness experience, certainly solitude and scenery are a big part of it, but they are not the whole thing, they are just the first two things that come to mind. I think we really need wilderness and all of its benefits and all of its subtleties."

> **(02-07)** "I guess how it affected me the most is my need to be there, either over the top of it flying, observing, monitoring, making strategic tactical procedures on certain events, it makes you feel like you are a part of what's occurring at that particular time and knowing that what you are doing at that particular point is going to leave some kind of legacy based on the decisions you are making at that point."

A strong connection to places

This individual spoke of a feeling she receives from spending time in the Wilderness Area but also mentioned that most importantly we (as managers and citizens) have a responsibility to ensure that the Area remains untrammeled:

> **(02-06)** "These really powerful places and this feeling you get when you are in those places. That's what first comes to mind and if you want the second thing it is this tithe that we have made not to control, damage or use an area like we do outside wilderness. It's set aside for a purpose above and beyond that human use… I would say that sense or feeling you get from places, is second, second because that's a personal observation, it's a feeling that I have but it doesn't matter as much as the intent of the Act. Its not there for me or you, it's bigger than that.

The Tribal Representatives I interviewed spoke of a cultural relationship with the Selway country. The Salish people consider it the heart of their aboriginal territory so there is a strong tie between them and the land. According to them, some places have been inhabited and used for ceremonial purposes since the beginning of time. Their culture and traditions evolved with the land:

> **(03-04a)** "You know, I think that it's difficult to describe our relationship with place. Often times it is difficult for non-tribal members to understand because we've been here for thousands of years. Our time is not linear it's circular. It's from the very beginning to the very end. So it's that continuity of people on place for over thousands of years. I think the relationship is changing but there is constancy."

> **(03-04a)** "These guys are tracking place names that describe the creation of land forms, they talk about resources that were there, that describe places and coyote stories, the oldest stories that talk about the creation of this place. So words that have remained constant in our language are about the relationship between people and place in our homeland. There are some places in our homeland that archeologists have dated to 12,000 years of continuous occupancy."

> **(03-04b)** "For thousands of years tribal people, we didn't live wandering along the landscape, there is a lot of mythology about tribal people, that they just aimlessly wandered, and he's talking about the trail system connecting resources and people and important places, there was a deep intimate relationship with the landscape."

They also expressed a different view towards the Wilderness designation than other respondents. To them capital W wilderness did not exist, there was no separation of their culture from any piece of land:

> **(03-04a) "**It's the curious thing about tribal and non-tribal understanding of wilderness. I think the Wilderness Act describes an area that was not inhabited by humans, and they think about it as an area that is a set aside. For tribal people it was an area that was fully used in every way, in every traditional way. Some say there is no separation from cultural practices and people from the land. The interesting thing about non-tribal wilderness is that many traditional tribal activities are excluded from them."

B. Social Acceptability of Fire

These individuals find fire in the wilderness to be an acceptable and necessary force of nature that must be present. Without fire, the Wilderness would be an unnatural landscape and not as valuable to society. They felt wildland fire use was a good policy and the managers I interviewed felt that it should be expanded into areas outside wilderness. They acknowledged that a lot of lessons had been learned since the start of the program and fire on the landscape is understood better today. By allowing fire to play its natural role in the wilderness, the intensity of future burns is greatly reduced. Some individuals mentioned that when it comes to wildfire it is a "pay me now or pay me later" argument—the forest will burn, it is just a matter of when and how hot it will burn. The Tribal Representative group expressed a good understanding of fire's role on the landscape and spoke a lot about traditional use of fire suggesting that their relationship with the Selway/Bitterroot landscape existed because of their ability to use fire.

The following individuals mention that fire is natural and that the fire use program is a good policy:

> **(01-06)** “I think having wildfire in there is like having grizzlies in there or floods in there, those are the kinds of things, definitely part of the wilderness.”
>
> **(01-06)** “Yeah that [current approach] in itself is definitely a good idea. I think in certain instances it would be wise to maybe go another step and to allow lightning caused fires outside the wilderness to burn into the wilderness, and I don’t know where that lays, I don’t know formal policy enough to know if that’s allowable now…”
>
> **(01-02) “**I view that [fire] as a natural process. Its unpredictable, in the short run it may create problems like the smoke and the first year or two after fire it changes places that people have become familiar with pretty drastically. But I guess in my view that’s what wilderness ought to be. In terms of recreational or aesthetic impacts its mixed it may go down and then it goes up but I guess I view that as secondary…but if this is supposed to be a wilderness, if wilderness is supposed to mean natural ecological forces, then in this part of the world fire is probably the most powerful ecological force we have…I think it makes the wilderness more interesting and genuine.”
>
> **(02-01) “**The largest change agent on the landscape is fire. So if we’re trying to maintain a natural landscape we can’t do so without allowing the biggest agent of change to exist, that’s fire.”
>
> **(02-01)** “My definition of a successful wilderness fire is when it starts and ends naturally whether its one snag or 40,000 acres, the whole point of that is we are not trammeling here, we are allowing wilderness to be untrammeled and we are allowing that fire to do what it wants whether it turns out to be a big fire or a small one.”
>
> **(02-02)** “I like to see change on the landscape, its something that has always fascinated me…It doesn’t bother me to see change and fire is just change on a landscape level, I like it. I don’t expect things to be static, they aren’t.”
>
> **(02-06)** “We are better for it. Its much more than just allowing lightning fires to burn, there is a set of things that we go through. I’m glad that they kept that in place because we can’t be interfering with the process, I would like to see them get that philosophy in some places outside wilderness.”

The following individuals agree with the fire use policy but feel that management ignited fires would compromise the Wilderness and the risk to adjacent lands should be addressed on those lands:

> **(02-02)** “Like management ignited fire…I think its pretty complicated. I am not in favor of manipulating wilderness. I think if fire managers or wilderness manager

> whomever decide to go in and light fires when they feel they are comfortable with it; that's not going to mimic natural processes as effectively as lightning caused fires and I don't think its appropriate."
>
> **(02-04)** "Philosophically I do have a little problem with management ignited fire, it takes away from it, I'd be careful in using that tool very judiciously. You wouldn't want to get carried away with manipulating everything all the time."
>
> **(02-01)** "Along the fringes of the wilderness along the fringes of the interface, we can treat fuels, create a more natural situation and provide a buffer, buffer is a bad term, but provide a more of a chance where fire can be managed in such a way that the wilderness fire can take place."
>
> **(02-04)** "My preference would be to treat lands on that non-wilderness side of the boundary to allow wilderness fire to go without…I don't think management ignited fire on the Selway is necessarily needed, again because of its size, but we would have to do some work on the non-wilderness side."

While most of the individuals in this group do oppose management ignited fire in the wilderness, one of the managers felt such ignitions in the Wilderness might be necessary. The manager believes that management ignited fire in the SBW near the urban-interface would allow them to expand the fire use program to include the east-side canyons. Another individual felt management ignited fire would be good for the wilderness to help protect resources outside the wilderness and to reduce the risk associated with allowing lightning ignited fires to burn inside the wilderness. The Tribal group did not feel management ignited fire in the wilderness would compromise it, they see human ignited fires as a good and essential part of the wilderness and surrounding area.

The following respondents feel that there may be a place for management ignitions in the SBW. It would allow the natural ignitions to play a bigger role if the risk of escape to adjacent lands were reduced:

> **(01-02)** "I think there is place for some manager ignitions. Partly to try to make it more possible to let truly natural fires burn with less restrictions. It's a real problem too because a lot of those natural fires with the greatest ecological impact occurred

under severe burning conditions…Those are the hardest fires to permit to burn. We tend to go for the cooler, less intense fires; those are the easy ones to put under prescription."

(02-07) "I think that a combination of management ignited and natural ignitions is probably where we are going to need to be if we are going to get these areas into more of a desirable condition where at some point natural ignitions could do whatever they want—play their natural role with little management by man."

The Tribal Representatives mentioned the traditional use of fire and how it has been left out of the toolbox for managing wilderness fire. Management ignitions would mimic that traditional use and would not change the way they view the landscape:

(03-04a) "I think that the tribes had a long history of managing and maintaining this cultural landscape, things that Mike talked about—making sure there were abundant grasses for the animals, for the game, making sure there was fertile seed beds and no competition for the native plants."

(03-04c) "One of the things reflected in Indian use of fire, one of the things they've been talking about is that I think there was an awareness that these mountains, these woods burned sooner or later, it's not a question of if they are going to burn its when. And when they used fire more frequently they made fire that was less destructive and more beneficial. And if the Forest Service in the wilderness sticks to a let burn policy it's basically a policy of letting it burn really hot because it's going to burn anyway.

The managers feel that fire is socially acceptable to the community. They also mentioned that education and public involvement has been and will continue to be a key component in gaining and maintaining acceptance for their actions and management of the National Forest. They feel acceptance for the fire use program is present and will continue to grow:

(02-01) "I think we have more acceptance than ever because we've continued to pump smoke into the air. People are like, there are people out there who say oh yeah that's probably a fire coming over from the wilderness and they don't worry about it much because it's a frequent occurrence."

> **(02-04)** "People around here don't care if there is fire in the Selway Bitterroot as long as smoke doesn't come pouring into the valley for 2 months at a time...Its the smoke issue and people have a tolerance level for fire and its like put them out! And it's at that point that we usually can't and they say it's just too much."

> **(02-07)** "I think that 2000 and 2003, what those particular events have allowed us is the publics have become more involved and more interested from a management perspective. I think that our collaborative partners and the public were strengthened due to those events because they now understand the majority of them, understand what our management practices are about."

C. Summary of Results and Working Proposition #4

Individuals who exhibit cultural/symbolic meanings will find the restoration of fire acceptable. This proposition was supported. This group of individuals differed on their acceptability of management ignitions, but all of them agreed that fire was a natural force on the landscape and that the Wilderness Area would not be the same without fire.

Section 4: Individual/Expressive Meaning

As noted in Chapter 2 this type of meaning implies that individuals have the ability to assign intangible and relatively unique meanings to places. Individual/expressive meanings, unlike inherent/aesthetic and instrumental/goal directed meanings, do not apply to the separable features of the natural environment. They focus on specific holistic landscapes (Williams and Patterson 1999). This attachment helps individuals define who they are. Expressive meanings do evolve over time and are a product of the individual's past experiences and ties to the setting. In Chapter 2, I stated the belief that fire exclusion is an active manipulation and can be viewed as humans restricting a natural process. This contradicts the meaning of wilderness and may conflict with some individual's sense of self. Thus, **Individuals who exhibit**

individual/expressive ties to the wilderness will find the restoration of fire acceptable.

A. Place Meanings Identified

Themes common to the respondents who expressed this meaning are as follows: (1) the characteristics of the Wilderness e.g. the intact natural system and the opportunities it affords, its size, wildness, naturalness, diversity and amount of solitude; (2) its importance to their personal life, some mentioned they needed wilderness and chose to live near the SBW because the wilderness experience was a key to living a full life; (3) the importance of history with regards to fire and (4) the characteristics of their jobs, the mangers commented on how their jobs are very important to them and they strongly believe in what they do, it enriches their lives.

Characteristics of the Wilderness

These individuals talked about what makes the Wilderness unique and the features that add up to that special quality that the Selway has:

> **(01-08)** "I like the fact that this is the way god or nature intended it and its not been spoiled by us…The reason so, its valuable to me because if you look at a map of the US and see how much country is roaded up versus how much isn't, it makes this real valuable to me. Growing up I had a lot of places I could go up Lolo Creek, Fish Creek, I could spend a whole day and be by myself. That day is gone, now I can't find a place where there isn't commotion and people all over and dogs and hikers and so forth. So that's why the wilderness is valuable to me."

> **(01-08)** "I like the Selway, again I like the wilderness feel, I don't know how to put that into words but you can't get that feeling, unspoiled wilderness…The reason I am interested in the Selway is it's the largest wilderness in the lower 48 if you connect it with the Frank Church. It's a big piece of unspoiled land that's very valuable to me."

> **(02-03)** "So we would sit around our campfire many nights during the summer and the thing that I guess is so compelling about the wilderness to me is just the fact that you are there almost by yourself in a natural ecosystem…You know it's talked about in terms of solitude and peacefulness of the wilderness experience, the Milky Way at

night, I guess it's just that feeling of being in a place that's 1.2 million acres in size and you feel like you're the only person there. And that's pretty special and I know its pretty special to me and my family."

(02-05) "On this district, it's the Rock Creek drainage, I really like that area, Tin Cup, they are all, once you get there, its just beautiful. Its just one of those things. You have solitude and short of the fact that there's no grizzly bears anymore, it's a pretty natural place, it just feels like it. You get this natural feeling that appeals to me… I think the natural part is more important, beauty is in the eye of the beholder, but just having a natural functioning ecosystem is the most important thing.

(03-06) "Well, it's a natural ecosystem that because it's a wilderness area there are certain types of restrictions on human activities there. And I'm drawn to that area because my experience isn't going to be compromised by motor vehicles, chainsaws, the kinds of human activities that aren't compatible with it, that sort of quiet wilderness experience, so that's what draws to me to it…in the wilderness area you are close to guaranteed to have a quiet experience."

Importance to Personal Life

These individuals have spent a great deal of time in the Wilderness Area and don't feel any other place could give them the feeling they derive from time spent there:

(01-04) "The wilderness experience is something I needed; I needed to get away from people. And I needed that connection with the land, with the wilderness, with the water and the trees and the critters out there, the whole works…It's absolutely fascinating to me, just to be able to study it and observe it, witness it…to know that some on else is in charge of this whole program and to know that I am just a small part of it.

(01-08) "I'm a hardcore bow hunter so I like to be where there's wildlife. If I could do all my camping and packing and recreating in the summer based on wildlife, I'd probably never go into the wilderness, but I also can't get this quiet solitude wilderness experience that I want. I feel like that part of my life is decaying because of progress and so forth."

(02-05) "I've spent a lot of time in the backcountry there. As far as being…it's just a special place, there's no place like it on earth. Every place has a different feel and it's really hard to compare it."

(03-07) "Yep and we've evolved there, I mean you know, we knew we always like being in the mountains, even back east. We'd spend time in the Smokies, and in Georgia up in the mountains. So that's always been there, but now the appreciation seems to have matured, to where we don't need to be out looking at some

> unbelievable rock scenery, open peaks, but we can appreciate and we do appreciate just walking through a timbered stand, a forest setting and that natural, we feel more at home there than we do anywhere else for sure."

> **(03-08)** "Although it's generally similar, you know northern Rockies, same habitat type, but something feels different in the Selway than it does in the Bob or in the Pintlars, or in the Cabinets you know it's…that's more probably the emotional side of it, my own value of each of those places versus the other, memories."

Importance of Fire History

This manager mentioned the history of fire in the Selway was part of what makes it special:

> **(02-05)** "Fire history. History of fire both before settlement and then the whole suppression time, people talk about it as it was the bread and butter of the smoke jumper program for a lot of years. And then the whole idea of letting fire play its natural role and that whole process of planning and implementation of that whole thing over the last 30 years or so. It's a pretty special place and to be able to see fire play its natural role. I've been a student of fire for over 30 years and I'm a fire behavior analyst so I know how it works and its kind of neat to see it all happen."

Characteristics of the Job

The connection the following managers have is fostered by the time they have spent working in and around the wilderness:

> **(02-03)** "I worked in there about 4 years; I actually worked 10 on and 4 off. I had to pinch myself once in awhile to realize I was getting paid to spend so much time in that great country."

> **(02-05)** "Every time there is a fire I become a little closer with it, topography, we can sit here and look at it and that's one thing, but being able to get up and actually work in it, it brings you that much closer to the natural environment. Its not only here, I can end up tomorrow in the middle of Yellowstone Park, it just draws you that much closer to those special places"

B. Social Acceptability of Fire

The individuals in this category felt strongly about wilderness and understood the need for fire. They felt that the Selway would not be the same wild place they have come to know without fire. They feel fire use is a good policy and is appropriate management of fire in wilderness. One mentioned they would like to see lessons learned applied to expand use outside wilderness.

The individuals below feel that the SBW would not be the same without fire playing its natural role in shaping the landscape:

> **(01-04)** "It's not a natural occurrence to try and stop the fire, it's not natural…It effects the changes out there in the wilderness and all across the land. There are different growth patterns that take place if you suppress it than would occur naturally."

> **(01-08)** "I've heard a lot of animosity in my lifetime about fires destroying wildlife habitat, but my philosophy is fire has been here for as long as the animals have, its part of evolution and its better for wildlife overall."

> **(02-03)** "I think the thing that always impresses me about the Selway and so many other places in the west is that it's a fire environment. Everywhere you look if you are tuned into it a little bit you see a mosaic of age classes and even species composition, like red stem ceanothis there because of fire not because we kept it out."

> **(03-06)** "Really a healthy forest ecosystem is one that allows for wildfire and its tied up in the nutrient cycling and developing a sort of mosaic affect throughout the forest where the composition of the forest is different in areas that have been burned and haven't been burned and it opens up areas for wildlife. In terms of forest structure it's important. I'm just way more accepting of wildfire as a part of my life now."

> **(03-07)** "You know we're a little unusual about the places we like to go to, we're not the big rock and ice kind of people who have to be way up on top of some peak. As a result of that I think we recognize kind of the beauty of the Selway country and what's natural and what's been happening for ever and ever and fire is a part of that. So we would definitely, we would advocate that they let more fires burn."

> **(03-08)** "The fact that I like them for the way that I saw them 10 years ago, they got that way from thousands of years of fire so, maybe that, they evolved under fire and I don't think we should remove that from it."

The following individual acknowledges fire's aftermath is not pretty, but understands its role on the landscape:

> **(01-08) "**Honestly I'd like to look across this mountain and see it the way it was and not all burnt off, but I realize its part of evolution, its part of what's been going on since the beginning of time and the wildlife actually benefits from it"

The following three respondents feel management ignited fire is unnecessary in the wilderness, it would not mimic natural fire and they believe natural ignitions are sufficient:

> **(01-04)** "There is a difference between lightning fires and human ignitions. For mankind, our life time is so short you can't observe the changes over several hundred years. I think probably, the lightning caused fires, if we could observe that over a couple hundred years it would burn pretty much the whole thing. But because mankind wants to get in there it seems and wants to control and adjust things on their time table, mankind's time table, compared to nature's, I think that's where the difference comes in. I think that the natural occurrence would probably be sufficient."

> **(03-06)** "That is really the question. Yeah I think it (only allowing lightning ignited fires to burn) is enough, because to try and utilize prescribed fire in the wilderness, I'm not sure it would meet conditions of natural wildfire. Obviously they aren't going to be setting them or utilizing prescribed fire when fire would normally occur which is July and august."

> **(03-06)** "What they would do is utilize fire in the spring time or in the late fall during wet conditions. You don't get the same burning conditions, the animals are adversely affected, certainly nesting birds in the springtime, a lot of potential to disrupt the birth time of a lot of animal life in the forest and you just don't get the kind of burn you'd normally get. I think they ought to keep their prescribed fire programs on national forest lands as they do now outside of the wilderness until such time that they have gathered enough scientific evidence that they can document some kind of reasonable assurance that it's going to be a beneficial result from the prescribed fire that they are doing."

> **(03-08) "**No because if you go to, Stevensville did some bit of burning up on the front face of St Mary's and it was prescribed fire, I think they achieved a lot of their objectives and its good for those private land owners down there, but I don't think that a prescribed fire always mimics a wildfire. The mosaic affect isn't there, going in and thinning it with chainsaws and then burn it in the spring, it burns under

> different conditions. I think that the management intentions of it are good but it's not the same and in wilderness I want real fire to burn under real conditions."

The following individual doesn't want to see the Wilderness Act compromised to allow management ignitions:

> **(03-08)** "Its just an incremental chop to Wilderness, you know, we go in there and light some fires and things go bad so we let a chainsaw in, or we fix the dam with a Cat or you know, I'm kind of a…they couldn't foresee in '64 everything that they face now, but I would assume throw every cell phone, GPS unit, radio, the whole works honestly I would rather not have in Wilderness…Just because they didn't write it in there specifically doesn't mean the intent wasn't there."

Another respondent wasn't sold on the need for management ignited fire, this person could support it if it was proven that ignitions would mimic natural conditions and be prescribed to improve habitat:

> **(01-08)** "I guess if I really believe in wilderness they should just let mother nature light it or whatever, I guess that's where I'd have to go because I like the wilderness, but I am really between a rock and a hard place with that question because I also really promote wildlife habitat and if its good for wildlife…If some biologists said lets make a very controlled burn that we will start in a certain area and its not really going to harm the wilderness and its going to bring more wildlife in and make a little habitat and we are going to clear out some of this…fuel…where the timber is so thick, and they are 100% convinced it's the right thing…I guess I would approve of it because its going for the right reasons."

The following manager feels that management ignited fire in the wilderness could be helpful to reduce threats to adjacent property and could help managers expand fire use on the Stevensville and Darby Ranger Districts:

> **(02-05)** "I would say in the vast portion of the Selway it probably is (sufficient—only allowing lightning ignited fires to burn), but for us on this district we are going to have to do some management ignited fire. Some of these canyons like, looking at Tin Cup Canyon you should be able to use management ignited fire early in the season to take out some of that. If we could do that, if we could start to build this fuel modification zone all around the interface then that is going to allow us to have fire use fires in these canyons and I think that is where we need to be going."

The individual below felt there was no need to draw a line between human caused and lightning caused fires. This individual feels suppression has thrown things so out of order that managers should use any tool that is available:

> **(03-07)** "I think those are all a little bit artificial, and again I have, I'm not, you know what I mean, making the distinction between a campfire that gets out of hand and a lightning strike. I think we have to have the recognition that we have suppressed fires for so long that it's impacted them in so many different ways, that we have to use any tool we can get to rebalance those fuels. I wouldn't make that distinction, I'd let them both burn."

The two managers in this group feel that acceptance is present in the community and they acknowledged that fire is a socially complex issue. One mentioned that education and public involvement were key components in gaining and maintaining acceptance for management of the SBW:

> **(02-03)** "I talked a lot with the general public, I think education and information are at the top of the list of things we need to do. We need to continue information to all segments of society from children right on up through adults to see if we can't develop more tolerance for all the processes in natural systems…maybe someone in the future could say maybe well yeah this is a serious temporary inconvenience but lets get through it and see the system that results after this summer is over."

> **(02-05)** "I think the general public is pretty supportive of it, I think the people that live there that don't want their houses to burn support it, but there is always that faction that doesn't want to see it happen…I think as far as the public, as long as the fires stay up there they aren't that concerned with it. It's not uncommon to have every afternoon in the summer pretty good sized smoke coming up out of the (wilderness) just west of us here and some people will call. Unless it's right here people don't seem that concerned."

The following individuals mentioned that fire does affect their lifestyles but they have accepted it and learned to deal with it:

> **(03-06)** "Even when I walk through a burned area I am capable of looking at the area and saying to myself that this is something that perhaps needed to happen and even if

> the fire burned over a large area with a high intensity nothing could be done about it anyway. So I think I am at a place of acceptance about it."

> **(03-07) "**It definitely doesn't limit the things I do, the fact that…we have talked to a lot of people in the Selway especially down around Selway lodge, the bear creek down there, and there has been some extensive burns in there in the late 80s, 90s and some people have voiced the opinion that its changed the character of that place, in some places its right down along the trail along the river, that its changed the character of it—I don't see that. Maybe they've burned more intensely than they would have under some more natural regime but the fact that they did burn hot and killed a bunch of trees, that doesn't turn it into an ugly place that I don't want to go back to and see."

> **(03-08)** "One of your questions was kind of alluding to it, that maybe it was mutually exclusive, that I wouldn't want my special place to burn and for me that's not the case. Of course if you know I woke up tomorrow and every tree in the Selway and Frank Church burned, which isn't going to happen, that would be, maybe I would change my tune, but as it is it ain't going to happen. For me it's just an accepted part of the landscape. I can't think of a single spot in the Selway where I would think they should build a fire line around."

C. Summary of Results and Working Proposition #5

Individuals who exhibit individual/expressive ties to the wilderness will find the restoration of fire acceptable. This proposition was supported. The individuals in this group talked about the role fire plays on the landscape and seemed to have a good understanding of fire's role in forest ecosystems. While only two of the respondents felt management ignited fire should be allowed in the SBW, all respondents agreed that fire use was a good policy. They feel that the SBW is special because fire has been allowed to play its role in shaping the landscape they have come to know and love.

Part 3. General Summary of Results

In general Working Propositions 1, 2 and 3 were not supported by the data. As stated previously two individuals did provide support for Working Proposition #3. Working Propositions 4 and 5 were supported by the data displayed in this Chapter. The

following pages contain a restatement of each Proposition and a general summary of the data used to evaluate each one.

Working Proposition #1 states: The distribution of meanings will be equal across all members of each group. This proposition was not supported. Table 4.2 shows that the distribution was not equal across the groups. The recreator and resident groups contained individuals who expressed each type of meaning; the management group did not contain anyone who expressed an inherent/aesthetic meaning.

Working Proposition #2 states that: Individuals who exhibit inherent/aesthetic meanings will find the restoration of fire unacceptable. This proposition was not supported. They that fire is a natural and necessary agent of change on the landscape. They feel that allowing naturally ignited fires to burn is good policy. They also understand the sacrifice of beautiful scenery is short term, necessary, and that places do recover.

Working Proposition #3 states that: Individuals who apply instrumental/goal directed meanings to the wilderness area will find the restoration of fire unacceptable. This proposition was supported by two of the six individuals. These two individuals do not agree with the current approach to fire management in the SBW. One person did understand the need for fire but felt special places that communities and tourists identify with should be protected from wildfires. They both acknowledged that places in the Bitterroot had been destroyed by wildfire and they did not want to see more special places burned beyond recognition.

This proposition was not supported by the other four individuals in this group. They viewed fire's role on the landscape in a positive light. They acknowledged that

allowing natural fires to burn in the SBW is part of what makes it a special place. They understand fire's role in the ecosystem and appreciate the benefits its generates.

Working Proposition #4 states that: Individuals who exhibit cultural/symbolic meanings will find the restoration of fire acceptable. This proposition was supported. This group of individuals differed on their acceptability of management ignitions, but all of them agreed that fire was a natural force on the landscape and that the Wilderness Area would not be the same without fire. They agree that the current approach to managing fire in the SBW is acceptable. Without fire, the SBW would be an unnatural landscape and not as valuable to them or society.

Working Proposition #5 states that: Individuals who exhibit individual/expressive ties to the wilderness will find the restoration of fire acceptable. This proposition was supported. The individuals in this group spoke openly about the importance of having fire in the Wilderness and they appeared to have a good understanding of fire's role in wilderness ecosystems. They feel that the SBW is special because fire has been allowed to play its role in shaping the landscape. The individuals in this category felt strongly about wilderness and understood the need for fire. They agree that fire use is a good policy and is appropriate management of fire in SBW.

CHAPTER 5: CONCLUSIONS

Purpose of the Study

This study was conducted to explore the social dimensions of wilderness fire management. Specifically, I aimed to discover if the meanings people attached to special places influenced their willingness to accept management actions that have the potential to dramatically alter those places. Since 1976, The Bitterroot, Clearwater and Nez Perce National Forests have allowed some lightning ignited fires to burn inside the Wilderness boundary, mainly ones that have posed very little threat to the communities adjacent to the Selway Bitterroot Wilderness (SBW). The first fire use project in the SBW began in 1972 and since then fire has been allowed to play its natural role in the Wilderness. This history of fire use has helped managers gain support for the program from the community. Past successes with fire in the Wilderness has shown the public that fire does not have to be suppressed in every case and it has allowed managers to show people the benefits of having fire on the landscape. Managers spoke about the mosaic that fire has created in the SBW. This mosaic allows fires in the Wilderness to control themselves. One Ranger indicated that a successful wilderness fire is one that starts naturally and ends naturally. Some of the managers mentioned witnessing fire behavior slow down and even put themselves out as they burn into areas that had previously burned.

Summary of Results

This study was conducted using semi-structured interviews with 27 people. The results of this study were not intended to be statistically sound or representative of the entire population interested in the management of fire in Wilderness Areas. All of the

respondents in this study expressed some knowledge of the role fire plays in forest ecosystems, and 25 of them agreed with allowing fire to play its role in the SBW; two individuals felt managers should be more aggressive in suppressing fire. Many of the special places people identified in this study have had fire burn through or adjacent to them. Respondents were often intrigued by the aftermath of fire and watching the forest recover. They realized the benefits of fire first hand. Without the history of fire use in the SBW, the relationships expressed by the respondents and their levels of acceptance of the fire use program may be different.

Part of this research process was to find out if fire produced a sense of loss associated with special places. Only two of the 27 respondents expressed a sense of loss. These two did not find the fire use program to be acceptable because they felt it destroyed many of their favorite places. I believe that the other 25 respondents did not express a sense of loss due to a combination of their understanding of fire ecology and the vastness of the SBW. Each respondent referred to more than one special place. Respondents often stated that they would just go to another place if their favorite one burned up. They did not see the place as lost; they viewed fire's presence in a positive light—as nature taking its course.

The interview process allowed me to discover what made places in the SBW special to people and how they would like to see the SBW managed. This qualitative approach allowed me to lead a discussion about places that are important to people and allowed me to capture details that would have been difficult to discover with quantitative methods. I discovered there were many similarities in how people expressed what made places special to them. I identified the following themes:

(1) Characteristics of the wilderness i.e. vastness, wildness, opportunities, amount of solitude, lack of mechanized activities

(2) Importance to personal life i.e. for hunting, hiking, horseback riding, learning about and observing nature, recharging

(3) The importance of human history and the history of fire management in the SBW i.e. the role people have played in shaping and managing the Wilderness,

(4) For the managers—the characteristics of their jobs i.e. the rewards and the complexities

(5) A strong connection to the place i.e. for spiritual reasons, for renewal, to appreciate nature and its majesty

(6) A rooted lifestyle i.e. outfitting and guiding, hunting, needing easy access to wild places

These themes illustrate what makes places in the SBW special and what draws people to the Wilderness Area. They also helped me to identify the meanings people attached to places in the SBW.

Place Meanings Observed

I observed all four of the place meanings identified by Williams and Patterson (1999). The distribution of meanings was equal among the eight individuals I identified as recreators—each meaning was expressed by two individuals. One of the managers expressed an instrumental/goal directed meaning, five expressed a cultural/symbolic meaning, and two expressed an individual/expressive meaning. One of the residents expressed an inherent/aesthetic meaning, three expressed an instrumental/goal directed

meaning, four expressed a cultural/symbolic meaning, and three expressed an individual/expressive meaning.

During the interview process I found that most people did not have one favorite place, they spoke of a number of places that were special to them. The vastness of the SBW lends itself to multiple attachments and possibly less dependence on one place to satisfy the needs of each individual. The respondents have been visiting the SBW for anywhere from three to thirty-five years. The wide range of opportunities present in the Wilderness allowed them to develop an attachment to the Wilderness itself, not just one particular drainage, lake, peak, etc. If this study were conducted in a small Wilderness area responses might be different. For instance their willingness to accept a fire use program might differ greatly.

Social Acceptability

Most of the respondents find the current approach to fire management in the SBW socially acceptable. They feel that fire is a natural and positive agent of change on the landscape and that to truly be Wilderness the SBW should have naturally occurring fire roaming through it. The SBW wilderness is a very large area and fire's impact is not as noticeable. Fires have been burning there for thousands of years and people understand how it has shaped and will continue to shape the landscape they have come to know and love.

Only two of the twenty-seven respondents in this study found the current approach to fire management in the SBW unacceptable. These two individuals both expressed instrumental/goal directed meanings, one was from the recreator group and the other was from the resident group. The recreator understood that fire played a role in

maintaining the landscape but did not like seeing his and other people's favorite places to hike and camp burnt. His attachment to the SBW was based on the array of opportunities for hiking and skiing i.e. the large number of easily accessible trails present. Some of his favorite places to go had burned in 2000 and other years as well. Not only did fire make those places unusable to him, but also to other members of the community, and tourists as well.

The resident moved to the Bitterroot Valley largely because of the opportunity to hunt big game. Although he understands that fire does improve habitat, he feels that the places that burned up were lost forever and no one would ever visit them again. He understood that fire actually improved his ability to successfully hunt and take big game species in and around the SBW, but the beauty that is destroyed by fire is not acceptable.

The views these two individuals hold leads me to believe that more than place meanings are at play when people determine what is acceptable. Both individuals understand that fire is important and that it does benefit the landscape in some way. While one's goals were enhanced by fire the other's goals were inhibited. They both felt that fire destroyed places for everyone that visits the SBW. These individuals feel that fire is destructive and that some places should be spared from fire use—specifically places that are important to communities for hunting, hiking, fishing, camping, or tourism.

Working Propositions

Working Proposition #1 states that the distribution of meanings will be equal across all members of each group. This proposition was not supported. The distribution of meanings was only equal among one group, the recreators. Three respondents

expressed an inherent/aesthetic meaning, six expressed an instrumental/goal directed meaning, eleven expressed a cultural/symbolic meaning, and seven expressed an individual/expressive meaning. The remaining Working Propositions are based on the belief that the type of attachment an individual has formed will influence their willingness to accept the restoration of fire in the SBW.

Each of the remaining propositions relates directly to one type of meaning. As stated in Chapter 4, Working Propositions #1, #2 and #3 were generally not supported by the data. Two of the six individuals, who expressed instrumental/goal directed meanings, did provide support for Working Proposition #3. Working Propositions #4 and #5 were supported by the data displayed in Chapter 4.

Working Proposition #2 stated that individuals who exhibit inherent/aesthetic meanings will find the restoration of fire unacceptable. This proposition was not supported. I felt that people who were attached to the physical appearance of the SBW would not want their favorite places to burn up. This was not the case with the individuals I interviewed. Each one understood that fire had a place in the ecosystem and that the landscape they admired evolved with fire.

Working Proposition #3 stated that individuals who apply instrumental/goal directed meanings to the wilderness area will find the restoration of fire unacceptable. As discussed above, this proposition was supported by two of the six individuals who expressed this meaning. I believed that individuals who used the SBW solely for exercise, hunting, outfitting/guiding, and other pursuits would not find the fire use program acceptable. I assumed these people would find burned areas unusable and they would not be able to achieve their goals. The four individuals who did not provide

support for this proposition also understood fire's role in maintaining healthy ecosystems. They have seen first hand the benefits fire creates—specifically more feed for big game species and a natural, functioning ecosystem.

Working Proposition #4 states that individuals who exhibit cultural/symbolic meanings will find the restoration of fire acceptable. This proposition was supported. I believed that individuals who viewed the SBW as wild and free, a place where human intervention is hardly present, and as an example of what Wilderness is meant to be would likely view fire as an acceptable and necessary part of the ecosystem. The respondents who expressed this meaning spoke often about the quality of the SBW and the opportunities it affords anyone willing to explore the vast, wild area. Another aspect that came out was the important role fire has played in shaping the SBW and how it must continue to be present.

Working Proposition #5 states that: Individuals who exhibit individual/expressive ties to the wilderness will find the restoration of fire acceptable. This proposition was supported. I felt that individuals who had developed a strong personal connection with the SBW would want it to remain as natural and wild as it could. The respondents who expressed this meaning appeared to have partly developed their sense of self within the SBW's boundaries. The Wilderness itself had become a part of their identity. They spoke about the uniqueness of the SBW and how it exemplified what Wilderness is all about. They also mentioned that it was important to their personal lives and they would not be the same person they are without the experiences they have in the SBW.

The results of this study show that the meanings people attach to landscapes and places within them do play a role in how people make judgments of acceptability. The

SBW is a landscape that has evolved with fire. A large majority of the respondents view fire as a natural agent of change and the SBW would not be as special without the presence of fire. Many of them view the SBW as a unique Wilderness and one that exemplifies what Wilderness ought to be. With regards to the fire use program, they feel managers are doing what is right and good for the land and perfectly in line with the intent of the Wilderness Act. I do feel the fact that the respondents have a good understanding of the role fire plays in an ecosystem also helps them judge the acceptability of the fire use program, but knowledge is only one piece of the puzzle. Most of the respondents feel the presence of natural fire is an essential part of what Wilderness is and without it their attachment to the SBW may be different or not as strong. A majority of the respondents felt that fire exclusion was not natural. Excluding fire from the SBW would likely change how people view the quality of the Wilderness and the acceptability of its management.

Management ignited fire in the SBW might not be as easy to gain acceptance among members of the public. As discussed in Chapter 4 many of the respondents felt that management ignitions would infringe on the things they value like wildness and the quality of Wilderness present in the Selway-Bitterroot. On the other hand I came across several individuals who felt if it was good for the land they would accept management ignited fire. These individuals were often concerned with lack of good wildlife habitat and understood that fire can help improve feed and browse for big game species.

The results indicate that fire can be seen as an obstacle to recreators, but one they don't mind dealing with. Some of them did indicate that they would avoid the area for a couple years because it wasn't ideal for camping—falling snags was a big issue. In the

SBW the vast array of opportunities alleviates this problem. The respondents stated that if one of their favorite spots burned up they would just go to another one. Fire is an obstacle but one they expect to encounter and enjoy seeing it shape the landscape.

The managers I interviewed had a great deal of experience with wildland fire and some held an objective view of the fire use program—personal feelings did not seem to influence their view of management—they felt this is Wilderness, this is how it should be managed. Others expressed the importance of their job on a personal level. They are proud of what they are doing and they feel it is the way Wilderness should be managed. It is also important to note that I did not have any manager express an inherent/aesthetic meaning. I believe that this is a result of the context. The managers may have found it difficult to talk about what the Wilderness means to them personally, they may have felt obligated to speak from a professional point of view only. This may be why five of the eight managers expressed cultural/symbolic meanings. They spoke more about the greater good, not as much their own personal needs and values. It is also possible that some of the managers did not draw a line between their professional and personal views on Wilderness. Their views may have been shaped by their professional experience and the comments they made likely refelected this.

The residents in this study were concerned about wildfire and living in the wildland urban interface, but none of them felt the fire use program was a threat to their homes. Some of them mentioned that they would like to see the Forest Service conduct thinning operations or timber sales to reduce the threat to their homes, but largely they felt protecting their home was ultimately their own responsibility. Some mentioned they were insured, they had done some mitigation work on their property, and as far as they

were concerned fires burning in the Wilderness are not a big issue. I assume they may have a different response if management were to expand the program and allow some fires to burn in the eastside canyons.

Limitations of this Study

While there are some inherent limitations to qualitative research methods, I do feel it was the best method for this research project. It would have been much more difficult to collect the type of data that allowed me to identify place meanings using a quantitative approach. The interviews followed a guided set of questions centered on finding out what makes places special, the types of attachment people associated with them, and how they felt about the management of fire in the SBW. The interviews were conducted with a great deal of flexibility to allow the respondents to tell a story, bring up things that are important to them, or simply allow me to ask for more details.

One of the limitations of this study was presented by categorizing the sample as recreators, managers, and residents. As stated in Chapter 3, I assumed the respondents could fit two or even all three of those categories. My reasoning for using these categories was to obtain a picture of the range of people who might be present at a public meeting on wilderness fire management. All of the respondents recreate in the SBW to some degree. I of course was looking for people who had developed attachments to places in the SBW. However the fact that all could fit in one category shows that they may have difficulty talking about fire and special places from the standpoint of a resident or a manager. I attempted to guide the interviews to keep focused on experiences and meanings people attached and opinions about wilderness and fire management. Also, because these distinct categories do breakdown, it is difficult to draw conclusions about

relationships between the groups. It is important to recall that my working propositions were not based on these categories; they were based on the types of meanings each individual attached.

The snowball sampling method also presented some limitations. For one thing, the opinions about fire did not vary much at all. With the exception of two individuals, everyone found the program acceptable. By making contacts from individuals, it is likely that they intentionally directed me to people who shared their views and opinions about wilderness and fire management. What was interesting about the sample was the range of meanings I uncovered. While most of the connections I made did express the same view on fire, the attachments they had formed did vary. It is also possible that the respondents spoke with each other between interviews and that may have influenced the new contact's comments on wilderness and fire management. I still think this method was valid for this study because I was attempting to gain a picture of the types of people who would show up at a public meeting about wilderness and fire management. The members of the public would likely invite their friends in the community to participate with them, and these could be the same people they directed me to interview.

Another limitation of this study is the sample size. I interviewed 27 people, each group was supposed to consist of eight respondents, as stated previously one interview in the resident group was made up of four people. If I could have interviewed 27 people, or even more, for each group I may have come across more individuals who find fire unacceptable and possibly more reasons why people would argue against fire use. The amount of data I collected and transcribed is quite cumbersome and with three times the

interviews to analyze, completion of the project would be difficult for one person to handle.

The amount of data collected presents another issue with qualitative data. The interviews I conducted ranged in length from thirty to ninety minutes. This resulted in hours of transcription, reading, rereading, coding and recoding. As noted previously, this method was necessary because it enabled me to gain a deep understanding of what places mean to people and how they want to see those places managed with regards to fire. Since I cannot display all of the interviews in their completion I had to interpret the meanings of passages in each one and display the ones that best represented the meanings and beliefs expressed by each respondent. The data displayed in Chapter 4 still allows readers to examine the data and concur or argue with my interpretation.

Another limitation I came across is the difficult nature of drawing out the meaning an individual has attached to a special place. Because of the communication barrier between academia and the general public I could not simply ask “what does this place mean to you?” I also did not feel it would be useful to give the respondents a list of place meanings and ask them to tell me which one fits them the best. How they interpret the definition of each meaning may differ. Therefore, I had to guide the respondents through a set of questions that allowed them to tell me what kind of attachment they have developed over time. For the most part the meanings people placed on the SBW were clear. For some individuals it took more time and more reading of the transcriptions to discern the type of meaning they were expressing. I could foresee this becoming a problem with larger samples and more than one researcher analyzing the data. Although with large sample sizes it may be necessary to have more than one individual

interpreting/analyzing the data so that a better understanding of the data can be obtained in a reasonable amount of time.

Management Implications

This study attempted to make it clear that accounting for meanings people attach to a particular landscape can be useful when managers are implementing new programs or prescriptive actions that may alter the physical conditions of a site. Wildland fire has the potential to significantly alter the conditions of places. The social impacts of these changes should be accounted for. This study shows that there is a level of acceptance of the SBW's fire use program.

I found a few individuals who did not like seeing special places burn. It is possible that I could have come across similar viewpoints in a larger group of people. I also feel these opinions may be present in areas that currently do not have a fire use program. The current standard for Forest Planning does involve a public participation process and collaboration is a goal set out by the new planning rule. In the early stages of forest planning I feel it would be very useful for managers to work closely with the public to identify special places and how they would like to see them managed. By doing this I think managers can gain acceptance for new programs. It allows them a chance to educate the public on what they are doing and to find out what places are important to the public and why they are special places. Participating in the planning process also gives the public a feeling of ownership because they helped shape the Forest Plan. According to Lachapelle and McCool (2005) it can be easier for managers to gain acceptance and support for land management actions if the public feels they have helped define problems

and shape their solutions. I feel that the meanings people attach to places definitely influence their willingness to accept management actions.

Mapping place meanings could be useful for the planning process. Managers could allow the public to mark special places on a map and then build a discussion on why these places are important and what type of management they would prefer. By finding out what is important on the ground managers can either avoid conflict or identify places they can try find common ground and work through conflict. In the end, gaining acceptance for new programs may be easier. In this study most respondents did not mind seeing their favorite places burn. As stated previously some individuals did feel special places should be spared. Different groups may apply different meanings to places and accounting for these variations is necessary when attempting to predict the ramifications of any management action. By mapping place meanings not only can managers find similarities but the public can see it as well and therefore realize that common ground does exist between divergent groups.

I think this study also shows managers that there may not be gross social impacts from expansion of the fire use program beyond the maximum manageable area and the boundary of the SBW itself. Expanding the program may require some prior work outside the SBW to deal with the fuel loads adjacent to private lands. A majority of the respondents understand the benefits of having fire on the landscape and they recognize the issues that fire suppression has created both in and outside the Wilderness boundary. They also recognize that the fire use program in the SBW has been successful. They can see the benefits on the land and some recognize that forests where fire is allowed to burn are functioning, healthy forests. Managers should take advantage of this success story

and argue for support to expand the program to allow more natural fires to burn on National Forest Land.

Future Research

I feel it is important to continue conducting qualitative research on place meanings. The number of variables that influence an individual's place meaning are many; and a survey would not be flexible enough to capture all the elements that people use to define their special places. The interview method definitely provides a richness and level of detail that would be difficult to acquire through quantitative means. The interpretive method is a difficult process, but it allowed me to discover what is really important to people who are attached to such a special place. I can envision a number of future research needs with relation to this topic. One suggestion is to find a way that managers can gain an understanding of the meanings people attach to National Parks, Forests, Wilderness Areas, etc. I feel that it would be difficult for managers to dedicate the amount of time necessary for a one-on-one interview process like the one carried out for this study. Traditional planning approaches overlook the emotional ties people have developed because they are difficult to quantify. The results of this study do show that place attachment is important and part of how people make judgments of acceptability with relation to land management planning and implementation.

I feel future research should be done in (1) smaller Wilderness Areas where people don't have as many opportunities for hiking, camping, hunting, etc., and (2) Wilderness Areas that do not have a fire use program in place. In a smaller Wilderness Area, people may have stronger attachments to specific places, and possibly fewer opportunities to find similar experiences in the same Area. It would also be useful to

study how people feel about introducing fire to an Area that currently does not have a wildland fire use program. I believe some of the acceptance I discovered can be attributed to (1) the fact that the SBW is large and therefore most people had many special places, and (2) the fact that fire has been allowed to play its ecological role in the SBW for over three decades. I also feel it might be useful to evaluate a wildland fire use program that was enacted more recently.

I also feel research should be conducted outside of the Wilderness Boundary on other types of public land. I think the Wilderness designation has inherent meanings and values associated with it—people who visit these places enjoy non-motorized recreation. I feel it would be useful to find out what types of meanings people attach to places where there is a mixture of motorized and non-motorized recreational opportunities. I imagine a wider range of meanings could be present, more conflict between visitors could arise, and gaining acceptance for management practices may be more difficult.

I believe that fire is not the only force of change that can affect place attachment. It would also be useful to evaluate other forest and land management practices and find out how they affect the meanings people attach to landscapes. Some work has been done on the social acceptability of timber harvesting, but I have not seen any research into how actions like timber practices affect people's relationships to places. A few of the respondents from this study mentioned that they did not like thinning projects or timber sales that were designed to reduce unnatural fuel accumulations. Their rationale was that the end result was not natural. The places where work had been carried out looked human-made and felt unnatural. The residents living near these thinned areas understood their homes were safer, but they would not want to see something like that happen in the

Wilderness or places that are special to them. I also feel it would be interesting to conduct research on the effects of other natural forms of disturbance like avalanches, floods, earthquakes, hurricanes, tornadoes, etc., and human actions like building dams, rerouting river and stream corridors, development, etc.

I feel future research is also needed to help gain a better understanding of how people make judgments of acceptability. I feel more than place meanings influence this process. In this study only two individuals found the current approach to fire management unacceptable. Both respondents had an understanding of fire's role in the ecosystem, both expressed instrumental/goal directed meanings, yet one based his views of fire on the impacts on the natural beauty of the landscape. His personal attachment was not the only thing that came into play when judging the acceptability of the fire use program. I do think place meanings play an important role in helping people determine what is and is not socially acceptable, and I would like to see more research done to confirm this belief.

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Appendix A

Interview Guide

Thank you for participating in this study. I am trying to learn more about how people feel about fire and fire management in places that are special to them. I am interested in finding out if people find the Forest Service's approach to fire management acceptable and what they would like to see done in their favorite places. I would like to record this interview if that is okay with you. I have been given approval by the University to conduct this study and greatly appreciate your participation. Your identity as a participant in this study will remain confidential. Your name will not be used in any presentations or written reports.

Section One: Background and History with SBW or BNF

First I would like to get some background information on you and your history with the SBW and the BNF.

1. How long have you lived/worked/played in or around the SBW?
2. Why did you move here? Or tell me about where you grew up.
3. Why do you choose the SBW? (as a place to live near, work in, play in)
4. Recreation Folk: How often do you visit the SBW?
5. What types of things do you do in the Forest?

Section Two: Sense of Place/Place Attachment

Now I would like to discuss your relationship with the SBW and the BNF.

6. When you think about the SBW what comes to mind first? Probe—what else? If more things come to mind—which is more important to you?
7. How would you describe this area to someone who has never been to Montana?
8. Is this area different from other places in Montana? If so how?
9. Tell me about a time/trip that stands out in your mind? Why does this time stand out?
10. Tell me about a place that is special to you? What makes it special?
11. Are there other places that are special to you? If so why?

Section 3: Acceptability and Fire Management

Now I would like to talk with you about your views of wildfire and its management in the BNF and specifically the SBW. We will start by getting a little information on your history with fire.

1. Were you here for the fires of 2000? What was that like? How did the fires affect your recreation, lifestyle?

2. Were you here for the fires of 2003? What was that like? How did the fires affect your recreation, lifestyle?

Currently, the Forest Service allows some fires to burn in the SBW if they meet certain criteria that are laid out in the management plan. Basically, fires that are ignited by lightning that are not likely to threaten life or property are allowed to burn for the betterment of forest health.

3. What do you think about the past approach to fire—total exclusion?
4. What do you think about managers allowing lightning ignited fires to burn in the SBW? What about managers igniting the fires themselves?
5. How do you feel about the current management of fire in your special place or places?
6. How would you like to see fire managed in the SBW? Or your special place?
7. Does wildfire affect your relationship to the forest? If so, how?
8. Does the Forest Service's approach to fire management affect decisions you make/have made about (living near, working in, or recreating in) the SBW?
9. For managers—how did you determine the current fire management plan for the SBW was acceptable?

Thank you again for participating in this study, your responses have been very helpful and I greatly appreciate you taking the time to talk about this with me. Do you know of any other people that I should talk to about this topic?