Connecting Place to Practice:
Concepts and techniques to improve land-use planning

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Introduction: Making Places, Improving Practice

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Place has emerged as a common focal point across several disciplines for exploring ways people experience landscapes, endow them with meaning, and construct value for specific environments of their lives. Likewise, within the practices of environmental planning and management, place concepts are not far below the surface of a number of promising new directions that depart from the historically dominant modes of rational and technical processes. Fundamental changes in the way we approach land-use planning processes are prompted by several of these new directions. They move to democratize expertise by incorporating larger roles for stakeholders – be they scientists, agency planners, citizens, interest groups, residents, visitors, or landowners – to share meanings, values and visions with one another.

Place-based planning involves increased sensitivity to meaning-making within land-use decision-making practices carried out in various spatial contexts (e.g., land-use planning, natural resource management, and community development). Resultant decisions acknowledge and legitimize public values and place meanings. While practice has shifted towards place-based approaches associated with adaptive, collaborative, and community-based ecosystem management, research on place has not always connected with environmental management and planning practices, and vice-versa, research on management and planning have not always provided links to place.

The purposes of this book are to connect research on place to land-use planning and critique the ways in which place and practice are, or could be, understood and applied. By invoking the term *practice* within the context of resource and area (e.g., land-use) planning, we

have in mind both the *formal practices* associated with planning, management, decision-making, and the policies, laws, and procedures that guide these actions; as well as the *informal social practices* embedded in the everyday actions of people and organizations including such activities as recreation, tourism, ranching, farming, commercial and residential development, and marketing. While most readers are likely to be professionals or otherwise involved in formal practices, it is important to recognize that these formal processes are conducted at the same time that informal place-making practices operate in the background. Moreover, as agency planning processes advance they often bump-up against place-making practices that remain outside the "control" of the formal process.

To some extent place meanings and place making already have had a strong connection to decision-making practices. Some commonly accepted connections are the establishment of national parks that have been justified on the need for representation of some unique cultural or natural landscape (Nash, 2001; Runte, 1997). For example the movement to establish the Olympic National Park has been viewed as a struggle for dominance between two cultural values about the meaning of the Olympic Peninsula (Twight, 1983). One framed the landscape as a resource to be used for timber production, and the other as inspirational scenic beauty of a primeval forest. In addition, Burnham's (2000) history of the making of several national parks is framed as the destruction of American Indian homelands to placate a conquering culture whose place meanings were one of sublime nature untouched by humans.

Giving recognition to cultural meanings and national identities of landscapes is a double-edged sword. Each act of place making is inevitably connected with an act of place destruction. No doubt place making endows a space with meaning and frames a landscape to represent a specific place, but it too often draws uncritically on the traditions of a cultural history with all its

myths, blind spots, and generalized narratives of the past. There is added risk with institutionalizing certain cultural meanings of place as cultures and communities are dynamic, with place meanings evolving over time. When certain, sanctioned place meanings become ingrained in agency culture, traditional planning processes become over-reliant on these reified meanings as guides to decision-making. Overtime there has been an increasing need to evaluate the effectiveness of planning processes in ways that allow for recognized place meanings to be vetted and additional layers of meaning to be acknowledged. Additional layers of meaning come from various sources including personal, community, and cultural relationships with place. Hence, many of our chapter authors approach their work in the spirit of democratizing decision-making to overcome entrenched expert-based processes that neglect discussion of those place meanings that fall outside of technical information.

Some progress has been made in developing strategies that connect place to decision-making. Several place-based decision-making groups have emerged in the past 30 years. Under frameworks such as consensus management, adaptive management working groups, and collaborative advisory committees, these strategies move the locus of decisions away from some federal or regional authority and employ place-based governance within their dialogic processes. For example, the Quincy Library Group (Terhune & Terhune, 1998) formed as a coalition of stakeholders to express concerns for the northern California landscape and sought common ground for decision-making. An important factor in sustaining the dialogue of the Quincy Library Group was the sharing of place meanings and recognition of an ethic of care for the landscape and its communities of people. Likewise at Lake Champlain in the northeastern U.S. and southeastern Canada, Stickney (this volume) portrays the practice of place-based

management on a watershed scale. She characterizes the legislation and local policies developed for successful collaboration in governing the lake's watershed and maintaining its sense of place.

Clearly land use planning always has focused on some geographic place. But the substantive focus typically has not been on these areas as places per se, but on the products, services, or resources that might be delivered from those areas. While practitioners have increasingly embraced place-based modifications, they still retain much of the product/service thinking while trying to make them more inclusive, dialogic, and democratic (all good things to be sure). The various discourses on place have helped planners and practitioners recognize the basic social processes that have always lied beneath the creation and negotiation of place.

What connections are needed between place and practice?

Although there has been progress in place-based planning, there is still much work to be done. The points of inspiration that motivated the development of this book provide insight to the work that needs to be done. We are discovering that *when given the opportunity, practitioners, stakeholders, and citizens appreciate processes in which place meanings and attachments are shared amongst each other.* The concept of place is about relationships that people make with the environments of their lives. These relationships result in special place meanings and various kinds of attachments to place. The chapters in the section on "individual relationships with place" provide insight to the concept of place. These chapters discuss felt value, lived experience, and deep-seated intimacy of relationships with place – concepts that appear fuzzy and emotional rather than technical and rational. These chapters suggest that the challenge to connect place to practice lies in the fit between emotions, feelings, and intangible qualities of place with traditional planning tools that generally have regarded such qualities at the

margin of relevance. The concept of place is one that needs further visibility to increase

awareness of the need to integrate this distinct set of information into planning. This book assists

in the coming-out of place.

Tools and strategies need to be further developed to address issues of place. To

incorporate place into practice, planners and other professionals need strategies to do so. Some

of the chapters that follow start with place, and envision new tools and new ways to organize

planning processes. Other chapters start with currently accepted planning tools, and envision

strategies to incorporate place into the tool. In particular, the set of chapters in the "place

mapping and segmentation" section employ commonly accepted planning tools (e.g., geographic

information systems, mailback questionnaires) as a point of departure to connect place to

practice. Because many stakeholders, particularly planners and other experts, are familiar with

maps and other kinds of spatial information, the challenge posed is to accommodate place

meanings when using these traditional planning techniques. Although each chapter presents a

distinct path to integrate place with planning tools and strategies, they share a common outcome

of strengthening dialogue and building relationships with stakeholders.

Place-based planning needs to be further legitimized to increase public confidence in its

processes. There are many organizations already known as place makers. They produce place

meanings in strategic ways, and often in ways that appear as if the meaning were a natural part of

the landscape – as if the meaning is "out there." Common everyday places like schools, airports,

ball parks, and shopping malls are places specifically made to take advantage of cultural

knowledge. These places depend on public norms for behavior and allow people to successfully

use them each day. These locales have been legitimized to offer a narrow set of public place

meanings and related behaviors, and usually hire people to enforce behavioral norms. In

contrast, place-based planning is about exploring both shared and contested meanings and creating new public values for a locale, especially those locales such as public lands where the extant meanings are weak or highly contested. Place-based planning is not only about creating places, but also about creating social norms for places to inform about right and wrong behaviors. The set of chapters in the section on "producers of place and place-makers" suggest ways in which place meanings are created or negotiated through both everyday use as well as more formal deliberative interactions among stakeholders. Each chapter explores strategies that foster public ownership of place meanings and legitimize appropriate behaviors for them. By exploring place-based planning across several themes, this book hopes to build confidence in its promises.

The kind of information asked of stakeholders needs to encourage public participation about place. In the making of places, an important question to ask is "whose place meanings are these?" If one's voice is not represented within a planning process, then one's place meanings may not be included in the outcomes. By expanding planning processes to accommodate place-based information, citizens are encouraged to be part of their own place making. However this point is not about garnering more input from citizens nor is it about encouraging more citizens to become active as stakeholders, it is about changing the quality of information being asked. The set of chapters in the "representation and framing processes" section provide insight to the kind of information needed to encourage public participation to address concepts of place. Two of the chapters suggest the meanings of everyday living spaces need representation in planning frameworks, and the third chapter demonstrates the importance of collective behavior as a strategy to frame place meanings. These chapters posit that representation of place is about innovation in public participation, and that stakeholder dialogue needs structuring to allow

stakeholders to share their appreciation for their places in which they live and work. All three

chapters in this section suggest that public memory develops from stakeholder dialogue of

planning forums, and that the kind of information asked of stakeholders at these forums should

focus on issues of place.

Developing the chapters

The process for chapter development was purposely designed to enable contributors to

build on one another, and to learn about connections and tensions between their work and the

work of others. The initial dialogue to link place with practice took shape at the International

Symposium on Society and Resource Management (ISSRM 2007) in Park City, Utah. A

roundtable forum there attracted more than 70 scholars and land management professionals. A

process was developed by the editors that included a "call for abstracts" for a book project, a

review by a panel of social scientists, and feedback to authors regarding acceptability and

comments to further align the abstract with the purpose of the project. For prospective authors, a

series of presentation sessions occurred at the subsequent ISSRM 2008 in Burlington, Vermont.

Three-fourths of contributors were at this conference, extended their ideas about place and

practice, and provided feedback to one another during the sessions.

A third gathering was arranged in September, 2008 at the Northern Great Lakes Visitor

Center, Ashland, Wisconsin, with the purpose of both presenting and critiquing each other as we

collectively moved deeper into our writing processes. As preparation for the workshop, all

contributors provided revised abstracts that were extended to five pages and distributed as a

"book of abstracts." Each abstract had a formal discussant assigned who was responsible for the

first round of comments after the presentation, followed by a second round of comments from all

workshop participants. The final half-day of the workshop was spent organizing ourselves into discrete topics that address challenges of connecting place to practice.

As part of our workshop, we felt strongly about directing our writing toward planners, land managers, natural resource practitioners, and community development professionals. Although most contributing authors are social scientists working with public agencies or at universities, we are grounded in the need for the practical relevance of research, and are committed to developing insight for application. These chapters are written with practical relevance in mind as viewed by the contributors. Another audience for the book is academics and researchers concerned about environmental and land-use decision-making. Collectively the authors have contributed to various literature streams on sense of place, and this book provides an important juncture point for a critical mass of researchers to reflect on ways to connect place to practice.

Many directions to connect place with practice

There are more than 30 contributors to the chapters of this book. We are collectively steeped in a variety of conceptual and disciplinary traditions that focus on human experience, land-use planning and environmental decision-making. Each one of us has embraced place through our own disciplinary lens and within our institutional contexts for practical relevance. If readers are looking for a monolithic view of place and a singular way to connect place to practice, this volume does not provide it. In fact, some perspectives presented herein run counter to each another.

Across the collection of chapters, there are distinct points to start the discussion about place. While some contributors began thinking on the current set of approaches used by land

managers, other contributors began thinking on concepts of place. There is potential for both compatibility and divergence regardless of starting point. However in general, when thinking starts with the technical approach, the need to reform decision-making is incremental. When thinking starts at place or community, the need to reform decision-making is more significant and directed at both structure and content.

Writing about place making

The emergence of place-based discourses in natural resource practice has both empirical and normative features. The empirical focus has been to highlight the place-making of all land use practices (from everyday land uses to formal management). As professionals, occupants, residents, or visitors we have always been making and re-making places, but we have not always recognized our place making activities as such. Land use planning traditionally has been relegated to a set of technical question regarding optimizing the flow of "valued" goods and services. The contested nature of the values assigned to goods and services was given to economic analysis for resolution. This book invites an important shift in thinking; one that gives recognition to the importance of extant meanings and social power in decision making about place. The normative focus (and one more akin to a social movement in planning practice) has been to explore ways to expand and democratize participation through processes that emphasize place. Place-based research and practice is generally sensitive to differentials in social power, and in varying degrees, works to equalize this power as a means to this more democratized ends. Place discourse has been helpful in understanding that democratization of decision making involves critique of place making practices already embedded in existing institutions and centers of power.

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Place-based planning implies a planning process self-conscious about its capacity to represent and legitimize place meanings. These meanings are connected in material and symbolic ways to the well-being of people who come to know and use the place. We write about place-based planning with optimism about the ease in which it may be done. However we know that implementing place-based planning requires a group of people willing to explore its promises.

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Part 1: Conceptual Issues of Place-Based Practice

This introductory section includes four chapters to orient readers and introduce concepts related to place-based practice. The chapters converge on the idea that place-based practice in environmental and natural resource management involves a fundamental rethinking of its institutional context. Collectively the chapters develop several critiques of traditional land-use practice, and each adapts the concept of place as holding promise to address the problems. The critiques cover an array of well-known problems including science as an institutional practice, barriers to collaboration across multiple jurisdictions and geographic scales, idiosyncrasies of institutional cultures, and the complexity of legal structures that guide organizations involved in practice. Across the chapters place constitutes a converging inter-organizational venue for considering the combined roles and practices that diverse actors (e.g., visitors, residents, experts, agencies, institutions, non-governmental organizations, and political jurisdictions) play in shaping a locale. Each paper highlights the imperative to develop new models of governing in shared spaces.

One of the key ideas motivating place-based practice has been the emergence of complexity theory as a conceptual framework for the management of dynamic social-ecological systems. In "Science, practice and place," Daniel Williams notes that science fails to simplify natural resource practice because it informs problems with an integrated, context (place) independent view of knowledge. Williams argues that place helps scientists and managers address the plural and uncertain character of knowledge. Drawing on place as a knowledge framework, place-based practice is conceived as the collective wisdom of networked actors and institutions governing complex systems, each informing one another in a collaborative form of

rationality that operates both horizontally (place to place) and vertically (upwards and downwards in geographic scale).

Place-based practice has emergent qualities that invite creativity in the governance of landscapes across multiple scales. Illustrating this creativity in institutional planning, Courtney Flint's chapter "Decision-making to connect multiple scales of place" positions place as a way to explore networks and interactions across multiple scales of governance. Recognizing that many rural communities are challenged to assert their influence on regional land-use practice, Flint provides argument and evidence of changing place-based practice to forge new multi-scalar relationships that engage various levels of governance and results in new structures for decision-making. These structures are dynamic and flexible depending on relationships between institutional learning, social networks, and landscape disturbances.

For many reasons practitioners have realized the need to deviate from rational models of decision-making to explore other pathways, and include other kinds of information, in their planning processes. In her chapter "Organizational cultures and place in land-use planning," Patricia Stokowski discusses the relationships between agency culture and surrounding society, highlighting the ways that institutional behavior is explained by this interaction. She explains that land-use planning processes have unique histories of discourses as part of the competing interaction between agency staff and community. She argues for focusing on the discursive practices of agencies and other organizations as participants in place-making.

In "Community, place, and decision-making," Gene Theodori and Gerard Kyle examine the concept of community as a key, but often poorly understood venue in decision-making. They argue that community subsumes much of what constitutes place – as a material locale imbued with history and meaning – but which can be differentiated from place by the critical additional

ingredient of group solidarity and shared identity of community members. Their analysis of community-based natural resource management suggests that place-based planning should be strongly influenced by factors of community so conceived.

These introductory chapters provide a broad picture of the rational for place-based practice. They each portray a significant problem that traditional planning models are not equipped to address. The point of these chapters is not to get dismayed by the critique, but to understand place-based practice as capable of addressing the critiques. Because place concepts highlight diverse kinds of knowledge, multiple geographic scales, and peculiarities across institutional cultures and legal jurisdictions, the introductory chapters converge on place as a response to the critique of traditional models, and collectively suggest a combined framework to fit the remaining chapters of the book.

Science, Practice and Place

Daniel R. Williams

Abstract: Place-oriented inquiry and practice are proposed as keys to overcoming an irreducible science-practice gap. The paper begins by describing some of the reasons science fails to simplify natural resource practice, highlighting the challenges associated with the emerging social and ecological science of multi-scaled complexity. Place concepts help scientists and mangers appreciate the inevitably incomplete, plural, and uncertain character of all knowledge and suggest productive ways forward that not only embrace this pluralism but find greater efficacy and advantage in the fact that all scientist and practitioners operate from a their own context dependent positions in the world. The paper then highlights a growing body of literature in sociology and public administration that has begun to address the broad challenge of governing complex systems. These emerging theories recognize that much of contemporary governance takes place outside formal government institutions and bureaucracies and involves increasingly complex linkages and collaborations among multiple public and private organizations. Governing complex systems requires balancing traditional top-down hierarchical management, built on vertical lines of authority, with emergent, context dependent, and often informally organized social networks of actors, stakeholders, and governmental and non-governmental organizations interconnected by horizontal lines of interaction. Rather than trying to inform all problems with an integrated top-down view of knowledge, informed practice can be conceived as guided by the collective wisdom of networked actors and institutions governing complex systems, each informing one another in a collaborative form of rationality that operates both horizontally (place to place) and vertically (upwards and downwards in scale).

Bridging the Science-Practice Gap

In my role as a research social scientist employed by a public land management agency I regularly participate in meetings of experts gathered together with the goal of narrowing the science-practice gap. Typical sessions have dealt with a range of practice domains from managing endangered fisheries, to constructing future scenarios for fire and fuels management, to designing regional approaches to managing Colorado's high elevation wilderness trails. Practical differences aside, these efforts appear to have common institutional underpinnings when viewed from a social science perspective. In this chapter I will argue the science-practice gap persists and even widens over time, not out of some lack of commitment or failure to communicate on the part of scientists and practitioners. Instead the problem reflects fundamental differences between the nature of science, which seeks to transcend place, and the nature of

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practice, which is by necessity place-based. In other words, it is impossible to close the gap between science and practice because the former seeks context (place) independent principles whereas the latter requires context dependent synthesis.

As one case example I participated in meeting to discuss how to bridge the science-practice gap concerning fire effects on endangered fisheries. The meeting brought together scientists from several federal agencies to respond to managers needs for better information to help them make decisions about managing wildfire in riparian areas, especially when such fires threaten endangered fish species. In keeping with complexity theory in ecology, much was made of dynamic landscape processes and identifying criteria for defining a resilient landscape. The research ecologists pointed out ever greater complexity of the phenomenon (patchy, multi-scaled, dynamic landscapes) in which the right prescription for any one stream network was elusive if not indeterminate. According to these ecologists no singular riparian condition could be described as necessarily better or healthier than another because the viability of endangered fish populations actually hinged on a dynamic spatial variety in which some patches (streams) were in the process of becoming better habitat for a given species and some worse habitat.

Adding to the complexity and uncertainty for management prescriptions, one could arrive at very contradictory recommendations depending on one's disciplinary focus. For example, because stream culverts are impediments to the adaptive dynamics sought by systems ecologists (culverts being iconic stand-ins for everything that disrupts the movement of fish populations through a system of branching streams), removing them would increase the connectivity of streams (ostensibly a good thing for the survival of threatened and endangered species). But if a manager happens to be more worried about the spread of invasive aquatic species, removing culverts also makes it easier for such species to spread (ostensibly a bad thing).

Instead of clarifying best management practices, new science often leaves managers more confused about best practice. Best practice in any given situation is often contingent on conditions and actions in adjacent landscapes as well as interactions at both high and lower scales of decision making. In managing complex systems, the broader challenge then is figuring out how each manager, acting on his or her best understanding of a particular part of the system is most able to take into account the knowledge and past and present actions of other managers who themselves take similar partially informed actions.

This science-practice conundrum originates in part from the assumption that scientific understanding produces an increasingly definitive and integrated body of knowledge. But contrary to widely accepted views of science, which build on the assumption of an ability to achieve a "gods-eye" (objective and integrated) grasp of the world, every scientist occupies a unique (subjective) position or place within the world by virtue of culture, history, training, and personal experience that limits and conditions that scientist's knowledge of it. Likewise in the real world of action where citizens and practitioners are embedded, knowledge is always partial and incomplete and likely over time to grow more fragmented than integrated. Put another way:

> [Even] after the best of scientific studies a judgment must be made about the relevance of a piece of scientific research to a manager's … practical question at hand. In this judgment science is not at all helpful … [H]ow to integrate the kind of knowledge that science can give with the practical judgment about what the [managerial] situation requires [remains one of the] great unresolved questions (Hummel, 1994, p. 314).

To address this "great unresolved question" requires an exploration of the realm of practice. My intention here is to begin such an exploration by examining how place concepts illuminate the challenges we face in trying to bridge the gap between science and practice. This paper will

argue that place-oriented inquiry and practice are the keys to overcoming the ever present if not ever expanding science-practice gap. I hope to show that place can better frame the problem and help managers and scientists appreciate the inevitably plural and partial (incomplete and uncertain) character of all knowledge. In addition, I will suggest what I hope are more productive ways forward that not only embrace this pluralism and partiality but find greater efficacy and advantage in the fact that all practitioners are differently positioned to perceive and act on the world (i.e., context dependency). Thus, rather than trying to inform all problems with an integrated top-down view of knowledge, informed action can be conceived as guided by the collective wisdom of networked actors and institutions governing complex systems, each informing one another in a collaborative form of rationality that operates both horizontally (place to place) and vertically (upwards and downwards in scale).

Why Science Fails to Simplify Practice

The idea that science can perfect environmental decision making is still largely taken for granted in the professional cultures and institutions of environmental management. Among social scientists, however, it has received considerable scrutiny (Flyvbjerg, 2001; Pilkey & Pilkey-Jarvis, 2007; Sarewitz, 2004; Allen et al., 2001). Drawing from anthropology and ecology, for example, Tainter and colleagues (Allen et al., 2001; Tainter 1999) point to social/institutional limits on managing complex systems by examining how complexity has contributed to the collapse of civilizations in the past. In particular, Tainter (1999; 1988) details the history of collapse to develop the argument that the evolution of complex social-ecological systems (i.e., a given society and its resource base) tends over time to outstrip that society's own institutional capacity to manage such systems. As a society grows and matures the cost-to-benefit ratio of

problem solving escalates because the solutions to new and emerging problems always come at a higher cost or require proportionally more inputs than the problems already solved. Because human societies tend to apply the easiest (cheapest) solutions first, over time problem solving becomes progressively more costly (that is we experience a diminishing return on problem solving – sometimes to the point of collapse or a deliberate adoption of simplification). While society can subsidize the management of complexity to some degree using energy or technology, the situation still leaves the practitioner with the cognitive challenge of complexity (e.g., the need to synthesize and integrate the exponential growth of knowledge at multiple scales).

Taking a sociological approach Scott (1998) similarly documents the failure of state inspired schemes to improve social conditions. He notes that major sources of failure are states' tendencies to promulgate a hegemonic planning mentality that excludes the role of local knowledge from consideration. He attributes this to an adoption of "high modernist" ideology promoting unrealistic confidence in scientific and technical progress and the design of a social order commensurate with natural science. Likewise from planning theory, Fisher (2000) attributes failure to the "overapplication of scientific rationality to public policy making" (p. x).

Drawing from contemporary political science, Sarewitz (2004) argues that science makes environmental controversies worse for three reasons. First, science supplies contesting parties with their own bodies of relevant and legitimate facts (a problem only compounded by the universal access to information and data via the internet). Second, the necessity of looking at nature through a variety of disciplinary lenses also brings with it a variety of normative-ethical lenses. Third, scientific uncertainty persists and grows, not for a lack of increasing scientific understanding, but for a lack of coherence among competing scientific understandings – amplified by the various political, cultural, and institutional contexts within which the science is

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carried out. In another example, van Wyk, et al. (2008) highlight the persistence of a contextual/cultural gap between information providers and information users as reasons that scientific information fails to be incorporated into decision making. In sum, social analysis of the science-mangers nexus suggests that knowledge complexity decreases institutional efficiency, increases scientific uncertainty, and amplifies policy conflict.

Place and Pluralism

The persistent if not widening gap between science and practice cannot be solved by calls for more science, better science, or more focused science. Nor can it be solved by simply finding more effective ways to communicate and deliver new science to practice. More fundamentally, continuing to address the gap from an exclusively context independent, top-down, unidirectional, f*rom*-science-*to*-practice mindset exacerbates the problem. In this hierarchically dominated model, knowledge will always expand much faster than our individual and collective capacities to absorb, process, and apply it to particular situations and circumstances. But knowledge need not be conceived as a collection of ideas, facts, and values waiting to be integrated into some grand unifying model that presumably any manager could easily and effectively apply. What might we gain by conceiving the structure of knowledge not in context-independent disciplinary terms but in context dependent spatial-ecological terms, as embedded in and distributed across places and the people who occupy and interact with those places? Would it be possible to approach knowledge as distributed throughout a social-ideological space, organized not so much by discipline or algorithms but by relational geography? What leverage on this problem might be gained by viewing knowledge as something produced and articulated in a network of embedded,

partially informed practitioners organized within both vertical and horizontal planes of relationships?

Two key features of such a spatial/relational view of knowledge are the irreducible *pluralism* of knowledge (contra the unity of all knowledge) and the subjective *positionality* (contra "gods-eye" objectivism) of observer-actors embedded in both vertical and horizontal relations to the world. While these ideas challenge the naturalistic (positivist) epistemology common in most ecological science – the assumption of a single fixed or absolute system of reality in which all life-forms are subject to the same underlying processes (e.g., Lowe, et al. 2009) – in favor of some form of constructivist epistemology (see Allen et al., 2001, Hayles, 1995), they also regard knowledge as ecologically relational (situational and relative) to where one is positioned within a social-ecological field. Accordingly, all observers or actors have only a partial (incomplete) understanding owing to their ultimately unique positioning within spatial-temporal reality. This unique positioning also means that there is no unified position from which all knowledge can be integrated into a single understanding: hence there will always be multiple competing understandings of the world.

These differently positioned understandings need not be viewed as a failing: encountering and considering the knowledge of others who occupy different positions within the world (or the flux as Hayles prefers to call it) strengthens our collective understanding. Grasping the flux from multiple, competing vantage points enriches each perspective and reveals assumptions that may have otherwise remained hidden especially to those who occupy the dominant roles (Hayles, 1995). These two features of place suggest an alternative framing for understanding the science-practice relationship.

Geography and spatial studies highlight three varieties of knowledge pluralism. The typical way in which pluralism is recognized and studied involves an *ontological* focus on place (Patterson & Williams, 2005). In most discussions, place is typically conceived as a location or container of material and ideational relationships to the world, that is, a socially constructed site that organizes and constitutes human material and social relationships and meaning. Ontological pluralism is strongly associated with cultural differences and competing systems of meaning across groups of stakeholders and domains of expertise. It represents the pluralism in the nature of what exists; that is, the contents of reality and, per place, where those contests are located. We often experience it as the different meanings, uses, and values people hold for a place and it is often discussed in terms of competing "senses of a place" held by various groups of stakeholders (Williams, 2008).

Whereas research on place is typically occupied with *ontological* descriptions, some philosophers and geographers have drawn on place and spatiality to advance an *epistemic* perspective on knowledge – place as a *way* of seeing and thinking about the world (Entrikin, 1991; Nagel, 1986; Sack, 1992; 1997). Place facilitates multiple perspectives or ways of knowing that highlight multiple, differently disciplined context independent (objective, scientific) and context dependent (subjective, local) lenses or positions through which knowledge may be generated. Such epistemological perspectives are proposed to help transcend what geographers regard as a deep and long-running tension within Western intellectual traditions between universalist (context independent) and particularist (context dependent) views of knowledge (See also Fischer, 2000; Flyvbjerg, 2001; Williams, 2002a). As Sack (1992, p. 1) has argued, place is more than mere setting or container of reality. It is integral to how human beings experience and organize their world, a "fundamental means through which we make sense of the

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world and through which we act." Individual awareness and knowledge of the world is fundamentally a spatial awareness, informed by the particular cultural, experiential, temporal and spatial positions that we happen to occupy. Likewise for Hayles (1995) our positioned, embodied, human-situated interaction with the world conditions how we can understand of the world.

Though this universalist-particularist tension for organizing knowledge has been particularly salient in geography it has important, though less recognized, parallels in natural resource management. Progressive/scientific management of nature historically was been built on the universalist impulse of science and knowledge whereas land/nature management practice operates, by definition, in the arena of the particular. The geographic discourse on place and spatiality highlight this tension and provide some insights into how to profit from it. Specifically, place helps to address the growing disciplinary fragmentation of knowledge, bridge the epistemological divide between local/contextual knowledge and global/generalizable knowledge, and validate and organize knowledge originating in a bottom up synthesis of networks of actors. The knowledge and wisdom required to manage complex social-ecological systems is not likely to emerge out of top-down expert driven knowledge systems (which become too unwieldy and expensive) but through the combined and less formally coordinated efforts of more embedded practitioners (managers) learning though their own local efforts. In other words the future of practice and problems solving is more likely to be organized and directed from what Entrikin (1991) refers to as the epistemological position of *betweenness* – informed by top-down scientific discourse but also invigorated through bottom-up engagement in which practitioners play a more prominent role in the production and validation of knowledge.

The third variety of pluralism is *axiological*. Axiological pluralism focuses on various normative lenses or prescriptive statements and valuations about place. It seeks to recognize the diverse social processes for prescribing particular valuations, preferences, and choices. These may range from the technical lenses of economics and decision science, to legal-political systems and institutions, to moral-ethical systems embedded in culture, religion, and moral philosophy. Axiological pluralism contrasts particularly with monistic theories of value (See Norton, 1996) that dominate the fields of economics and rational choice theory in political science. Accordingly all goods are assumed to be commensurable on a single value dimension such as utility or money. Within natural resource management the monistic approach reached its zenith with operations research thinking in which experts would identify the "outcomes" of plan alternatives, economists would measure their values, and analysts would calculate the best, most efficient alternative. In contrast various pluralist theories of value have been proposed (Anderson, 1993; Norton & Toman, 1997; Price, 2004) to highlight the incommensurability of values. Reconciling the plurality of values for places cannot be reduced to a singular metric as in economics, it requires reconciling a plurality of social processes and institutional arrangements by which society orders, evaluates, and decides about their relative production, maintenance, and distribution.

The interaction of the three dimensions (ontological, the epistemological, and the axiological) contribute to pluralism with each dimension. For example, the Enlightenment-inspired pursuit of universal, context independent knowledge has constrained the ontological meanings and values of nature to the tangible utilitarian realm, epistemologically narrowed what counts as legitimate means to knowledge, and marginalized the context dependent knowledge of place and the particular (Entrikin, 1991). This same impulse for context independent knowledge

has also constrained the methods for adjudicating among competing values and preferences in natural resource policy and management (Williams, 2002a; 2002b). For practice the core challenge to recognize the diverse ways in which a community or society orders or chooses among alternative courses of action and learn how to negotiate within and across these different kinds of pluralism. In other words, practice requires social institutions that can recognize and negotiate among pluralistic conceptions of the good and the political and pragmatic task of adjudicating among competing representations of a place produced as a result of ontological and epistemological pluralism.

Place is important for understanding the persistence of the science-practice gap and the irreconcilable ubiquity of knowledge pluralism. When dealing with complex social-ecological systems all attempts to close the gap and overcome plurality and uncertainty ultimately rely on being able to attain a universal, context independent, gods-eye view of reality. Alternatively, adopting a spatial or place-based perspective helps to recognize that all knowledge – even exalted scientific knowledge – is to a significant degree *local* or context dependent because all observers and actors – by virtue of their biography and geography – occupy a particular, delimited position from which to observe the world. Still, our diverse pluralistic culture must somehow manage to co-exit in shared spaces despite our unrelenting differences. Pluralism operates in the realm of practice by recognizing and profiting from different kinds of knowledge and skills. Natural resource practice requires the cultivation of the capacity, habit, or knack for collective sense-making that moves beyond the mere application of science and technical know-how. In other words, it is through real world practice, embedded in actual places that knowledge pluralism and value differences are ultimately reconciled.

The point here is not to argue against investing in science, only that it is unreasonable to expect those investments alone to deliver efficient and effective solutions to complex problems. At the very least we need to recognize that those who are engaged in practice cannot be expected to absorb all the latest, often conflicting, science that might apply to their practice. Rather what is being argued here is that we need to develop strategies for using and accessing the accumulated wisdom of the practitioners themselves as they go about their work and help them to harmonize their local efforts across adjacent spaces and at different spatial scales. Addressing the science-practice gap requires a rethinking of how practical knowledge is produced and applied. This rethinking needs to take place on two levels. At one level we need to address how individual practitioners learn and interact. At another level it involves a shift in how we conceive the tasks of management and governance writ large.

Place and Practice

Given chronic system complexity and ambiguity (plurality) and limited institutional and cognitive capacities to process ever grander, yet stubbornly thin models of reality, one strategy for addressing the science-practice gap is to elevate practice as a form of knowledge production and management. Place and spatiality facilitate such an elevation by highlighting different ways of knowing and acting that emphasize "knowledge nested in a context of time and local circumstance" (Fisher, 2000, p. 69). A number of social scientists (Fisher, 2000; Flyvbjerg, 2001; Scott, 1998) have focused on a kind of epistemic pluralism that can be found in the Aristotelian intellectual virtues of *epiteme* (abstract scientific knowledge)*, techne* (the kind of technical knowledge found in a craft)*,* and (depending on the author) *phronesis* or *mētis* (prudent, practical wisdom). These authors make the case that we could do more to integrate and profit

from the practical and informal knowledge that exists among both occupants/users of places and emplaced professional practitioners.

Scott (1998) characterizes local, practical knowledge as the lost art of *mētis* – local, experiential knowledge that resists simplification into the kind of deductive principles that can be readily transferred through book learning – which has been systematically replaced by state-inspired projects of rational management. Scott documents numerous examples of "natural and social failures of thin, formulaic simplifications" imposed on society through the agency of state power (his first case example deals with the failures of utilitarian logic that inspired mono-cropped, even-aged forestry in early modern Europe). He notes that large scale processes and events are inevitably far more complex than any models we can devise to map them. What these schemes "ignore – and often suppress – are precisely the practical skills that underwrite any complex activity … variously called know-how … common sense, experience, a knack or *mētis*" (p. 311). Rather than a dialogue existing between practical knowledge and formal scientific knowledge, he argues that the state has sought hegemony over the former as a form of social control.

A good example of this distinction has to do with the application of fire science. One of the most exalted topics in fire science is fire behavior modeling, which is intended to help fire fighters anticipate how a wildfire will spread. But as one highly experienced fire manager once explained, he would never rely on such models, which he saw as over-simplified and exceedingly poor at factoring in local topography and meteorology. He would much rather rely on his years of experience fighting wildfires in his district as well as the experience he brought from many years on the fire line in different settings.

A line of reasoning similar to Scott is offered by Flyvbjerg (2006; 2001). But whereas Scott examines "how certain [state inspired] schemes to improve the human condition have failed," Flybjerg directs his gaze more generally at "why social inquiry fails" and "how it can succeed again." Flybjerg (2001) builds his argument by comparing Aristotle's term *phronesis* (practical wisdom) to *episteme* and *techne*. Whereas *episteme* refers to knowledge that is abstract and universal and *techne* describes the know-how associated with practicing a craft, Flyvbjerg seeks to resurrect the idea of *phronesis* as *the* domain of the social sciences in sharp contrast to the natural science model rooted in *episteme* and *techne*. Flyvbjerg employs Aristotle's *phronesis* to highlight the comparative advantages of practical wisdom that comes from "an intimate familiarity with the contingences and uncertainties of various forms of social practice embedded in complex social settings" (Caterino & Schram, 2006, p. 9). *Phronesis* concerns the kinds of value judgments and decisions that are "so commonly involved in political and administrative practices that any attempts to reduce them [to *episteme* or *techne*] or comprehend them in those terms are misguided" (Flyvbjerg, 2006, p. 68). *Phronesis* was deemed most important to Aristotle because it balances instrumental rationality with value-rationality, a balance Aristotle deemed crucial to the sustained happiness of citizens in any society. Yet it is that very balance that has been upset by the dominance of instrumental rationalities behind *episteme* and *techne* as evidenced in part by the fact that modern languages no longer have a word containing a variant of *phronesis*.

In comparing Scott's use of *mētis* to Flyvbjerg's *phronesis*, *mētis* appears closer to the idea of *local* knowledge or wisdom. It is not as refined and systematized as *techne* (which by Scott's reckoning is more universal, organized, and ultimately expressible in the form of rules, principles, and propositions), but rooted in a history of local problem solving. For Flyvbjerg,

phronesis is tied more closely to political/administrative skills involved in reasoning about values, the good life, and the exercise of power. Both emphasize *emplaced* knowledge and stand in contrast to the "god's-eye" view from nowhere or what Scott calls "thin simplifications" that "can never generate a functioning community, city or economy" (p 310). Both kinds of knowledge exist among practitioners and can be cultivated within organizations and institutions.

A key argument of Flyvbjerg is that social science (and I would add practice) should not seek to emulate natural science by trying to build predictive models, but instead focus on case-study knowledge, which typically reveals a kind of practical wisdom emphasizing value rationality and power rather than the maximization of specific outcomes or objectives (typically prescribed from above). This kind of practical wisdom is difficult to organize from above. Rather it emerges from and is refined and validated by systems of networked learners. In other words, practical wisdom is shaped and evaluated by the practitioners themselves rather than produced and transmitted via expert systems (though experts can certainly help in this effort). Finally, such a distributed, bottom up system of knowledge creation helps to counter the otherwise diminishing returns and escalating costs of traditional hierarchically directed information systems.

Flyvbjerg makes a number of recommendations for how to practice what he calls "social science that matters," which, at its core, involves doing context dependent case study research. Aristotelian *phronesis* involves deep knowledge of circumstances, concrete examples, and case exemplars. Flyvbjerg (2001, p. 136) cites Richard Rorty (who invokes John Dewey) in this regard: "the way to re-enchant the world … is to stick to the concrete." This doesn't necessarily exclude generalization, but such generalizations are more often built from the examination of many particular cases. Examples of fields we might emulate are business and law, where

practical knowledge is developed around learning cases and developing the judgment or wisdom for how to creatively apply cases to the situation at hand.

A second recommendation is to balance instrumental/technical rationality with what Flyvbjerg calls value rationality. The goal is to increase the capacity of individuals, organizations, and society to think and act in value rational terms. This forces researchers to face the contextual nature of problems instead of assuming some universal foundation. Validity comes from testing assumptions through the comparison of contexts (e.g., different positionality) where interpretations are built on validity claims that can be examined and deliberated.

His third recommendation is to make power a core part of analyses. Who gains and who loses? What kinds of power relations are involved? Are there possibilities to change these power relations and would it be desirable to do so? What kinds of power relations apply to those asking the questions? In other words, who governs and what governmental rationalities are at work? Such a focus is in stark contrast to our utilitarian history in natural resource management, which has avoided power questions in the vain hope that technical rationality would render them irrelevant.

Fourth, in addition to asking the usual why questions, we should ask how questions that reveal narrative: how did this situation come to be? The key idea here is that history and narrative are fundamental to social inquiry and practice. Historical narrative helps us anticipate situations before we encounter them. Narrative is also important in distinguishing a place-based approach from a resource orientation. Places have histories, both natural and social, whereas resources focus on utility in the present and future. The very idea of resource is to decontextualize what is there, to strip the landscape of history, and eliminate any past or pre-

existing meaning as a constraint on its use. In building narrative one must acknowledge the past in consideration of the future.

Finally, social science should be directed at building dialogue with diverse stakeholders. The aim of social science, according to Flyvbjerg is to provide input into the ongoing social dialogue and practice in a society, rather than producing generalized, unequivocally verified knowledge. Social science knowledge should not be privileged – it must enter into the dialogue, not take it over.

Flyvbjerg's recommendations, though intended more for individual social science researchers, could also be applied to the training and preparation of practitioners. Many professional fields from business to law, medicine, and planning employ and teach case-based knowledge. For example, describing someone as a *clinician* is often meant to distinguish a professional who is primarily devoted to practice from one primarily devoted to research. Clinical knowledge in a profession such as medicine is nurtured through the accumulation of experience from the careful analysis and treatment of many actual cases. Over time the practitioner is expected to learn how to diagnose and treat conditions by drawing on case-based experience. Likewise much of the learning and practice of law involves the careful application of past case law to new situations. In important ways, what distinguishes these professions from the academic disciplines is their relatively greater emphasis on learning from real-world practice. Professional knowledge builds much more on inductive, situational, bottom-up learning than top-down, deductive extension of theory to practice.

Part of the challenge of such a bottom up knowledge system involves the structuring the interactions among practitioners. Professionals of one sort or another spend a great deal of time sharing their case knowledge. But applying this to complex social-ecological systems suggests

another aspect of case-based knowledge. In such contexts, the health of the overall system depends on the combined actions of many practitioners each responsible for various parts whether divided by geography (e.g., a wilderness) or by resource (e.g., wildlife) and/or process or function (e.g., wildfire). The overall performance of a system at any scale depends on the collective actions or inactions of managers distributed across space, scales, and functions.

The solution is not likely to be found in traditional approaches to the transfer of knowledge from expert to practice, but by learning to take into account the actions and individual partial understandings of diverse practitioners distributed cross resource specialties, landscapes, and scales. By thinking about practice as *emplaced knowing* we can begin to recognize the practitioner as part of a network of practitioners and rethink knowledge/learning as a *distributed* product/process of learning or practice communities. As understood in the field of knowledge management, this can be equated to a community of practice (Wenger, 1998). Practice communities constitute groups of people who share a concern or interest in some domain of activity and learn how to do it better through regular interaction. According to Wenger, three characteristics are crucial to distinguishing a community of practice from other kinds of communities. First, they have an identity defined by a shared *domain* of interest such that shared competence distinguishes members from nonmembers. Members value their collective competence and learn from each other, even if few people outside the community value or even recognize their expertise. Second, they act as a *community* with respect to their domain by engaging in joint activities and discussions, helping each other, and sharing information. They build relationships that enable them to learn from each other. Third, members of a community of practice develop a shared *practice* in something. They develop a shared repertoire of resources,

experiences, stories, tools, and ways of addressing recurring problems. This takes time and sustained interaction.

To return to the fire and fish example, it is at least as important to help practitioners better organize themselves as communities of practice as it is to produce the next scientific synthesis of knowledge, which by necessity will emphasize context independent knowledge. Practice communities draw from members' knowledge and experience to advance situation-specific problem solving. They might do this by requesting information from community members, seeking out people with specific experiences suited to a particular problem at hand, making site visits, documenting cases and solutions, and mapping knowledge and gaps in knowledge.

Place and Governance

Thus far I have described the science-practice gap as a knowledge problem without much regard to the institutional or governing structures within which practice is ultimately carried out. While a pluralist conception of knowledge gives greater recognition to the wisdom and experience of emplaced practitioners (and citizens), learning and operating in real places and developing context dependent knowledge also needs to be addressed at an institutional or governance level. An expanded conception of practice that nevertheless remains embedded primarily within the existing institutional structures of hierarchical governance will do little to escape the vice of complexity and uncertainty. Recognizing this, Scott (1998) concludes his work by making a case for *mētis*-friendly institutional structures that emphasize plurality and diversity. He notes that in natural systems, diversity is "demonstrably more stable, more self-sufficient and less vulnerable" (p. 353). As with complex natural systems, *mētis*-friendly institutions benefit from diversity, redundancy, and decentralization.

Within natural resource management many have turned to various forms of adaptive management (Stankey et al., 2005) or adaptive governance (Scholz & Stiftel, 2005) as a place-based strategy for addressing the chronic insufficiency of knowledge in the face of complexity, uncertainty, and change of the sort faced by natural resource managers. Tognetti (1999), in particular, describes adaptive management as a way to address the challenge of epistemic pluralism in natural resource management:

> At one end, the more deterministic approaches are associated with the characteristics of Newtonian science, the Darwinian theory of evolution, neoclassical economics and methods such as cost-benefit analysis that provide utilitarian justifications for decision-making and technical solutions within the existing paradigm of status quo, and which have dominated policy dialogues. At the other end, adaptive approaches are more associated with institutional, political economy, social learning and conflict resolution frames of reference that challenge existing institutional structures and that have raised fundamental questions regarding scientific practice in relation to high stakes and fundamentally political decisions, which are not new but which have had a marginal presence in policy discourse. (p. 690).

In theory adaptive management involves multi-scalar, place-sensitive policy experimentation (and by implication more case/context sensitive knowledge). As often practiced, however, adaptive management tends to privilege formal scientific knowledge (*episteme*) over other forms of knowledge held by practitioners and citizens and is insufficiently adaptive in its conceptions of value (Norton, 1999). As a pragmatic approach to adjudicating among the plurality of competing management prescriptions for a place or landscape, it "pays little attention to the question of what types of institutional structures and processes are required for the approach to work on a large scale basis" (McCain & Lee, 1996, p. 446). It also tends to be costly

and time consuming, making it less attractive as a way to improve the benefit/cost ratio of problem solving. Recognizing that effective institutions for adaptive management defy standardization (Stankey et al., 2005, p. 51-52), the concept of adaptive governance has been put forward to emphasize the importance of context and the value of institutional diversity in sustaining complex social-ecological systems (Folke et al., 2005).

The emerging discourse on adaptive governance coming out of ecological systems theory conveys strongly prescriptive ideals in citing such positive virtues of institutional diversity, wider public participation, and enlarged social capacity and flexibility to respond to unplanned change. A separate but less normatively disposed discourse examining how governance practices have evolved in response to global scale social complexity has also emerged in sociology (Ilcan & Phillips, 2008; Urry, 2003) and public administration (Goldsmith & Eggers, 2004; Pierre, 2000; Pierre & Peters, 2005; 2000; Rhodes, 1997). First and foremost, governance is distinguished from government. The traditional notion of government is "state-centric" and addresses how government institutions "steer" society and the economy. Governance tends to be associated with a "society-centric" examination of the co-ordination and self-governance through networks and partnerships. What was previously thought of as the indisputable role of government is increasingly seen as the province of various societal institutions (Pierre, 2000). Accordingly, much of contemporary governance takes place outside formal government institutions and bureaucracies and involves increasingly complex linkages and collaborations among multiple public and private organizations (see also Flint this volume). The governance of complex systems increasingly emphasizes the need to reconcile traditional top-down hierarchical public administration built on vertical lines of authority with emerging complex, social networks of actors, stakeholders, and governmental and nongovernmental organizations interconnected by

horizontal lines of interaction. These perspectives contrast with Progressive era institutions of governance that are not as well suited to the administration of modern social-ecological systems marked by dynamic, multi-scaled complexity.

Traditional models of governance start with the organization as the basic building block in a system in which top officials direct management practice to accomplish program goals. This literature describes the ways in which government has increasingly come to rely on partnerships and networks to accomplish its program, at least in part, driven by increasingly complex global scale social interactions. The growth of governance by complex networks of governmental and non-governmental actors and institutions has been propelled by as sense that government has become "'overloaded,' that is, unable to resolve all the tasks and demands placed upon it by society" (Pierre, 2000, p. 4). Some have gone so far as to suggest idea that government has largely been replaced by "self-organizing" markets and networks of organizations and actors (Rhodes, 1997).

Such a view of governance comports well with the view of complex adaptive systems, in which pluralism and uncertainty dominate and institutional capacities struggle to keep pace with complexity. The challenge of governing in the face of excessive complexity and uncertainty can be addressed, particularly at a local scale, when self-organizing networks of practitioners, institutions, organizations, NGOs, and various kinds of expertise and citizen interests come together and begin to govern the system. Flint (this volume) provides a good illustration of emergent governance regimes in her examination of mountain pine beetle problem in north central Colorado. She notes that in the context of such large scale ecological disturbance new governance relationships are being forged rather quickly involving both large scale regulatory institutions at the state and federal level and locally emplaced residents, interest groups,

government agencies and organizations drawing on existing and emerging networks to address place-specific issues in response to the regional beetle outbreak.

Drawing on discursive theories of democracy, Williams and Metheny (1994) describe the importance of interactions across scale in the regulation of environmental problems. They argue that different models of democracy should play different roles depending on scale. At larger scales traditional interest group politics provides a way to settle on the basic rules to guide more local decision making. At the local scale, context specific dialogic processes dominate because decisions begin to matter to local constituencies in ways that at a larger scale were obscure and remote to all but the most committed interest groups. This is partly an explanation for the NIMBY (not-in-my-backyard) response to many environmental policies. It is only when decision making takes on specific, local consequences that most are likely to see they have a stake. At this level place becomes the basis for forming a polity (e.g., Kemmis, 1990) as people find "themselves in geographic proximity and economic interdependence such that the activities and pursuits of some affect the ability of others to conduct their own activities" (Young, 1996, p. 126). Despite diverse and plural interests, place forges a minimal commonality among participant/stakeholders to make possible and motivate political action as proximity encourages people to "make sense together while living differently" (Healey, 1997). Whatever social differences exist regarding the valued uses and meanings for a place, there is often a shared concern for a particular place. A key task of any area governance process is to work out a shared, pragmatic sense of place.

Conclusion

Faced with irreducible pluralism in the knowledge and meanings of places, irreconcilable diversity in the practice and products of science, and incommensurable differences in valuation

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what practitioner wouldn't wish for some all-powerful analytic tool to close the gap between knowledge and practice? But framing the science-practice gap as one of access to and consolidation of knowledge in a top-down conception of expertise is a major source of the problem as society confronts the diminishing rates of return on cost of knowledge so conceived and generated. Clearly, investing in science and the expansion of knowledge will always be important, but it is unreasonable to expect those investments alone to yield increasing efficiencies in solving complex problems. But those engaged in practice cannot be expected to absorb or master all the latest science that might apply to their practice. Place helps us rethink the science-practice nexus by putting more emphasis on the capacity of emplaced and experienced agents to act and learn in a networked system in which horizontal linkages are given greater emphasis. In a model of hierarchical governance, practice entails the execution of direction from above. In the networked, partnered, deliberative model of governance, knowledge is emergent from a network of actors, each actor possessing some partial, context dependent knowledge (rich in particulars of the situation) but less cognizant of horizontally adjacent understandings and understandings that operate at different scales.

A focus on specific places helps to ameliorate the disciplinary fragmentation of knowledge. First, it confronts the subjective positioning of scientific observers reminding us of the inherent selectivity of all representations of knowledge. Second, by helping to organize and validate knowledge originating in a bottom up synthesis of networked practitioners it reduces the epistemic tension between local/context dependent and global/context independent knowledge. Finally, a place perspective can help to address the capacity limits of top-down, expert driven knowledge systems by recognizing and capitalizing on the accumulated wisdom of emplaced practitioners acquiring and sharing case specific knowledge.

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Decision-making to connect multiple scales of place

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Abstract: Cox's notion of *spaces of engagement* is useful for appreciating extra-local place-based activities and their influence on decision making. This chapter stretches the theoretical notion of place and its role in decision making by exploring interactions across multiple scales via new forms of governance. This process may enable rural, resource-dependent communities, previously deemed incapable of asserting much influence on decision making, to engage in extra-local relationships to better serve their own interests. Theoretical explorations of place, scale, community and regional fields, and governance are followed by a summary of emerging place-based influences on decision making in the context of landscape disturbance by mountain pine beetles in north central Colorado. In this case, new relationships were forged via expanding place and multi-scale linkages and innovative forms of governance.

Places are not static, bounded spots on the earth. As people carry out their everyday lives, their interactions are continually creating and changing places. People-place interactions have been well documented in the literature, particularly how interactions within places shape local identities, social organization, natural resource decision making, and the meanings of places across landscapes (Cheng, Kruger, and Daniels, 2003; Brandenburg and Carroll, 1995; Kemmis, 1990; Stewart and Daniels, 1998). This chapter extends these investigations of place to consider extra-local linkages across space and scale in shaping place-oriented decision making drawing on human geography and community sociology literatures.

Staeheli (2003, p. 162) described place as the result of a "layering of activities that constantly make and remake it." Drawing on Massey's (1979) geologic metaphor, Staeheli (2003) highlighted the role of human activity over time in constructing and constituting places. Yet place is more than a mere product of human action, it is also a dynamic process. In other words, places are always "becoming" (Pred, 1984). This dynamic notion of place relies on an appreciation that decisions and actions at individual, household, neighborhood, community,

regional, national, and global levels construct and shape the meanings and implications of places (Massey, 1994).

Without a doubt, global and state scale processes and pressures certainly influence the position and character of places. But places, or more importantly the people and institutions within and among places, are not merely at the mercy of larger scale processes (Castree, 2003). People take action to influence broader scales, particularly to deliberately shape the nature of their own place.

> People acting in places are not simply marionettes whose actions and life chances
> are dictated by movements of the world economy and global politics. In other
> words, people acting in a place have a degree of 'agency' to control their destinies
> and those of the places they reside in. So local action cannot only *react to* global
> pressures but also *act back on them* (Castree 2003, p. 180).

This notion of reaching out beyond the confines of a particular place is central to understanding not only global dynamics, but regional experiences as well. Place-oriented actions and decisions often rely upon extra-local interactions which stretch spatial and organizational conceptions of place (Cox, 1998). Thus, there are multiple scales at work in shaping the character and experience of place.

In the theoretical discussion that follows, the concepts of place, scale, community and regional fields, and governance help to orient a conceptual framework for understanding extra-local place-oriented action. Thoughts are offered on how we might think about place within a more regional-level focus. An empirical exploration follows, highlighting an example of how expanding the notion of place through regional interaction occurred in the context of landscape disturbance in north central Colorado.

Framing place

Noel Castree suggested that "Places are not what they used to be" (2003, p.165). In this statement, Castree referred to changes in how places have been conceptualized. Historically, considerable geographic attention was fixed on differentiating places from one another (Hartshorne, 1939). Certainly, even today, few would deny that places are unique, different, and independent in many ways (Kirby, 1989; Castree, 2003). The politics, experiences, and human-environment relations in Vail, Colorado are hardly the same as those in Walden, Colorado. Likewise, neither of these places are the same as two, ten, or fifty years ago[1].

But despite an appreciation for uniqueness and differentiation, places are rarely conceptualized as isolated from one another. Indeed, appreciating the connections between places, and conceptually between place and broader scales, is essential to understanding the role of place in decision-making (Kirby, 1989; Castree, 2003; Cox, 1998). The increasing interaction and interdependence of places across landscapes suggests that we need a more dynamic interpretation of place that captures the special contexts and everyday processes that shape life and interactions among people and their environments (Castree, 2003; Staeheli, 2003). As Castree (2003) suggested, people cannot put up barriers to the outside world and survive. Interconnections and linkages between places are critically important (Paasi, 2004).

To suggest that people only operate, attach, or identify with a narrow notion of place is a disempowering and oversimplified view of human activity and human-environment interactions. The concept of scale is useful for expanding an appreciation of place to match the realities of identity and action for real people.

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[1] This example follows from Kirby (1989) who suggested that "city politics in Houston could never be confused with city politics in San Fransisco" (p. 323) and from Massey (1994) who focused on the changes in places and the conceptualization of place over time.

Scale as an organizing concept for connecting places

Places don't exist in isolation, they simultaneously operate within larger spheres of activity, or scales (Howitt, 2003). Scales provide a useful way to organize connectivity from local to global. However, scale is as much of a "troubling and even chaotic concept" (Howitt, 2003, p.138) as place (Staeheli, 2003). Though often treated as neat, discrete, bounded units or levels or as separate, concentric rings or rungs of a ladder (Howitt, 2003, p. 145), portrayals of scale as a rigid, hierarchical system may be problematic. In reality, connections between places and levels of society and the environment may involve more "awkward juxtapositions and jumps" (Howitt, 2003, p. 145). In other words, interactions among multiple scales need not rely on notions of nestedness or contiguity in order for connections to occur. On a cautionary note, splitting up the world into discrete, separate parts or levels may overemphasize scale as an organizing framework and de-emphasize processes that are not scale-dependent or operate within scales (Brenner, 2001; Marston, 2000). The key to a useful conceptualization of scale is appreciating the fluidity of connections that exist between varying levels of engagement and interaction among people and between people and their environment (Brenner, 2001).

Unfortunately, disciplines often specialize in analyses at different particular scales, making integration across scales more difficult (Agnew, 1993). For example, political science typically focuses on the role of the state, psychologists tend to focus on individuals, and sociologists frequently delineate their work in terms of households or communities. Since different processes and phenomena are critical at different scales, the history of scale separation is somewhat understandable (Morse, Hall, and Kruger, 2008). However, in order to fully appreciate the interactions among processes and phenomena, the ability to transcend multiple

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scales is essential (Morse et al., 2008). Thus, it is all the more important for interdisciplinary work to keenly seek to understand multi-scale linkages and to eschew prioritizing one scale over all others (Swyngedouw, 2003). Further, appreciating connectivity across scales not only reduces uncertainty about change, but helps build capacity for holistic problem-solving and ethical inclusion of multiple interests:

> (T)he scale politics of power, identity and sustainability offers dispossessed, marginalized, and disadvantaged peoples a better framework for political action across and between multiple scales (Howitt, 2003, p. 139)

How does the concept of place fit within a multi-scale perspective? Cox (1998) outlined the useful concepts of spaces of dependence and spaces of engagement for understanding the interdependence and actions of places within a broader context. Cox suggested that people have dominant areas of local interest or *spaces of dependence*. We can think about these areas as places. Activities within these spaces of dependence shape place-based identities and everyday life. Yet, operating within narrow spaces of dependence is insufficient for the maintenance and continual shaping of places. In everyday life, people logically connect with other places and with other scales beyond their primary locality or place of residence. In order to maintain places and fulfill needs and desires, there is a need for engagement outside of narrowly conceptualized places – to larger *spaces of engagement* (Cox, 1998):

> Local agents are participants in a much more spatially extensive set of exchange relations than those contained within the bounds of a particular place (Cox, 1998, p.4).

This broader engagement, or interaction across space, redefines places relative to others and the larger realm in which they are situated. It also stretches the notion of place as people

develop affinity and meanings for broader spaces. Since places are spaces imbued with meaning, we can still think of these larger scales of interaction as places. New place-based meanings may emerge for these larger spaces – or places – of engagement. Resulting regional or larger scale identities may become the nexus of decision-making, in turn changing or enhancing original place-based meanings, interpretations, and actions.

It should be emphasized that this larger scale interaction by people beyond their places or spaces of dependence, while likely and common, may not have the effect of enhancing or empowering place-based identities or meanings. While conceived largely as positive phenomena, this may not always be the case. Later in this chapter two divergent cases are highlighted regarding the capacity or lack of capacity of regional spaces of engagement to positively influence places through new modes of decision-making or governance. First, it's useful to think about place in the context of governance and decision-making.

Place-oriented governance in rural regions

The contemporary neo-liberal political context emphasizes the devolution of decision-making and a shift from the dominance of *government*, or the role of the state and directly elected officials (Painter and Goodwin, 1995), to *governance* or:

Any strategy, tactic, process, procedure, or programme for controlling, regulating, shaping, mastering, or exercising authority over others in a nation, organization or locality (Rose, 1999, p15).

This shift in decision making processes has given responsibility to lower scales – in essence, to places. This devolutionary process involves the emergence of new players and new relationships to create capacities to act in common interests. As Rose (1999) suggested, "The

pattern or structure that emerges as the result of the interactions of a range of political actors – of which the state is only one" (p.16).

Johnston (1991) highlighted political actions by those with power in society – people "who use space and create places in the pursuit of their goals" (p. 68). Though the emergence of new institutions and forums for decision making at different scales sounds at first glance as an opportunity for places to assert themselves in self-determination, in places lacking capacity, it can be also be a burden (Herbert, 2005; Flint and Brennan, 2006). Particularly in rural areas, new institutional arrangements may be slow to emerge and benefits may not emerge as readily (Jones & Little, 2000). The question remains whether those without power in rural society or regions have a voice or indeed any ability to use space or create places that fit their identity and goals.

The notion of governance at the local scale and the concept of place are tightly related to the concept of community (see Theodori and Kyle chapter in this volume). Community as a concept is as contested as place (Luloff, Krannich, Theodori, Koons- Trentelman, and Williams, 2004). While many definitions of community exist, a territorial or place-based component is commonly found (Wilkinson, 1991). In an interactional interpretation of community (Wilkinson, 1991; Flint and Luloff, 2005), place plays an important, but incomplete role in the emergence of community. Community emerges through collective actions by people who share common interests and care about the place in which they live (Wilkinson, 1991; Luloff and Bridger, 2003; Flint and Luloff, 2005). Therefore, though place and community are not synonymous, they are strongly linked.

Place-oriented community action influences informal and formal decision-making and governance practices. The concept of a community field is helpful to understanding how people from various social interests or fields come together in the general interests of a community to

take action or influence decisions about their shared place (Wilkinson, 1991; Theodori, 2005; Theodori and Kyle, chapter in this volume). Yet we need not isolate this field process to the scale of locality or place. Indeed, communities often come together in the general interests of a larger region to influence decision making. This process can be as the development of a regional community field (Flint, Luloff, and Theodori, unpublished manuscript). There is room within a regional field concept for both generalized regional actions as well as place-oriented actions. In other words, people working together are likely to extend beyond the realms of their own spaces and places to engage others, both for broader regional interests as well as their own place-based orientations. This type of extra-local interaction is closely related to Cox's (1998) notion of spaces of engagement.

Rural, natural resource based communities often have a legacy of dependence, powerlessness, and being subject to decisions made at higher scales. Rural places have suffered from shifting national emphasis to urban issues and sources of capital in the post-fordist economy, not to mention the preoccupation with national and international security issues (Flint and Luloff, 2005). On their own, individual rural communities may lack resources and capacities to shape and develop places on their own as they would like, or in other words, to use space to suit their collective needs and desires, much less to come together to sort out what those needs and desires might be or how to reconcile conflicting interests. But through interaction among places and by reaching out across landscapes and scales, they may be able to interact with others via new governance opportunities. Without meaningful dialogue, interaction, careful procedures, and acceptance of divergent interests, people and places may be powerless to influence decision making at larger scales. With interaction, however, local people may find the elements and meanings of their place that are shared with others and are worth fighting for, thus catalyzing

potential for collective action and participation in the new forms of governance by operating within larger regions or spaces of engagement (Cox, 1998). The section describe efforts in north central Colorado where interaction among people representing multiple places forged new relationships and effective forms of governance for responding to landscape disturbance.

Forging New Relationships Amidst Landscape Disturbance in North Central Colorado

In a five county region of north central Colorado[2], mountain pine beetles (*Dendroctonus ponderosae*) are causing massive tree mortality across over 1 million acres. The outbreak continues to spread and intensify within and beyond this area. A landscape disturbance of this magnitude challenges place meanings for those who live, work, and play in and around forested areas. People interact with the changing forest environment in many ways at different levels or scales from personal property, neighborhoods, and communities to the broader regional landscape (Flint, McFarlane, and Müller, 2008). There are also important links between forest-oriented communities and state and federal policies as new opportunities for and restrictions on forest management contribute to influence land use and human-environment interactions. Discussions of global climate change and impacts on forest disturbance and management strategies also show that places in Colorado also have links to global processes.

Particularly at more local scales of human-environment interaction, communities and places can be key loci for decision making. The everyday interface between people and the forest environment occurs in localities whereby place-based experiences are shared by people with multiple interests. Decision-making in the context of forest disturbance is influenced or limited by larger scale structures such as state and federal regulations, but there is also a degree of

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[2] Communities included in the study of this region are Breckenridge, Dillon, Frisco, Granby, Kremmling, Silverthorne, Steamboat Springs, Vail, and most of Jackson County. Counties are Eagle, Grand, Jackson, Routt, and Summit.

autonomy for actions to emerge locally. Individuals make decisions about what to do with their own property. Residents within homeowner associations and neighborhoods collaborate (or fail to collaborate) to regulate activities within delineated areas. City governments enact regulations and restrictions on forest management, influence risk management strategies such as local fire prevention and response, and shape policies regarding local development which impact wildland-urban interface zones. County commissioners facilitate dialogue across multiple local level interests and have jurisdiction over rural issues, including land use and forest management, outside of city limits. Locally-based representatives of state and federal land management agencies interact with local interests as they seek to manage public lands around the region. In this way, these agency representatives create a bridge between local interests and state and federal scales of decision-making.

While there are opportunities for local action to emerge in response to forest disturbance, capacity for interaction and collective action is not always present in neighborhoods, communities, and other local scales. Using the language of Cox (1998) the spaces of dependence around each local community are often inadequate for dealing with the multi-scale implications of changing landscapes by forest disturbance. By linking actions among multiple communities and local interests across multiple places, considerable region-wide actions emerged in north central Colorado influencing state and national policies and decisions and re-shaping places, place meanings, and regional identities.

Primary state and federal actors dealing with the forest disturbance and forest management issues include the US Forest Service, the US Bureau of Land Management, the US National Park Service, and the Colorado State Forest Service. As a caveat, one problem with the typical *government* structures for decision making in the area is the rapid turnover in local

representatives of some of these agencies. When district rangers and field officers are replaced every couple of years, there is little institutional history or memory of interaction with local interests and communities.

Over the time-span of this recent mountain pine beetle outbreak in Colorado, new *governance* relationships were forged as local residents and representatives of different interest groups, communities, and organizations tapped into existing and emerging networks of association, or new *spaces of engagement* to promote their place-oriented issues and influence decision making and action. A wide variety of new relationships developed across the five county area most heavily affected by the initial years of the current mountain pine beetle outbreak.

One compelling example of place and scale interaction influencing decision making came in the form of the Northern Colorado Bark Beetle Cooperative (NCBBC). Organized in 2005 and still active in 2008, this diverse group of participants includes representatives from local county and municipality governments; the Colorado State Forest Service; the Bureau of Land Management; and the U.S. Forest Service. The Cooperative engaged in regular dialogue with private landowners, major utility companies, conservation districts, water districts, and industry leaders in open meetings and workshops. The NCBBC local representatives traveled to Washington D.C. to meet with agency and congressional representatives and to lobby for funds and policies to support forest management efforts to mitigate risks associated with the mountain pine beetles in Colorado. Through this interaction, local representatives came to realize that different places in the region were coping with many of the same disturbance processes and management needs, despite variations in local perceptions and attitudes about what should be done. Through extra-local interaction, community representatives were able to collectively

visualize regional and place-based strategies for promoting and locating forest industry options in more extractive resource tolerant communities, while prioritizing aesthetic and conservation strategies around higher-end amenity communities.

In addition to this larger regional organization or "new governance" initiative, place interaction occurred on a smaller, grassroots scale as well. In Summit County, local citizens formed a local task force called the Forest Health Task Force as part of a local initiative called Our Future Summit. With bi-monthly meetings, this local group provides a venue for local citizens, representing themselves, homeowner associations, or non-profit organizations from communities within and beyond Summit County to interact and learn about forest health issues and to initiate local and regional efforts to mitigate risks. In other words, this local task force provided a *space of engagement* for local residents to obtain information, express their views, and to interact with others to protect and defend their respective places from the impacts of landscape disturbance.

Discussion and Conclusions

Amidst major landscape change and forest disturbance, new relationships for governance emerged in north central Colorado. Local and non-state actors took over some natural resource management functions with new and different ties to state actors. A regional identity emerged with new forms of interaction mobilizing political action. These new forms of governance and interaction did not come without difficulties and tension. There remain disparities and disagreements over "haves" or wealthy communities such as Vail and Breckenridge and relative "have nots" such as areas of Grand and Jackson Counties. There are still areas of lower interactional capacity, or level of ability for people to work together collectively in the name of

shared places and interests. In some cases, capacity is low because of strong government representation as seen in the case of Vail and many of the community engagement efforts dominated by officials. In other cases, conflicts of interest, tensions between newcomers and longtime residents, and poor economic conditions dominating everyday life, such as Jackson County, are perceived to block full engagement in assertive decision-making and collective action. Instability in agency representation at the local level continues to create problems with continuity, institutional memory and ability to facilitate collaborative processes.

Care must be taken not to assume that places will be well-represented in spaces of engagement or that there are not substantial barriers to extra-local and multi-scale interaction. The Kenai Peninsula in Alaska also experienced a massive forest disturbance by spruce bark beetles similar to the activity in Colorado. While there was an effort to involve local representatives in an action oriented task force early on in the bark beetle outbreak, the initiative focused only on issues where complete consensus could be found. As a result, the strongly held and deeply divisive differences between neighboring communities were not addressed or resolved. Subsequent forest management efforts met with opposition as local people resisted once-size-fits-all strategies that did not fit their own images of their places. Local cultural factors involved in shaping community responses to the spruce bark beetle outbreak on the Kenai Peninsula are discussed by Brennan, Flint, and Luloff (2008).

Concerted effort is needed to avoid contentious conflict and entrenched place-limited orientations. When interaction among people from multiple places and across multiple scales is encouraged, the Colorado case provides evidence of progress. New forms of multi-scale engagement and connectivity among places can expand place-based identities to broader regional scales. Where many north central Colorado residents previously hadn't thought they had much in

common with their neighboring communities and counties, interactions on the bark beetle issues has allowed for a larger-scale identity to emerge. Places maintain their identity and meaning for residents, but they are more familiar with the opportunities made possible by extra-local and multi-scale interactions.

How can the benefits of extra-local or multiple place interactions be promoted and the barriers to such interaction be reduced? Whether as researchers or as agency representatives promoting natural resource management strategies, one of the key considerations ties back to how we conceptualize place. As researchers, we do not always use the same definitions of place as the people we study (Staeheli, 2003). Thus, it is important to incorporate local knowledge and local meanings in our research on places, taking care not to impose our own interpretations of place onto those who live work and play in places, especially places at risk. For research as well as resource management outcomes to be locally relevant and oriented toward improving human and environmental well-being, we need to let local people articulate their own place meanings.

Just as interactions among people with diverse interests contribute to the process of community building as they uncover shared as well as different goals and interpretations of their community and place, interactions among people from multiple places within a region may foster collective interpretations of their shared landscape and regional processes. Concerted effort is needed to break down cultural, political, or logistical barriers to interaction among people from multiple places which can stymie the emergence of spaces of engagement. Successful place-based decision making may well rely on our ability to think outside the box – or place – to fully appreciate the role of place in decision-making.

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Organizational Cultures and Place in Resource Planning and Management

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Abstract: To the extent that decision-making constitutes much of what resource managers do in their day-to-day work, agency organizational behavior is surprisingly under-studied in our fields. Within organizational behavior, the study of organizational cultures would seem to have particular utility for research. Organizational cultures are important to people and to groups because they offer guidelines about how to act, what to expect, and how to deal with change, and they also provide an internal logic for "why things are the way they are." The culture of an agency bears directly on how that agency accomplishes its work, and the idea of "place" becomes important because an agency's work involves managing (i.e., making decisions about) specific places. Places also "work" back on the agency to help define, shape, and give meaning to what agencies do. Analysis of the cultural aspects of agency organizing behavior can lead to more complete understanding of how agencies work, how they think about places, and how they use elements of organizational culture strategically. Drawing examples primarily from federal contexts, this paper considers how research about organizational behavior might improve agency decision making about place.

One of the curious aspects of research about natural resource management is that it rarely seems to take as an object of study the organizational behaviors of agencies that manage resource places. Historically, much of the formal decision making about natural resource places in America has been coordinated through federal, state, and local government agencies, and their basic administrative structures and operational functions have been well described in the practice-oriented literature of the field. In terms of scholarly analyses, though, public resource management agencies have received very little attention, and studies specifically based in organizational theory are rare.

To the extent that natural resource agencies are discussed in academic literature, scholars typically focus on aspects of public administration and operations. The bureaucratic structure of resource management agencies, their missions, administrative roles, basic functions and tasks, and the legal mandates that circumscribe their work, are the primary areas of attention. Research about citizen participation is a case in point. Institutionalized processes of agency involvement

are usually considered to be obvious and predictable, while researchers take as problematic the settings and methods by which better quality (or more) pubic input can be obtained, the form and content of that input, the characteristics of people and groups who provide public input, conflicts among perspectives, and the outcomes of citizen participation processes. Throughout, the organizational behaviors of the agency are assumed to follow relatively predictable patterns, with the agency secure in its role as primary decision maker.

The assumption that natural resource agencies are predictable in their roles, functions, and evolution – that decision-making processes exist unquestioned – highlights a gaping hole in our theories and knowledge about resource management. Unaddressed are consequential questions about the details of organizational processing, the suitability of organizational forms in relation to tasks, the nature of an agency's internal cultures, its evolution and flexibility in the face of external change, the contents and structures of inter-organizational relations, and a wide array of questions related to agency personnel, roles, and leadership. Without such information, even an apparently simple question – for example, how do natural resource management decisions arise? – can only be answered simplistically.

(Or the question cannot be answered at all. A fascinating example is seen in Douglass (2000: 103), in which the author cites a U.S. Forest Service "Guide to Public Involvement" that lists over a dozen issues managers should consider in developing a successful public involvement program. The litany offers ideas for how managers can foster participation, obtain better input, deal with controversy, manage the timing of inputs, retain authority for the decisions, and so on. Then, Item 10 begins, "Once a decision has been made….")

The need for research into the organizational behaviors of resource management agencies is particularly apparent relative to studies of "place." Unless they are iconic (i.e., Old Faithful),

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objects in nature are unlikely to be endowed with the depth of sentiment and emotion that humans confer on places – physical settings where objects stand in juxtaposition and relation to one another, and around which people develop complex meanings. Further, the people who have very strong emotions for place are not only those who use or encounter places, but also those who manage places. Natural resource places are a fundamental input to managerial decision making, and how public agencies think about place generally, and how they choose to manage places specifically, has long-term implications for natural resources as well as for people.

This paper considers how research into agency organizational behavior might improve decision making about place. Though the discussion could equally be applied across federal, state and local government agencies, this paper will, for simplicity, draw examples primarily from federal contexts. To begin, two basic orientations to place typically exhibited by resource agencies are identified, and the implications for agency organizational behavior are described. Then, issues related to organizational theorizing are introduced, and some avenues for study are suggested. One of these – the study of resource agency culture, and particularly its discursive dimensions – will be given special attention, with the intent to offer new approaches that link places and agency practices more closely.

Agency Approaches to Place

The idea of "place" has always been implicit in all aspects of deliberation in natural resource management and policy formation. Two general views have prevailed over time in resource agencies: a traditional view of place as natural *object*, and a more recent exploration of place as *context for human meaning*.

Historically and administratively, places of concern to resource agencies and their managerial staff have been defined as object-settings in nature – geographic sites or regions, valued for their economic, social, or sentimental reasons. Objectified places can be categorized in a variety of ways, as natural and physical sites (areas, zones, landscapes) where specific kinds of natural resources are available (wood, wildlife, recreation opportunities), where definable activities occur (timber harvesting, agriculture, management of waterways, recreation participation) and where specific outputs can be obtained (measurable products such as board feet, number of animals or bushels of crops raised, clean and flowing waters, or intangible benefits such as leisure enjoyment, or scenic beauty). This concept of place – as physical site, as repository of resource values, and as setting for action – is constructed around the notion of place as a tangible object, managed by agency leaders who are educated in the sciences of ecology and human behavior, and authorized by their leadership roles to manage resources for the public good. Thus, a manager's knowledge of place arises from the direct experience of managing objects in nature. Benevolent in spirit, this approach to resource management is situated within the structures and functions of rational, efficient, scientifically-based organizational systems.

In contrast to the notion of place as *object*, a more contemporary view defines place as a *context for human meaning*. This view aims to re-invest the physical settings and objects of place with the sentiments and meanings held by people to whom that place matters. Places are described by their social and cultural importance, by their historical uses and transformations, and by the ways they have been appropriated by various groups. The desire for depth knowledge about place requires that managerial processes of data collection, analysis, and planning are revised from the formulaic to include more participatory processes. And, because technical decisions are often incapable of dealing with the complexity and sensitivity of emotion-laden

issues, deliberative approaches are used. Deliberative approaches rely less on top-down, technical decision-making, and more on collaborative processes and locally-oriented interactions. Through dialogue and participatory practices, individual citizens, interest groups, and agency leaders share their direct and close understandings of places, striving for mutual learning and appreciation of diverse views, ultimately (ideally) opening the discussion space for consideration of alternative resource management strategies.

Conceptualizations about place lead to particular ways of organizing. The two approaches to conceiving of and managing natural resources places can be viewed within the context of John Friedmann's (1987) analysis of the philosophical traditions of scientifically-based planning. Asking, "How do we make a good society?", Friedmann described four philosophical traditions that support different kinds of organizing processes and result in different approaches to societal planning.

The tradition of Social Reform, grounded in scientific reasoning and focused on continual improvement of institutional processes across society, is based in the work of benevolent leaders and experts whose concern is the well-being of citizens. The work of public institutions, such as local, state and federal governments, illustrates this tradition. In counterpoint to this, the Social Mobilization tradition is centered on the actions of grassroots organizations to effect either disengagement or confrontation with prevailing forces of social order. Utopian as well as revolutionary groups both fit within this tradition. The Social Learning tradition, departing from mechanistic explanations about human behavior, invokes collaboration, trust, and learning within small groups to achieve goals; examples of this tradition can be found in non-hierarchical models of social collaboration. The tradition of Policy Analysis, grounded in efficiency and technology,

is expert-driven and focused on achieving the best technical outcomes of planning processes; NASA is an example of this approach.

Of these four philosophies, traditional resource management (where places are conceived as natural objects awaiting technical solutions) tends to primarily apply philosophies of bureaucratic Social Reform, sometimes incorporating instances of expert-driven Policy Analysis to rationalize and justify its scientific claims. More recent collaborative approaches in resource management (where place is viewed as a context for meaning) reflect a combined Social Reform and Social Learning perspective, where deliberative processes nevertheless occur under the auspices of standard bureaucratic decision-making.

The two approaches to place discussed above illustrate a transition over time in how natural resource agencies conceive of place and incorporate place into management actions. The colloquialism "form follows function" is useful here. When agencies define place as the location for a set of physical objects in nature, top-down styles of management and decision making predominate, and standardized, technical solutions are needed. On the other hand, when places are viewed as centers of meaning, more diverse perspectives are required. Deliberative practices encourage managers and citizens to develop new understandings of the meaningful qualities of places and their contested nature, by incorporating more inclusive processes of shared interaction during planning and decision-making processes.

Ultimately, though, the two perspectives about place share a single organizing point: the agency continues to set the agenda by defining relevant questions, overseeing the process of participation, and in most cases, remaining as the final decision-maker. Since Friedmann's model gives little attention to issues beyond structural and functional aspects of organizational behavior, we still know relatively little about the very details of how decisions are made about

natural places. The received wisdom is that bureaucracies make rational decisions "deliberately considering and weighing alternatives, deciding on a course of action that promises the best returns, and acting accordingly" (Fuchs 2001: 127), but that "model is inexcusably unrealistic" (Ibid.: 128). One way to explore the issue of decision making further is to move away from structural and functional aspects of organizing, because hierarchies and learning circles may have vastly different cultural and interactional qualities. In the next section, we consider a cultural approach to agency analysis and understanding of place.

Organizational Culture and Resource Management Agencies

To this point, the term "agency" has been used to refer generally to all public natural resource management agencies, at federal, state, and local levels. But, focusing specifically on federal entities helps illustrate differences and similarities across agencies. Natural resource management agencies differ from one another because each has a different mission, oversees a variety of types of natural resources, varies in its level of centralization, has developed staff and administrative units that are more (or less) autonomous, differs in funding levels and size, and so on. But all resource management agencies are similar in some important ways. As bureaucratic organizations, they each manage multiple units across all or part of the country, hire people who feel strong commitments to lands and resources, evolve and change over time, and tend to rely on science, efficiency, and measures of accountability in doing their work. As public agencies, they can be considered to be a special kind of organization, different from corporations or small businesses or non-profits. But, they are organizations fundamentally – systems of human activity, intentionally created to achieve specific goals. As such, they have features that characterize all organizations, including predictable routines, linked roles arranged in hierarchy

or other relation, internally coordinated activities, systems of rules and controls, stocks of knowledge, unique organizational cultures, and potentially permeable boundaries (Aldrich 1999).

Of these organizational characteristics, a topic that would seem to be very useful for studying issues related to place and resource agency decision making is that of organizational culture. The general term "culture" has been described by Geertz (1973: 89) as the "historically transmitted pattern of meanings embodied in symbols…." When applied to organizations, it refers to the traditions, rituals, beliefs, ideologies, symbols, stories, habits, myths, patterns of behavior, and other features of shared experience that distinguish an organization and give its members a sense of uniqueness. The notion of culture includes symbols, attitudes and beliefs, and actions that shape and give meaning to "how things get done" in a given organization (or other social aggregations; groups, communities, and society as a whole, also have cultures).

Employees are immersed, to greater or lesser degrees, in an organization's continually evolving cultural system – but even before they become members of an organization, they are also automatically and deeply enmeshed in the broader cultures of their community and society. As Aldrich (1999: 155-6) noted, "Organizational cultures do not develop in isolation from the surrounding society … Organizations are sites for the *reproduction* of cultural norms and practices, but they also *generate* cultural norms and practices." Cultural systems operate at several levels simultaneously, then, ordering the world and giving meaning to human experience. For a researcher, there are many interesting topics that could be studied about the organizational cultures of natural resource agencies. Among these are broad questions about how agency employees understand organizational cultures and participate in their reproduction, how the overall culture of an organization affects organizational behavior, and how an agency's culture

interacts with the cultures of other groups and organizations in society to accomplish broader social and political goals.

Organizational cultures are important to people because they offer implicit guidelines about how to act, what to expect from oneself and others, and how to deal with change. They also provide what appear to be coherent reasons and an internal logic for "why things are the way they are." Because so much of a resource agency's work is in communicating with internal and external constituents, an area of particular interest in resource management relates to the discursive aspects of an agency's culture. Eisenberg and Goodall (1993: 115) describe these as, "the language(s) of the workplace, the routine and dramatic performances of managers and employees, and a wide variety of shared practices that help an organization know its own uniqueness." In natural resource agencies, these discursive actions (language-centered, as well as behavioral) become visible to outsiders during planning and management processes.

Within natural resource professions, it is widely believed that federal resource management agencies have strong and unique cultures, and there are many examples of symbols that are used to reinforce those cultures (in keeping with the times, for example, Smokey Bear even has his own website). For example, Colfer and Colfer provided an example of agency culture in their study of the interactions between logging families and public agency employees in a remote Washington state town. They observed that, "Many Forest Service personnel and their families refer to the Forest Service as 'one big happy family'" (1978: 209), and use of the family metaphor gave agency employees and their kin a sense of cohesion and connectedness within the organization, as well as an identity beyond it.

The internal culture of an agency bears directly on how that agency accomplishes its work. The notion of place becomes meaningful for agency decision making processes not only

because an agency's work is to manage specific places – but also because places "work" reciprocally and culturally within agencies to help define, shape, and give meaning to what agencies do. We often think that agencies "produce" places – but it is equally reasonable to think that specific kinds of places produce specific kinds of agencies. That is, resource agencies and the tasks and projects they undertake are created from within organizational cultures and explained in ways the organization thinks to be reasonable, and these practices come to symbolically re-present and reinforce the mission of the agency. That an agency's perspective about how to do things may not necessarily be shared across other groups in society is evidence of competing cultural forces that impinge on people. And so, particular ways of seeing and knowing place lead to particular kinds of agencies and decision making processes, all reinforced and reaffirmed by the specific kinds of cultural artifacts that sustain the agency and its ideas.

Culture, Discourse, and Decisions about Place

One of the most interesting features of organizational culture in natural resource decision making may be the ways that discourses – "talk and text in context" (van Dijk 1997: 3) – are deployed by an agency to explain and reinforce its own values, beliefs, and behaviors. Discourses are constructed from all types of communication (spoken language, written texts, non-verbal messages), and as Hajer (1995: 44) explained, the term refers to the "specific ensemble of ideas, concepts, and categorizations that are produced, reproduced and transformed in a particular set of practices and through which meaning is given to physical and social realities." The intentional creation and development of meaningful discourses offers an agency considerable opportunity to construct its own story about how it sees the world, then to use methods of persuasive communication to disseminate that message internally and externally.

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Discourses are bounded by context, and by agency intent and skill. "Discourse is social," wrote Macdonell (1986: 1), and "Possibilities for meaning are pinned down and made into definite meanings through the social and institutional position from which the discourse comes" (p. 12). This should not imply that meanings emerge fully formed and set in stone. Language and meaning are malleable, shifting across contexts, audiences, and speakers, over time. It is this fluidity that makes discourse effective in reaching different people (the same words can be interpreted in a variety of ways), but it also means that discourses are always subject to interpretation. As Fiske (1989: 170) observed, "Discourse does not reveal the "truth" about the world, it makes meanings that serve some interests better than others and inserts these meanings into the constant play of domination and subordination, of power and resistances, that characterizes late capitalistic societies."

Bloemmart (2005: 223) said it another way: "People speak *from* a place." The same is true for agencies and organizations. Organizational cultures, built from and reproducing patterns of habitual behaviors and routine ways of seeing the world, presuppose the rightness and inevitability of an agency or manager's discourses. Thus, the management of place can be seen as an arena of cultural performances drawn around particular kinds of questions and issues, and specific orientations to places, types of social interactions, decision making choices, administrative rules and responsibilities, and practical applications. Within this conceptual setting, place discourses that diverge from those produced by mangers are likely to be unanticipated, challenged, treated with skepticism, or ignored within decision making processes.

Illustrations

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How does analysis of organizational culture, and its manifestation in and through organizational discourses, help agencies make better decisions about place? This question has several parts. First, what can we learn about organizational culture and the cultures of other groups in society? Second, what do we need to know about how discourses work to be able to consider their effects? Third, how can agencies use what they learn about organizational culture to develop more effective strategies for managing place? The importance of culture and discourse is evident in a variety of natural resource-based management and decision-making contexts, and several examples are given below.

Interpretive programming is one arena where an agency's use of specific images and language use is strategic and intentional, seeking particular kinds of effects across message recipients. Interpretive materials and presentations are "one kind of institutionalized rhetorical situation by which persuasive messages are delivered to receptive audiences" by credible agency personnel (Stokowski 1990: 47). Interpretive messages are usually intended to educate, entertain, or move audiences to action – but they also work to expose visitors to the ideals and goals of the managing agency and to its slate of meanings about specific resource places. Indeed, one might argue that building a loyal, supportive, knowledgeable constituency is one of the more important purposes of interpretive communications.

An example of cultural discourses of place can be seen in Peterson's (1988) analysis of the mythic structure of park interpretive materials at Grand Teton National Park. Her analysis revealed that the agency's preservationist interpretive messages were drawn around religious, mystical themes, effectively reducing visitors to passive observers who were expected to submit to nature's god-like processes. The textual analysis shows, however, that the agency failed to acknowledge a contradiction in the mythology it presented: if the national park is a "holy place"

where nature itself is in charge, what is the role of park administrators, and how can their managerial actions be justified? Implicit in the interpretive story produced by that park is that managers can be considered to be nature's direct representatives, helping nature succeed at its work – a rationale, one might observe, that not only provides considerable latitude in making management decisions, but also elevates agency personnel to partners with nature, a status certainly above that of park visitors, the ostensible owners of the public lands.

Another context where culture-based discourses have importance for agency decision making is that of natural resource planning. The shift from thinking about places as objects to places as contexts for human meaning is seen in new approaches towards place-based planning – "land and natural resource planning efforts that bring together diverse human values, uses, experiences, and activities tied to specific geographic locations" (Kruger 2008: 1). Place-based planning has a cachet and appeal because it implies that decisions will be more local, more participatory, and more meaningful in outcome, without the inherent objectification of place that tends to accompany traditional managerial practice. But, the malleability and fluidity of meanings of place, and their reciprocal power to interact with other agency discourses, is often overlooked in a planning effort eager to obtain the broadest possible set of place meanings from a wide range of citizens and groups. In addition, structural changes made by agencies to accommodate new processes of deliberation may accidentally become the focus of the process, with process substituting for full context and content. The risk is that meanings of place will be seen merely as individual beliefs (or as an objectified list of independent and de-contextualized meanings), not as segments of full and rich discourses associated with an array of cultural groups engaged in communication about resource places.

Structural changes to deliberative processes still may not result in changes to decision making processes if there is no accompanying cultural change. If an agency's decision making processes remain routine, then we can also presuppose a taken-for-granted, standardized view of internal and external organization environments. This raises questions about how managers might even become familiar with place meanings and understandings that are outside their agency's prevailing interpretations (or how they might include these in decision making processes). If managers seriously seek plurality in citizen participation and decision making, then cultural openness and a focus on the content of place discourses, is needed.

Another arena for exploring the importance of agency discourse for decision making is that of conservation practice generally. Conservation is an historically well-defined philosophy and set of principles, but as Vivanco (2003: 59) pointed out, "conservation is never simply about what kind of nature people imagine or…want to preserve or restore; it is also an important arena in which they, explicitly or implicitly, project and re-imagine social relationships and cultural institutions." The need for consideration of cross-cultural and intercultural relationships with respect to resource places is not a new idea, though most commentators have used those terms with respect to working with international visitors to resource places, or managing for different ethnic and cultural user groups at sites like campgrounds. In fact, the idea is equally necessary for working with the diversity of organizational, group, and community cultures within the same society. In this respect, discourse will take on great importance, for people speaking about the same geographic places may not be speaking at all about the same "place." If the places agencies manage are places created by the agency, then analysis of organizational culture and discourses can reveal, to employees as well as to external constituents, the values, symbols, structures of meanings, and points of intersection with the internal cultures of other groups

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engaged with specific places. The result may be new kinds of cross-cultural dialogue, sharing of ideas, experiences of new customs, possibilities of new opportunities, and a re-invigoration of alternatives for management.

Some of the needed cross-cultural changes might simply be about creating more substantive relationships between natural resource agencies and the communities which surround them. A particular example comes to mind. A resource agency directed its staff architect to work on the reconstruction of an historic but remote railroad site and tunnel. Funding was limited, though, and much of the work was done by committed volunteer groups from outside the area. In a valley below the historic site, a small town began to experience an influx of second home owners charmed by the beauty of the rural area. Both the agency and local community leaders spoke of enhancing tourism development opportunities – but neither group worked together toward that shared goal. Each had its own way of defining the problem and addressing it (that is, of making decisions about how to set goals, move forward through a series of steps, and come to agreement about what to do), and as a result, a collaborative approach to planning never emerged. The cultures of each, agency and community, remained impenetrable to the other, to the detriment of each.

Propositions

This paper makes a plea for the study of natural resource agency cultures and consideration of their roles in management of resource places. What is it exactly about "place" that needs to be better incorporated into natural resource decision making? And, how can a cultural view of resource agencies and their organizational behaviors improve current

circumstances and lead to better agency decision making and more effective management of meaningful places? Several propositions come to mind.

First, evidence suggests that agencies use cultural symbols, languages, and artifacts in strategic ways to accomplish their management goals. A better understanding of cultural aspects of organizing can lead to more complete understanding of how agencies work, how they think about places, and how they attempt to justify for their employees and for outsiders the choices they make about place management actions. Discourse-based approaches to place will likely reveal the stability (and perhaps rigidity) of many agency perspectives about place. There is an organizational advantage in making patterns of work look and seem routine, because it lends a sense of predictability are certainty to life. But, critical analysis of organizational meanings about place may move agencies and citizens towards more vigorous and flexible forms of public action in natural resource management, and towards newer definitions of place.

Second, by analyzing agency cultures, we may be better positioned to ask important questions about the nature of decisions in natural resource management. Conventionally, we think of decisions as both procedural choices and outcomes of organizing behaviors, and the term is applied with reverence to "the final choice" in a completed planning process. As part of processes of decision-making about place, managers conduct resource inventories, evaluate notable ecological and social features of landscapes and sites, consider how places contribute environmental services, analyze visitor's experiences, and aim to understand the sentiments groups hold for specific places. Information gathered from such procedures and analyses is claimed to help in making decisions about places over time – in developing and implementing programs and plans, making financial investments, adjusting staffing, evaluating alternative

strategies for resource protection and use, and formulating policy. But, often what happens is that decisions somehow become hidden behind the data.

Fuchs (2001: 128) suggests, though, that the term "decision" should be seen instead as "a schema for assigning organizational responsibility and allocating praise and blame." From this perspective, decisions are both symbols and myths, performing important work of organizational control and coordination. Analysis of organizational culture can help us see how the use of decisions in this way has cultural meaning both internal and external to organizations. From this viewpoint, decision-making can be seen to have its own internal logic and sub-culture, linked with structures of authority and power in organizations, and tightly woven with rituals, symbols, and ideologies.

Third, organizational cultures and their embedded discourses are important in the ways they are employed to achieve organizational goals. In the same ways that individuals are more than their roles and positions, agencies are more than impassive organizations conducting business in standardized form, immune from change, and unrelentingly predictable. Research about organizational behaviors should attempt to learn about how agencies use specific elements of organizational cultural strategically. Learning to "read" an organization's cultural behaviors may open up possibilities for updating conservation and preservation philosophies, and for understanding exactly what agencies are talking about when they talk about place (as suggested in this paper, they are often talking about themselves). Such research may lead to finding better ways of organizing in resource management, and more successful ways of communicating between agencies and other social groups. Perhaps one outcome of this analysis may be a new focus on human behavior in the outdoors that could be termed "language as a way of being in place." Recreation researchers who study place have typically thought of language as utterances

about place, or as people's feelings about place – not as, in and of itself, the primary *behavior* of people in place. An agency's responsiveness to this type of reconceived image of place may require the application of new kinds of symbols systems and organizing processes.

Fourth, societal economic pressures affect not only citizens but also agencies. There is a pressing need to consider new ways of organizing and governing in a shared space of community and societal responsibility. Traditional patterns of behavior often cannot respond quickly to new needs, and cultural analysis of resource management agencies as well as communities and other groups and organizations may provide new tools and strategies for collaboration in the face of change. It would be worth knowing, for example, if an agency's idea of place varies dramatically from the ideas of citizens who have allegiance to various other conceptions of place. One agency response might be to more effectively design messages that seek understanding, rather than simply attempting to educate others about the agency's positions. Finally, roadblocks in traditional agency approaches may be overcome by emphasizing cultural features of agencies in collaboration with other groups or organizations, rather than simply by re-arranging the agency's own organizational functions.

Wuthnow et al. (1984: 247) wrote that, "the principle questions for cultural analysis now not only include the meaning of symbols but the conditions, patterns, and rules of use which render symbols meaningful." To this we might add that organizations, as much as individuals, use culture to establish and reinforce identity. A full analysis of natural resource agency culture would necessarily also consider how it is that place management helps support organizational identify, and how difficult it might be to re-conceive place from the perspective of an agency.

Conclusions

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The production of particular discourses of place, generated by and within natural resource agencies, is inherently linked to other processes of power and control in agency systems. To the extent that decision-making constitutes much of what managers do in their day-to-day work, organizational behavior in general, and decision-making processes within natural resource agencies in particular, are surprisingly under-studied. Practical problem solving has been the focus of research, rather than theoretically-based studies of organizational culture and its components.

This paper has been written from the perspective of natural resource agencies, but of course the ideas discussed here apply equally well to other organizations, groups, and communities that participate in natural and cultural resource management and decision making. Resource places are not only activity sites people visit, or places for the harvest of commodities, or places that capture social imagination. These are places integrated into the life histories of people living in communities and oriented to a specific geographic locale or region. As McCullough (2003: 40) observed, "our communities and landscapes are patchworks of natural and cultural resources and…changes to incidental parts can ultimately transform the whole." We cannot save the places of nature without also saving cultural places; their interdependence is also the reason that changing only the internal structures and functions of natural resource agencies addresses only part of the problem.

Three alternatives to thinking about how place has been or might be addressed in natural resource planning and management have been identified. First, place has traditionally been considered in objective terms where managers define, inventory, and analyze place as physical sites. This results in a style of scientific management that routinizes resource management decision-making. Second, a more contemporary definition of place as a context for meaning

leads managers to apply more deliberative, inclusive, and varied processes of gaining place knowledge from wider ranges of constituents. This produces a place-based style of management that is contextualized, localized, and personal.

Third, and the approach advocated in this paper, is to work on not the functional or structural aspects of organizing, but to develop a fuller understanding of the cultural aspects of resource agency's organizational behaviors. Focusing on agency discourses would seem to be a very useful starting point for studying the cultural aspects of place making and their role in resource planning and management.

A full analysis of "agency talk" and agency culture remains to be written. But, what we might find as we begin the task is that culture is not only a feature of agencies, but indeed the agency is produced by and through its discourses. And that may mean everything for how an agency thinks of place and how it makes decisions about place.

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Community, Place, and Decision-Making

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Abstract: The purpose of this chapter is to present an analytical framework for examining the association of community and place, and for focusing natural resource management and decision-making issues upon aspects of this relationship, specifically as it pertains to the notion of community-based natural resource management in and around our nation's public lands. First, we explain that community as an interactional phenomenon provides a unique way of thinking about what a community is and how a community is related to place. We establish that place is a necessary but not sufficient condition for that sociological unit of analysis conventionally referred to as "*the* community." In addition to place, we assert, community requires two additional attributes: (1) a more or less complete local society, and (2) place-oriented collective actions among a local population. A local society refers to the social institutions and associations that cover the broad range of human interests in the shared life of a local population (e.g., economic, educational, familial, medical, political, religious, etc.). Place-oriented collective actions refer to the process of interrelated actions through which residents of a local population express a shared sense of identity while engaging in the common concerns of life in the local society. We argue that community-based natural resource management and decision-making activities rooted in the assumptions, propositions, and concepts of the interactional approach have the potential to truly enhance the focus and effectiveness of resource management policies and practices at the *community* level.

Today, the term *community* is commonly invoked in natural resource, ecosystem management and decision-making literature.[1] Domain-specific expressions such as "community fisheries management," "community forestry," "community watershed management," and "community wildlife management," as well as the general, overarching phrase of "community natural resource management" are commonplace in popular and scientific writings. In recent years, there has been a preponderance of papers presented and journal articles published on community-based natural resource management and decision-making issues (Luloff et al., 2004). This relatively large body of research, much of which was conducted in developing countries of southern Asia and Africa, has provided scientists, natural resource managers, policy makers, activists, and the general public with an overview of the paradigmatic shift from the overly

synoptic, scientifically-based, top-down, centralized, expert-driven, rational-comprehensive management and decision-making model to one that promotes – both literally and often figuratively – the integration of "communities" into natural resource management and decision-making processes (Brosius, Tsing, & Zerner, 1998; Conley & Moote, 2003; Cortner & Moote, 1999; Lachapelle, McCool, & Patterson, 2003; Lee & Field, 2005; Weber, 2000). It has also provided empirical information on a variety of community-related natural resource management and decision-making topics, spanning the gamut from implementation to evaluation (Carr & Halvorsen, 2001; Kellert et al., 2000; Kruger & Shannon, 2000; Wittayapak & Dearden, 1999).

Theoretically, the core premises underlying community-based natural resource management are very appealing. Included among the principal assumptions of devolving natural resource management and decision-making activities to local communities, as noted by Brosius et al. (1998, p. 158), are the ideas "that local populations have a greater interest in the sustainable use of resources than does the state or distant corporate managers; that local communities are more cognizant of the intricacies of local ecological processes and practices; and that they are more able to effectively manage those resources through local or 'traditional' forms of access." Despite the hopeful enthusiasm, numerous questions surrounding the purported strengths and limitations of community-based natural resource management abound in the literature (cf. Bradshaw, 2003; Cortner et al., 2001; Gray, Fisher, & Jungwirth, 2001; Webber 2000).

A basic, fundamental issue in the extant community-based natural resource management and decision-making literature is the problem of definition. Upon careful examination of both the international and domestic research, it becomes increasingly evident that no shared theoretical foundation or common use of the concept of community exists (Agrawal & Gibson, 1999; Flint, Luloff, & Finley, 2008; Kumar, 2005; Luloff et al. 2004). The term community has been used in

a vast assortment of ways, and we believe there is no foreseeable end to the countless ways it might be used. Undoubtedly, such variations in conceptual orientations and use have led to a somewhat complex and cloudy knowledge base with respect to "community – and – natural resource management and decision-making" linkages. In fact, with respect to the increasing popularity and use of the phrase "community-based forestry," Flint, Luloff and Finley (2008) recently posed the following question: "Where is 'community' in community-based forestry?"

Concomitant issues surrounding definitions and uses of the concept of community abound in the place literature (Agnew, 1987; Entrikin, 1991; Eyles, 1985). While the term community is frequently employed in the place literature, it is rarely, if ever, rooted to any theoretical perspective of social organization, much less defined. Subsequently, place researchers have tended to use *a priori* definitions of community in their studies, which are generally deduced from objective indicators that may have little in common with any subjective interpretations held by community members. In such investigations, community is often equated with a geopolitically-bounded territory (i.e., township, neighborhood, borough, city, county). A central theme throughout much of the place literature is the identification of settings within territories to which individuals, most often the local residents, ascribe meaning and sentiment. A vast majority of these studies are empirical examinations focused on a particular aspect of human-place bonding (e.g., place attachment, place identity, place dependence, sense of place) within a territorial setting, which is generally referenced as a community (Fried, 2002; Hidalgo & Hernández, 2001; Low & Altman, 1992; Speller, Lyons, & Twigger-Ross, 2002). Virtually no attention is given to the social organization and/or processes girding community, the role of community for the manner in which residents ascribe meaning and sentiment to place, or to community theory.

For researchers and/or policymakers to fit place to natural resource management and decision-making, as the theme of this book promotes, certain conceptual concerns must be addressed if and when attempted at a community level. These concerns include defining the concept of community and explicating its relationship to place. The purpose of this chapter is to present an analytical framework for examining the association of community and place, and for focusing natural resource management and decision-making issues upon aspects of this relationship, specifically as it pertains to our nation's public lands. In the United States, natural resource ownership patterns and management systems are quite different than the resource management regimes found in most developing countries. In many developing countries, some – and oftentimes a relatively substantial portion – of the natural resource assets in the public domain are shared as communal property and/or managed as state property through leases or other agreements between residents and the central government. Conversely, natural resources in the United States, as Flint et al. (2008, p. 528) noted, "are sometimes figuratively shared, but management decisions are made in a complex jurisdictional mosaic where private landowners maintain control over their land and resources while public land is managed in a bureaucratic, top-down approach."

Despite all of the recent rhetoric surrounding the integration of communities into natural resource management and decision-making activities, management decisions involving our nation's public resources ultimately reside with the government agencies. Policies and management decisions continue to be made by agency scientists with specific disciplinary expertise. A quotation from Lee and Field (2005, p. 291) clearly illustrates the disconnect between decision-making and communities:

Even today, policies are legitimated by chartering scientific studies and policy and

management decisions by developing 'scientific-based plans.' Communities, especially

territorial communities, are the recipients of 'rational' decisions made by experts – what

we today often refer to as the many 'ologists': biologists, ecologists, sociologists,

ornithologists, etc. Professional decision makers may solicit community 'input,' and

make decisions in the interests of interested publics, including communities. Community

participation is often avoided because it is replete with the sorts of 'messiness' that was

to be supplanted by rationality and science-based decisions.

Much of this messiness with respect to community involvement in natural resource

management and decision-making, we contend, stems from a lack of systematic theory and a

misunderstanding of what a community is, how a community develops, and how community is

related to place. Below we provide a conceptual framework for addressing these issues. The

interactional theory of community (Kaufman, 1959, 1985; Wilkinson, 1970a, 1991), which

asserts that community is a field of place-oriented social interaction, serves as the analytical

foundation of our discussion. Before concluding, we highlight the potential applications of the

interactional approach for public agency natural resource managers.

<div align="center">Community and Place</div>

For the sake of a place to start, we begin our discussion of community with *place*. Place

has been and remains a critical component in social scientific studies of community. In Day's

(2006, p. 32) summation:

> … the whole approach to community studies displays a certain circularity. Places are
>
> singled out for study because they appear to constitute viable communities, and once they

are investigated and documented, the findings are read as showing precisely what a real community is like.

If, in fact, place is a logical point to begin the search for community, how does one know when he/she has "found" community? Let us assume that one does find community in or around a place, as is often the case; then, of what significance does that place hold for community? Concomitantly, what influence does community have on place? And, most importantly for our present purposes, what are the associations between place, community, and natural resource management and decision-making? Attempts at answering the latter question, theoretically, have been relatively naïve in the natural resource management and decision-making literature. The interactional theory of community advocated by Harold Kaufman (1959, 1985) and Kenneth Wilkinson (1970a, 1991) and further elaborated upon by their colleagues and students provides a useful framework for addressing the aforementioned questions, as well as examining the relationship of community to place and for focusing natural resource management decision-making upon aspects of this relationship.

Rather than quibble with semantics, allow us to clearly state up front what we are talking about with regard to the terms place and community. Our conceptualization of the former term is grounded in Gieryn's (2000) definition. According to Gieryn (2000), place has three necessary and sufficient features: geographic location, material form, and the investment with meaning and value. This definition is also consistent with other scholars' conceptualization of place (Relph, 1976; Seamon, 1982; Tuan, 1977). We conceive the concept of community to refer to that sociological unit of analysis conventionally referred to as "*the* community." The use of the modifier "the" before the word community allows us to distinguish the community – that phenomenon which occurs "in a particular kind of territorial and social environment"

(Wilkinson, 1986, p. 3) – from alternative non-local uses of community (cf. Bernard, 1973; Wilkinson, 1986). As opposed to 'community,' 'the community' refers to "settlements … in which *locale* is a basic component" (Bernard, 1973, p. 3; emphasis in original). All major theories pertaining to the local community, including human ecology (Hawley, 1950; Park, 1936; Quinn, 1960), social systems (Sanders, 1966; Warren, 1978), and the interactional approach (Kaufman, 1959, 1985; Wilkinson, 1970a, 1991), emphasize and utilize the concept of place, albeit in varying degrees and at different scales.

From the interactional perspective (Kaufman, 1959, 1985; Wilkinson, 1970a, 1991), the theory of community which we draw upon throughout the remainder of this chapter, place – defined as a geographic location with material form invested with meaning and value (Gieryn, 2000) – can be viewed as a necessary but not sufficient condition for the community. No local community exists nowhere; every local community exists, in fact, somewhere. Accordingly, the local community has geographic location. In and around this locality is material form, both natural and man-made. The physical locale with a compilation of material form is invested with varied meanings and sentiments by its residents. The meanings and values of a community are imagined, felt and understood in varying degrees by the people who live there. These meanings and values are often expressed and perpetuated through public discourse, collective representations, and rhetorical devices, including heritage narratives and community typifications (Bridger, 1996; Maines and Bridger, 1992; Suttles, 1984).

In addition to place, which "is an essential element of community" from the interactional definition (Wilkinson 1991, p. 19), community requires two additional attributes: (1) a more or less complete local society, and (2) place-oriented collective actions among a local population. A local society refers to the social institutions and associations that cover the broad range of human

interests in the shared life of a local population (e.g., economic, educational, familial, medical, political, religious, etc.). Place-oriented collective actions refer to the process of interrelated actions through which residents of a local population express a shared sense of identity while engaging in the common concerns of life in the local society. The latter of these – the place-oriented collective actions, also referred to as the "community field" – is the inherent and indispensable ingredient of community in a local population from the interactional perspective (Kaufman, 1959, 1985; Wilkinson, 1970a, 1991). The community field provides a unique framework for examining the relationship of community to place, and for focusing natural resource management and decision-making issues upon aspects of this relationship. It is to the notion of a community field that we now turn.

Community Field: A Generalizing Place-Oriented Social Action Field

As outlined by Kaufman (1959, 1985) and Wilkinson (1970a, 1991), local settlements are marked by the presence of several more or less distinct social fields. A social field can be defined as an unfolding, loosely bounded, constantly changing, interconnected process of social interaction displaying unity through time around an identifiable set of interests. As a process, a social field is characterized by a sequence of actions over time carried on by different actors working in or through various associations. Actions include the projects, programs, activities, and/or events in which actors and associations are engaged. Associations refer to formal organizations and informal groups. Actors consist of the leaders and other persons participating in associations and actions.

Multiple social fields comprised of both local and extra-local actors and associations exist and act in any local population. While these social fields can and often do overlap and blend into one another, each field is generally marked to a greater or lesser extent by its own identity,

organization, core interactional properties, and set of specific and/or institutional interests. Common recognizable social fields found in many local settlements include those pursuing interests in education, government, faith-based services, economy, recreation, health care, social services, land use, transportation, and environmental protection. The actors and associations of the various social fields may share similar perspectives, or they may maintain intensely incompatible ideas. Accordance, as well as conflict, confrontation, competition, marginalization, disenfranchisement, and/or challenges for leadership are common occurrences both within and between/among the social fields in a community (Theodori, 2005).

When the actors and associations of the various social fields, likeminded or otherwise, converge and interact on place-relevant matters, the potential exists to form a community field. Following the interactional perspective, the community field is the mechanism that integrates the various social fields of action into an interactional community. Community, from the interactional perspective, arises in a local settlement "when the latent bond of common interest in the place – the shared investment in the common field of existential experience – draws people together and enables them to express common sentiments through joint action" (Wilkinson, 1991, p. 7). In fact, the underlying reason why a community "hangs together," according to Wilkinson (1991, p. 37), is because of the community field.

A community field is a place-oriented social field that is related to, yet distinguished from, other activity fields in a local population. Unlike most social fields which are typically focused on furthering their own special interests, a community field pursues the interests of the larger population. In other words, the interest that guides a community field is an interest in community structure rather than an interest solely in specific goals of the particular social fields. Like other social fields, a community field is comprised of actors, associations, and phases of

action. Moreover, the actions of a community field, like those in other social fields, are also directed toward certain interests. However, unlike other social fields:

> the interests are generalized and intrinsic; they are not specialized or instrumental. The community field cuts across organized groups and across other interaction fields in a local population. It abstracts and combines the locality-relevant aspects of the special interest fields, and integrates the other fields into a generalized whole. It does this by creating and maintaining linkages among fields that otherwise are directed toward more limited interests. As this community field arises out of the various special interest fields in a locality, it in turn influences those special interest fields and asserts the community interest in the various spheres of local social activity (Wilkinson, 1991, p. 36).

The central feature distinguishing a community field from other social action fields is the generalization of place-oriented actions across interest lines. Generalization gives structure to the whole of community as an interactional phenomenon by linking and coordinating the common place-relevant interests and behaviors of multiple social fields. In essence, a community field interlinks and organizes the various social action fields and binds their knowledge, experience, resources, and energy for the common good. It is extremely important to recognize, though, that:

> the coordinating actions undertaken in the community field do not necessarily harmonize diverse interests or completely bridge different perspectives and viewpoints. Instead, the community field brings into focus common interests in local aspects of local life. And, of equal importance, as the linkages that comprise the community field proliferate, they lead to a more inclusive decision-making process (Bridger & Luloff, 1999, p. 384).

While the potential for a community field to emerge exists in all human territorial settlements, the extent to which such emergence occurs is highly variable. Numerous structural

constraints at regional, national, and international levels, each manifested at the local level, contribute to this variability (Theodori, 2008). Factors such inequality (e.g., racial, ethnic, class, gender, etc.), poverty, ruralness, population size and dispersion, and deficits in economic and social services (Wilkinson, 1991) often impede the natural processes of local social interaction and, in turn, the emergence of a community field. It follows, then, that the community field is a variable; it is a matter of degree. The presence of the community field is what differentiates a community, that "natural disposition among people who interact with one another on various matters that comprise a common life" (Wilkinson, 1991, p. 7), from an aggregation of individuals who may or may not share a *sense of community* in and around a place with a more or less complete local society. Such variance, as will be described below, has implications for place and any natural resource management and decision-making activities that may be undertaken.

To this point, we have established that place is a necessary but not sufficient condition for the local community. We also have recognized that in addition to place, community requires a more or less complete local society and a community field. And, we have suggested that a community field is not a given. Instead, as we will argue, a community field emerges in a population and persists as long as the local citizens ensure its survival. The idea that community is an interactional phenomenon provides a unique way of thinking about how to build, strengthen, and nurture the community field. This is accomplished through the process of community development.

<div align="center">Community Development</div>

The process of community development – that is, "purposive action undertaken with positive intentions at improving community structure" (Theodori, 2005, p. 666) – is what is

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needed for the community field to materialize and flourish in a local settlement. Community development, from the interactional approach, can be viewed as a process of building, strengthening, and maintaining the community field (Wilkinson, 1972, 1991). Concerted efforts to promote community development are needed at multiple levels (e.g., local, state, and federal) to successfully surmount the aforementioned structural impediments that restrict and/or suppress the emergence of the community field. Attempts at the local level without action at other levels, and vice versa, are likely to be less successful than a coordinated, multi-pronged effort (Theodori, 2008). However, it is important to keep in mind that despite the necessity for efforts at other levels, community development, as we conceive it, does not happen unless local people try to make it happen.

Four principles underlie the process of community development from the interactional perspective (Theodori, 2005; Wilkinson, 1972, 1989, 1991). First, community development is purposive. Community development is the intentional consequence of actors and associations interacting to initiate and maintain community among themselves. Second, community development is positive. The purposive intentions of the actors and associations revolve around a shared commitment to improving their community. Third, community development is structure oriented. The purposive and positive actions of actors and associations are direct attempts to establish, strengthen, and/or sustain the community as an interlinking and coordinating structure of human relationships. And fourth, community development exists in the efforts of people and not necessarily in goal achievement. The essence of community development as an interactional phenomenon resides in the doing – the working together toward a common goal – not solely in the outcome.

Viewed in this light, community development involves purposive, positive, and structure-oriented actions between/among the various social fields aimed at constructing, enhancing, and/or sustaining channels of cooperation and communication across interest groups within the community. In this process, individuals, informal groups, and formal organizations, despite their differences, consciously work to increase the number and/or reinforce the strength of relationships among the various social fields, while reducing and/or circumventing the barriers to cooperation and communication (e.g., conflict, confrontation, competing interests, marginalization, disfranchisement, and/or challenges for leadership). With time and effort, these newly formed relationships encourage mutual understanding, cultivate trust, and, in turn, promote social well-being (Wilkinson, 1979).

At this point in our discussion, it is important to draw a distinction between two broad types of development and two broad spheres of community action. The former are commonly referred to as "development *in* community" and "development *of* community" (Summers, 1986; Theodori, 2005; Wilkinson, 1991). In brief, development in community primarily refers to improvements and infrastructural enhancements such as economic growth, modernization, improved service delivery, and business retention, expansion, and recruitment activities. In contrast, development of community, the type of development described above, is a much broader process aimed at building, strengthening, and maintaining the community field.

The broad spheres of community action are generally known as "task-accomplishment" and "structure- building" (Cartwright & Zander, 1968; Kaufman, 1959; Theodori, 2005; Wilkinson, 1970, 1991). Community actions that occur in the social fields containing specialized or limited interests can be viewed as having a task-accomplishment orientation. Task accomplishment refers to activities that move people toward specific goals, which are generally

related to a particular project in a specific field of interest. Task accomplishment processes can be thought of as having five stages or episodes (Bales & Strodtbeck, 1951; Wilkinson, 1970b, 1991). Wilkinson's (1970b, 1991) articulation of these included: (1) initiation and spread of interest, (2) organization of sponsorship, (3) goal setting and strategy formation, (4) recruitment, and (5) implementation. In the process of group problem-solving and decision-making, initiation and spread of interest involves recognizing and discussing a problematic issue as a potential focus for group action. Organization of sponsorship involves identifying an existing structure (i.e., a committee, group, organization) or establishing a new one to deal with the issue. Goal setting and strategy formation involves setting goals and developing a plan to reach those goals. Recruitment involves mobilizing resources, such as participants, facilities, and finances. And implementation involves applying resources and employing strategies to deal with the issue.

The same five stages or episodes can be used to conceptually frame the structure-building actions associated with the acts of a community field. In this case, though, initiation and spread of interest involves generating widespread consciousness of an issue among various fields of interest in a community. Organization of sponsorship involves the formation of multi-interest networks and inter-organizational linkages to coordinate and integrate actions within and across the various social fields. Goal setting and strategy formation involves developing short-term strategies and long-range goals that transcend the special interests of particular social fields. Recruitment involves encouraging participation from the various social fields. And implementation involves applying resources and employing strategies to create, reinforce, and sustain relationships and lines of communication between/among the various social fields.[2]

In any given community, both forms of development – development in community and development of community – and both spheres of action – task-accomplishment and structure-

building activities – make and shape places and have direct implications for proposed natural resource management and decision-making. However, it is important to understand that the social interactions which occur in/through the processes of structure-building will construct place and affect natural resource management and decision-making actions in a qualitatively different manner than those that only occur with a task-accomplishment orientation. When actors and associations engage in task-accomplishment actions while giving attention to structure-building activities, the place that is made assumes a *gestalt-like* character. In other words, the place that is made in/through the community field is greater than the sum of its individual social field parts. And, the involvement of the community field in proposed natural resource management programs and decision-making processes will be *community-based* as opposed to reflecting the interest of some other unit(s) of organization.

In short, the interactional theory of community and community development described above provides a conceptual framework for understanding what a community is, how a community is related to place, and how a community develops. Our attention now turns to highlighting the potential applications of the interactional approach for natural resource managers and agency personnel.

Potential Applications for Natural Resource Managers and Public Agency Personnel

Good theory, we believe, leads to good application. While other perspectives of community (e.g., human ecology and social systems) do, in fact, exist and may be considered justifiably worthy, we believe that the interactional theory of community has much to offer natural resource managers and agency personnel as they interact with local population settlements in and around our nations' public lands. Community-based natural resource management and decision-making activities rooted in the assumptions, propositions, and

concepts of the interactional approach have the potential to truly enhance the focus and effectiveness of resource management policies and practices at the *community* level.

Before proposing or engaging in any type of community-based natural resource management activity, public agency natural resource managers must assess the extent of community in a local population. Community, as has been maintained throughout this discussion, is not a given; it is a variable. Community has three essential elements – place, a more or less complete local society, and a community field. These three properties provide the criteria for assessing its extent in a local population settlement. Like conventional community studies, an assessment of the extent of community in a local settlement should begin with place. Natural resource managers and agency personnel must understand place and the significance it holds in the everyday life of a local population. With the aid of local key informants, managers must become cognizant of the size and scope of the physical locale, the natural and man-made material forms in and around the locality, and the associated meanings and values of the local population as expressed and perpetuated through public discourse, collective representations, and rhetorical devices.

In addition to understanding place, natural resource managers and agency personnel must recognize the extent and comprehensiveness of the local society. As noted above, a local society refers to the social institutions and associations that cover the broad range of human interests in the shared life of a local population (e.g., economic, educational, familial, medical, political, religious, etc.). Local societies generally vary in the quantity and quality of their respective social and economic institutions. Concerted efforts must be undertaken by natural resource managers and agency personnel to enhance their knowledge of the social institutions and associations that are and are not manifest within the local settlement. Also, natural resource

managers and agency personnel must discern the horizontal and vertical patterns of relationships among the local social units that comprise the various social institutions (Warren, 1978).

Last but not least, natural resource managers and agency personnel must assess the presence and/or strength of the community field. With assistance from local key informants, public agency natural resource managers must first inventory the various social fields that exist within a local settlement. The inventory should include: the principal actors (i.e., formal and informal leaders), the associations (i.e., formal organizations and informal groups), and the major actions (i.e., project, programs, activities or events) that have been, or are currently being, undertaken. Moreover, the inventory should differentiate between highly locality-oriented social fields and their lesser locality-oriented counterparts, and account for the use-value and exchange-value orientations of the different social fields. Unlike their counterparts, highly locality-oriented social fields are clearly identified with the locality; they tend to involve local residents as primary actors and/or leaders. As opposed to those with use-value orientations, the actions of exchange-value oriented social fields generally revolve around maximizing economic profits through the commodification of places and resources in and around the local community. Exchange-value oriented social fields are typically directed by local and/or extra-local elites, who more or less control the local decision-making and growth machinery. Overall, attempts should be made to see that the inventory is as inclusive as possible.

Next, with the help of local key informants, natural resource managers and agency personnel must spell out any/all connections that exist, or have existed, between/among the various social fields. Even though social fields maintain unity through time around an identifiable set of interests, they are in a constant state of change as actors and associations, each with their respective actions, move into and out of contact with the process. Therefore, it is

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important to view these linkages temporally. Following this strategy, public agency resource managers should discover which social fields share (or have shared) similar ideas on place-relevant matters, and which social fields display (or have displayed) differences in opinions. In addition, they should uncover which social fields customarily work (or have worked) together on place-relevant matters, and which social fields are traditionally (or have been) hostile to one another. Such an exercise will provide an evaluation of the presence and/or strength of the community field, and it will highlight potential points of conflict to be carefully negotiated.

The presence of strong community fields representing the shared, overlapping place-relevant interests of all segments of the local population, we believe, is required to successfully integrate communities in and around our nation's public lands into natural resource management and decision-making activities. And, community development – purposive, positive, and structure-oriented actions aimed at constructing, enhancing, and/or sustaining channels of cooperation and communication between/among the various social fields – is needed for strong community fields to materialize and flourish. In addition to conventional output-based components, natural resource management plans must incorporate structure-building activities. Efforts to foster development of community at the local level must, in fact, be a key ingredient in natural resource management practices and policies. We contend that much of the messiness surrounding community participation in natural resource management and decision-making, as alluded to above, can be rectified with conscious, systematic endeavors aimed at cultivating and nurturing the community field.

Finally, as public agency natural resource managers work to increase the number and/or reinforce the strength of relationships among the various social fields, while reducing and/or circumventing the barriers to cooperation and communication, they must make a concerted effort

themselves to communicate openly and honestly. Open and honest communication, including full disclosure about the potentially positive aspects and negative consequences of proposed management plans and activities, is likely to reduce the chances of inaccuracies, rumors, and future litigation. All of the efforts suggested above will surely mean investments in time and money. Failure to do so, however, may prove to be even more time-consuming and costly.

Concluding Comment

Our purpose in this chapter was to present an analytical framework for examining the association of community and place, and for focusing natural resource management and decision-making issues upon aspects of this relationship. Our thesis was that a fundamental dilemma associated with these issues is one of definition. We contended that natural resource managers and agency personnel must enhance their understanding of *community*, the concept that lies at the heart of community-based natural resource management, if they plan to integrate communities into management and decision-making activities. Echoing sentiments by Flint et al. (2008, p. 535), "simply invoking community in discussions and efforts relating to access to and management of forest and other natural resources without a clear understanding of the term in frameworks, methods, and implementation endangers efforts to link natural resource management with improvements in community well-being."

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Notes

[1] Throughout the remainder of this paper, the term "ecosystem management" will be subsumed under the concept "natural resource management."

[2] In practice, the stages for both task accomplishment and structure building activities are rarely well sequenced. Task accomplishment activities within a specific social field and structure building activities at a multiple social field level can begin at any stage, frequently backtracking and leaping ahead.

Part 2: Individual relationships with place

Individual relationships with environments are a starting point to the concept of place for many people. We each have places in which we live, work, and have grown-up that provide senses of identity, value, and wholeness. The chapters in this section characterize such relationships and identify the issues that make place challenging for planners.

"Sensing value in place" by Herb Schroeder broadens the concept of value to allow a connection between place and decision-making. He views place as being grounded in personal experience and an intimate awareness of one's relationship with certain environments. Schroeder's expansion of the value umbrella to include felt dimensions of place provides needed credibility for place-based planning. In order to articulate these felt dimensions of place, Schroeder recommends experiential practices to improve communication between stakeholders and argues that decision-making should incorporate felt values of place.

"Place meanings as lived experience" by James Barkley extends Schroeder's argument for inclusion of felt dimensions of place within decision-making. Barkley indicates that traditional ways of knowing through science or mainstream environmental ideology stifle the representation of emotions and place meanings by stakeholders. He problematizes our ability to represent relationships to places in land-use planning processes. Sharing stories of lived experiences about places holds promise to move beyond entrenched conflict and traditional points of contention. His chapter ultimately targets public memory as being critical to create new public values for places.

Tyra Olstad's chapter entitled "Personal experience and public place creation" describes a significant challenge to connect place to practice. Written from a first-person vantage point, Olstad draws readers into her own lived experience of Wyoming's Red Desert, and clearly

portrays a strong sense of place attachment. Yet the agency, in this case the Bureau of Land Management, does not show awareness of her place meanings within their land-use plans. She discovers other people who also feel as if their sense of place is being ignored. Olstad's essay takes readers on a transformation of "my Red Desert" into "our Red Desert" in which new public place meanings are created through stakeholder interaction.

These chapters underscore the importance of personal senses of place, and the need to find strategies to represent these senses of place within decision-making forums. Public representation of individual relationships with place is necessary for place-based planning. There are needs to legitimize various kinds of information deemed useful in land-use planning forums, including representation of personal experiences of place.

Sensing value in place

Herbert W. Schroeder

Abstract: The concept of value provides a natural connection between place and decision-making, the two domains that are the focus of this book. In this chapter, I try to show how different ways of understanding the concept of value lead to different approaches to decision-making, some of which are better suited than others for including place in land-management decisions. I argue that the individual experience of value is grounded in an implicit, felt dimension of awareness, and that this dimension must be taken into account if place-based values are to function effectively in decision-making. I discuss how experiential practices for accessing this implicit dimension might help people to articulate and communicate their felt sense of place, providing a basis for a group decision-making process that better reflects and includes the value of place.

The concept of value provides a natural connection between place and decision-making, the two domains that are the focus of this book. On the one hand, the concept of value is implicit in the act of decision-making. We put time and effort into making decisions because we believe some possible outcomes of our actions have greater value than others. In making decisions, we seek to identify which outcomes actually have the greatest value, and we choose the actions that we believe are most likely to bring about those outcomes. Without some notion of value, we would have no reason for making decisions and no basis for choosing one alternative outcome over another.

On the other hand, the idea of value is also implied in discussions of place attachment and sense of place. To say that someone has an "attachment" to a place is to say that they value the place in a certain way. In the place-studies literature, sense of place is implicitly or explicitly regarded as a quality that enhances the value of a place – a quality that we should seek to create, cherish, and protect in the places where we live, work, and recreate. Thus, the basic question addressed in this book could very well be framed as, "How can the *value of place* be represented in the land-use decision-making process?"

In this chapter, I will explore the concept of value as it relates to individual people's experiences of places. I will try to show that different ways of understanding the concept of value lead to different approaches to decision-making, some of which are better suited for including place in land-management decisions than others. I will argue that the individual experience of value is grounded in an implicitly felt dimension of awareness, and that this dimension must be taken into account if place-based values are to function effectively in decision-making. Finally, I will discuss how experiential practices for accessing the implicit dimension might help people to articulate and communicate their felt sense of place, providing a basis for a group decision-making process that better reflects and includes the value of place.

The concept of value

The word "value" refers to a fundamental dimension of human existence. Issues of value pervade our experience of the world and are involved in virtually all areas of human speech and action – ranging from simple choices of what to have for dinner to basic questions about the meaning and purpose of one's life. The English word "value" comes from an Indo-European root, *wal-*, which means "to be strong." Related words derived from the same root include "valor," "validity," and "valence" (Morris, 1969; Ayto, 1990). In the English language, it appears that the concept of value is metaphorically linked to ideas of motivation and emotion. Both "motivate" and "emotion" come from an Indo-European word meaning "to push" or "to move" (Morris, 1969; Ayto, 1990). The etymology of these words suggests that when we say something has value, we mean that it has the strength to move us emotionally and motivate our behavior.

Despite the ubiquity and importance of value in our lives, finding a precise, scientific definition for the concept of value is problematic. Different schools of philosophy and different disciplines of science have developed alternative definitions and theories for understanding what

value is and how it functions in our lives. To review this entire literature would be beyond the scope of this chapter. Instead, I will take as my starting point a frequently-cited paper by Brown (1984), which examines the concept of value as it relates to natural resource allocation decisions. Brown points out several different ways in which the word value has been defined and presents a simple conceptual model for understanding how these different value concepts are related. The account of value that I present in this chapter builds on Brown's ideas and extends them in a way that I believe better represents the character of place-based values, providing a basis for decision-making practices that can more effectively include the value of place.

Three realms of value

Brown (1984) focuses on value concepts that relate directly to human preference. In a literature review of value concepts, he finds three distinct ways in which preference-related concepts of value are understood. He presents these as three "realms" of value. The *conceptual realm* deals with the basis of preference, the *relational realm* deals with the act of preferring, and the *object realm* deals with the result or outcome of preference. Differently defined concepts of value are associated with each of these three realms.

In the conceptual realm, Brown defines *held value* as "an enduring conception of the preferable which influences choice and action." (p.232). Held values are labels by which people identify basic modes of behavior, end-states, and qualities that are good or desirable – like "honesty", "freedom", "beauty", and "loyalty".

In the object realm, Brown defines *assigned value* as "the expressed relative importance or worth of an object to an individual or group in a given context." (p.233). Assigned values are behavioral expressions of preference for one thing in comparison to others, and can take many

forms. Verbal statements of liking, purchases of goods or services, and preference ratings on numerical scales in surveys are all examples of assigned values.

When it comes to the relational realm, Brown is less direct about defining a corresponding value concept. He characterizes value in the relational realm as much in terms of what it is not as in terms of what it is.

> [In the relational realm] value is neither a concept held by the subject nor something attributed to the object, but merely that which arises from the preference of a subject for an object in a given context. Here, value is not an intrinsic quality of anything–rather, it emerges from the interaction between a subject and an object. ... Value in the relational realm is not observable; it is only at the feeling level (Brown, 1984, p. 233).

While somewhat vague, this definition seems to characterize value in the relational realm as a feeling that arises from a person's preference for an object in a given context. Brown does not provide a distinct name for this concept of value as he does for held value and assigned value, and he seems to downplay its importance by saying that it is "merely" that which arises from the preference of a subject for an object and "only" at the feeling level.

Brown (1984) depicts the relationship between the three realms of value in a simple diagram (Figure 1). In this diagram, the relational realm is represented by the term "preference relationships" (which apparently refers to an ordering of objects relative to each other in terms of an individual's preferences). Held values in the conceptual realm give rise to preference relations in the relational realm, which in turn give rise to assigned values in the object realm. Thus, in Brown's account, held values are the basis of preference and assigned values are the end result of preference, while the relational realm is merely an unobservable, intermediate step on the causal

pathway from held to assigned value. Value in the relational realm is a sort of epiphenomenon, a mere feeling, which apparently does not merit much attention.
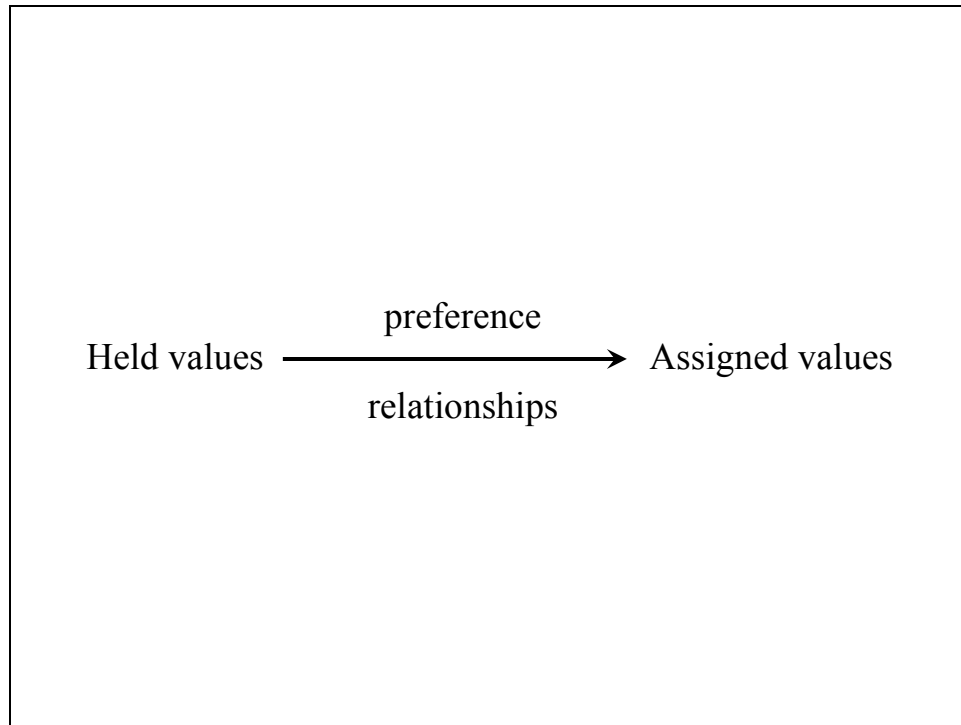

Figure 1. Brown's (1984, p.234) depiction of the relationship between the three realms of value.

In a follow-up to Brown's (1984) article, Hetherington et al. (1994) reiterate that the relational realm of value consists of "unobservable thoughts, feelings, or psychological states". They assert that the role of research on environmental values is to identify and measure the relationship between latent concepts of value (held values) and manifest expressions of value (assigned values). They do not discuss what place (if any) the relational realm has in such research. Similarly, a recent review of literature on environmental values (Dietz et al., 2005), discusses value mostly in terms of concepts and behaviors, the dominant question being how people's general concepts of what is good or desirable influence their overt choices and actions. The role of feeling in this process receives little if any attention. Other authors who have cited

Brown's (1984) paper (e.g. More et al., 1996) also tend to focus on held value and assigned value, while ignoring value in the relational realm.

Thus, the relational realm, where the "act of preferring" (Brown, 1984, p.232) actually occurs, seems to have been left out of most research on environmental values and decision-making. Instead of inquiring into the function of feeling and its relationship to held and assigned values, researchers usually seem to assume that people employ (or should employ) a mathematical process to compute assigned values for specific objects based on their general held values. For example, one frequently-used model of human decision-making involves decomposing objects or decision outcomes into a set of attributes, features, or components. An importance weight is assigned to each attribute (presumably reflecting a person's or a group's held values), and then the weighted sum of all the attributes for an object is calculated to obtain the assigned value of the object. This general approach, known as multi-attribute utility theory (Keeney and Raiffa, 1993), is the basis for many decision-making models and practices, such as cost-benefit analysis and conjoint analysis.

In the application of multi-attribute utility theory to decision-making, value is treated as an abstract quantity rather than as a subjective feeling. Once the importance weights are determined, a decision can, in principle, be made simply by carrying out a numerical computation. The actual experience of liking or disliking, accepting or rejecting, is replaced by a mathematical formula for calculating assigned values. This approach, while very useful in many kinds of decision situations, may not be well-suited for decisions in which sense of place is an important concern. Multi-attribute utility theory assumes that a place is a bundle of attributes or components whose separate values can be added up to determine the value of the whole. Research on sense of place, however, suggests that place is a holistic, dynamic, experiential

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phenomenon that cannot be reduced to such a simple, additive model (Patterson et al., 1998; Bott, Cantrill, and Myers, 2003; Brooks et al., 2006). In other words, the value of a place is not just the sum of the values of its various parts. The unique, hard-to-define, gestalt qualities of places as people actually experience them tend to drop out of such an analytical decision-making process.

Felt value

To incorporate the holistic, subjective experience of place into the decision-making process, the role of value in Brown's (1984) relational realm needs to be reconsidered. To better recognize and represent the qualities inherent in people's experiences of places, the relational realm needs to be placed on an equal footing with the conceptual and object realms in our understanding of how people value places. Giving full consideration to the relational realm requires a shift from a cognitive and analytical view of the value of place to a more affective and experiential perspective in which the *process* of making decisions matters as much as the end results of decisions.

In the relational realm, value is not an abstract concept about what is good or preferable, nor is it a numerical quantity that can be multiplied and added up to arrive at a measurement of worth. In the relational realm, value is an immediately felt experience of liking or disliking, approving or disapproving, accepting or rejecting. In his philosophical analysis of relational value meanings, Jessup (1943, 1949) argues that it is precisely this kind of experience that characterizes value as value. Unlike Brown (1984) and Hetherington et al. (1994), Jessup (1949) does not see value in the relational realm as consisting of unobservable feelings that are inaccessible to empirical study. Jessup argues that feeling is in fact observable and constitutes essential data for the study of values. Feeling, Jessup says, is an element of awareness just as

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much as is sensation. It can be attended to while it occurs and can be remembered and reflected upon later. Its occurrence and quality can be checked by repeated experience of an individual and can be compared to reports from other people of their feelings: "Felt-value or feeling is on a par with sensation. Somehow, judgments of fact come out of sensations; and equally, somehow value-judgments come out of felt-values (Jessup, 1949, p. 138)." Following Jessup, I will give the name "felt value" to value in the relational realm. I define felt value as *the immediate, subjective feeling of the importance, worth, or significance that something has for an individual*.

Recognizing that the relational realm is not a black box but is accessible to observation allows us to take a closer look at how the three realms of value relate to each other in the human process of valuing. Brown's (1984) scheme implies that the valuing process begins with abstract concepts about what is good or desirable (held values), and that felt value does not arise until after a preference ordering of objects has been established based on held values. Phenomenological inquiry into the actual experience of valuing reveals, however, that feeling is involved in every aspect of the human phenomenon of value. Held values are not simply abstract concepts about what is good, but already carry with them an immediate feeling of importance or "requiredness" (Fuller, 1990), which is what gives them their motivational force. A concept of the preferable that is devoid of any actual feeling of liking or approval cannot function as a value (Jessup, 1949). A purely intellectual idea of "honesty," for example, would be no more able to motivate our behavior than a concept of "blueness" or "roundness."

From an experiential perspective, it may make more sense to say that held values arise from felt values, instead of vice versa. That is, held values are generalized concepts about what is desirable, which emerge over time from our feelings of liking and disliking in particular circumstances and situations. But it is also true that, once we form abstract held values, our

underlying felt values may change as a result. A similar consideration applies to assigned values. In the act of expressing the worth of specific things, the felt values on which our assigned values are based may undergo change. This implies that the relationship between the three realms of value is not as linear as Brown (1984) pictured it, but is more interactive and dynamic (Figure 2). As they give rise to held values and assigned values, felt values themselves may shift and change.
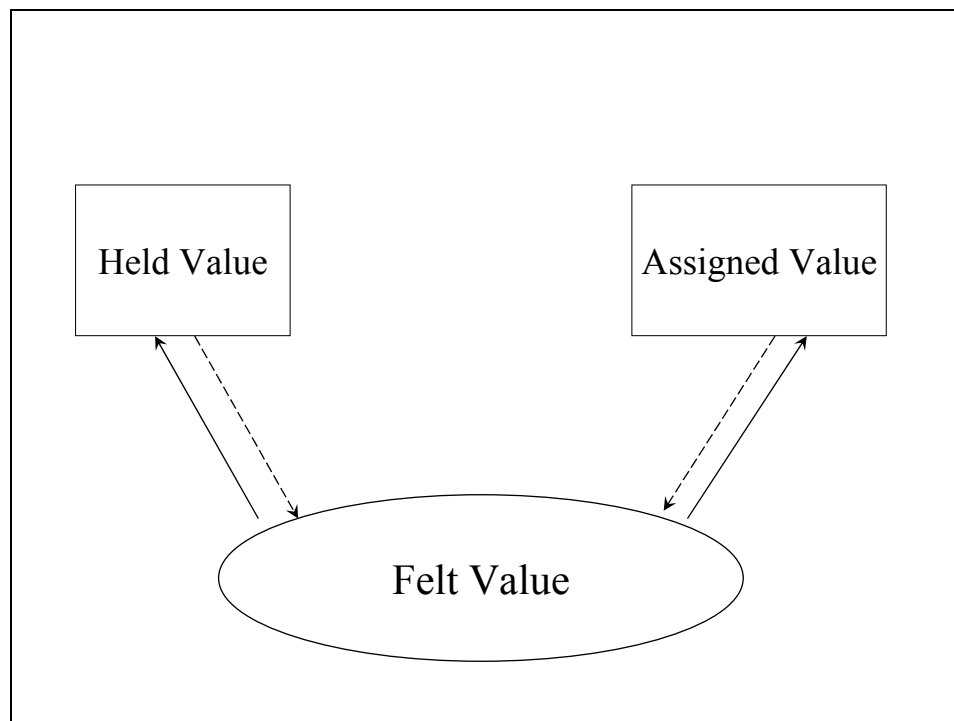
Figure 2. An experiential view of the relationship between the three realms of value.

Implicit awareness and the felt value of place

Within our experience, I contend, felt value underlies and is more fundamental than either held values or assigned values. But it is also true that we are able to think conceptually and reason abstractly about our values. Once we have formed concepts of the preferable, we are able to make logical inferences of what our assigned values ought to be based on those held values. We can and often do use such deductions to guide our decision-making. But sometimes it seems

that the assigned values we deduce logically from our held values don't quite match up with our 'gut feelings' about the options we are choosing among. Having made a decision based on a rational analysis of the alternatives in light of our held values, we may still feel uncomfortable with and reluctant to accept the outcome. When that happens, it suggests that something at the feeling level has been missed or passed over by our rational thought process. Some facet of felt value is not adequately conceptualized and represented by our system of held values. In this case, no amount of conceptual thinking or logical reasoning based on abstract held values will lead to a resolution of the decision problem. The only way to resolve such a decision impasse is to work it through at the feeling level, to explore how our general concepts of the preferable relate to the intricate, felt texture of the particular situation we are facing.

> [O]ne hasn't really got the decision (only a general formula for it) as long as one is still
> unresolved in one's feelings. Feelings are not just intra-psychic entities, they are one's
> sense of the real situation, how one is in the situation ... . Universal principles and willed
> standpoints [i.e., held values] haven't really been realized at all until they are realized in
> terms of the living texture (Gendlin, 1971).

To better understand the relationship between felt value, held value, and assigned value, it is useful to make a distinction between explicit and implicit levels of awareness (Figure 3). Held value and assigned value are both at the explicit level. We can express them in words, name them, communicate them, and make logical deductions about them. Felt value, however, is at the implicit level, which means that, although we experience it and it plays a vital role in everything we do, we generally do not have it in words or explicit concepts. The implicit level of experience is like a backdrop or background of feeling that stays on the fringe of awareness and is often

overlooked. More than just an affective tone that colors our experience, it is the whole *felt*

meaning of our experience before we put that meaning into words (Gendlin, 1997a).
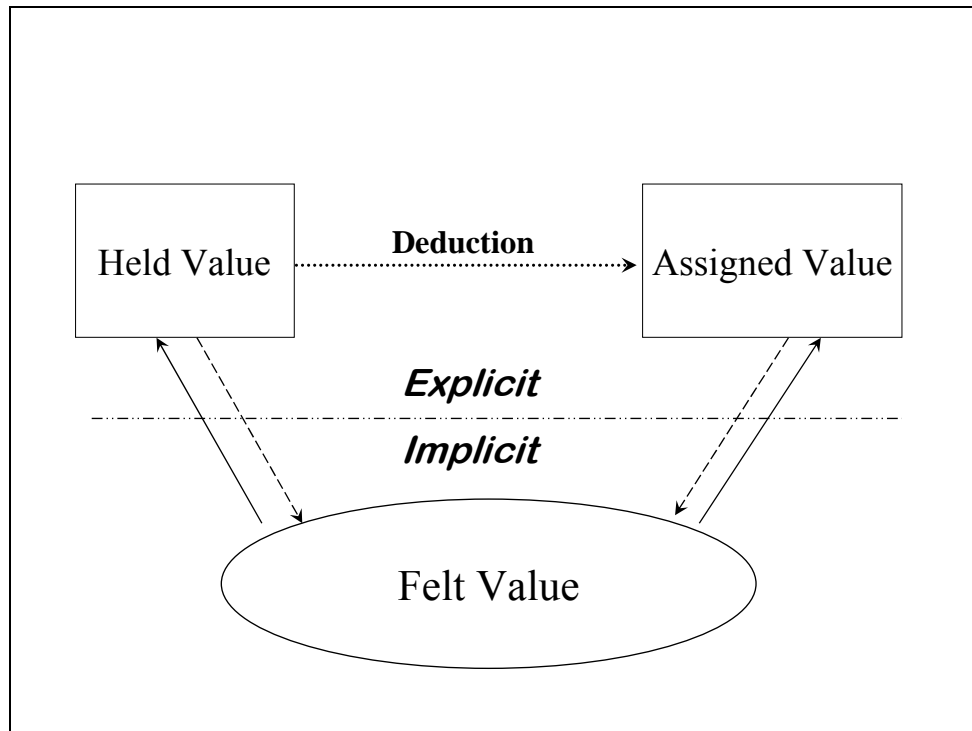
Figure 3. Explicit and implicit levels of awareness in relation to the three realms of value.

Place meaning and place attachment, I contend, are phenomena that go on primarily at

the implicit level. Sense of place is really a *felt sense* of place – an implicit, preverbal sense of

the kind studied by experiential psychologists and philosophers. Gendlin (1981) defines a felt

sense as

> ... a bodily awareness of a situation or person or event. An internal aura that
>
> encompasses everything you feel and know about the given subject at a given
>
> time - encompasses it and communicates it to you all at once rather than detail by
>
> detail (Gendlin, 1981, p. 32).

Gendlin emphasizes that a felt sense is not the same thing as an emotion. It is both more subtle and more intricate than an emotion. It embodies the whole meaning or structure of a situation and implies the diverse ways in which the situation might unfold and develop. A felt sense conveys far more information than can be expressed in words and concepts at the explicit level. In particular, this means that the implicit felt sense of a place and of its value to a person is too intricate to be captured in a multi-attribute utility model. The felt value of a place is not mathematically determined by how well the place complies with a pre-specified list of held values. Instead, the felt value of a place embodies a person's whole history and experience of interacting with that place and with other places. Relevant dimensions of value emerge from a person's holistic felt sense of place and may change depending on the context. Therefore, to include sense of place in decision-making we need decision practices that do not by-pass the implicit level of experience and do not ignore or lose touch with the felt value that underlies held and assigned values. Our decision-making process needs to include some means for directly accessing and working with this implicit, felt level of experience.

Experiential practice and value process

In his research on psychotherapy, Gendlin (1981, 1996a) found that when people attended to their unclear, implicit felt sense of a situation in a particular way, they could experience a shift in the felt sense that brought new insights and changed the way they felt about and related to the situation. Clients who were able to do this had consistently better outcomes from their therapy than those who simply talked about their issues at a conceptual level. Gendlin developed a way of teaching people how to tune into this level of awareness in order to facilitate such shifts. Gendlin's (1981) method, which he calls *focusing*, involves a series of six steps:

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1. *Clearing a space.* This is a preliminary step, in which you review or inventory the issues, concerns, and problems that are most prominent in your awareness at the present moment. The purpose is to temporarily set these issues aside, creating a positive and receptive mind/body set within which the other steps can take place.

2. *Getting a felt sense.* In this step you select an issue or concern (or, in the context of this chapter, a place); try to sense the whole, unclear bodily feeling of it; and stay with that feeling without analyzing or coming to any conclusions about it.

3. *Finding a "handle" for the felt sense.* You then look for a word, a short phrase, or an image that fits the quality of the felt sense. This "handle" should come from the felt sense itself and not be imposed on it from outside.

4. *Resonating.* Now you check the rightness of the handle by going back and forth between the words or image and the felt sense. If the handle fits, you will feel a response or a slight change in the felt sense.

5. *Asking.* In this step, you ask what the felt sense is all about, and wait for an answer to come out of the felt sense. Along with the answer comes a shift in how the situation or issue feels. This shift feels like an opening or a release of tension with respect to the issue of concern.

6. *Receiving.* In the final step you accept whatever came in the previous steps in a friendly way and spend a little time with it, before deciding whether to continue focusing or to stop.

Gendlin (1981) presents these steps as an aid for learning, not as a rigid process. The steps might actually occur in any order, each step may occur several times in a given session, or some may not occur at all. The whole process is done with an attitude of openness and

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flexibility, going along with the felt sense as it unfolds, rather than trying to force it through a predefined program. A noticeable shift in the felt sense might not occur at all, or (more commonly) there might be several small shifts in the felt sense during a given focusing session.

It is perhaps best to think of focusing not as a technique defined by a particular set of steps, but as a general style of relating to implicit, bodily awareness. Gendlin (1996b) has characterized focusing in a broad sense as "just that uncomfortable, bodily sense that's complex and you don't know what it is yet. That's all it is. It's spending time with that body sense. As soon as somebody does that, they've got focusing." Gendlin's (1981) six-step formulation of focusing has been modified, adapted, and extended in a variety of ways based on people's experience with using it. Alternative approaches to describing it have been put forward (e.g. Cornell, 1996; Campbell & McMahon, 1997). Ultimately, anyone who uses this kind of experiential practice must discover for themselves what works and doesn't work for them.

The fifth step in Gendlin's focusing practice, in which an explicit word or image brings a noticeable shift or change in the felt sense, is the crux of the process and is worth examining more closely. The felt shift comes with a sense of relief or rightness, as though it were what the felt sense was wanting all along. Gendlin uses the term *carrying forward* to refer to this kind of shift in a felt sense. The kinds of words, images, or events that a felt sense needs in order to carry forward are implied by the felt sense even before the person knows explicitly what they are. When they occur, the felt sense "recognizes" them and responds with an easing of tension and a sense of enlivenment.

The act of finding and making explicit something that is initially only implicit in the felt sense is sometimes called *explication*. When a felt sense is explicated, however, it does not lose its implicit character. Rather, it is carried forward into a new, different felt sense that implies

something further, beyond what has already been explicated. In this way, the focusing practice proceeds through a sequence of explications by which the felt sense continues to shift and unfold in greater clarity and intricacy. In these terms, we can now say that held values and assigned values are *explications of felt value*. That is, held values and assigned values are words and actions that make explicit, in different ways, some of what is implicit in a felt sense of value. If accurately formulated, they will carry forward felt value in the way described above. If not, there will be a lingering feeling of uneasiness and a sense that the words do not convey what really matters in the situation.

Gendlin (1967) uses the term "value conclusions" to refer to a person's explicitly stated preferences, choices, and goals. (In the terms we are using here, this includes both held and assigned values.) He argues that an adequate understanding of values must consider not only a person's value conclusions but also the process by which the person reaches them. When a person's decision-making process is effective, its course is not determined by the general value beliefs that the person holds at a conceptual level, but by the implicit, highly specific, experiential aspects of the situation the person is dealing with.

The order in which experiential valuing occurs is the reverse of how it is often portrayed. We do not first adopt value-conclusions from some system and then apply them to choose between different possibilities. First we must confront and differentiate experienced meanings (felt meanings). Then we find that these now differentiated felt meanings have a significant feel of good or bad, resolved or conflicted. If the latter, we resolve them by differentiating still further and further (Gendlin, 1967).

The process of differentiating felt meanings is what Gendlin formulates and teaches in the steps of his focusing practice. When value conclusions are adopted without engaging in some

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such experiential process, he argues, the person will be unable to "adapt, creatively employ, explain, show in detail, [or] respond well to certain situations requiring these values." In the worst case they may experience "confusion, denial, conflict, and surrender of certain areas of enterprise" (Gendlin, 1967).

While set specifically in the context of psychotherapy, Gendlin's discussion of values and experiential practice is relevant to any area in which important and difficult decisions must be made. Experiential practices like focusing have in fact been applied to a variety of areas beyond psychotherapy, such as dream interpretation (Gendlin, 1986), creative writing (Perl, 2004), conflict resolution (McGuire, 2008), spirituality (Campbell & McMahon, 1997), environmental psychology (Schroeder, 2008), ecopsychology (Fisher, 2002), phenomenological psychology (Shapiro, 1985), qualitative research (Todres, 2007), and philosophy (Gendlin, 1997b; Hendricks, 2004). In an earlier paper (Schroeder, 1990), I have illustrated how Gendlin's focusing practice can be used to explicate the felt value in one's experience of a natural environment. By focusing on my felt sense of one of my favorite places (a forested arboretum) I was able to identify and express why I felt a sense of rightness and belonging in that place. Aspects of my experience of the place that up until then had only been implicitly felt became explicit, enabling me to articulate more clearly why I valued that place so strongly.

Application to decision-making about place

Recently, there has been considerable interest in applying experiential practices to enhance decision-making in people's personal lives (Cornell, 2006; Afford, 2008) and in fields like business (Johnson & Barak, 2007; McGuire, 2008), medicine (Grindler-Katonah, 2003; Prado Flores, 2007), education (Doi, 2008), the arts (Crvenkovic, 2008), and environmental management (Walkerden, 2005). Anecdotal evidence suggests that working with the implicit felt

sense of a complex or difficult issue may help an individual to make better decisions about the issue, find creative alternatives that they otherwise might not have thought of, and feel more confident that their final decision is a good one. Some individuals have reported that basing a decision on their felt sense of a difficult situation empowered them to resist pressure from expert authorities and to participate more proactively with professionals in deciding on a course of action (Hendricks-Gendlin, 2003; Darer, 2007).

Because experiential practices like focusing are based in the experience of the individual, their most obvious application in decision-making is to situations where one person must make a decision about which they feel ambivalent or conflicted. An example in the context of place-based management might be a landowner deciding how to manage a forested parcel that has been in their family for many years. An expert on forest ecology might urge the landowner to thin their forest and remove non-native species of trees to promote the health of the ecosystem. The landowner might feel pressured to follow this advice, since it conforms with generalized beliefs about caring for the environment and is backed by the authority of science. At the same time, complex feelings relating to family history and traditions with respect to the property might cause the landowner to feel hesitant about acting according to the expert's advice. In resolving the decision problem, the landowner would benefit from being able to explicate the intricate felt meanings and values that he or she has about the land. If those meanings and values are left implicit and unacknowledged, the landowner later may regret having made a decision that at the time appeared rational and reasonable.

A decision involving a property of which one is the sole owner is difficult enough, but most decisions about managing places are more complex because they involve multiple stakeholders who may have different ways of knowing and valuing the same place. Individuals

must not only be able to access and express their own felt sense of value for a place, but must take into account the values, meanings, and feelings of other people involved in the decision.

Experiential practices like Gendlin's focusing have an intrinsic social aspect that comes into play when they are used in a group context. The presence of another person can have a profound effect on a person's ability to carry out a practice like focusing. Being heard by a listener who is open, accepting, and non-judgmental is often found to facilitate the practice, allowing an individual to go deeper into their own felt sense of an issue or problem. On the other hand, a listener who responds with judgments and opinions or who tries to direct the other person's process according to their own agenda interferes with the process and may make it hard for the person to stay with and to carry forward their felt sense of a situation. For this reason, guidelines for facilitation and interpersonal communication have become an important part of the training in focusing and related practices (Cornell & McGavin, 2002).

Approaches to group and community decision-making and conflict resolution have been developed that incorporate this social dimension of experiential practice. For example, McGuire-Bouwman (2007) describes a structured group process based on Gendlin's focusing practice that was developed for collaborative, consensual decision-making in support groups. McGuire (2007) presents the same process in a somewhat modified form for use by teams in hierarchical organizations like business and government. Leadership roles of agenda-setting, time-keeping, process-monitoring, and recording are shared among group members. The group process is designed to provide individuals with opportunities to go into their felt sense of the topic under discussion, to speak from that felt sense without interruption, and to be assured that other group members have listened and accurately heard what they have said. In this way, group interactions serve to support and maintain the participants' awareness of their implicit, felt values and to

bring them constructively into the decision process. Various alternative procedures are provided to work through conflicts and other obstacles to reaching consensus.

Applying a formal, collaborative decision-making process like McGuire's (2007) in a place-based decision-making context ideally would enable individuals to stay in touch with their implicit felt sense of the values that underlie the issues and choices being debated, and to respect and support other members of the decision-making group in doing the same until a decision that respects everybody's sense of place can be found. Adapting this kind of approach to a public land-use decision-making context might be quite challenging, however, since it requires all participants to have a high degree of trust, a willingness to step back from entrenched positions, and a commitment to really listen to those with whom they may disagree. Everyone involved in the decision would have to be committed to using such an experientially-based, consensual process in coming to a decision as a group.

In situations where a formalized process like McGuire's is not feasible, there still may be opportunities for individuals (professionals or members of the public) to draw informally upon their implicit, felt sense of value while deliberating over a decision as a group, and to encourage and support others to do the same. Walkerden (2005) offers insights into how the implicit dimension or "felt knowing" can be brought into environmental decision-making based on his own experience working at the local community level. He argues that working from felt knowing (as opposed to relying completely on technical rationality) is central to skilful environmental practice and makes collaborating across disciplines easier. Working from felt knowing involves "slowing down in the midst of conversation, thinking, writing, experimenting and observing," and "taking in a layer of knowing that it is easy to feel in a background way without heeding" (Walkerden, 2005, p.183). Walkerden suggests several specific ways for doing this:

- Paying attention to feelings of unease, inklings, and intimations in meetings and interactions; taking time to let them unfold and become clearer so that they can be made explicit and be expressed.

- Pausing from time to time to provide space and stillness in which issues and ideas about the matter at hand are allowed to arise spontaneously.

- Feeling for "fresh edges" in situations that seem to require innovation and creative ways of moving forward.

- Asking one's felt knowing specific questions to help draw out facets of a decision that are as yet implicit and unclearly sensed – for example, "Does this make political sense?" or "How will this sit with our colleagues and managers?"

Conclusion

Brown (1984) made an important contribution to understanding the concept of value in natural resource management by identifying and distinguishing between the main ways in which this concept is used. In order to clarify the nature of economic values (one form of assigned value) he focused mainly on the object realm and (to a lesser extent) the conceptual realm of value. In this chapter, I have attempted to expand on Brown's approach and adapt it to place-based values by offering a fuller account of value in the relational realm (felt value) and of the relationship between the three realms of value.

The experiential decision-making practices described above — whether formalized or informal, and whether used in an individual or a group context — are all intended to give people involved in decision-making access to an implicit, felt level of meaning that holistically encompasses their awareness of all the complexities and nuances of the situation. This is the level at which felt value is lived. Rather than treating value as a numerical quantity (with or

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without a dollar sign) and reducing decision-making to a computational exercise, these practices aim to keep the decision-maker in constant contact with felt value so that its relevant aspects will not be left out of the decision process. When implicit values and meanings are not acknowledged and respected, the decision process is more likely to run afoul of conflict and hidden agendas, and stakeholders are less likely to be committed to carrying out the decisions that are reached.

While these considerations apply to any decision-making context, they seem especially relevant to place-based decisions. Places are complex amalgams of social, perceptual, and ecological dimensions that are experienced and lived largely at an implicit level. Unless a deliberate effort is made to explicate people's felt sense of place, the meanings and values of the place are likely to remain unspoken and unrepresented in the decision process. Generalized values and norms, scientific assessments, and economic considerations may then dominate the decision while important, context-specific facets of people's relationships to the place are ignored. When implicit meanings are acknowledged and people are supported in speaking about them, the decision process can stay grounded in people's genuine felt senses of the value of a place. At the same time, the act of explicating felt value into verbal expressions of held value and assigned value may carry forward an initially vague sense of value into a clearer and more differentiated experience of how and why a particular place is important to a person. In this way, experiential practices for working with felt value may enable people not only to make better decisions about places, but also to unfold and deepen their appreciation of the places about which they are making decisions.

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Place meanings as lived experience

James Barkley

Abstract: The representation of multiple interests in natural resource management needs improvement. The history of stakeholder dialogue that surrounds natural resource planning is largely one of conflict and contestation. In response to the contentious nature of planning, this chapter describes a theoretical perspective of divisive political ideology, compounded by an exclusive reliance on traditional scientific knowledge. It suggests that the emotion that gives shape to place and political ideology may be included in planning dialogue through shared stories of lived experience. The theoretical lens crafted here is particularly useful when focused on individual stakeholders who represent themselves and their affiliate interest groups in the planning process. Through the sharing of emotionally-laden experiential knowledge during pre-planning phases, stakeholders have the capacity to refocus dialogue in ways that build upon shared memories and place meanings.

The emotion that drives political participation and defines stakeholder's important places should find an avenue for productive integration into natural resource planning. How we experience the environment and how we remember it are emotional processes that define our important places and largely influence our preferred planning outcomes. Stakeholder representation in planning dialogue historically mutes emotional and imaginative place meanings in favor of ideological positioning supported by [techno] rational argument. Although this sort of debate is valuable and necessary, planning efforts would be well served by foundational dialogue that addresses how stakeholders *feel* about the focus area. From a lived experience perspective, this chapter discusses the role of memory and emotion in support of a theoretical platform for improving stakeholder representation in natural resource planning.

Political scientist Martin Nie (2003) described most political arenas that focus on land management as being stilted by historically embattled ideologies. Driving and reinforcing this ideological embattlement are "wicked problems that characterize most public policy and planning issues" (Nie, 2003, p. 309). These wicked, or complex, problems are social controversies that lack technical solutions and are generally managed (not solved) in a process of

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political judgments, adaptive management regimes, or fragmented planning forums (Allen & Gould, 1986). Nie (2003) identified the lack of effective communication and the crisis orientation among interest groups as roadblocks to expanding dialogue. As stakeholders continually draw upon their entrenched ideological moorings when entering into dialogue and negotiations, a stalemate to progress is triggered by the inability of representation to move beyond simplistic, adversarial, and deeply ingrained rhetoric.

Issues of representation in democratic land management are often the product of an expert-public gap that can exacerbate historic ideological conflict. The expert-public gap is the result of two conditions: experts dismissing citizen views as less-informed, and the citizens having difficulty finding a political foothold for their perspectives (Yankelovich, 1991, p. 4). The result of this trend is a diminishing capacity of the public to represent itself in expert-based decision-making forums. Put succinctly:

> *"It is sometimes difficult to believe that the public and policy-making experts in the U.S. share the same language and culture"* (Yankelovich, 1991, p. 3).

Without access to representation in planning, the potential for self-governance is eroded and stakeholders to the process become frustrated. This political landscape has defined American democratic process in land management and has served to alienate a concerned public.

As a result of ideological rifts compounded by the cultural codification of knowledge within a traditional scientific perspective (Bell, 1962, p. 25), emotionally volatile stakeholder engagement is common in park and natural resource management. In the book, *Wisdom of the Spotted Owl,* Yaffee (1994) referred to behavioral biases of human actors and organizations as contributing to a poor policymaking environment surrounding spotted owl habitat protection in the forests of the Pacific Northwest. Tension and conflict were prevalent as emotions ran high in what was, and still is, an ideological battleground of iconic significance. Further, the conflict

over habitat protection for the spotted owl continues to be defined by scientific debate that addresses policy mandates set forth in the Endangered Species Act. This theme of emotionally-fueled rhetoric centered on conflict and scientific expertise is recurrent. Be it emboldened protest of offshore drilling on the Pacific coast (Freudenburg & Gramling, 1994), local residents' meltdowns over confined animal feeding operations in the Midwest (Johnsen, 2003), or cultural conflict over fishing rights on the Atlantic coast (Lynch, 1993), the engagement of stakeholders in natural resource planning typically takes the form of conflict and crises with scientific expertise positioned as the ultimate form of representation.

While a great deal of warranted attention is given to technical issues in land-use decision-making, there are other forms of knowledge that are useful in their own right and context. This chapter proposes the need for stakeholder dialogue to extend beyond historically strained rhetoric that grants superiority to a traditional scientific perspective, with a characteristic focus on the role of emotion. Emotion is at the center of place meaning and political activity. In recognizing the transformative power of emotion, it is suggested here that an increased focus on shared place meanings among stakeholders can improve dialogue surrounding natural resource planning.

Stakeholders and democratic representation

In the second half of the twentieth century, American democracy focused largely on ethical concerns that were, and still are, taken up by special interest groups. Issues surrounding land use planning are brought to bear politically through communication of organized interests. This type of identity politics in American democracy centers on negotiation, contestation, and representation of multiple perspectives (Benhabib, 1996). In the case of natural resource management, conservation-based ecological concerns are a clear example of a political movement within this type of identity politics. Political representation for these concerns is

taken up by such groups as The Wilderness Society, American Wildlife Foundation, Sierra Club, and Earth First- each group with a unique identity and political ideology. Moreover, representation is embodied in those individual from special interest groups who are part of planning dialogue surrounding America's natural resources. Often, these individuals live in or around the areas of concern. This peculiar subset of individuals are referred to here as stakeholders and are viewed as vital sources of experiential, emotional knowledge that is key to expanding dialogue surrounding natural resource planning.

The American democratic processes should be equipped to make sense of the emotional energy that catalyzes politicized ideology and shapes place meaning. The basic theoretical underpinning of sense of place or place meaning, as referenced interchangeably here, is the notion that space becomes place as a result of an emotional transformation (Relph 1976, Tuan, 1972). To understand place meanings is to understand emotional transformations of physical space to human place. Like place meanings, political ideology is the result of emotional transformation (Lerner, 1947). As political scientist Daniel Bell pointed out:

> *"... What gives ideology its force is its passion. ... One might say, in fact that the most important, latent, function of ideology is to tap emotion. Other than religion (and war and nationalism), there have been few forms of channelizing emotional energy. ... Ideology fuses these energies and channels them into politics"* (Bell, 1962, p. 400).

Ideology, catalyzed by emotion, takes a representative turn through human enactment. With strong feelings for the places of interest and how they should be managed, stakeholders who have a personal history with the area are positioned at the emotional nexus of place and political ideology. These stakeholders have the capacity to enhance democratic representation in natural resource planning by sharing their experiential, emotional knowledge of place.

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Localized representative stakeholders have two basic characteristics that make them an appropriate focus for efforts at incorporating emotional knowledge into planning and policymaking processes. First, they have a clearly defined political ideology evidenced by their subscription to the mission of a larger organization. In addition, they typically have first hand experiential knowledge of the area(s) at the center of planning. As members of organized interest groups, and as frequent visitors to the area of interest, individual stakeholders who are member-representatives of larger organized groups are seen as important and relevant participants in researching place meanings. As these representatives discuss their lived experiences in their important places, the door is opened for productive entrée of emotional knowledge in stakeholder dialogue.

<div align="center">Emotion</div>

With emotions playing a crucial role in expanding stakeholder dialogue, it is important to further conceptualize them so we may explore representational strategies that move beyond politically and scientifically simplified meanings of place. The sociology of emotion identified here as particularly relevant focuses on two modes of lived emotion: feelings of the lived experience, and feelings while telling about them (see Denzin, 1985, who referred to these as the "lived body" and "intentional value feelings," respectively). These feelings immediately associate the individual with his or her environment in ways that are accessible to a broader audience. Denzin (1985) described feelings of the lived experience and their ability to foster a shared understanding, as an:

> *...orientation to the interactional world of experience, they are accessible to others and they can furnish the foundations for socially shared feelings.....Others are able to vicariously share in the subject's feelings. ... The subject can communicate and 'give'*

these feelings to others, thereby allowing them to enter into a field of emotional
experience with him. (p. 230).

These feelings give meaning to places and are told in stories of the lived experience. Further, these types of feelings are commonly understood because we all have lived experiences. Feelings associated with the telling of lived experience "are felt reflections, cognitive and emotional, about feelings" (Denzin, 1985, p. 230). This second mode of emotions is the result of reflecting on our experiences and telling about them selectively according to a given political context and associated ideological framework. Framing emotion in this way provides an interpretive mechanism for understanding stakeholders' emotions associated with their experiences and in the telling of those experiences.

Olstad (this volume) presents a working example of how the two modes of emotion may be encountered in written form. In this case, the author invites the reader to feel the experience of being in the Red and Painted Deserts. Through the use of first-person descriptive prose, Olstad invites the reader to 'enter into a field of emotional experience with her' (i.e., feelings of the lived experience) while carrying an overarching reflection on, and implications for, the telling of those experiences (i.e., feelings while telling about the lived experience). The author describes the feelings of the lived experience in ways that include 'quiet sunrises and sunsets glowing in her heart.' In turn, Olstad reflects on her feelings in the telling of her lived experience by situating herself as a social theorist and concluding that there is a need for both scientifically based information and experiential knowledge.

To seek and interpret emotions as characterized by feelings of the lived experience and feelings while telling about the lived experience provides a means of interpreting stakeholders emotional place meanings in ways that concurrently build trust and understanding. By giving a basic form to emotional representation, this two pronged description of emotional engagement is

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one that does not seek causality and so it is a positive framework for building trust. This basic framework of emotion focuses on understanding *how* people feel about their important places and not *why* they feel that way. People are more likely to share freely if they can trust that they are not being personally scrutinized for how they feel about their important places. Trust and understanding is further bolstered by drawing on stories of lived experience as a common source of knowledge. We all have lived experiences and so we have an empathetic charge toward that of others. We can understand how people feel and how they express themselves when they are talking about something with which we are familiar. By centering stakeholder dialogue on lived experience, we increase the capacity for what environmental historian Keith Basso (1996) has described as 'place making.' In describing the process of place making, Basso wrote:

> *"... place-making is a way of constructing history itself, of inventing it, of fashioning novel versions of 'what happened here.' For every developed place-world manifests itself as a possible state of affairs, and whenever these constructions are accepted by other people as credible and convincing – or plausible and provocative, or arresting and intriguing – they enrich the common stock on which everyone can draw to muse on past events, interpret their significance, and imagine them anew." (Basso, 1996 p. 6)*

Place making – through shared stories of lived experience – presents an avenue for creating shared memories and appreciation for multiple stakeholder interests. An exemplary place-making forum is described by Stewart, Glover, and Barkley (this volume). The authors describe how 'learning circles' – supported by photo-elicitation techniques – are a promising technique for accessing feelings of the lived experience and for understanding feelings while telling about them. By their account of the learning circle format implemented in three different land use scenarios, the authors describe the creation of shared emotional space among stakeholders to natural resource planning that fostered empathy and shared understanding.

Place meanings shared among stakeholders to natural resources management are a way that managers-as-stakeholders can come to understand the emotions that typically ride high in park and natural resource planning. Further, without access to these types of place meanings managers retain a limited perspective on the importance of the area to its localized stakeholder constituency. Stokowski (2008) described a history of research on place that points to place meanings as both emotional and constantly in flux. Accordingly, Stokowski extended Tuan's (1972) emotional transformation of space to place in necessitating the communicative precipitation of place. In championing the sharing of experiential knowledge in place-making processes, Stokowski extended a charge to managers-as-stakeholders:

> *"A manager's imperative then, should be to understand the emergent qualities of place-making and place meanings in order to respond to patterns of discourse shaped by structured communicators linked across social networks. In this effort managers should err on the side of variety rather than constraint in allowing resource settings to be as open as possible to social and cultural behaviors through which place meanings may be expressed."* (Stokowski, 2008, p. 54)

In this manner, place making exercises like Stewart, Glover, and Barkley's (this volume) learning circles should be embraced and encouraged by natural resource managers.

The creation of shared place meanings is manifested in shared memories. As we tell stories of our experiences and what it is like to be in a place, we are constructing memories and sharing them in some fashion. The relationship between memory and the lived experience is at the center of knowledge production in coming to understand people's important places. To understand how stakeholders important places are represented through the sharing of experiential knowledge, the term lived experience needs to be defined and the subsequent role of memory and processes of remembering need further articulation.

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Remembering the lived experience

An investigation into emotion requires defining lived experience so that the subsequent implications for memory and place making can be made explicit. Lived experience refers to a series of temporal, spatial organizations that in its most basic form involves our immediate consciousness of life prior to reflection (Dilthey, 1985; Sartre, 1957). Lived experience - so defined - exists only in its representation and does not exist outside of memory (Denzin, 1992). The only way we can come to know and understand our lived experience is through acts of remembering and sharing those memories.

The process of memory construction is imaginative and emotional (Denzin, 2001), as the act of remembering is something that happens in the present but is referencing an absent past (Huyssen, 2003). Recollection is not merely reduplicative, but socially influenced (Bartlett, 1932/1967; Durkheim, 1924/1974; Halbwachs, 1941/1992). We engage in memory-making processes in which the people and places of our experiences shape our memories and our stories. Condensation, elaboration, and invention are common characteristics of ordinary remembering (Bartlett, 1932, p. 205). Further, the ways that we streamline our memories and stories are constantly in flux. It is through social interaction (Schwartz, 1989) that place meanings – derived from memories of the lived experience – are represented to a broader audience.

Memory is an active process, and not something that is passively received by the individual. We choose to remember and account for our experiences according to our individual relationship with social processes. Anthropologist James Wertsch (2001) described the functional relationship between the individual and society using 'mediated action' (Wertsch, 1998; Vygotsky, 1987) as a theoretical foundation. The theoretical framework of mediated

action holds that the cultural tools made available to the individual by society mediate all human action. While cultural tools are made available by society, they are actively consumed and usually transformed through use patterns introduced by the individual (Wertsch, 1998). We are not simply bystanders whose memories are bestowed upon us by socio-cultural forces beyond our command.

We choose what we remember and how we represent those memories. The ways we choose to remember and retell our stories is a social and emotional process. The individual sentiment is transformed in association with the collective sentiment (Durkheim, 1924). Like individual sentiment, individual memory is constructed within a group perspective (i.e., the collective) while the collective memory is realized through the memory of the individual (Halbwachs, 1941). In this sense, the group cannot express itself separately from its individuals (Bartlett, 1967). This suggests that the individual memory is constructed by the individual based on the influence of the collective memory, and in turn, contributes to the collective memory of the group to which the individual belongs. Understood as such, the construction of memory is an ongoing process of reception and appropriation (Bartlett, 1932; Halbwachs, 1941; Wertsch, 1998) through which individuals serve to represent collective, or group, sentiment.

With a focus on value-theory, Schroeder (this volume) provides an alternative framing of the relationship of lived experience and memory described here. He states that 'felt value' underlies both 'held' and 'assigned' values. Accordingly, the process of value determination is one of experiencing and feeling (i.e., felt values) that is made explicit in the form of 'held' or 'assigned' values. Schroeder further describes a relationship whereby the formation of abstract 'held' and 'assigned' values can transform the foundational 'felt values.' In this cyclical framework of value determination, the lived experience is remembered and accounted for

according to a developing framework of [explicit] 'held' and 'assigned' values that are both informed by, and serve to inform, [implicit] 'felt values.'

Historian John Bodnar discussed this process in terms of 'public memory' (Bodnar, 1992). Public memory is something that is continually created while at the same time drawn upon, to bring the past, present, and future together in ways that are relevant. Bodnar wrote:

> *"Public memory is produced from a political discussion that involves not so much specific economic or moral problems but rather fundamental issues about the entire existence of a society: its organization, structure of power, and the very meaning of its past and present…. Its function is to mediate the competing restatements of reality these antinomies express. Because it takes the form of an ideological system with special language, beliefs, symbols, and stories, people can use it as a cognitive device to mediate competing interpretations and privilege some explanations over others."* (Bodnar, 1992, pp. 14)

This description of public memory speaks to the poignancy of the concept while alluding to major limitations in strategically garnering collective remembrance. While bringing stakeholders together to share stories of their lived experience can refocus dialogue from a traditional scientific perspective and offers a way of mediating multiple perspectives, the concept of public memory sheds light on two primary limitations of the theoretical approach described here. First, as a strategy of deliverance from ideologically entrenched dialogue, [re]creating public memory is problematic in that public memory itself takes the form of ideology. Although it may be thought of as a newly-shared ideology and a way to 'channelize emotional energy' (Bell, 1962, p. 400), public memory is nonetheless ideological and is vulnerable to becoming yet another layer of entrenchment in an already adversarial political arena. Perhaps more serious than the ideological implication of public memory is the privilege afforded to its [re]creators. In the case posited here, where localized representative stakeholders serve in the construction of public memory, the privilege of determining memorable and meaningful aspects of place is

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enjoyed by a select group. For public memory to serve as a foundational concept in promoting a more informed and productive planning dialogue, these limitations need to be addressed.

An important first step in addressing the above limitations is to properly locate the resultant knowledge of place and memory making processes within the broader scope of planning. The type of knowledge described here - garnered through place making processes and the creation of public memory - is most aptly addressed during pre-planning phases. Stewart, Glover, and Barkley (this volume) are quick to point out that this type of knowledge and learning is most appropriate as a precursor to formal planning. This important caveat appropriately situates [imaginative and emotional] experiential knowledge as a means of improving planning *dialogue*; not as a direct referent for the types of decision-making scenarios taken up by formal planning procedures. The privilege that is afforded to those that take part in selective place making processes is further addressed through the characteristic focus on localized representative stakeholders. These individuals are appropriate for these types of pre-planning efforts according to their capacity for experiential knowledge (i.e., as frequent visitors to relevant sites) and ability to represent special interests (i.e., as member-representatives of larger affiliate interest groups) within an identity politic.

In addressing the limitation of public memory as a form of ideology, the primary concern is to avoid having shared meaning relegated to overly-simplistic points of debate. To address this limitation is to keep tabs on public memory and facilitate opportunities for further [re]creation. While public memory is a form of ideology, repeated place making forums are a way to provide aeration so that these shared memories and meanings do not become static ideological representations prone to inappropriate application to natural resource planning.

Conclusion

Place, political ideology, and the emotion enmeshed in both are identifiable through sharing stories of lived experience. Told through stories of lived experience, place meanings present a promising communicative concept in seeking the productive inclusion of emotional knowledge in park and natural resource planning. Creating memories and places by sharing stories of lived experience is a way to address a history of stagnant dialogue in natural resource planning that is consistently relegated to historically embattled stakeholder ideologies. This scenario is compounded by the exclusiveness of expert-based planning that prefers the techno-rationality of traditional science. A lived experience perspective offers an alternative form of representation that has the capacity to build shared place meanings, memories, and visions for the future.

Lived experience, as a philosophical orientation toward knowledge and knowing reality, holds central the idea that through the actual experience of something its essence may be felt and understood as reality (Fals-Borda & Rahman, 1991). As a series of temporal, spatial organizations that in its most basic form involves our immediate consciousness of life prior to reflection (Dilthey, 1985; Sartre, 1957), it is through our memories and stories of the lived experience that the places of our experience are imbued with meaning. When the management areas of interest serve as a setting through which individuals have passed previously, memories and stories of their experiences provide insight into what those important places mean. When these stories are shared among stakeholders in place making processes – as exemplified by 'learning circles' (Stewart, Glover, & Barkley, this volume) – it is a form of social learning by which emotional knowledge may be addressed to the advantage of stakeholder dialogue by creating shared memories and place meanings.

The power of a lived experience perspective is realized in a democracy defined by identity politics, where place meanings may serve to influence communication among individuals speaking for their affiliate interest groups. Place making processes among stakeholders – undergirded by a lived experience perspective – are a way to build trust by facilitating the representation of emotion in seeking to understand what people are feeling, not why they feel that way. Localized representative stakeholders are individuals who live in the region and stand in at local or regional meetings to carry the message of organized interest groups. Sitting at the crossroads of place meaning and political ideology, these stakeholders should be afforded an opportunity to share their experiential knowledge of the area. This is in keeping with the need of a manager-as-stakeholder to, "understand the emergent qualities of place-making and place meanings in order to respond to patterns of discourse shaped by structured communicators linked across social networks" (Stokowski, 2008, p. 54). By sharing these stories, a public memory may be forged that can present new possibilities for future planning efforts by creating shared place meanings that focus on the emotional source that drives stakeholder engagement.

Born of a hopeful vision for land-use decision-making processes in America's public parks and other natural resource areas, place making is conceptualized here as an avenue by which agreement may be reached, or perhaps conflict more fully understood, among political actors. Discussing lived experience and creating public memories is a way to 'enrich the common stock' (Basso, 1996, p.6) among stakeholders while keeping tabs on emotional place meanings that, along with our memories, change over time. As these representatives discuss their lived experiences in their important places, the door is opened for important emotional knowledge to further become a part of public memory. In other words, place making among

stakeholders can [re]shape a public memory that frames emotional knowledge - that which

catalyzes political ideology and defines sense of place – as a source of shared meaning and not of

a priori conflict. This public memory, resulting from place making activity as a precursor to

formal planning, can expand stakeholder dialogue through the productive inclusion of emotional

knowledge by sharing and understanding place meanings from a lived experience perspective.

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Personal experience and public place creation

Tyra Olstad

Abstract: There is a place called the Red Desert. Land and sky, sagebrush and antelope, fences and roads – it has material characteristics. If you visit, you will take memories from and layer meaning upon the landscape, personally investing in the place. If you do not have time to actually experience the place first-hand, you can look at photographs and read descriptions presented through different perspectives. When the Bureau of Land Management recently issued Draft Environmental Impact Statements that proposed expanding oil and gas development in the Red Desert, agency officials were astounded by the volume and vehemence of the response. This chapter portrays the development of personal place meanings of the Red Desert, and describes social and political processes with power to translate them into public meanings of place.

"This is the most beautiful place on earth. There are many such places." (Abbey, p. 1)

There is a place called the Red Desert. The landscape there doesn't look particularly red, but yawning expanses of dusty greasewood easily appear deserted. The "miles and miles of nothing but miles" add up to an overwhelming sense of space – featureless, limitless, meaningless space.

But the Red Desert is a place. Land and sky, sagebrush and antelope, fences and roads – it has material characteristics; it exists. I've seen it. You can see it too, just by driving across Wyoming on Interstate 80. Better yet, you can pause somewhere between Rawlins and Rock Springs to see, smell, hear, feel, literally sense the place. As your body takes in the stimuli, your mind will filter and favor certain sensations, creating personal perceptions and conceptions. You might focus on the uninterrupted vistas and react with pleasure, even identify with the seeming "wildness," or you might dislike, even feel alienated by the "desolation" of the incessant winds; either way, you'll take memories from and layer meaning upon the landscape, personally investing in the place.

If you don't have time to actually experience the place first-hand, you can look at photographs and read descriptions. These depictions – presented through others' lenses and pens

-- enable you to learn about the Red Desert from different perspectives. Some of those who have shared their views in the public sphere may tell you that it's the most beautiful place on earth – want you to believe that it's beautiful too – because they love it but they don't own it. Legally, it's not their personal desert; it's our public desert, thus we have a say in how it is used.

An individual owner could manage the land according to his or her personal preferences for certain features, but because it is public land, the Rock Springs, Rawlins, and Lander offices of the BLM have the difficult duty of negotiating several perceptions of economic and sociocultural "value" (Davenport and Anderson 2005, Stedman 2003, Cheng et al. 2003, Brandenburg and Carrol 1995, Mitchell et al. 1993); policies and procedures that regulate "use" of the land – even "multiple use" – necessitate recognition of and preference for some physical, cultural, and aesthetic "resources" over others. This can easily lead to controversy.

When the Bureau of Land Management recently issued Draft Environmental Impact Statements that proposed expanding oil and gas development in parts of the Red Desert, agency officials were astounded by the volume and vehemence of the response; dozens of organizations and thousands of individual citizens contacted the agency to express deep concern for certain attributes as well as specific places. Words and images of "beauty" and "wildness" swirled through the public sphere, but personal pronouns grounded the debate. People wanted to share their own experiences and their own opinions with the agency – to give voice to their deeply-held and valued senses of the Red Desert.

Officials who make the final decisions regarding public land management have grown increasingly aware of the need to integrate peoples' "senses of place" into their policies and procedures (Williams and Stewart 1998). What, though, is a "sense of place"? How is it created and how is it used? As researchers seek to understand the process of public place-creation, they

often focus on the material characteristics of meaningless "space," the sociocultural values layered on this space, and the political processes that regulate appropriate use (see, for example, Cheng et al. 2003, Greider and Garkovich 1994, Eisenhauer et al. 2000, Tuan 1977). While these all comprise important dimensions of "place," they discount personal elements of place-creation; phenomenological and psychological research explores the meaning and significance of individuals' interaction with their environments (see, for example, Brown and Toadvine 2003, Stedman 2002, Casey 2001 and 1996, Proshansky et al. 1983, Shumaker and Taylor 1983). To link these concepts, practitioners need to consider how the social and political processes and decisions that govern management and determine use of public lands arise from and negotiate visceral sensations, perceptions, and values – how personal experience affects public place-creation (Davenport and Anderson 2005).

That is why, in exploring the conflict over the Red Desert, I cannot help but discuss the Painted Desert. It is located within Petrified Forest National Park, and thus public land as well. Though managed by different agencies, the Red Desert and Painted Desert contain many of the same natural and cultural features. Another researcher might discuss how different political designations and policies create and are created by different sociocultural senses of place, but I can't think of the Painted Desert as a line on a map or a list of attributes; it is my experiences, my memory of land and sky. It is my desert. I want you to think of it as yours too, to care for it as ours, to understand and experience attachment to the place.

To demonstrate the role of personal experience in public place-creation, I invite you to come with me on a brief tour of the Red Desert then on to explore years' worth of memories of and identification with the Painted Desert before returning to a theoretical analysis of public

place-creation and discussion of the implications for phenomenological research and land management policy.

My Red Desert

I had never heard of the Red Desert until the controversy over land use became prominent in local and national media. The expressions of deep attachment to a seemingly empty place intrigued me, so I started to research the land and the people. I read journal articles, radio reports, travel guides, websites, and letters-to-the-editor and pestered friends and acquaintances to tell me more about what they knew of the region. The more I learned, the more I wanted to know. How did people perceive the desert? What sort of relationships had people developed with the desert? How did they communicate their personal feelings and professional positions? I engaged in more formal, structured "research" -- perused professional management documents and academic literature, interviewed a variety of interested stakeholders, and mapped ownership and attributes and toponyms.

After months of inquiry and interpretation, I thought I had developed a well-informed sense of the place as well as a handle on the controversy: it's a simple enough equation, according to Terry Tempest Williams: "place + people = politics. In the American West, the simplicity becomes complicated very quickly as abstractions of philosophy and rhetoric turn into ground scrimmages" (Tempest Williams 2002, p. 3. See also Kemmis 1990). All I had to do was separate the philosophy and rhetoric from the ground to understand the scrimmaging; all I had left to do was experience the place first-hand, to "ground-truth" my research.

So I found myself driving across south-central Wyoming on Interstate 80 late one April afternoon. I had already been warned that "the face of the Red Desert that people see driving through on the interstate does not reflect the richest wildlife habitats or the prettiest landscapes or

the areas indeed that are pristine and untouched. You [will] notice, driving through, oil and gas development, strip mines – you name it, – pipelines, powerline corridors everywhere" (BCA). Verily, I didn't see anything aside from dusty sagebrush, cracked pavement, and a few wispy clouds. In years' worth of exploring, I'd seen similar scenes all over the West; I had accumulated stock memories of pretty landscapes and a delicious sense of space, but had no reason to remember the names and meanings of the actual locations.

This afternoon, though, I was in The Red Desert. I had a vested interest in – and thus a deeper appreciation for – the view out my window. Somewhere in that expanse, I thought to myself, there are herds of wild horses! And habitat for sage grouse! Petroglyphs and ruts from wagon trails, fossils and fossil fuels, all sorts of secret delights.

The Red Desert "is a land that gives up its secrets grudgingly" (Friends of the Red Desert 2008), though. Armed with lots of water, a car that was all-too familiar with bumpy dirt roads, a pair of sturdy hiking boots, and a long list of destinations and directions, I knew I would need to spend days hunting out people's favorite places. Adobe Town! Desolation Flats! Jack Morrow Hills! I would experience it all!

But sometime during the night, a cold front moved through. I woke to a landscape of featureless whiteness buried under a shadowless grey sky. I stubbornly tried maneuvering the "Wild Horse Loop," but when my car rebelled against the mix of clay and ice I returned to the main road and headed northeast away from Rock Springs. At some point, I passed the most photogenic features – Killpecker Dunes and Boars Tusk – but I don't know when or where; I couldn't see through the storm. Turning vaguely eastward, I stopped to read a historic marker, but the winds were so fierce that I didn't get out of the car. The Visitor Center in Lander was

closed, so on southeast to Rawlins, where I merged back on to Interstate 80 and found myself crossing the heart of the Red Desert for the second time.

So much for the experience. The Friends of the Red Desert insist that their place "has a way of drawing you in, inviting you to explore its mysteries (Friends of the Red Desert 2006), but it was telling me to go away. I was cold. And tired. I didn't connect with the land at all, didn't create personal meaning, let my conception of the place remain a flat mental map containing names and boundaries to which I attach no memories.

Well, one memory. Of the rush of delight I felt when I turned off the highway, parked on some little dirt lane near a gas well pad, pulled out the Utah and Arizona maps, and, with the snow swirling dryly across my windshield, planned my route south. To the Painted Desert. To my place.

My Painted Desert

When I had first paused to consider the "Welcome to Petrified Forest National Park" sign one grey November morning many years before, I had no idea what to expect. Indulging in a youthful desire for adventure, I had barely taken the time to confirm that the place was, indeed, in Arizona, and that yes, I could work there instead of spending another long winter in New Hampshire. I stopped at the Visitor Center to look at the displays and watch an interpretive film, but none of the information – Chinle Formation? Ancestral Puebloan? Short-grass prairie? – necessarily registered in my mind. So I got back in the car, drove through a half-mile or so of scrubby scenery, pulled into the first designated overlook, and had the bottom drop out of my sense of space. The Painted Desert. A labyrinth of vibrant clay hills, stretching beyond the horizon, rolling large as the sky, bigger and grander than anything I'd ever know. A legal and literal wilderness.

The sky was raw, the landscape forbidding, but I felt compelled to get out and experience the place first-hand. I switchbacked down the access trail, said farewell to the last juniper I could see for miles, dropped into a dry wash, slipped tentatively around the nose of a cliff, and whoosh! the cold dry wind burst straight through to my lungs. The Painted Desert. I was standing in it, breathing it in. No bootprints or cairns or other such comforts to cling to, just the earth and clouds and me.

I spent the rest of the winter cultivating that relationship between self and place, seeking a sense of belonging -- an existential insideness (Relph 1976). I learned to locate myself according to the bends in the Lithodendron Wash, the lonely verticals on the horizon, the layers of stone and time. I explored Angels Garden and the Black Forest, discovered the petrified stump field and petroglyph panels. I found fossil bones and pottery sherds, Indian paintbrush and bobcat prints; once I even tripped over a geologic marker – thousands of acres of sandstone and bentonite and sagebrush undulating in 30-foot waves and there it was, a 3-inch piece of metal hammered into the ground. Every time I had the chance to go out wandering, I would look out across the wide landscape and fix a destination in my mind, then inevitably find myself trekking miles and miles out of the way to a dead tree or glint of gypsum that had piqued my interest. I was driven by an infatuation with everything and everywhere Painted Desert.

 After one season -- spent filling countless letters with descriptions of my adventures, countless sketchbooks with depictions of my impressions, countless hours with contemplation of the landscape – I felt I had barely scratched the surface of the place. So I returned. I slowed down, savored experiences – biked the park road instead of driving, let others lead me to rock art galleries and ancient reptilian graveyards, tracked coyote through the snow. I stopped using a tent on my weekend backpacking expeditions -- just stretched out with the Milky Way or basked

in the full moon. I took any excuse to crawl on my hands and knees through the brush or up the cliffs – sometimes on serious scientific missions with the archaeologist or paleontologist or biologist, sometimes just to satisfy curiosity. I traced centuries' of swirls in sandstone, thought like a lizard basking in the sun, swam in the scent of monsoon rains. I lived for the sunrises and sunsets – would walk out every morning, every evening, 5 miles then 10 to honor and attune to the rhythms of time and space.

Quiet sunrises and sunsets glow in my heart; a perilous journey back from Pilot Rock burns in my mind. With all of these experiences fermenting in my mind, I can't understand why others don't appreciate the desert -- the "clean air to breathe...; stillness, solitude, and space; an unobstructed view every day and every night of sun, sky, stars, clouds, mountains, moon, cliffrock and canyons; a sense of time enough to let thought and feeling range from here to the end of the world and back" (Abbey 1990, p. 39).

When a new roommate arrived one summer and immediately packed up again, wanting to leave because she was sure she couldn't stand the dryness and desolation, I implored, "Please just give it time. Stay. You'll love it," thinking, "how can anyone not?" It took her a few weeks, but she slowly developed an interest in the cultural history, then gazed at the night sky, then found herself rhapsodizing about the beauty in the landscape, the adventure in the austerity. Yi-Fu Tuan wrote in his seminal work *Space and Place* that "[a]bstract knowledge about a place can be acquired in short order. But the 'feel' of a place takes longer to acquire. It is made up of experiences, mostly fleeting and undramatic, repeated day after day and over the span of years" (1977, pp. 183-184).

The first time I read Edward Abbey's *Desert Solitaire*, I hadn't really understood his exhortation, "In the first place you can't see *anything* from a car; you've got to get out of the

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goddamned contraption and walk, better yet crawl, on hands and knees, over the sandstone and through the thornbush and cactus. When traces of blood begin to mark your trail you'll see something, maybe" (1990, p. xiv). But the more time I took to experience the sandstone and cactus of the Painted Desert -- leaving my fair share of blood,-- the more I understood how passionately a person can care for a place, how deeply it can become part of them, how desperately they will want to share and protect it.

My job as an Interpreter was to share the Painted Desert – to provide visitors with the information they wanted to know about their National Park, but also to encourage them to pause and feel a deeper, personal connection to the place. I gave hundreds of formal talks and chatted informally with thousands of visitors about the geology the archaeology the ecology of the region, but so few -- too few –would linger to ask questions. I wrote articles for the park newsletter and made paintings for school programs and drew wildflowers for bulletins and photographed bones for scientific publications, but my art hardly did the attributes justice. Visitors would come, most would at best stop and snap a photograph of a geologic or topologic wonder that they couldn't care to understand before continuing on their way to the Grand Canyon or Sedona. "Photographs won't do it justice," I wanted to shake them, "it's a sense, it's a feel, it's a place, not just a scenic drive or splotch on the map."

Although I feel a fierce desire to get people to experience the Painted Desert – to value the place as something more than pretty scenery, -- I don't have to take drastic measures to protect it. As a designated Wilderness Area within a National Park, it is already afforded the highest level of protection possible for federal land management. No plans threaten to immediately and permanently alter the material characteristics of the place, my place. My memories of the land -- as well as my desires for future experiences -- remain safely intact.

But that is not the case for the Red Desert, where changing management priorities and plans have created a sense of insecurity and mistrust as well as a heightened awareness of and appreciation for the power of place-attachment. I have little first-hand experience and even less personal investment in the place, but I can empathize with those who do and thus want to understand and explain their situation.

Our Red Desert

When the Bureau of Land Management issued a Draft Environmental Impact Statement that would allow more roads and gas wells and fewer sagebrush and empty vistas in the Red Desert, they launched "an ideological battle…among those who value what is here" (Clifford 2002). It is not as simple as one reporter suggested, however, when he wrote that "[s]ome value what lies on the surface; some value what lies beneath" (Clifford 2002). The breadth and depth of the battle suggests a complex interaction between what can be considered "two types of attachment: attachment to the specific area itself and attachment to the type of area it represents" (Williams et al. 1992, p. 19).

The second type often receives more attention in land management research. Ideas and symbols – the Red Desert as pristine wilderness or desolate wasteland or rich mineral repository – power public place-creation. In launching a campaign to promote the region as the beautiful, ecologically-rich "Wild Heart of the West," non-governmental organizations such as Friends of the Red Desert and the Biodiversity Conservation Alliance and even the Sierra Club acknowledge that they have been working locally and nationally to "educat[e] the public and show them what's out there, so that we can burst this myth that it's just this empty void that's just waiting for drilling rigs and bulldozers to make dollars out of it" (BCA). These efforts seek to replace the perceptions that "'It's just the desert. If you gotta wreck someplace, it oughta be

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this place'" (BLM Rw 2) and that "there's so much open space out there, so much undeveloped space that we can afford to just carve it up willy-nilly" (Artist) with the recognition that "[o]nce you criss-cross the Red Desert with drilling rigs and a road to every well pad, it really will damage the place" (Artist) and that "[w]hen you let roads develop willy-nilly, there is a loss of solitude, and that solitude is a fascinating thing" (Bill Crump, quoted in Clifford 2002). Solitude and space are powerful values – ones that have caught the public's imagination and "generate[d] a response from people, even among people who have never even been to the place in dispute" (Cheng et al. 2003, p. 97).

People do not need to go to the Red Desert to develop a sense of the place because societal organizations have produced articles and brochures, slide-shows and websites to allow you to experience the place second-hand. These materials, which use specific locations as symbols for abstract ideals, are filled with facts and figures that promote a political position -- namely a Red Desert Citizens' Alternative that relies on the representative type of place attachment to advocate establishment of a National Conservation Area.

Maps of the proposed NCA place it outside of what some consider the Red Desert, however; people can't even agree on where the place actually is, much less determine what it means or how it should be managed. As one interviewee mused, "the ranching families I've grown up around say they're 'going out to the Red Desert,'[but couldn't say exactly where they were going out to]" (Rancher); perceptions of the location and extent range from a half-million-acre patch of rusty soil north of the Interstate – sometimes referred to as the "Red Strip," and "Red Desert Basin" – to a six-million-acre expanse that stretches all the way from Lander to the border of Colorado and encompasses much of the physiologically diverse Great Divide Basin. This geographic ambiguity makes it difficult to discuss policies, especially because the most-

often cited areas – including Adobe Town Wilderness Study Area and Desolation Flats Project Area – are not included in management documents. Officials express surprise and in some cases dismay to see "how [the Red Desert] has grown" in others' eyes (BLM RS 1).

Although the borderless name "Red Desert" sprawls across maps and exists as a different "geographic location…in [different peoples'] mind[s]" (BLM Rw 3), it evokes powerful memories of and expressions of attachment to very specific places. Much of the strength of the campaign to "Save the Red Desert" can be attributed not to societal valuation but to wise recognition for and use of personal experiences. Rather than simply advocate certain uses for the Red Desert, organizations have encouraged individuals to shared their stories in the public sphere – to recount their encounter with a moose (BLM Rw 1) or a golden eagle "out in the remote corners" (BCA); to reminisce about the time they "sat in camp one spring morning" (Wyoming Wilderness Association 2006) or "first drove off the pavement into the Red Desert…" (Jones 2005) or went "…trudging across the Killpecker Dunes" (Clifford 2002). Artists have shared their memories and interpretations at galleries; ranchers have delighted in "telling stories, out there in places" (Rancher). The group Friends of the Red Desert advises people to contact their governmental representatives not to spout out rhetorical positions, but to "[t]alk about personal experiences and what you enjoy doing in the Red Desert" (Friends of the Red Desert 2006).

Beyond simply using existing senses of the place, groups have focused much effort on getting people out on the land to experience it for themselves – to learn first-hand that "[p]hotos don't even do it justice. You can have great photos, but you really don't get the same sense of space and grandeur and scale" (BCA). Tourism brochures detail "Scenic Drives" and BLM hand-outs provide directions to particularly popular spots and websites offer suggestions for hiking destinations. Insisting that "[e]very Wyoming outdoors person must take a trip soon to

the Red Desert and experience the thrill and enchantment of hiking through the maze of Honeycomb Buttes without another person or sound but that of the wind" (Wyoming Wilderness Association 2006), Biodiversity Conservation Alliance offers a number of guided driving and backpacking expeditions. As a member of the organization described the strategy:

> *"The best way for people to feel investment in these landscapes and to understand the need to protect them is not to send them a ten-page diatribe or talk on the radio or be in the newspaper – that doesn't convey it. All you have to do is set people in front of this landscape, and without saying anything to them at all, they get it." (BCA)*

What is 'it'? According to scholars, it's a "construction" or "perception" or "interpretation" or "endowment of value" (Williams and Stewart 1998, Cheng et al. 2003, Davenport and Anderson 2005 and Stedman 2003, and Tuan 1977, respectively). According to those who have experienced the Red Desert, it's "a sense of the space, the sound of the grass, the smell of the wind" (Lillegraven 2007). It's a personal appreciation for a public place.

Our Deserts

You may not realize that the Painted Desert is your National Park and/or that the Red Desert is your public land. You may disapprove of boundary expansions and/or acknowledge the value of oil and gas. You don't need to get yourself stranded in the Wilderness Area or feel obligated to drive across Wyoming to understand that some people love these places, know them as their own but recognize that they're shared.

The difficulty lies in weaving personal experiences and values and places into a web of support for public land management practices. Thirty years ago, Tuan noted that "[w]e are in the habit of denying or forgetting the real nature of our experiences in favor of the cliché of public speech" (1977, p. 204); his observation still rings true today, especially in relation to public land management. It's far too easy for individuals to abandon their own stories in the public sphere

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and instead attempt to assert political positions; "Well I have a personal opinion," admitted one interviewee, "and I have a professional opinion" (BCA). Even citizens who are not speaking for and/or employed by any agency or group may find themselves reciting stock lines such "I urge you to adopt the Western Heritage Alternative for a revised Great Divide Plan that will balance industrial uses of *my public lands* with the needs of public recreation, clean air and water, and desert wildlife" (http://www.voiceforthewild.org/greatdivide/letter0117.html, emphasis added).

The sociopolitical sphere undervalues personal perceptions and beliefs, relying on cold, hard use of the term "our public lands" instead of intimate, passionate appeals for personal places. Yet individual experience and attachment is often what grounds and fuels debate over land management policies and procedures. I have learned as much as I can about the Red Desert and empathize with others when they speak and/or write candidly about their place. Because I haven't truly seen, smelled, felt the landscape, I haven't attached to it as they have, but when people want to show me their photos of Boars Tusk, I think of my Pilot Rock; when people tell stories of watching day break over the hills of Adobe Town, I hear echoes of my sunrise strolls, the quiet blush of the sky over Chinde Mesa; when I read about the impacts of road construction in Wyoming, I recall gingerly avoiding microbiotic soils in Arizona. When I talk to ranchers, scientists, managers, visitors, citizens about their perceptions of the Red Desert, I also tell them about the Painted Desert. It's an exchange, an inclusion. As Gary Snyder wrote, "our relation to the natural world takes place in a *place*, and it must be grounded in information and experience" (Snyder 1990, p. 39, his emphasis).

The theorist in me says that if you want to understand the conflict over the Red Desert, you need to ground yourself with both information and experience, to recognize it as a place. Read the official management documents and proposals for a National Conservation Area as

well as the formal statements interest groups have published in response; peruse the opinion

pieces and personal testimonies published in local and national media; talk to people about their

perceptions and positions; look at their photographs and listen to their stories; try to see the place

as others see it. But above all, *go* to the Red Desert. Stop somewhere, get out of the car, explore,

feel the ground, smell the sky, go, appreciate it as your desert too.

But go to the Painted Desert first.

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Interviewee Codes

Note: The interviewees were encouraged to discuss personal perceptions and opinions, not professional positions; titles and codes are used only for identification purposes, and are not intended to be read as representative.

BLM RS 1: Bureau of Land Management, Rock Springs Field Office. May 4, 2006.

    Length: 1 hour.

BLM RS 2: Bureau of Land Management, Rock Springs Field Office. May 4, 2006. 1 hour.

BLM Rw 1: Bureau of Land Management, Rawlins Field Office Range Management

    Specialist. May 5, 2006. 45 minutes.

BLM Rw 2: Bureau of Land Management, Rawlins Field Office Wildlife Biologist

    May 5, 2006. 1 hour.

BLM Rw 3: Bureau of Land Management, Rawlins Field Office Range Management

    Specialist. May 5, 2006. 1 hour.

Sportsman: Rawlins resident and sportsman. May 5, 2006. 30 minutes.

Rancher: Third-generation rancher. August 18, 2006. 30 minutes.

BCA: Biodiversity Conservation Alliance employee. September 6, 2006. 1 hour, 30 minutes.

FRD: Friends of the Red Desert employee. October 11, 2006. 30 minutes.

Artist: Laramie resident and artist. February 4, 2007. 1 hour.

Part 3: Producers of place and place-makers

Humans are place makers. It is hard to imagine living in a house or working in an office without doing something to personalize one's space and endow it with meaning that otherwise would not be there. There are countless agencies and organizations whose mission includes place making, and otherwise positioning an environment for a set of place meanings. Some of these organizations are self-aware of their place making. Others are not, and take for granted the place meaning as "out there" and obvious to all who encounter the site. The chapters of this section share stories of organizations who produce place meanings in intentional ways. They tell of place meanings as being actively created and evolving based upon social interaction of stakeholders and the discourse of their own making.

Amsden, Stedman, and Kruger provide insight on a volunteer-based education and restoration program known as "Streamwatch" in Alaska's Russian River. The original purpose of the program was to educate anglers on resource-friendly fishing activities, however as the authors indicate, the campground volunteers do far more than teach campers how to fish. Amsden et al. show that volunteers carry a strong place identity, and share their sense of place with visitors and with each other. Using a photo-elicitation technique, volunteers' sense of place grows with each visitor contact and is reinforced with their own group dynamics as part of the Streamwatch program. Likewise, visitors and managers witness the volunteer restoration activities that have direct effects on the resource, and learn about place meanings through their engagement with volunteers.

Hurley examines residential development purposely directed at creating a compelling sense of place. He examines regional and local processes that function to re-territorialize the meaning housing developments in Central Oregon. Zoning restrictions vary by county regarding

minimum lot size, which has implications to the place meanings of resultant homesites. Developers controlled amount of open space with a subdivision, their emphasis on planting native flora, and to some extent, the size and clustering of lots. In addition, in-migrants became active in conservation activities that further distinguish various environmental amenities of the subdivisions, and in doing so, influenced the senses of place. Websites, brochures, and word of mouth were instrumental as place making tools, and assisted in distinguishing various subdivision themes, such as the Old West, the ranching lifestyle of Oregon, agricultural or pastoral Oregon, and living in harmony with the land, to name a few. It is clear from Hurley's chapter that place making is something that involves everyone who lives in a locale whether they know it or not.

Stickney's chapter is written from a watershed manager's vantage point. She characterizes the strong place identities of villages in Northern Vermont, Upstate New York, and Southern Quebec who are part of the Lake Champlain watershed. Through a strong network of citizen-based action committees who work closely with their local and regional governments, Stickney portrays a way in which micro-level senses of place lead to a strong regional place identity. It is important that Stickney recognizes the worked landscape of which she writes; she knows the levels of pollution and degradation of the watershed across her management area. This is a landscape in which the place identities are hopefully progressive, and motivated to make Lake Champlain get healthier. Stickney details development of agreements and memorandums of understanding across the various units of the watershed. Nothing is binding, nothing regulated, yet the place-based management works. It is an inspiring depiction about an engaged group of citizens and committed set of local governments to produce its sense of place.

Place-based management is about place making. Place meanings are authored by the people and organizations who live, work, and are affiliated with the place. Because place meanings evolve and are in a constant state of flux, the core of place-based management is an engaged group of stakeholders. The chapters of this section illustrate various contexts for place-based management, and provide windows into their style of engagement.

Volunteer meanings in the making of place

Ben Amsden, Rich Stedman, Linda Kruger

Abstract: Volunteers have an impact on the places and landscapes in which they work. Volunteers create meanings that emerge from the place, the activities in which they are engaged, and the institutions they represent. Volunteers may spend a weekend maintaining a trail or serving as a summit steward with implications to their self-identity as a "helper" or "protector" of an environment. The relationships between their place meaning and identity creation are related, and have consequences for the conversations they have with visitors and managers regarding their sense of place. The place meanings described by the Streamwatch volunteers of Alaska's Russian River are organized into four themes: (1) How the river campground is "supposed" to be, (2) the campground as a place to teach and give back, (3) the campground as a social space for volunteers, and (4) recreational meanings of the Russian River and Cooper Landing. Volunteers used their work with Streamwatch to "make place" by directly changing the landscape through restoration work, and communicating, thus re-creating the landscape, by teaching others.

Cooper Landing, a town of roughly 400 year-round residents, is tucked deep inside the heart of Alaska's beautiful and rugged Kenai Peninsula. For many visitors to Alaska, Cooper Landing is a destination because of the Russian River, a twelve mile span connecting the Upper Russian Lake with the Kenai River. The point of confluence of the Russian and Kenai rivers is one of the most popular fishing areas in Alaska, due to both its proximity to Anchorage and its abundance of trout, Coho salmon, and Sockeye salmon, all of which run the river in numbers averaging over 60,000 fish per year (Alaska Dept. of Fish & Game, 2007). During the height of the season, which runs from April to August, over 1,000 fishermen can be found fishing the river at the same time, oftentimes standing shoulder to shoulder along the banks of the river. These fishermen harvest nearly one-half of the salmon run, a total often averaging over 30,000 fish (Alaska Dept. of Fish & Game, 2007).

Because of the popularity of the Russian River and the sheer volume of fishermen, several issues threaten the area. Trampled vegetation and resulting erosion threatens the fish by eliminating shade, warming the water temperature, and increasing the speed of the current (Alaska Dept. of Fish & Game, 2007). What is more, the byproducts of this and other recreation activities (such as fish-cleaning waste,

human and dog waste, and litter) attract large numbers of bears and seagulls. To combat these issues, a volunteer-based education and restoration program known as "Streamwatch" was established along the banks of the river. This volunteer program, implemented in 1994 by the US Forest Service, placed volunteers at the Russian River Campground to educate fishermen in resource-friendly fishing practices. By 2005, the program included 39 volunteers, most of whom worked one-day shifts, for periods of up to two weeks at a time.

Why are management programs like Streamwatch, and the volunteers who staff them, important to discussions of place and decision making? The answer lies in the impact that volunteers have upon the places and landscapes in which they work. Clearly, the economic importance of volunteers is obvious - without the (nearly) free workforce that volunteers represent, many programs would not survive. Less obvious is the idea that volunteers, in effect, are "making" place. To do this, volunteers create meanings that emerge from the place, the activities in which they are engaged, and the institutions they represent. From a management perspective, this place-making process is of great importance because the landscape in which a volunteer program operates will thus be re-made or re-interpreted, at least in part, through the lenses of these meanings. This chapter addresses the concept of "making" place, using sense of place theory, volunteer meanings, and a recent qualitative study of ten Streamwatch volunteers to describe the place-making process as it emerged along the Russian River.

Sense of place, volunteer meanings, and the place-making process

People often maintain a deep connection to the places in which they live, work, and play. This *sense of place* is built upon the meanings people create as they directly experience and interact with the multiple settings and activities that define their day-to-day lives (Relph, 1976). These settings and activities can be directly experienced, such as a walk on a hiking trail or a crowded city street, or they

can be symbolic, such as a memory of visiting a far-away place that represents past experiences or shared values. The settings and activities that drive sense of place often work in tandem – in many cases place meanings often merge a setting (workplace, home, or public beach) with a specific corresponding activity (earning a living, raising a family, or engaging in leisure).

Volunteering is a perfect example—and one that is little studied—of an activity that, in combination with an important setting, creates place-based meanings. Interacting with a special place informs how people view themselves in terms of the environment around them (Proshansky, 1978; Stedman et al., 2004). This is akin to the creation of place-based identity (Gooch, 2003), which gives volunteers a sense of what they are doing and why (Glynn, 2000). For instance, while activities like boating, hiking, and hunting in a national forest may help a young person develop an identity as an "outdoorsperson," a weekend spent maintaining a trail or serving as a summit steward in that same forest may lead to an identity as a "helper" or "protector." This relationship between place meaning and identity creation is in keeping with the social-psychological literature on volunteering (Piliavin & Callero, 1991; Glynn, 2000; Penner et al., 2005).

Volunteering also creates place meanings that are embedded in both *social* and *personal* contexts, oftentimes simultaneously. These contexts help people use their volunteer activity to realize personal goals and to strengthen social ties. Much of this depends on whether the volunteer is working alone or in a group. When working alone, volunteers participate in activities that closely reflect their personal history and sense of self (Hustinx & Lammertyn, 2003). On the other hand, when volunteers are acting in a group context (such as a group of co-workers volunteering together one Saturday on the trail), they may focus more on the development of social ties and the organizational structure of the activities in which they engage (Wilson, 2000). Further, meanings and identities may be social in the

sense of the participant viewing him or herself as a member of a group, including the institution or agency that one represents.

Ultimately, place meanings influence the processes and outcomes of making place through volunteer work. When volunteering, people create and contribute to the settings and landscapes of their lives and communities either directly (through work activities such as building a bridge, or painting a home) or indirectly (teaching their children, or helping a neighbor in need). For example, imagine a group of volunteers who come together once a month to perform maintenance on a long-distance hiking trail that runs through their home state. As they work, they make place directly by removing blowdowns, cleaning waterbars, and trimming brush. In addition, over the course of the day they also make place indirectly, by sharing skills and ideas with each other and sharing their insights with passing hikers. The meanings which have arisen from the volunteer activity itself (e.g., developing an identity as an "outdoorsperson," finding a new social network, or developing advanced skills) have influenced the place-making process by giving the volunteer a foundation from which they engage in their work and interact with (teach) others.

The example of volunteers on the trail also reveals why the place making process and the meanings that inform it should interest managers. First, the feelings and attitudes that volunteers hold towards the place in which they work can influence how visitors or other users feel about that same place. For instance, the perceived importance of a historic landmark can be created, enhanced, or diluted when a volunteer tells a visitor how they "ought" to perceive a certain feature of that landmark. Additionally, meanings come into play when visitors to a park or forest or other natural area encounter interpretative, volunteer-delivered programming telling them what is "important" about that particular place. These social interactions, especially when they occur between people with different backgrounds, perspectives, or levels or training (as often exists between volunteers and the visiting public), can make

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a substantial contribution to visitor perceptions (Williams & Patterson, 1999). Managers can thus use volunteers to spread their preferred message.

Understanding the place-making process requires the deciphering of a complex recipe that includes the volunteer setting, volunteer activities, and volunteer meanings. The specific questions at hand are: What are the place meanings that emerge from the Russian River setting and the Streamwatch volunteer activity? How do they inform the place-making process? What does the making of place by volunteers mean to resource managers? Finally, why should managers care?

Studying the Streamwatch volunteers

To learn more about the Streamwatch volunteers' place meanings, data was collected in the summer of 2005 by using a technique modeled after the approach of Stedman and Beckley (Stedman et al., 2004; Beckley et al., 2007). The process entails qualitative analyses of photographic images and interview text.

Ten volunteers were chosen using a purposive sampling technique established in conjunction with the Forest Service manager who was serving as the Streamwatch liaison. (A group of non-volunteer local residents were also chosen for a larger study.) Purposeful sampling is a technique "in which particular settings, persons, or events are deliberately selected for the important information they can provide that cannot be gotten as well from other choices" (Maxwell, 1998, p.126). Participants were issued single-use cameras and asked to capture elements of their daily lives and their volunteer work that provide the most meaning, or that would be most missed if they were to move away. In addition, they were encouraged to photograph anything that represented why they volunteer, or demonstrated what they most would miss if they ceased volunteering. Once the cameras were collected from both the residents and the volunteers, follow-up interviews were conducted in order to review the photos and

retrieve the personal story behind each one. Interviews lasted between forty-five minutes and three hours. Discussion of each photo centered on getting the respondent to "describe the content of the picture, what they were attempting to represent, and why they took it" (Stedman et al., 2004, p.588). During the interviews, participants were free to explore tangents, tell stories, bring in other people (several respondents chose to include their spouses in the project), or provide additional materials (usually in the form of notes or additional photographs). By conveying their place meanings both visually and verbally, the participating Streamwatch volunteers were able to *show,* instead of just *tell*, specific details of the places that were important to them. Volunteers could also use their photographs to capture multiple details about each important place or to remind themselves of what (or who) they felt was important.

<center>Findings: Volunteer meanings and the making of place</center>

The place meanings described by the Streamwatch volunteers were organized into four themes. Each theme connects place and activity, linking the important places in and around the Russian River with the meanings that emerged from participating in the Streamwatch program. In addition, these four themes show how meanings contribute to the making of place. The first two themes, *The Russian River: How it is "supposed" to be* and *the campground as a place to teach and give back*, demonstrate how volunteers use their meanings to create place both directly, through hands-on activity, and indirectly, through interpretation and teaching. The second two themes, *the campground as a social space: Interacting with like-minded volunteers* and *recreation at the Russian River and in Cooper Landing*, have additional implications for volunteer theory, as they reflect both new avenues for public participation as a form of volunteering and new perspectives on the leisure motives and benefits that drive volunteer activity.

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The Russian River: How it is "supposed" to be.

The Russian River as a setting for the Streamwatch program was very important to the volunteers as both an actual setting and a symbolic meaning. As a setting, it embodied a wide range of both past and present experiences, both volunteer-related and not. As a meaning, it symbolized the importance the volunteers placed on the immediate preservation of the natural resources of Alaska. To Martin[3], a retired volunteer from Anchorage, this preservation meant working to restore the landscape to the way it was before human impact. The following photo is of a little-used hiking trail leading into the wilderness:
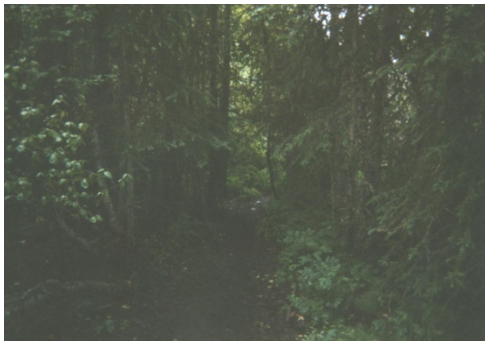
"The White Trail is actually detour trail from red trail to power line. It's a rainforest. Amazing. Makes you think about what it was like. So unique. I want to keep it as it is."

Martin suggests that the trail was important because it represented how the landscape might have appeared in the past. By participating in Streamwatch, Martin could express this vision via restoration of the natural area. A similar example was provided by Dave, a five-year volunteer whose photo portrays a "keep off" sign that has almost been overgrown by the vegetation it was designed to protect:

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[3] Names have been changed to preserve anonymity.

"Signage that was put up for restoration. See how much it's improved over the years. There was nothing there once. Facing nothing but dirt before."

The meaning of Streamwatch as a vehicle for preserving the landscape also sheds light on why certain volunteers participate. For instance, some engaged in the restoration of the river because of their enduring love for it. Sarah, a 66 year old retiree who had been with Streamwatch for five years, provided the following photo of a riverbank, suggesting that her love for the river was a primary reason why she participated in Streamwatch:

"Cottonwood corner up close and foliage. Improvement is the best here because it's where the people are. Would still do it because we just love the river."

The idea of "love" for the landscape was articulated by several participants. One of the more interesting examples came from Dave, who provided a photo of a place he loved so much that he wanted his ashes spread there. This love fosters his actions, as he wishes to see other people "appreciate it more:"

"Scenery where my ashes will be scattered. Hopefully people will appreciate it more. Stop and look at these things."

In addition to holding meanings involving the protection of the natural landscapes around the Russian River, people were connected to the wildlife in the area as well. As was the case with the photos taken by residents of Seward in the larger study, a photo did not necessarily have to include an image of an animal in order to have an attached wildlife meaning:

"Stairs going down. Look for bear. Mama and three cubs. Fascination of being here is with wildlife. Cameras are the best bear repellent. No close encounters."

Even though the bears are not in the photo, they are clearly the focus of both the photographer and the people huddled together along the trail. The following photo, taken by Sarah, also invokes the importance of wildlife (without capturing them in the image):

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"Merganser with baby but no camera. Male is sitting on a rock. Fascination with wildlife and birds."

While wildlife was an important component of the natural-resource based sense of place of the volunteers for personal reasons, it was also important because of what it meant for their work with Streamwatch. Charlotte, a 62 year old resident of Moose Pass who was in her ninth year with the Streamwatch program, encountered this black bear exploring the campground:

"Black bear. Impacts what we do. This year overwhelming. Bears up in campground too. Warn people. Try to make them understand. This experience makes people aware."

Her main point is that the existence of bears around the area adds another element to her work as a Streamwatch volunteer. Warning visitors about bears is one of the primary responsibilities of the Streamwatch program, and is therefore a primary ingredient of how

volunteers relate to the landscape. The following photos show the interrelationship between other animals and the Russian River's "bear problem:"

"Gulls are part of the bear problem. They pull the fish carcasses out for bears. People don't mess with them (bears)."

In summary, the meanings and experiences surrounding the natural landscape in and around the Russian River involved both protection of the land itself and protection (through successful coexistence) of the wildlife that inhabit the area. This idea that volunteers are working to ensure that things stay as they are "supposed to be" has multiple theoretical implications. First, it is a very direct form of participatory volunteering. Some volunteers change the place through indirect activities such as attending meetings or advocating for management change. In this case, the Streamwatch volunteers are engaging in a direct form of public participation for the preservation of the Russian River landscape. Second, in terms of making place, it represents a hands-on, direct approach. By building boardwalks, installing fences, and removing trash, volunteers are (re)creating the Russian River in ways that are important to them– clean, neat, the way it is "supposed to be." This is both accomplished and taught through volunteer work.

The campground as a place to teach and give back.

Another place meaning described by the Streamwatch volunteers involved their ability to construct and maintain the role of "teacher." One of the major requirements of the Streamwatch program was to educate fishermen in resource-friendly fishing practices, and help visitors avoid the attention of the many bears that populate the area. To this end, volunteers would patrol the boardwalk, observing behaviors, engaging in interpretation, answering questions, providing assistance, and offering advice. This opportunity to "be an expert" about the facilities, the agency, and the Streamwatch mission was of great importance to volunteers. In some cases, this was symbolized by the campground itself:

"This program works to save the river. I'm privileged to be part of it. I like people and educating."

In other cases, it was symbolized by the process of volunteering. Megan, a middle-aged resident of the nearby town of Moose Pass, indicated the importance of teaching fishermen about bears. She suggested that while some fishermen were resistant to the information, most were responsive to the larger message.

"Warning people about bears, teaching them about what we do. They are hesitant. 75% are responsive to the message. Cross-section of people. Most people are in awe of the place so they listen."

Charlotte, the 57 year old volunteer from Cooper Landing, also mentioned the receptiveness of the fishing public:

"Three generations. Let them know about Streamwatch. Most people are receptive to message."

The photos and interviews suggest that the volunteers see their work as that of a teacher, not an enforcer. Additionally, they also described meanings centered on the importance of protecting the facilities that people (including the volunteers themselves) frequently use. This was often couched in terms of "giving back," or working towards the upkeep of facilities that they themselves have used in the past. Many volunteers saw facilities built by the Forest Service along the river as a public good, and felt a strong connection to their role as maintainers. Martin provided an example of just such a facility, with

a photo of a staircase that was built to ease the erosion of a steep trail leading from the parking lot to the river:

"Grayling stairs facing up. To show improvement of area. Used to have to climb the bank. Caused erosion. Can keep and restore."

Martin felt that facilities such as this complimented his landscape-based meanings centering on the restoration of the shoreline. At another point in his interview, he conveyed pride in his role in the upkeep of the facilities, in part because he felt he had contributed to the overuse of the Russian River in the past. By participating in the Streamwatch program, and helping to build and maintain the boardwalk and the staircase, he could give back to the place that once upon a time had given to him. Sarah, like Martin, felt that the some of the facilities in and around the Russian River were symbols of the area's restoration:

"Boardwalk. Sign of comeback. Shows how well it's doing."

The meanings surrounding the act of teaching and giving something back also manifested themselves in the volunteers' perceptions that they were an important part of something official. The volunteers were given official-looking uniforms and materials, so that many members of the public could not easily distinguish between the volunteers and full-time rangers. According to one of the Forest Service managers overseeing the project, this was done on purpose to provide a sense of authority and expertise that make the volunteers more convincing to the general public.

Several of the photos and interviews showed that the volunteers took pride in the "official" nature of the project. The installation of the pre-printed, professional-looking signage captured in the following photos made Megan feel good about her role, and the commitment of the Forest Service to the Streamwatch program:

"Official signage helps get the point across. The Forest Service has done a good job with the signage. They evolve and things get updated. People are taking time to read the signs."

The next photo, taken by Sarah, is also of a pre-printed sign, but the volunteer's connection to it is different. While the previous signs were important because they were official-looking, this sign is important for what it says. It presents a "before and after" scenario for that part of the river bank.

"Sign shows what's happening. Bear corner. Same as cottonwood corner. Shows the "before." So you can see for yourself. Most walk by, but some read. Explains basics."

Later in her interview, Sarah indicated that the content of this sign made her feel "official" because it offered her a chance to participate in interpretation, which she perceived as an activity usually reserved for paid Forest Service staff. She was proud of her expertise, and happy to share it in an "official" capacity.

In summary, the volunteers shared the common meanings of trying to be teachers tasked with spreading the Forest Service message. This shared identity, based on the Streamwatch mission of resource conservation and shoreline protection, is dissimilar to other place meanings because it is centered more on the activity—and the pride associated with it—than on the specific place. However, the Forest Service created the Streamwatch program to protect a specific place. This suggests that the roles played by both the agency and the volunteer are more than just managers of a resource – they are place makers that use their teaching-based meanings (and the experiences and behaviors that inform them) to influence how the place is perceived by others.

The campground as a social space: Interacting with like-minded volunteers.

The third important theme describing the meanings held by Streamwatch volunteers

involves the importance of the friendships and relationships cultivated during the volunteer

experience. Representing fun, solidarity, and purpose, the act of creating and maintaining

friendships was revealed to be one of the highlights of volunteering in the Streamwatch program.

Many participants suggested that seeing familiar people was one of the main reasons they

returned to the Streamwatch program each year. Marissa, a volunteer in her mid forties,

provided an example of the social aspect of volunteering by providing a photo of two other

volunteers staying at a nearby campsite:

**"This is Tom and Elaine. They camp with us. We like the social aspect of meeting other volunteers. When we
started, we already knew some folks, but have met more."**

In addition to maintaining friendships, the "teamwork" that took place among the fellow

Streamwatch volunteers was an important benefit with social meaning for many participants. Charlotte

gathered several Streamwatch members for a group photo:

"Streamwatchers. Met all these people through Streamwatch. Our friends joined later. Relationships are the reason you come back. Teamwork."

An important person within this group photo is Alicia, the Streamwatch Coordinator and liaison between the volunteers and the Forest Service. Alicia was held in high esteem by the Streamwatch volunteers, as evidenced by the substantial number of photographs containing her image:

"Alicia. She's an important reason people volunteer. Has done much. She'll be missed. Handles volunteers well. She's making them comfortable and equipped. We're adequately trained… Sorry she's leaving. Absolutely. She's generous and wonderful."

Alicia was important to the Streamwatch volunteers for three reasons. First, they saw her as a dependable and expert presence upon whom they could rely for advice, instruction, and resources. Second, they felt that she did a good job training and recruiting volunteers, by accounting for differences among people and doing her best to accommodate their various needs. Third, and most importantly, many of the volunteers considered her to be a good friend. Ultimately, Alicia was one of the reasons the

volunteers returned to Streamwatch each season. Alicia was due to retire at the conclusion of the summer in which this research was conducted, and several volunteers indicated that she would be missed.

Other social meanings conveyed by the volunteers had to do with how they were rewarded and recognized as a group by the Forest Service. The following photo is of the picnic pavilion at the campground, which was the site of the annual volunteer picnic, an event held to recognize their participation in the Streamwatch program. Meredith, a 60 year old resident of Cooper Landing, and Dave, the 56 year old retiree, both provided photos of the picnic pavilion:

"Pavilion. Where the picnic is. Sponsored by sport fishermen association. Thank you gift, same for everybody."

Both Meredith and Dave felt the annual picnic was an important reward for two reasons. First, it allowed them to catch up with other volunteers who they may not see often. Second, the picnic served as an official "thank you" from the Forest Service and the Kenai River Sportfishing Association. As with other areas of volunteering, the rewards gained from participating in Streamwatch were less about place and more about the activity. This suggests that regardless of where volunteer activity takes place, the attachment to rewards will be the same. Perhaps, the rewards are an important social meaning, one that inspires volunteers to continue their volunteer efforts.

Social meanings could also be political in nature and connect the volunteers to local citizen interests. Carter, a 47 year old resident of Cooper Landing who had been with Streamwatch for five years, provided a photo of a gated roadway. He spearheaded an effort to persuade the Forest Service to unlock the gate, allowing passage to local residents. In this case, the political relationships that resulted were important contributors to his sense of place, as was his pride in his fellow volunteers and what they were able to accomplish as a group.

"Most important! Took a year to get around sign. Really proud of government people – Nelson has been spectacular. I did it, I got past, thanks to their help. This happened because of volunteers."

In summary, the process of interacting with like-minded others in and around the campground results in place meanings that invoke friendships, strong connections to the Forest Service liaison, group rewards, and community-based volunteering outside of the Streamwatch program. Because volunteering conjures up such important social meanings, managers can participate in the place-making process by paying attention to interpersonal relationships and group dynamics within their volunteer program.

Recreation at the Russian River and in Cooper Landing.

Finally, several of the Streamwatch volunteers saw their efforts as a form of recreation. This was evidenced by the recurrence of images depicting the complimentary campsites provided to those Streamwatch workers who lived outside the local area. The following photos show the RV spots available to Streamwatch volunteers and the Russian River Campground itself:

"Actual campsite and motor home. Screen porch, private. Lots of room for enjoyment."

"Campsite #59. Forest Service gives us the site. A.R.M. is the campground subcontractor. These are amenities that allow us to do this. We couldn't afford it otherwise."

The free campsite was important to the Streamwatch volunteers for several reasons. First, they felt that receiving use of the site made their volunteer efforts seem less like work, and more like recreation. After their shifts, they could return to the campsite and engage in the same recreation activities as everyone else. Further, receiving the site for free helped many of them afford participation in the project, since the cost of a normal two-week reservation at the campground is in excess of two hundred dollars. Finally, it fostered connections with other volunteers. In many instances, volunteer shifts would overlap, and as a result other volunteers would share the site. This resulted in strengthening old friendships and developing new ones.

In the case of the campsite, recreation was peripheral to the volunteer activity. Volunteers did their work, and were rewarded with an opportunity to recreate. In other cases, the act of volunteering was concurrent with recreation, an opportunity to both do some good and participate in a favorite activity at the same time. Dave provided the following photo which symbolizes why he and his wife volunteered:

"My wife and I on the river, fishing for reds. One of the reasons that we volunteer is to keep fishing."

In summary, the meanings surrounding recreation involved volunteer activities both in and outside of the Russian River campground, and in many cases had nothing to do with volunteering in the Streamwatch program. This suggests that, put simply, volunteering is a form of fun, providing pleasure and enjoyment much like the fun that people have in other areas of their lives. In fact, volunteer activity, in this case, is almost a means to a recreational end (i.e., participating in Streamwatch in order to camp or fish). However, not all volunteers saw their work in that way. As described below, some volunteers saw their work as a combination of both recreation and fulfillment. It may be these types of volunteers who have a stronger role in making place through recreational activity.

Discussion

This chapter has addressed how place meanings emerge and how they inform the place-making process. The place meanings held by the Streamwatch volunteers were organized into four themes encompassing preservation/restoration, teaching, socializing, and recreating. These meanings emerged jointly from the nature of the experience (participation in the Streamwatch program) and the setting (the Russian River) where those experiences occurred. In addition, volunteering in the Streamwatch program also helped volunteers' legitimize important identities as "teacher" or "protector" of a specific setting. In this case, the volunteers chose the Streamwatch program because it allowed them to combine being in an important place with an activity that helped them create or express important identities. The volunteer participants also saw Streamwatch as a way to combine their love for the Russian River with their need for social connection, using the program as an outlet to search for new opportunities for social growth. This growth came about through the creation of new, teamwork based relationships with fellow volunteers, which helped the volunteers feel as though they were making an important contribution to a greater, place-based good.

The photos and interview text show the volunteers using their work with Streamwatch to, in effect, "make place" in several ways. First, they directly change the landscape by engaging in restoration work: they give their time and skills back to a resource that they felt had given much to them. Second, they communicate and interpret place, thus re-creating the landscape by teaching others. What can managers learn from this place-making process? First and foremost, the Streamwatch volunteers who participated in this research see the act of volunteering in Streamwatch as recreation, reflected by the numerous pictures of the campsite where they stayed and the repeated referrals to the "fun" of the program, the enjoyment of seeing wildlife, and the act of socializing with others. Their image of place is

one of fun, so perhaps managers should focus on opportunities or programs that continue to establish the Russian River as a "fun" place to volunteer. Additionally, the volunteers' identities as experts and professionals (established by the uniforms and training) mean that managers should continue to provide opportunities for volunteers to emphasize the "official" nature of the work.

Managers themselves could use a written handbook for recruitment that makes use of place for volunteer recruitment, possibly instructing managers to use place descriptions to entice potential volunteers. It could include a training manual, with a section on developing and sharing place-based information in a "teaching" style. Managers could also make use of a manual of best practices aimed at the long-term retention of volunteers in specific places. In the long term, observing how these materials work will also help managers gain a basic understanding of how activities, place meanings, and social relationships inform the place-making process in which volunteers engage. Further elucidating the connections between volunteer activity and sense of place will help the volunteers themselves better understand what they do, providing a means to achieve repeated, satisfying, and fulfilling volunteer experiences.

The Streamwatch program has been successful because of the hard work, dedication, and enthusiasm of the volunteers. This photographic approach to the study of their meanings and their roles in making place provides a useful starting point for natural resource managers and decision-makers, giving them a perspective from which they can better reach out to the volunteers who are becoming more critical to the future of important places like the Russian River. As budgets shrink and services decline, it makes sense to look for new and innovative ways to reach out to those who have donated time and energy to the special places they find so important.

Finally, it is crucial to consider the sources of these volunteer meanings, and the degree to which they are free to express them. Volunteers are socialized into their activity and the institution they

represent. As such, the meanings they hold for the landscape and the act of volunteering are not exactly

created from a blank slate: the position of the management agencies (such as the Forest Service) are

reflected in their actions, as their volunteering activity is shaped by official requirements. Thus, although

meanings may be created from experience, these experiences are structurally influenced. In this sense,

volunteers—and the meanings they make—may further manifest agency goals and visions. Their

identities as "teachers," rather than "enforcers," may foster public receptiveness to their efforts.

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A political ecology of place making in Central Oregon

Patrick T. Hurley

Abstract: Much attention has been paid to urbanization within the United States in recent years, particularly to concerns about the impact of sprawl on the environment and its role in transforming place. Yet, research on the alternatives that emerge in response to concerns about the impacts of traditional development practices is still limited. Using a political ecology framework, this chapter examines the role that sense of place and amenity migration play in creating alternative residential development, particularly the idea of conservation subdivision, in parts of the American West. Using a number of case studies from Deschutes and Wasco counties in Central Oregon, the chapter demonstrates the ways that "sense of place" and the meanings that people place on their environments are tied to wider political economic changes. It highlights the role that amenity migrants and developers, two groups that are sometimes one and the same, play in landscape transformations that both draw upon a particular sense of place and simultaneously (re)commodify these landscapes. The chapter also highlights additional areas for potentially fruitful study of the ways sense of place can inform urbanization research.

Much attention has been paid to urbanization within the United States in recent years, particularly to concerns about the impact of sprawl (unplanned or uncontrolled commercial and residential growth) on the environment and its role in creating a "placelessness" or "geography of nowhere" (e.g., Kunstler 1993, Duany et al. 2000). Indeed, concerns about the general process of urbanization now extend to diverse urban spaces and the myriad ways that residential development reworks local ecologies (see e.g., DeStefano and DeGraaf 2003, Theobald 2004, Johnson and Klemens 2005), including habitat loss, fragmentation, alteration, and declines in the species that require specific characteristics associated with these habitats (Noss and Cooperider 1994, DeStefano and DeGraaf 2003, Randolph 2004). In response to these concerns, a number of new development approaches have emerged, often grouped under the heading of "new urbanism" (McCann 1995, Zimmerman 2001, Till 2001, Randolph 2004), that feature a range of design features that are intended to minimize impacts on the environment (Arendt 1996, Randolph 2004, Bjelland et al. 2006).

But what role do sense of place and amenity migration play in the efforts to create alternative residential development in the urbanization process in the American West? In the spirit of work by Bjelland and co-authors (2006) who studied "the production of suburban alternatives" within the context of Minneapolis, this chapter explores the way that the developers draw sense of place to create new residential developments. Using literature in political ecology, I focus on the relationship among amenity migration, trends in environmental management in the urbanization process, and the use of sense of place by individual developers to create amenities in residential developments. The chapter examines projects from Deschutes and Wasco counties in Central Oregon that highlight the intersection of regional social-economic processes and the ways that these fuse with sense of place to produce development alternatives that (re)commodify landscapes in particular ways. In doing so, I highlight the need for sense of place researchers to engage with and examine processes of urbanization and the diverse place meanings that are produced (and potentially contested) within diverse residential developments.

The Urbanizing American West

Political ecology is an emerging field that examines "linkages between social systems and ecological systems" (Berkes 2004: 624), by combining "the concerns of ecology with a broadly defined political economy" (Blaikie and Brookfield 1987: 17). This integrative concern emphasizes the need to understand the dialectical relationship between society and the social-political complexity of changing human-environment interactions (Paulson et al. 2003). In studying the environment, political ecologists generally understand the environment as biophysical phenomena associated with the planet Earth "together with human knowledge and practice" (Paulson et al. 2003: 205). In this way, the environment is not merely something "out there" and separate from humans, but instead is something of which humans are inherently a part

and about which humans accrue knowledge through different modes of interaction. Likewise, political ecology acknowledges that biophysical environments are produced through *politics* or "the practices and processes through which power, in its multiple forms, is wielded and negotiated" and that "politics are related in various ways to social relations of production and decision-making about resource use… [T]hese are exercised in diverse arenas, on multiple scales, and infused with cultural knowledge and value." From this perspective, political ecology views the actions of individuals as *conditioned responses* to scalar processes that range from the local to the global.

Environmental management practices have long been at the heart of political ecological inquiry (see e.g., Peluso 1992; Neumann 1998, 2004; Goldman 2004). A key feature of this research lies in explicating the logics that determine what counts as nature and what constitutes appropriate environmental management. According to Zimmerer (2000, see also 2006), a key feature of global environmental management today is the proliferation of "nature-society" hybrids, which represent the proliferation of new schemes, including a pervasive use of land-use zones and associated practices that "contain in space" specific human practices (e.g., hunting, farming, housing). While Zimmerer's discussion focuses primarily on the conservation of biodiversity in the developing world, these insights reveal the complexity of emerging environmental management practices, including human-dominated landscapes, that are "for the management of biogeophysical impacts and the *expansion of markets*" (page 359). Zimmerer links the production of these "nature-society hybrids" to processes of globalization-nationalization and privatization-commodification, which rest on particular constructions of environmental scarcity and sensitivity and the need for private enterprise to value these resources efficiently.

To date, however, little work in political ecology on environmental management has engaged with sense of place or explicitly explored the way sense of place might reveal the diversity of "nature-society hybrids" in a particular region (Walker 2006). One exception is the work of Maureen Reed (2007 a, b), who I draw on here. Reed (2007a) examines two different rural areas in western Canada, where efforts to form biosphere reserves result in what she describes as "uneven environmental management." In comparing the formation of these reserves, Reed discusses the role that diverse social actors play in constructing particular environments as worthy of protection and constructing particular forms of management as appropriate. While forestry goals and management in the British Columbia case are being reworked by broad array of activists, scientists, First Nation groups, and governmental officials, lake and wildlife management in the Alberta case is dominated by land trusts and local and government neglect. Reed's work demonstrates the different configurations that result in Alberta and British Columbia. These configurations highlight both the tensions that emerge between the civic sector and private forms of environmental management, including by national land trusts, and their links to the processes of globalization-nationalization and privatization-commodification described by Zimmerer (2000).

By taking a comparative perspective, Reed further reveals the need to pay attention to the role that regional processes play in shaping the "formal and informal institutional arrangements" that characterize environmental management of a given area. These processes include property exchanges associated with changing regional economies and demographics, the ways these changes influence the valuation of land (i.e. differing forms of commodification and ways of marketing nature), the rules and norms that govern formal planning and land-use decision making, and reterritorialization or the social process through which rules are established that

govern natural resource access, use, and production. Thus, the research of political ecologists generally and observations by Reed specifically raise questions about the role that "sense of place" and environmental management play in reconfiguring residential development and urbanization in particular areas.

<p style="text-align:center">"Sense of Place" and Environmental Management</p>

Studies focusing on "sense of place" have often sought to better understand the meanings and attachment people place on their environments, including satisfaction with where people live and the perceptions people have about environmental quality and degradation (Kaltenborn 1998, Williams and Stewart 1998). First, sense of place scholars have demonstrated the role that both biophysical environments and political contestation play in changing these meanings and perceptions (Stedman 2003, Larsen 2004, Johnson et al 2008), including recognition of the importance that sense of place plays in land use decisionmaking (Stewart 2008). Second, from a place-based perspective, researchers have shown that meanings are multi-layered and complex, with different meanings for the same location open to efforts by individuals or groups "to manipulate and market" their own set (Cheng et al. 2003). Finally, Cheng and coauthors (2003) recognize the need to move beyond studies anchored in a narrow environmentalist-industry duality, particularly as they relate to issues associated with the management of the environment.

Examinations of the politics associated with changing place meanings and management stress the role that power and access to capital play in creating particular meanings for a place among the communities that inhabit particular locations (e.g., Harner 2001). This approach resonates well with political ecological understandings of environmental change and management, because it makes explicit the relationship between power, including flows of capital, and the ways that what counts as appropriate uses of the environment derive from the

ability to shape the meanings attached to particular places (Blakie and Brookfield 1987, Robbins 2004). Drawing on insights from political ecology, Johnson and coauthors (2008) demonstrate the importance that ideas of ecological integrity and the importance of conserving globally important ecosystems play in forging new place meanings for long-term residents in a given location. Their findings suggest that processes of in-migration and urbanization, the efforts to protect particular natures by specific groups associated with different sides of this process, and the actions of individuals and groups collectively to market their meanings are indeed important to the formation of specific place meanings and efforts to shape new urbanization patterns.

Restless Landscapes and the Role of Design in "Quest(s) for Authentic Place"[4]

Among the new features of urbanization associated with what Bjelland and coauthors (2006) call the "quest for authentic place" are a number of "conservation design" principles. First, site plans alter the layout of lots (pattern of development) to avoid areas that are deemed to have conservation value—sensitive environmental resources (e.g., biodiversity, natural habitats, wetlands, riparian areas), natural resources (e.g., agricultural land, timberlands, grazing lands), or recreational opportunities (Arendt 1996, Bjelland et al. 2006). Second, developers may limit lot sizes to maximize open space. Third, projects often but not always cluster lots together to further increase the size and contiguity of open space. Fourth, prohibitions on future development are placed on areas designated as open space or commons. These prohibitions may be in the form of deed restrictions, through conservation easements held by a local government or land trust, or sale of the land to a land trust or government agency. Fifth, homeowner bylaws may encourage a range of ecologically appropriate interactions by residents, both within conserved areas and on their own property (Arendt 1996, Theobald et al. 1997). Taken together, these design features

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[4] See Bjelland et al. 2006.

are intended to address a diversity of environmental management goals, reflecting the particular place meanings attached to specific features of the landscape.

A number of urban scholars have been critical of these so-called "innovations" in the residential development process, dissecting the ways that these features of "new urbanism," are recasting biophysical environments as spaces in need of environmental (Zimmerman 2001), reworking urban forms (McCann 1995, Bjelland et al 2006), and are attempting to address social problems through spatial prescriptions (Veninga 2004). For these scholars, the development project that has come to be known as "new urbanism" derives from a profound sense of "placelessness" that came to dominate suburban forms of development and associated problems, such as social exclusion according to economic class (McCann 1995, Zimmerman 2001, Veninga 2004). Collectively, these authors challenge the ability of alternative forms of development to appropriately challenge this trend, given the tendency for these projects to emerge within highly segmented real estate markets and cater to relatively affluent buyers. Veninga's research links the emergence of new urbanism in the Puget Sound region to the broader social and economic conditions that enable new spatial prescriptions to take advantage of niche markets, highlighting the ways that particular agents are constrained or enabled. Research by Bjelland and coauthors (2006) point to the role that local developers play in making new "niche products" a reality in the Minneapolis St. Paul region. Zimmerman (2001) argues that the use of nature in Illinois' "Prairie Crossing" represents the mobilization of nature in defense of the suburban dream, representing both a nostalgic defense of the Midwestern frontier and a poor model of sustainability. Similarly, in her research on the representation of nature in marketing associated with new urbanist projects, Till (2001) argues that design discursively and materially produces nature in ways that play on "Edenic myths" and rural idylls in a new form of "green politics". Taken

together, these observations raise questions about the socio-economic inclusiveness of a new "green politics" that actively produces "nature-society" hybrids.

Amenity Migration and Development in the American West

Economic restructuring and the associated decline of natural resource-dependent communities in the American West has been a key feature in recent decades (Nelson 2001, Jackson and Kuhlken 2006, Travis 2007).[5] In place of economies built on extraction, real estate has become the economy of choice (see e.g, Walker and Fortmann 2003, Brogden and Greenberg 2003, Ghose 2004) and amenity migration has become an important factor in explaining population growth, particularly differences in growth among counties (Nelson 2006). High amenity counties in the American West are experiencing higher rates of growth than low amenity counties, with non-metropolitan areas characterized by much lower-density growth than in nearby metropolitan areas and higher densities in low amenity counties (Vias and Carruthers 2005, Nelson 2006). Moreover, only Nevada and Arizona exhibit patterns of increasing density (a measure of land-use efficiency) in areas characterized by amenity-migration. Likewise, Smutny (2002) has described the ways that amenity-related residential development has led to uneven development among non-metropolitan areas of Idaho that were formerly characterized by natural resource production. Population growth in counties with the presence of public lands is often higher than local averages (Frentz et al 2004), with growth rates differing among counties with particular federal lands agencies. However, this trend is likely related to differences in amenities and not management priorities (Frentz et al 2004). Taken together, these results suggest that high amenity areas are not characterized by substantial patterns of high-density land development. Instead, they point to patterns of lower-density parcelization.

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[5] I note that a number of communities, particularly in parts of the Interior West, have experienced resource booms in recent years. These booms are tied to renewed investment in energy extraction.

At the same time, research on amenity-migration has highlighted key differences in land management within counties, within communities and among landowners, and on individual parcels. First, work by Shumway and Otterstrom (2001) demonstrates that areas within the American West characterized by high levels of environmental amenities are increasingly sites of conflicts over environmental management. Second, Halseth (1998) has suggested that continuing development in the amenity landscapes of rural British Columbia have lead to the creation of communities within communities. Although focused largely on the emergence of different social communities dispersed across space but associated with proximity to particular amenities (e.g., lakeshores), this study raises questions about the extension of this phenomenon to the creation of entire new development projects. Third, Gosnell et al. (2006) document changes in landowner decision-making, as a more diverse cohort of landowners, including absentee landowners, make land-use decisions that focus on amenity or conservation values in addition to, and sometimes instead of, traditional production values. In many instances, changes in management at the county, community, and parcel level have led to land-use conflicts.

Drawing on political ecology, Walker and Fortmann (2003) locate the source of land-use conflicts in the American West in the cultural and economic changes that accompany amenity in-migration and that result from the competing rural capitalisms that result from these changes. Importantly, Walker and Fortmann argue that one set of rural capitalism emphasizes protecting the quality of natural landscapes through planning and development-related decisions, precisely because these positively impact real estate values. Brogden and Greenberg (2003) empirically demonstrate the importance that amenity migration and changing place meanings have in reassigning resource access away from agricultural users and to environmental users. This

process of reassignment occurs through property markets and new environmental management schemes.

Research Methodology and Geographic Context

Scholars of amenity migration in the American West, particularly those associated with study of the "new West" have tended to focus on the Inter-mountain West, eschewing the coastal Pacific states (see Walker and Fortmann 2003 and Walker et al. 2003 as examples of study within this part of the American West). While Oregon is sometimes viewed as different from the drier, interior parts of the region, this study focuses on Deschutes and Wasco counties (Figure 1), two Eastside counties that are largely characterized by "high desert" conditions and what Jackson and Kuhlken (2006) describes as an area containing "all-seasons recreational opportunities" (p. 172) and evincing patterns "of unanticipated development with the same characteristics of many intermountain communities" (p. 157).
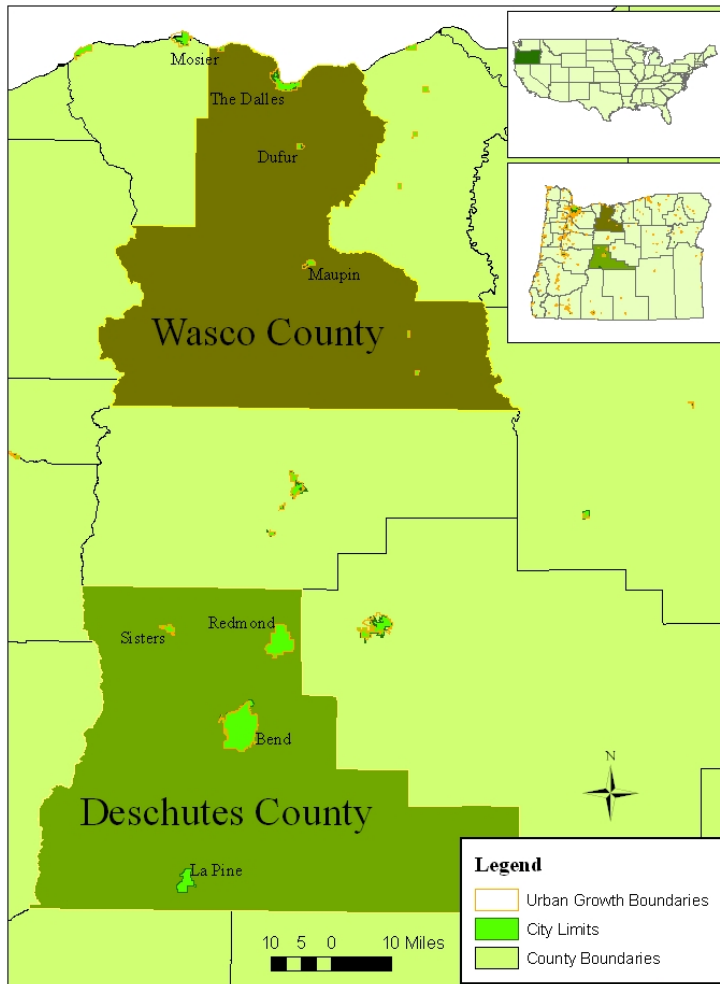
Figure 1. Map of study area, highlighting Deschutes and Wasco counties, in Central Oregon. The city limits of major cities in each county as well as their urban growth boundaries are also shown. To protect the identity of participants, individual locations are not shown. Source: Oregon Geospatial Data Clearinghouse (2009).

Research Methods

Study sites within the two counties were selected using two criteria. *First*, I identified

potential sites through discussions with county land-use planners, local land trust personnel,

developers who suggested other candidate projects, and through internet real estate searches.

Because very few communities describe themselves using a "conservation development"

moniker, I asked key informants whether there were any Planned Unit Developments[6] or

residential communities/subdivisions in the county, which included either significant open space

conservation features *or* that actively featured a project's conservation activities in marketing.

Second, I attempted to find residential projects both within and outside of Urban Growth

Boundaries, given that I both wanted to identify *and* capture a range of potential differences in

project design and that Bjelland et al (2006) discovered these projects within expanding urban

areas.

Once potential cases were identified, I reviewed project proposal documents, county

planning documents associated with each case, marketing materials (i.e. real estate brochures and

websites), and the governance documents (i.e. Contracts, Covenants, and Restrictions; Design

Guidelines) for each of the communities. I created an inventory of their design features,

conservation goals and features, and environmental management-related rules. I also

interviewed current and former planning officials, project investors/developers, representatives

from conservation organizations active in the two counties (e.g., activist and land-use watchdog

groups as well as local land trusts holding easements), and a limited number or residents or

landowners in the communities during two visits to the area, one in May 2006 and the second in

May 2007. Residents and landowners were initially identified by developers or using the local

phonebook and snowball sampling techniques were used to recruit additional respondents. In

general, I was interested in understanding the ways in which various actors talked about specific

projects, their design features, relationship to local development trends, and their role in

addressing particular conservation issues in the area. Using Geographic Information Systems, I

discuss the adjacency/proximity of these projects to "protected lands" such as public lands and

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[6] Planned Unit Development refers projects that undergo alternative land-use review and often deviate from common land-use patterns. It is also the primary land-use decision-making mechanism through which projects with conservation design features have been proposed elsewhere (Bjelland et al. 2006)

significant properties located nearby that feature natural amenities and outdoor recreation opportunities.

Natural Amenity and Land-Use Change in Central Oregon's Deschutes and Wasco Counties

Deschutes and Wasco counties are located on the eastern slopes of the Cascade Mountains and contain or are adjacent to significant stretches of the Deschutes River, a significant tributary to the Columbia River that is renowned for its fly-fishing (Deschutes River Conservancy 2007). While Deschutes and Wasco counties share many natural amenities associated with communities experiencing rapid growth elsewhere, the two counties' experiences with development are quite different. Importantly, Deschutes County scores slightly higher on the USDA's natural amenity index (McGranahan 1999).[7] The rate of growth in the county appears to reflect this; Deschutes County is home to the City of Bend, Oregon's fastest growing metropolitan area since 2000 and one of the fastest growing metropolitan areas in the U.S. (U.S. Census Bureau 2007a). Bend's tremendous growth has been fueled, in large part, by its close proximity to the Mt. Bachelor ski area[8] and an abundance of sunny days (McGranahan 1999). In contrast, Wasco County also lies on the eastern flanks of Mt. Hood, but has considerably fewer hours of sunlight than Deschutes. Perhaps more importantly, Wasco County's major metropolitan area, The Dalles, and its outlying rural exception areas largely have been overshadowed by rapid amenity-related growth in, and around, the towns of Hood River and White Salmon (Washington), which sit across the Columbia River from one another and have been a revered site of windsurfers the world round.[9] Thus, the county has seen much lower population growth (U.S. Census Bureau 2007b) and, to date, a smaller influx of retirees and

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[7] The USDA natural amenity index measures variables associated with an area's climate, topographic diversity, and the presence of public lands. For a fuller description, see McGranahan (1999).
[8] Interview A, Deschutes County 6-12-2006
[9] Interview B, Wasco County 5-31-2006

second home buyers.[10,11] Only recently has the northern part of the county begun to see the type

of property acquisition that is characteristic of neighboring Hood River and Klickitat

(Washington State) counties (Hood River and White Salmon respectively).[12] Its growth and level

of development has yet to approach anything like that experienced by Deschutes County.[13,14]

Growth in the two counties takes place within the context of Oregon's well-known state

mandated land-use planning system, a feature that distinguishes it from many other states in the

American West and the U.S. Among the 17 states West of the 100th meridian, only California,

Oregon, and Washington have some form of statewide or required land-use planning (Bollens

1992). According to this process, municipal and county plans are reviewed by Oregon's

Department of Land Conservation and Development (Bollens 1992, DLCD 2007) to ensure their

compliance with state regulations and that they adequately address, where appropriate, the state's

19 planning goals. Importantly, Oregon's system requires the identification of Urban Growth

Boundaries (UGB), within which urban growth is supposed to be contained. Outside of the

UGBs, counties are to identify and classify productive timber and agricultural lands. While

specific rules differ from county to county, places identified as productive resource areas

generally carry restrictions on development. An important exception are so-called "rural

exception areas," which represent areas that experienced increased parcelization and/or low-

density development prior to the creation of the system in 1973.

Land-use change histories in Deschutes and Wasco counties share important similarities,

even if the scope of these changes is quite different. In many ways, the emergence of the Oregon

land-use planning system was a response to rapid partitioning of rural parcels in the southwestern

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[10] Interview B, Wasco County 5-31-2006
[11] Interview C, Wasco County 5-31-2006
[12] Interview B, Wasco County 5-31-2006
[13] Interview B, Wasco County 5-31-2006
[14] Interview C, Wasco County 5-31-2006

portion of the Deschutes County.[15] By the time the state had created the planning system, a large

degree of rural subdivision had occurred, a fact that the system recognized through the creation

of the so-called "rural exception areas."[16,17] In the years it would take Deschutes County to

finalize a county-wide planning document, five-acre parcelization would come to dominate many

rural parts of the county, both because five-acre minimums became the preferred mechanism by

county planners to stop parcelization in the meantime and due to the high degree of demand to

create parcels that could later still be sold for residential development.[18] Similarly, portions of

northern Wasco County experienced pre-1973 parcelization and land speculation.[19,20] albeit to a

much lesser extent than in Deschutes. These densities would largely determine development

entitlements for future projects.

As Deschutes County's (Bend's) growth has continued to skyrocket, concern over the

ability of agricultural and timber land-owners to maintain economically viable operations has

grown. Likewise, conservation groups, such as the Deschutes Basin Land Trust and the

Deschutes River Conservancy, among other statewide and national groups have expressed the

need to expand efforts to: protect critical wildlife and natural habitat characteristic of high desert

terrestrial habitats (e.g., sagebrush steppe, native grasslands, and Ponderosa pine forests);

increase instream flows for fish in the Deschutes River and its tributaries; and to retain working

forests and farms in the region (ODF 2006a, 2006b).[21] And although growth has been much less

pervasive in Wasco County, the county's northern areas are home to limited-range habitats and

tremendous wildflower diversity, within which much of the early rural parcelization took

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[15] Interview A, Deschutes County 6-12-2006
[16] Interview A, Deschutes County 6-12-06
[17] Interview B, Wasco County 5-31-06
[18] Interview A, Deschutes County 6-12-06
[19] Interview C, Wasco County 5-31-2006
[20] Interview B, Wasco County 5-31-06
[21] Interview D, Deschutes County 6-9-06

place.[22] Thus, concerns about the impacts of rural sprawl on Oregon white oak-Ponderosa pine woodlands have been focal points of discussion when it comes to the area's conservation and environmental management (OBP 1998, ODF 2006a).[23],[24] Increasingly, too, some residents are even worried about the implications rural residential growth might have for the northern county's cherry growers.[25] It is within these geographic, historical, and environmental management contexts that much recent rural land development in both Deschutes and Wasco has taken place.

Whose sense of place? Amenity Developers and Environmental Management in the Alternative Residential Developments of Central Oregon

[T]he term subdivision risks loading the discourse that 'oh, they're gonna put

subdivisions on farmland and that kind of thing,' we call this a preservation

ranch, and that's much more to me, we're preserving the ranch by putting

occasional residents on ranch, non-farm properties...[26]

I identified five projects in Deschutes and five in Wasco that matched the criteria for the research project described above (Table 1). The number of lots ranged from a low of five for one of the communities in Wasco County to 122 for the largest and most urban of the communities in Deschutes County. The average number of lots for Deschutes County developments was 60 and 13 for Wasco County. While most of the projects had been designed and built within the past two decades, one project had been undertaken in the 1970s in Wasco County. I note, however, that projects in both counties are at differing states of completion, with a couple less than 10 percent of the way to being fully built out. In both counties, all projects are designed to attract buyers seeking single-family homes. Besides their overall size, it was also clear from interviews with

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[22] Interview B, Wasco County 5-31-06
[23] Interview E, Wasco County, 6-15-06
[24] Interview F, Wasco County 5-30-06
[25] Interview G, Wasco County 6-8-06
[26] Interview R, Phone Interview, 2-27-2007

both planners and developers in the two counties that the Deschutes' projects differ rather dramatically in terms of price.[27],[28]

While the use of conservation design principles is not widespread in the case study areas, [29],[30] a range of specific elements, often in combination, was found (Table 2). Only three communities—two in Deschutes and one in Wasco—employed the full complement of features described above. Still, a number of interesting patterns associated with the use of conservation design within the two counties are apparent. Examples were found both inside and outside of UGBs. Deschutes County has a greater number of these projects, which given the greater degree of development in the county is not surprising. Within Wasco County, the use of open space preservation, clustering, or the creation of environmental governance is a predominant feature of residential development proposed in the past decade.[31] Results suggests that design elements are most commonly related to place meanings that value native species and biodiversity protection, such as restrictions on or guidelines for particular planting practices, in projects that do not rely on clustering houses, or even reducing lot sizes, as part of their efforts to facilitate management of the environment in their projects. Indeed, one Wasco County project is designed using large-lots but its bylaws reveal a strong emphasis on managing these parcels in ways that protect the area's native flora and fauna. The same is true for a Deschutes project that is found within the Urban Growth Boundary and places strict review procedures on plantings. Despite these similarities, these projects suggest important differences in the pathways that give rise to sense of place and particular forms of environmental management, namely the role of the developer.

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[27] Interview A, Deschutes County 6-12-2006
[28] Interview C, Wasco County 5-31-2006
[29] Interview A, Deschutes County 6-12-2006
[30] Interview K, Phone interview, 9-8-06
[31] Interview B, Wasco County 5-31-06

Figure 2. View of Mt. Adams across the Columbia River at dusk from the oak-studded hills of Wasco County.

Whose development?

> *We wouldn't need land-use planners if every developer lived in the developments*
>
> *they did.*[32]

The residential projects in Deschutes and Wasco counties that feature conservation design practices challenge attempts to paint developers in broad-brushed strokes, reflecting a range of individuals from diverse backgrounds. Only one of the ten projects was undertaken by a large developer—a former timber company—and even this project represents an "environmentally sensitive real estate development" whose bylaws provide strict guidance on appropriate land management activities, including native species plantings (see above). Indeed, a recurrent theme among the projects in both counties was the active role that amenity in-migrants—not development companies—played in creating these alternative residential projects.

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[32] Interview B, Wasco County 5-31-2006

Six of the eleven projects are associated with in-migrants who participated in the land purchase, helped design the project layout and features, and oversaw implementation of the project. [33,34,35,36,37] Of these, two were built by individuals with extensive development experience elsewhere. Four of the projects are home to those in-migrants today: another was until the individual became too old to live unassisted in the home. Likewise, one of the in-migrant developers is responsible for two projects. A seventh project is home to the "developer," but this project features parcelization of family land to create second homes for friends and other potential buyers.

In the Wasco County case described in the section above, a reluctant local environmentalist entered the picture, to act as developer and produce a different landscape outcome. Having learned the lesson that "developers are the enemy" at an early age, this individual purchased the property by leveraging his life savings. In creating a new project, complete with a strict set of ecological bylaws, this developer ensured that a special part of northern Wasco County's oak-pine woodlands would not be "destroyed' by the 21 home sites and equestrian-oriented project approach that had been proposed twice for this part of the County. Despite declaring his intentions to create a conservation-oriented project, the project faced opposition from local conservation groups. This story as well as the trends from the two counties paints a picture of individual developers that are literally creating their ideal community in which to live (or retire), drawing important links to amenity-related in-migration that extends beyond potential buyers.

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[33] Interview R, Phone Interview, 2-27-2007
[34] Interview A, Deschutes County 6-12-06
[35] Interview C, Wasco County 5-31-2006
[36] Interview L, Wasco County 6-14-2006
[37] Interview O, Deschutes County 6-9-2006

For some planners, paying attention to place and the local environmental contexts that imbue these places with meaning meant that these developments were different in key ways. A former county planner went so far as to suggest that when a "landowner comes in and creates the community that they're going to retire in, they're already looking to do all the things that we try to do by ordinance and they wind up doing it through the HOA, covenants, lease back options, all these other tools that we can't really regulate very readily…"[38] Interestingly, however, the land trusts initially were hesitant to get involved with a number of the development projects, precisely because they did not want to be seen as facilitating the development of landscapes with important ecological and conservation values.[39,40] Once the projects were approved by county officials, though, they were less concerned and saw their participation as important to ensuring the protection of ecological meanings associated with these places

Which rural amenity?

> *We didn't create a little Hollywood set, you know. This [ranch] is the real deal.*
> *And people recognize that and appreciate that, they see the work that's going on*
> *and they don't have to get involved with it, but they have there, looking across*
> *green pastures, cows in the field, and you know they like that."[41]*

In nearly all of the cases, residential development has taken place on lands that were historically used for agricultural or extractive uses. In each case, the surrounding landscape, including spectacular views of geologic features and characteristic vegetation of the local area, is a key dimension in the marketing of ownership opportunities. In Wasco County, historic land uses included grazing or ranching, while one property also had been managed for irrigated

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[38] Interview B, Wasco County 5-31-2006
[39] Interview P, Deschutes County 6-9-2006
[40] Interview F, Wasco County 5-30-2006
[41] Interview O, Deschutes County 6-9-2006

agriculture. Four of the five developments are found within a narrow band of Oregon white oak-dominated woodlands that are interspersed with Douglas-fir and Ponderosa pine trees and in close proximity to the area's prominent cherry orchards. In three of these, the sloping hillsides, which feature small-scale rock escarpments, that were once home to roaming herds of cattle, now contain lots that provide intermittent views of one of two Cascade peaks—Mt. Hood in Oregon and Mt. Adams in Washington—as well as occasional views of the Columbia River. In a few instances, a homeowner may have a view of all three. By contrast, Deschutes County projects are primarily found on former timber and ranching lands. Views of the High Cascade peaks, including Mt. Bachelor and the Three Sisters, are common to many properties. All of the projects lie within the transition zone from Ponderosa pine forest to Central Oregon's characteristic western juniper woodlands and high desert shrub.

Marketing materials, including websites, for the project are quite diverse. Importantly, only one of the Wasco County projects has an actual website, which is related more to the full-time endeavors of its developer than it is specifically geared toward the development. All of the projects within Deschutes County maintain websites, which serve both as gateways to information for existing landowners and opportunities to market to potential buyers. These sites vividly depict the sense of place constructions behind individual projects, with panoramic pictures that highlight the rugged Central Oregon landscape and majestic mountain views. They also feature various types of recreation and describe the area's wildlife, plants, and to differing degrees, dimensions of ecological stewardship or conservation. One site includes a rustic storybook theme. The site features both photos and site maps that play on iconic imagery of the "Old West," including individuals on horseback wearing cowboy hats, and invites potential buyers to surround themselves with "a real Central Oregon ranch." The same site, however,

features pictures of an older individual fishing with what appears to be a grandson. Another project website makes its efforts at developing in "harmony with the land" more explicit, intoning that the priority is not to fill the "place with homes" but to give people "a sense of place."

These discursive constructions, however, mark more than rhetorical reconfigurations of the landscape. For all but one of the projects in Wasco County, residential development has resulted in new land-uses. Where once cattle roamed, now only residents and wildlife wander the hillsides. In one community, the barbed wire that used to demarcate grazing lands has been made into a piece of place-based environmental art. In Deschutes County, however, there is continuity with past place meanings but subtle changes in the management of these environment. In part, this continuity results from the institutional imposition of strict agricultural zoning limits by Deschutes County that are in keeping with the state's planning system. But in both cases, the developers have used these constraints to market a set of place meanings that both commodify the landscapes in new ways and that generate environmental benefits. Using historic water rights, two of these projects include agricultural activities on portions of the conserved open space. One project maintains an active cattle ranch on irrigated grazing lands, while the other produces hay on irrigated fields (Figure 3). The latter has introduced a small vineyard to the property, in keeping with the project's architectural theme. In both cases, these communities have invested in new irrigation measures that allow them to conserve water usage and through local conservation groups provide additional water for instream uses, such as salmonid conservation. Despite its proximity to one of the region's premier fly fishing rivers, a Deschutes County project has installed a constructed trout stream, complete with meanders, a pool-riffle configuration, and native riparian vegetation. All of the communities feature walking trails for

the use of the community, but in all but one of these, there is no access for the public. One of

these projects includes horse trails that link to several thousand areas of land owned by the

Bureau of Land Management.

Figure 3. An agriculture-based project in Deschutes County, with
irrigation piping visible in the foreground and Mt. Jefferson in the
background.

Adjacency or close proximity to protected lands is a common feature of these

developments. Three of the five projects in Wasco County are within close proximity of the

Columbia Gorge National Scenic Area, including significant areas of land managed by the U.S.

Forest Service and nature preserves owned by The Nature Conservancy. All of the Wasco

projects include open space or commons that are protected from future development and which

contain walking trails. One of the five projects donated a conservation easement to a regional

land trust for protection of riparian forest habitats. Three of the developments in Deschutes

County are adjacent to existing public lands: a city park, a prominent state park known for its

spectacular geology, and lands managed by the Bureau of Land Management. A fourth lies in close proximity to an area "resort development," which affords quick access to golfing opportunities. In fact, all of the Deschutes communities lie within an easy 10 mile drive of a course.

Whose Environment, What Kinds of Management?

Projects in the study area feature a wide array of environmental management regimes, including involvement by local governments, regional land trusts, and the U.S. Forest Service to protect and manage common areas. Land trust activities have included riparian habitat improvements in at least two of the projects, one in Deschutes and one in Wasco, while a local government developed trails through another property that allowed community access to an adjacent park. But more often than not, the common areas of a project are owned and managed by the project's Homeowners Association. At least one homeowner's association organizes regular work parties, including applying for and receiving funds from the State of Oregon to help with tree thinning to improve wildlife habitat and minimize fire danger. In two others, it is clear that landowners must abide by strict landscaping and planting guidelines, with one project emphasizing the "careful restoration of plants and rocks" in disturbed construction sites. In the same project, landscaping in areas surrounding the home is limited to a list of approved native plants, while interior courtyards may include selected non-native but noninvasive species.

Interviews with residents and landowners in these communities revealed the attraction that both biophysical environments and developer commitments to environmental protection played in their decision to buy into the project. While dramatic views of the region's signature mountains, other unique geologic formations or ecosystems, and rivers clearly helped bolster their decisions, residents spoke about the environmental management features *within* their

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respective communities as a strong influence in their decisions. Residents in non-agriculturally oriented projects value the respect for native vegetation that is placed in community bylaws, placing importance on the ways that native vegetation reduces the consumption of water and provides habitat for local wildlife. These residents spoke about the wildlife they saw in their yards and the sense that their communities tread lightly on the landscape. Meanwhile, those residents living in projects featuring agriculture enjoy the "oases in the desert" that result from the irrigated fields.

This institutional picture, however, potentially misses the fine-scale dynamic associated with landowner activities, which may or may not accord directly with the link between "sense of place" and appropriate forms of management set up by the developer. In one Wasco project, a new resident negotiated with the developer to install a new fruit orchard (Figure 4). Another resident in a development in Deschutes was planting a small apple orchard on his property. In both of these cases, these uses are consistent with the meanings these residents place on a cultural landscape that is tied to the agricultural history of the region. But in a Wasco County project noted for its strict ecological covenants and focus on improving wildlife habitat, efforts by a few residents to change the rules to allow horses evaporated when it became clear that any formal proposition would lose in a community vote. In this case, the majority of residents appeared to see horses as inappropriate, given the meanings they associated with the areas oak woodlands. This situation points to the ways that the meanings associated with a particular place in a specific project may come into conflict with divergent meanings.

Figure 4. New orchard planted by a resident in one of the Wasco County residential projects.

Indeed, not all residents hold views that necessarily match either the discursive or material commitments to place intended by developers. A few residents recognized their purchase into the project as merely a good property investment or the opportunity to live in a beautiful spot, and not specifically as exhibiting a particular commitment to place-based management. More often, though, this mismatch is tied to competing meanings and what constitutes appropriate environmental commitments in that special place. For example, some residents suggest that the commitment to environmental protection within their communities could be stronger. In one case, residents in a Deschutes County project spoke about the emphasis placed on housing aesthetics in their community's bylaws and the barrier this presented to the installation of solar panels. In another case, a resident living in a Wasco County project was frustrated by the lack of awareness among neighbors and the developer-resident about oak management and invasive species. While this resident organized regular parties of fellow

residents to remove some of these exotics, discussions about improving oak habitat through active thinning were met with resistance by the developer-resident. In this case, the conflict could be traced to differing meanings over forests, forest change, and untouched nature.

<p style="text-align:center">Discussion and Conclusions</p>

When using a political ecology framework to examine the relationship of "sense of place" to amenity migration, evolving environmental management practice, trends in urbanization, and the creation of amenities in residential developments in the Central Oregon context, a number of dimensions are apparent. First, access to capital, both by developers and residents, are key to forming a sense of place within a given project. For developers, this capital is critical in establishing the place meanings that result in particular forms of environmental management and ultimately the natural amenities that are marketed to potential buyers. For residents, the proliferation of residential projects that seek to manage the environmental meanings (and environments) in particular ways mean that those with sufficient money have a greater number of choices within the real estate market. Buyers can both consume the amenities that result from the resulting place meanings and purchase a set of management practices that ostensibly will protect these. I do not want to argue that this process is not without social or ecological consequences, nor do I want to argue that access to housing opportunities in these projects is not marked by considerations of economic exclusion. Many of the landowners and residents with whom I spoke came from other parts of Oregon and the American West. For a few, this Central Oregon property was one of at least two they maintained. Indeed, many of these projects, but not all, represent unaffordable housing choices for those living in the respective counties. Rather, the goal of this study is to better understand the interaction of complex social-political and economic processes with place meanings and the environmental

management configurations that emerge to support these. This approach helps to reveal the unevenness of environmental management features in areas experiencing amenity-related urbanization.

Second, these decisions take place within the wider context of regional changes. From the spectrum of projects represented here, it is clear that differing ideas about landscape qualities, place of meanings, and environmental management play out among competing rural capitalisms, but not necessarily in the straightforward way described by Walker and Fortmann (2003). Very few, if any of these projects are the result of national, or even regional, developers. Instead, many of them are produced by developers (working with an investment partner or group of investors) from nearby areas, and sometimes relying on *very* personal financing efforts (e.g., personal savings), but more often turning to local or regional financing sources. This is not to say that the capital involved is not global, as it most likely is, but to emphasize that circuits of global capital are simultaneously being reworked by "local" actors. Using these funds, these developers create something that differs from the historical patterns that abut their projects.

Third, in the process, these actors discursively *and* materially reconfigure landscapes, construct (new) place meanings, and alter resource uses through new design features and associated environmental management practices. These practices contain particular uses, such as agriculture or habitat, within specific spaces, thereby creating a set of place meanings that produce amenities and (re)commodify landscapes. Here, it is instructive to note the positionality and motivations of individual developers and their attempts to create alternatives to wider practices in their communities. While it is clear that different developments rely on sense of place, including drawing on very particular landscape features and land-use histories, this does not indicate that these individuals are developers in what might be described as a traditional

sense of the word. Indeed, many of the developers interviewed here are in-migrants whose presence is directly tied to the process of amenity migration. These individuals comprise what might be best described as amenity developers, owing both to their links to the social and economic changes that drew them to these locations and to their active role in producing specific amenities that reinforce this process.

Fourth, amenity developers see different place meanings and act based on diverse motivations. For one amenity developer, the project was the last resort to make things right on the landscape, seeking to prevent what would have been for him the materialization of inappropriate and inauthentic place meanings. So, too, at least one of the projects represents an opportunity for a long-time developer to do things differently. This perspective illuminates the creation of idealized places for individuals affiliated with (and likely distrustful of) the "typical" development process. For others, the discourse of conservation design may represent the path of least resistance, providing the niche product that allows a project to "pencil out" in economically rewarding ways or that minimizes the institutional barriers created by county planning.

Fifth, this research highlights the role institutions play in mediating the valuation of landscapes that occur in processes of property exchange. While planning processes create some constraints on the types of place meanings that can be constructed, land trusts, despite their wariness, facilitate the reinforcement of place meanings that blend agriculture and conservation. That these two dimensions represent material changes to the landscape is not insignificant, providing an agricultural amenity that maintains continuity with the history of these places, while providing protection for the aesthetic and recreational amenities that are flowing rivers.

Finally, in keeping with Cheng's (2003) observation that place connections are often diverse, nuanced, and multi-layered, this study marks a beginning in efforts to tease apart the

ways that place meanings are produced by developers *and* the amenity migrants who purchase

properties in their developments. For example, the literature on design in "new urbanism"

focuses largely on the developer, neglecting to examine the different ways that residents may

challenge particular environmental management features. This study suggests that although

developers rely on particular place meanings to attract amenity buyers, these residents may

contest those meanings and challenge the management practices that maintain sense of place.

This is an area warranting further study. A similar focus on sense of place might reveal

important distinctions among environmental management strategies by landowners in

conventional residential developments.

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Table 1. Development Context and Environmental Management Goals

County/ Community	Interface Type	Development Phase	Dwelling Units	Developer Type	Environmental Management Goals	Adjacency/ Proximity* to Protected lands)
Deschutes						
Project D1	Exurban	Completed	43	Individual	Resource production Habitat protection Wildlife protection	Adj BLM Prox State Park
Project D2	Urban fringe	Completed	123	Resource Company	Habitat protection Scenic/rural quality	Prox State Park
Project D3	Exurban	Completed	50	Individual	Resource production Habitat protection Scenic/rural quality	Adj State Park
Project D4	Urban	Completed	66	Unknown	Scenic/rural quality Habitat protection	Adj Count Park
Project D5	Exurban*	Completed	21	Individual	Historic preservation Scenic/rural quality	None
Wasco						
Project W1	Exurban	Completed	6	Individual	Habitat protection Scenic/rural quality	Prox TNC Prox USFS
Project W2	Urban fringe	Built Out	18	Joint venture	Scenic/rural quality	None
Project W3	Exurban	Built Out	18	Individual	Scenic/rural quality	Adj TNC Adj USFS
Project W4	Exurban	Completed	11	Individual	Habitat protection Scenic/rural quality	Adj TNC Prox USFS
Project W5	Rural	Completed	12	Individual	Resource production Wildlife protection Habitat protection	

Data for this table was compiled from multiple interview and print sources (To protect the identity of interviewees, the names of the projects have been changed). *within 1 mile radius.

Table 2. Conservation Design and Open space Management

County/ Community	Conservation Design elements	Open Space %	Open Space Use(s)	Open Space Ownership	Open Space Management
Deschutes					
Project D1	Altered layouts Limited lot size Clustered lots No future development Environmental rules	>50%	Agriculture Passive recreation Active recreation	HOA Land Trust	HOA with Manager Land Trust Private Resource Entity Land Trust
Project D2	Environmental rules	<25%	Passive recreation	HOA	HOA Government
Project D3	Altered layouts Limited lot size Clustered lots No future development Environmental rules	>50%	Agriculture Active recreation Passive recreation RC	HOA Land Trust	HOA Land Trust
Project D4	Altered layouts Clustered lots No future development	>50%	Passive recreation	Government Easement	Government
Project D5	Altered layouts No future development Environmental rules	>75%	Active recreation Passive recreation Agriculture	HOA	HOA with manager
Wasco					
Project W1	Altered layouts Limited lot size Clustered lots No future development Environmental rules	>50%	Passive recreation	HOA	HOA
Project W2	Altered layouts Limited lot size Clustered lots No future development	>50%	Passive recreation	HOA	HOA
Project W3	Limited lot size No future development	>50%	Active recreation Passive recreation	HOA	HOA
Project W4	Altered layouts No future development	<25%	Passive recreation Restricted	HOA Land Trust	HOA Land Trust

	Environmental rules		Conservation		
Project W5	Altered layouts Limited lot size No future development Environmental rules	>50%	Agriculture Passive recreation Active recreation	HOA	HOA

*Proximity = within 1 mile of the project's borders. Data for this table was compiled from multiple interview and print sources (To protect the identity of interviewees, the names of the projects have been changed

Place-based watershed management at Lake Champlain

Michaela Stickney

Abstract: Lake Champlain's watershed is shared by Vermont and New York in the US and Quebec in Canada. Strong identities and place-centered affiliations exist among citizen-based watershed groups and the underlying natural resource management regimes. Lake Champlain's northern waters are a place both rich in citizen action and rich in nutrients. The northern waters include Missisquoi Bay, which is shared by Vermont and Quebec and is the most impaired part of the Lake. The actions of small place-based citizen groups working at a micro-level are contributing to watershed protection at a much larger scale. Environmental decision-making and management by Vermont, New York and Quebec is characterized by consensus reached through a continuous sequence of nonbinding, nonregulatory agreements. These agreements support and revolve around engaged government agencies that are integrated with engaged place-based citizen groups, among other organizations.

"...I realized that the particular place I'd chosen was less important than the fact that I'd chosen a place and focused my life around it..."
<div style="text-align:right">

--Richard Nelson, Anthropologist
from The Island Within
</div>

Since the historic 1988 *Memorandum of Understanding on Environmental Cooperation on the Management of Lake Champlain*, 16 additional agreements have been signed—averaging nearly one per year. They range from joint declarations and watershed plans to phosphorus standards and toxic spill responses. They are renewable agreements bearing the support and participation of state, provincial, and federal agencies; local government; and businesses with a very strong citizen component (Stickney, 2008). In 2009 and 2010, four of these agreements are scheduled for renewal. This progression of cooperative agreements falls under the purview of the Lake Champlain Basin Program, a quasi-governmental, public-private partnership among Vermont, New York and Quebec that coordinates Lake Champlain's long-term management plan, *Opportunities for Action: an Evolving Plan for the Future of the Lake Champlain Basin*.

Use of nonbinding, renewable agreements more easily bridges differences among jurisdictions, whether interstate, intrastate or international. Additionally, these agreements can

be updated more immediately as new information and technologies emerge. These agreements can be assembled more quickly than pursuing a traditional regulatory or legislative avenues. Due to this integrated decision-making model, UNESCO designated the Lake Champlain Basin as one of seven demonstration watersheds worldwide within its Hydrology, Environment, Life, and Policy (UNESCO HELP) program in 2005. In 2009, the basin was promoted into the third stage of the HELP program.

Some natural resource management models may portray a pyramid to show top-down management practices utilized by natural resource managers at the top of the pyramid supported by a strong or a pyramid base of citizens. In the Lake Champlain Basin, an inverted pyramid with citizen input driving actions and practices by resource managers or an integrated quilt may be more accurate. In a quilt analogy, the resource management programs comprise a framework or base fabric. The place-based citizen groups, or patches, are what holds the quilt together and depict the character and flavor of the joint management practices. The separate pieces create layers of organization, and by overlapping, strengthen the fabric. This symbiotic relationship is influenced by strong connections to place.

Lake Champlain Basin description and place names

Lake Champlain's watershed is shared by Vermont, New York and Quebec. The Adirondack Mountains in New York border the west side of the basin, and the Green Mountains in Vermont border the east side of the basin. Quebec is to the north. The Richelieu River drains Lake Champlain into the St. Lawrence River where it meets waters flowing out of the Great Lakes. From north to south, the lake spans about 200 km, while it is 19 km at its widest point. The watershed is 21,326 km^2 and its greatest depth is 122 m. There are many bays and more than 70 islands.

Lake Champlain's long length and narrow width contribute to the lake being divided into five major segments. Each segment has unique physical characteristics and different land uses in its surrounding sub-basin which influence the water quality of that segment. The public is conversant in and identifies with names of the five major segments: North Lake, South Lake, Broad Lake, the small Malletts Bay, and the interestingly named Inland Sea (Figure 1). The North Lake, which includes Missisquoi Bay shared with Canada, and South Lake have the most eutrophic waters due to predominantly agricultural land uses, although lake-wide, urban land uses contribute a higher percentage of phosphorus to the lake (Troy et al, 2007). Consequently, many concerns for Lake Champlain are location-specific. While extensive blue-green algae blooms are a serious problem in Missisquoi Bay, they have not proved problematic in the South Lake. For phosphorus targeting purposes, especially within the federally required Lake Champlain Phosphorus TMDL, the lake basin is further subdivided into 13 lake segments and 19 subwatersheds or catchments.

A multitude of citizen groups have formed in and around these major lake segments. In an interesting juxtaposition, many watershed residents identify themselves by the place names which are now synonymous as the most polluted regions of the lake, such as the South Lake, Missisquoi Bay, and St. Albans Bay. St. Albans may have been the first town in New England named for a saint, something that puritanical society avoided because of its reference to the papacy.

According to 2000 United States and Canadian census data, the Lake Champlain Basin population is 571,000 people, and as population climbs, evolving impacts on the lake continue to cause concern. The overall watershed land cover is about 66% forested, 14% agricultural, 5% urban and suburban, and 15% water and wetlands (Figure 2).

A new (2007) land use and land cover study of the basin indicates that urban and suburban land (only 5% of land cover) contribute about 46% of phosphorus runoff to Lake Champlain overall and agricultural lands contribute about 38%. However, these proportions vary significantly among the various sub-watersheds. Agricultural land use is still the greatest contributor of phosphorus (about 70%) in the Missisquoi Bay sub-watershed (Troy et al, 2007). While only 7% of the watershed lies in Quebec, Vermont and Quebec share Missisquoi Bay, the single most impaired region of Lake Champlain. Therefore, Quebec's participation is crucial to the health of the rest of the lake.

To better understand how Vermont, New York and Quebec overcome historical differences, it is helpful to illustrate how their political boundaries, geographic identities and population characteristics are manifested. In Vermont, citizens have significantly stronger political identities at the town level than at the larger county or state levels. There are high levels of participation and action at the local level regarding Lake Champlain clean up activities. There are 136 Vermont towns in the Lake Champlain Basin and 47% of the state is physically located within the Basin. Most of these towns have populations ranging from 1,000-4,000 people. In New York, citizens tend to have stronger political identities at the county level. There are four major counties in the New York part of the Basin. Quebec citizens often identify themselves by federally designated regions called Regional County Municipalities (MRC). The Montérégie MRC includes the small portion of Quebec in the Basin (Lake Champlain Basin Program, 2004). These radically different geographic identities can challenge the cohesiveness of watershed protection and restoration efforts. However, the structure of the Lake Champlain Basin Program allows various political interests to be thoroughly and openly discussed, and as a result political

will supporting watershed protection and restoration is threaded throughout these various local, regional, and federal levels.

Population and urban center locations also affect differences among the three jurisdictions. Vermont is one of the smallest states in the United States. Of the 609,000 Vermont residents, 64% or 390,000 live within the Lake Champlain Basin and there are three major cities with populations ranging between 15,000-39,000 people. Conversely, New York is one of the larger states in the United States with a population of 19 million people, yet the New York portion of the Lake Champlain Basin has only 151,000 people (Lake Champlain Basin Program, 2004). It is common in Vermont to see elected federal and state officials walking down the street, and Vermont's capital city is located within the Basin, while New York's capital Albany and economic center of New York City are well outside the Basin. Since most of the Vermont population lives within the Basin, it is easier to engage citizens in Lake Champlain issues, unlike New York, which also contains other internationally recognized waterbodies such as Lake Ontario of the Great Lakes system and the Finger Lakes. While the Montérégie MRC has 1.4 million residents and includes the city of Montreal, only 30,000 people live in the portion of Quebec that lies within the Lake Champlain Basin. Quebec residents use two languages— French and English—with French as the dominant language which requires language interpretation and document translation. With help from our Quebecois partners, the LCBP offers major documents in French to help bridge differences and promote mutual understanding (Stickney, 2008).

Micro-description of the northern watershed

The northern watershed in Vermont is enveloped primarily within Franklin and Grand Isle Counties and half of Orleans County. The northern watershed is characterized by a smaller

more dispersed population and a higher concentration of agricultural land uses. Franklin and Grand Isle Counties are joined for political purposes. They encompass the northern islands and areas including Carry Bay and the Alburgh Passage, Missisquoi Bay, the Inland Sea, and St. Albans Bay, another highly impaired area in Lake Champlain. According to 2007 Vermont Census figures, Grand Isle County is 637 square miles with a population of about 7600, nearly 5000 housing units and a population density of about 83 people per square mile. Franklin County is 637 square miles with a population of about 48,000, nearly 21,000 housing units and a population density of about 71 people per square mile. There are two major cities: St. Albans and Swanton. St. Albans City, perched on the edge of eutrophic St. Albans Bay has a population of about 9700 people. St. Albans Town, which surrounds the city but is incorporated separately, has a population of about 5100. Swanton, farther to the north near Missisquoi Bay has a population of 6200 (Vermont Census, 2007). Given Northern Lake Champlain's eutrophic conditions, it has also become plagued with blue-green algae blooms which have seriously compromised recreation uses and property values. Beaches have been closed to recreation multiple years in a row in Quebec and Vermont and in the past 10 years, there were two or three dog deaths from dogs drinking lake water or eating algae.

<div align="center">Environmental Management And Decision-Making Framework</div>

The environmental management and decision-making framework presented here has three main levels. The Lake Champlain Basin Program provides an overarching framework for Vermont, New York and Quebec at the regional and international level within the Lake Champlain Basin. The Vermont Agency of Natural Resources, especially through its new Center for Clean and Clear, provides a coordinated complementary framework with the Lake Champlain Basin Program at the state level. The State of Vermont provides leadership on the Lake

Champlain Basin Program steering and executive committees. The International Joint Commission of Canada and the US provides an international perspective and support focused on Lake Champlain's northern waters shared with Vermont and Quebec, specifically Missisquoi Bay. Both the Center for Clean and Clear and the International Joint Commission are engaged and support the Lake Champlain Basin Program's overarching framework. This framework is brought to life through the engagement of many place-based citizen groups, such as the Northern Waters Partners coalition described in Part III.

Lake Champlain Basin Program—an overarching framework for the regional level and micro-international level

The Lake Champlain Basin Program is a quasi-governmental, public-private partnership among Vermont, New York and Quebec with federal funding that coordinates Lake Champlain's long-term management plan *Opportunities for Action: an Evolving Plan for the Future of the Lake Champlain Basin*. The Lake Champlain Basin Program achieves significant watershed improvements through its consensus-based, decision-making policies supported by state-to-state and state-to-province agreements. This incremental approach emphasizes partnerships, local actions and involvement of citizens.

Inclusive committee structure: The Lake Champlain Basin Program committee structure offers opportunities and varying roles for stakeholder participation. Stakeholders from the three jurisdictions of Vermont, New York and Quebec represent local, state, provincial, and federal partners. There is a high level of citizen involvement. The Citizens Advisory Committees of Vermont, New York and Quebec are independent committees representing recreation, tourism, agriculture, business, and cultural heritage interests, environmental advocacy groups, and legislative leaders. They advise the public about lake issues and listen to citizen concerns. The

Basin Program also has a Technical Advisory Committee, Education and Outreach Committee and a Cultural Heritage and Recreation Advisory Committee. All six advisory committee chairs have a seat on the Lake Champlain Steering Committee, the governing body for the Lake Champlain Basin Program (Figure 3).

Partnerships: Successful implementation of *Opportunities for Action* is achieved by developing many partnerships. As a neutral party with the participation and support of scientists, policymakers, citizens, and resource managers, the Lake Champlain Basin Program transcends litigation, political elections, and regulation to offer integrated partnership-based dialogue for solving difficult problems. To implement the plan, the Lake Champlain Basin Program makes grant awards to citizen, watershed, municipal, government, and business groups. Since 1992, more than $3 million have been spent on over 600 projects to reduce phosphorus, prevent the spread of invasive aquatic species, improve watershed education, and attain lake improvement goals.

Consensus: Consensus and trust-building have helped Vermont, New York and Quebec leaders overcome policy conflicts. A consensus approach to decision-making creates a win-win atmosphere where minority opinions are usually incorporated into decisions that pass by majority vote. This process encourages open and public discussion, so that committee members can freely explore decisions before making commitments. The scale at which consensus has been used has worked well within the Lake Champlain Basin and within the various sub-watersheds. While the consensus process minimizes conflict, it does require that they share common goals. The consensus approach gives participants a meaningful role in developing viable solutions and group ownership of decisions unattainable through other means.

Effective framework: The Lake Champlain Basin Program forms an effective framework for water policy leaders, water resource managers and scientists to work collaboratively. This proven framework defines watershed management issues according to the needs of the watershed residents or "users." A user-driven approach requires active involvement of policy and citizen groups to ensure scientific investigations will benefit community needs. Because policy leaders and resource managers contend with legal, institutional, regulatory, and economic interests, they need to understand which scientific information is most needed and communicate these needs to scientists. The Lake Champlain Basin Program annually funds more than $500,000 (US Dollars) for research and education in the basin. Trend analysis of long-term lake monitoring data allows scientists, resource managers and policy leaders to determine whether management goals and targets are on track and being met.

The Center for Clean and Clear as a response to citizen action—a complementary framework for the state level

The Lake Champlain Basin Program's incremental, non-regulatory approach provided the supportive framework for the Governor of Vermont to initiate the *Clean and Clear Action Plan* in 2003 to find the estimated $142 million (USD) that will reduce phosphorus pollution to Lake Champlain. In 2007, the Vermont Agency of Natural Resources established a new office entitled the Center for Clean and Clear which for the first time brought together the Vermont Agency of Natural Resources and Agency of Agriculture, Farms and Markets. One reason this union is unique is that these agencies previously had separate regulatory programs that addressed different aspects of agricultural nonpoint source pollution sources. The Center for Clean and Clear not only implements *Clean and Clear Action Plan* funding, but it is also focused on accelerating the clean up of northern Lake Champlain, the single most polluted reach of the lake.

The center places funds and other resources dedicated to improving Lake Champlain's water quality, previously spread among various state programs, under the control of a single director who works directly for the Vermont Agencies of Natural Resources and Agriculture. The center's designation is largely due to the mobilization of several organized yet very small citizen groups ranging in size from a few dozen to a couple hundred members, including the Northern Water Partners.

By developing a unique cross-cutting operational structure, the center has solidified strong lines of communication and action across existing programs, departments, agencies, and organizations. By opening a new state office in St. Albans, the center has a new and vital physical presence in the northern lake. The Center for Clean and Clear has energized action by the state in the northern lake through a combination of technical assistance and grant awards targeting nonpoint sources of phosphorus runoff from both agricultural and urban land. The center's close ties with the Agencies of Natural Resources and Agriculture ensure a coordinated approach to regulatory compliance. As the center only has fewer than ten staff, it can be very responsive to the needs to place-based citizen group in the northern watershed. Center staff regularly meet with and assist members of the Northern Waters Partners. Many members of the Northern Waters Partners have been candidates or applicants for center funding to implement projects that will contribute to a cleaner Lake Champlain.

The largest challenge facing the center, as well as the Lake Champlain Basin Program, is how to quantify how much phosphorus pollution has been reduced according to the amount of money spent. Another challenge has been to estimate when the benefits of land-based solutions will change the in-lake phosphorus concentrations. To date, nearly $85 million, roughly half state funds and half federal funds, have been spent implementing the Clean and Clear Action

Plan. Despite the significant amount of funds spent, in-lake phosphorus concentrations have primarily stayed the same and in some cases increased. Research conducted worldwide indicates that it may take years before phosphorus runoff reduced by land-based pollution reduction solutions, such as planting buffer strips, installing agricultural best management practices, or retrofitting stormwater control structures, result in a reduction of in-lake phosphorus concentrations. The Lake Champlain Basin Program and the Center for Clean and Clear share many goals in common and their resources and strengths complement one another.

International Joint Commission of Canada and the US—a complementary framework for the international level

Canada and the United States created the International Joint Commission because they recognized that each country is affected by respective actions in lake and river systems along the border. The two countries cooperate to manage these waters jointly and protect them for future generations. The 1909 Boundary Waters Treaty established the International Joint Commission, which has six members. Three are appointed by the President of the US and three are appointed by the Governor in Council of Canada, on the advice of the Prime Minister. Commissioners must follow the Treaty as they try to prevent or resolve disputes. They must act impartially, in reviewing problems and deciding on issues, rather than representing the views of their respective governments. While the International Joint Commission is most often involved with water quality and water level conflicts, they are also engaged with capacity building for already existing water-related committees.

The International Joint Commission first became involved with northern Lake Champlain in 2004 due to conflicts dating back to the early 1990s between Vermont and Canada about the Alburgh-Swanton bridge replacement, removal of the existing causeway and excessive

phosphorus levels in Missisquoi Bay. The bridge crosses the mouth of Missisquoi Bay. The governments of Quebec and Vermont had previously signed the Missisquoi Bay Agreement in 2002 where each party agreed to reduce phosphorus pollution to Missisquoi Bay by 40% and 60%, respectively. Complete causeway removal was proposed to enhance water circulation between Missisquoi Bay and the Northeast Arm of Lake Champlain, also known as the Inland Sea.

Permits issued for new bridge construction by the Vermont Agency of Natural Resources required that most of the existing 80-year-old causeway be left in place because the causeway provides habitat for the spiny softshell turtle, a state-listed endangered species in Vermont with similar legislative protection in Quebec. Therefore, causeway removal was limited to only 330 feet in the middle of the causeway. Many members of the public believed that the causeway constricted flow in the bay and trapped excess phosphorus levels. A Missisquoi Bay hydrodynamic model developed by consultants in 1997 indicated that removal of the causeway would reduce average phosphorus concentrations and sedimentation in Missisquoi Bay by about 1%. Despite the scientific modeling presented and results, public perception continued to support the belief that the causeway prohibited the bay from flushing excess nutrients. Vermont and Quebec created the Missisquoi Bay Task Force, which was coordinated by the Lake Champlain Basin Program, to investigate further.

The International Joint Commission issued their study report about transboundary impacts of Missisquoi Bay causeway removal in 2005. The commission affirmed the finding of the Missisquoi Bay Task Force that causeway removal would have a negligible impact on phosphorus levels in the bay. However, the Commission also recognized the prevailing local

belief that the causeway contributed significantly to the problems of the bay. The commission found this belief so strong, they thought that as long as the causeway remains, it would continue to distract local citizens from taking the necessary actions to reduce phosphorus pollution into the bay. Therefore, the commission recommended that the causeway be removed under the condition that an amount of money equal to the cost of causeway removal be provided by the governments of Canada and Quebec to be spent roughly equally on both sides of the boundary to reduce phosphorus pollution into the bay and relocate habitat for the spiny softshell turtles. This recommendation was somewhat unexpected form an organization grounded in science-based decisions.

Since 2004, the International Joint Commission has continued to remain involved in northern Lake Champlain issues. As their continued participation must be linked to conflict resolution, they justify their participation as conflict avoidance. Their funds may not be used for implementation, but may be used for planning. They have signed an agreement to work collaboratively with the Lake Champlain Basin Program. Therefore, the commission selects projects in coordination with the Lake Champlain Basin Program. These projects range from nutrient management planning on small farm operations to the identification and mapping of critical sources of phosphorus pollution. By 2009, they will have invested nearly $2 million into protecting Lake Champlain. This collaboration has been a very successful joint venture so far. Since the International Joint Commission has historically worked at macro-levels such as the Great Lakes, it is unusual for them to work at Lake Champlain's level.

Decision-making paradigm in the Lake Champlain Basin through the framework provided by the Lake Champlain Basin Program

The Lake Champlain Basin Program achieves significant watershed improvements through its consensus-based, decision-making policies bolstered by state-to-state, state-to-province agreements. This incremental approach, steeped in multi-level partnerships and institutions, epitomizes the theory of natural resource regimes which emphasize roles of intermediate institutions in environmental management (Drost and Brooks, 1998).

Since the historic 1988 *Memorandum of Understanding on Environmental Cooperation on the Management of Lake Champlain*, 16 additional agreements have been signed—averaging nearly one per year. They range from joint declarations and watershed plans to phosphorus standards and toxic spill responses. These renewable agreements bear the support and participation of state, provincial, and federal agencies; local government; and businesses with a very strong citizen component (Stickney, 2008). In 2009 and 2010, four of these agreements are scheduled for renewal.   They have been signed by governors and premiers, state and federal natural resource policy leaders, senators and mayors, and nongovernmental organizations.

Use of nonbinding, renewable agreements more easily bridges differences among jurisdictions, whether interstate, intrastate or international. Additionally, these agreements can be updated more immediately as new information and technologies emerge. These agreements can be assembled more quickly than pursuing traditional regulatory or legislative avenues (Stickney, 2008). Due to this integrated decision-making model, UNESCO designated the Lake Champlain Basin as one of seven demonstration watersheds within its Hydrology, Environment, Life, and Policy (UNESCO HELP) program in 2005. In 2009, the basin was promoted into the third stage of the HELP program.

The sequence of voluntary renewable agreements is depicted in Figure 4. Several practical practices and recommendations emerged from this sequence.

- **A consensual policy style versus an adversarial policy style results in reliable and evolving commitments by Vermont, New York and Quebec.** Nearly one agreement has been signed each year on average among two or three of the jurisdictions which reaffirms their continuing commitment towards shared management of the Lake Champlain Basin. This approach encourages a higher level of participation in watershed cleanup activities than required by bureaucratic regulation.

- **Less regulation and renewable, flexible agreements result in substantial financial commitments by Vermont, New York and Quebec.** In partnership with the Lake Champlain Basin Program, the three jurisdictions have invested millions of dollars annually, primarily to reduce point source phosphorus pollution and cleanup hazardous waste dumps, and also for aquatic nuisance species control and water quality research. Partnering with the basin program allows the three jurisdictions to proactively plan lake and watershed improvements for their respective geographic regions without being required to do so.

- **Political will supports sustainability of the Lake Champlain Basin Program and observance of its operating principles.** The signatures of the Governors of Vermont and New York, Premier of Quebec and the Regional Administrators of the United States Environmental Protection Agency give the *Opportunities for Action* management plan significant credibility. The nonbinding, voluntary and incremental aspects of signing agreements encourages their participation while still allowing for different implementation styles and creative thinking such as Vermont's *Clean and Clear Action Plan*, New York's *Clean Air/Clean Water Bond Act*, and Quebec's new, model, extensive riparian buffer policies.

- **A built-in renewal schedule for voluntary bilateral and trilateral agreements results in immediacy and accountability**. Voluntary agreements evolve more rapidly than traditional regulation and legislation. Regularly revisiting agreements allows emerging scientific information and public needs to be incorporated quickly to improve accountability. Currently, the emergency spill response and permit exchange agreements, which lack built-in renewal schedules, need updated procedures. There have been a few incidents on Lake Champlain where either the wrong individuals were contacted regarding an emergency spill, or new staff did not follow the procedure because it was out of date.

- **"Leapfrogging" or developing agreements incrementally keeps them linked together and looking forward.** The original 1988 *Memorandum of Understanding* called for a cooperative approach to lake management and for in-lake phosphorus criteria to be developed in the future. The 1993 *Water Quality Agreement* established in-lake phosphorus criteria and called for phosphorus loading targets to be developed in the future. The 1996 *Phosphorus Reduction Agreement* established phosphorus loads and called for Vermont and Quebec to divide responsibility for reducing phosphorus in Missisquoi Bay. The *Missisquoi Bay Agreement* established the division of responsibility between Vermont and Quebec. Each agreement made progress and set a future target that was met within a few years.

Place And Decision-Making Integrated Within The Framework—How It Works

Local place-based groups in Lake Champlain's challenging northern watershed— engaged citizens and engaged resource management agencies

There is a diverse array of citizen groups spanning the northern watershed of Lake Champlain. In Vermont, there are seven major citizen groups with membership ranging from a few dozen to a few hundred volunteers. Interestingly, these small citizen groups affiliate

themselves with their immediate surroundings instead of Lake Champlain as a whole. Rather than identify with candidate names such as Save Lake Champlain or Friends of Lake Champlain, their organizations have strong place names: Friends of Missisquoi Bay, St. Albans Area Watershed Association, Franklin Watershed Committee, Missisquoi River Basin Association, Farmers Watershed Alliance, Northern Lake Champlain Citizens Advisory Council, and Friends of Missisquoi National Wildlife Refuge.

Some of these groups are incorporated as non-profit organizations, and some are not. None is more than 10 years old. These groups tend to have one or two part-time staff people or volunteer coordinators. They are not professional organizations, and they do not necessarily have specialized training or knowledge. Yet, they are passionate about the places where they live and work. To gain clout with the Governor and Vermont Legislature, these groups formed an alliance called the Northern Waters Partners. They have released joint statements of recommendations for Lake Champlain and its watershed for three years now. Their coalition building has been successful, inspiring and unique in several ways. These brief snapshots of each group provide a flavor of their interests and strengths.

- Friends of Missisquoi Bay—started in ~2003, the friends are driven to find political will and funding to rapidly clean up the bay. A key founding member owns a family resort on the shores of Missisquoi Bay. They are very focused on how to reduce phosphorus runoff pollution that contributes to toxic blue-green algae blooms that negatively influence recreation businesses and close beaches to public access. Membership includes about 50 people.

- Missisquoi River Basin Association—created in 2000, the association is an active non-profit group of volunteers dedicated to the restoration of the river, its tributaries,

and Missisquoi Bay. The Missisquoi River is a major tributary to Lake Champlain.

Activities vary from fieldwork to stabilize stream banks, and planting trees in buffer

areas, to assessing stream bank conditions. They clean up trash along the banks, cost-

share with farmers on nutrient management planning, and are launching a volunteer-

led water sampling program. Membership includes about 150 people.

- St. Albans Area Watershed Association—organized in ~2002, the association

  operates in a primarily urban sub-watershed of Lake Champlain. The group

  participates in stormwater flow monitoring, water quality monitoring, and promotion

  of lake friendly lawn and garden practices. Data from the monitoring and analysis are

  destined to be used as a decision-support framework. Membership includes about

  300 people.

- Northern Lake Champlain Citizens Advisory Committee—created in ~2002, the

  committee comprises residents in and around Carry Bay and Alburgh Passage area.

  Carry Bay, a bay within rural North Hero Island, is bounded by an old abandoned

  railroad causeway. Residents believe that the causeway traps phosphorus pollution in

  the bay which contributes to nuisance and toxic algae blooms and lower property

  values. They have been lobbying multiple parties to study and fund causeway

  removal, which is their single most important issue. Membership includes roughly 40

  members.

- Farmers Watershed Alliance—started in ~2006, the alliance has mirrored the

  Canadian model of Agricultural Clubs. These clubs consist of roughly 30 farmers

  working with an agronomist to develop nutrient management plans. The Canadian

  plans are required by the government to reduce nutrient runoff and protect water

quality. The Canadian government shares costs with the farmers to hire the agronomists. Nutrient management plans not only reduce phosphorus pollution, they also save farmers money by reducing fertilizer and grain costs. The alliance works primarily with small farm operations in Vermont which are currently unregulated except by practices called "acceptable agricultural practices." Membership includes roughly about 200 people.

- The Franklin Watershed Committee—formed in ~2004 from the previous Lake Carmi Watershed Committee, they investigate and address sources of phosphorus to the lake. Franklin County covers much of the northern Lake Champlain watershed. The group has addressed phosphorus sources in all categories of land use and has consistently worked under the philosophy that in order to be effective all watershed and shoreland landowners must be involved to build trust and participation. The committee is registered through the state as a non-profit organization and is currently applying for federal status (501c3).

- Friends of Missisquoi National Wildlife Refuge—created in 2005, the friends are a federally registered 501(c)3 focused on fundraising for the national wildlife refuge. Members provide volunteer and financial assistance to the refuge, and they helped fund the new "green" state-of-the-art visitors center.

Synthesis: Based on these snapshots of each group included in this paper, it is obvious that they are not united in task or mission. Their primary foci range from causeway removal, agricultural nutrient management and urban storm water flow monitoring to stream bank stabilization, political organizing and natural community interpretation and fundraising. All want to improve their local environments. Their kitchen meeting, front porch style coalition has

not only unified them into an educated, savvy entity, but they have been extremely successful in gaining recognition and commitments from the Vermont Legislature and Quebec provincial governments. Even the federal government has become more intimately engaged when the USDA Natural Resources Conservation Service created in 2008 the citizen collaborative regional plan entitled the *Missisquoi Basin Areawide Plan*.

This diverse, collective vision is interesting, because it revolves around an extremely polluted part of Lake Champlain. This strong connection to place is to an impaired place. Many people consider other parts of Lake Champlain more scenic than the far northern watershed, and other regions within the Main Lake are considered fairly oligotrophic, or fairly nutrient free, waters. Yet, having a clean lake is vital not only to the economy, but also to these local communities in the northern watershed. To better meet the needs of the Northern Waters Partners, the Center for Clean and Clear opened a small office in St. Albans which decentralizes resource management from Vermont Agency for Natural Resources headquarters or regional offices elsewhere.

Collaboration among these groups is evocative of the opening quote to this chapter. These groups are focused on their immediate environs rather than seeking out another particular place to protect. The larger story is that they have chosen to focus their efforts and talents on the place where they live. Unique elements include the scales of landscape involved. Many other prominent citizen-based or environmental non-profit groups in Vermont are focused on larger geographic areas. For example, the Green Mountain Club is focused on the Appalachian Trail and the Long Trail which travels the length of the state. The Connecticut River Joint Commissions covers the Connecticut River which separates Vermont and New Hampshire. The Vermont Agency of Natural Resources initiated a river basin planning process in 1999 that

covers the 17 major river basins in the state. Even, these new river basin planning groups cover a much larger geographic scale—more of a county or cross-county level—and they tend to work independently rather than as a coalition of smaller groups. While the state's river basin planning initiative has created citizen groups to engage and inform the planning process, one of the reasons that the Missisquoi River was chosen for action early on is that the region was already rich with these groups.

Local place-based groups in Canada

There are two main Quebecois place-based groups that enage with the Lake Champlain Basin Program, the International Joint Commission and the Northern Waters Partners, as follows.

- Corporacion bassin versant baie Missisquoi (CBVBM)—created in ~1999, the corporation is a smaller citizens committee focused on cleaning up Missisquoi Bay in accordance with the Vermont – Quebec Missisquoi Bay Agreement signed in 2002. The French name roughly translates into the Missisqoi Bay watershed association. The CBVBM received funding from the Quebec Ministry of Sustainable Development, Environment and Parks to develop a management plan for Missisquoi Bay. The Corporacion is very engaged with the Missisquoi Bay Agreement signed by Vermont Quebec where each jurisdiction committed to specific phosphorus reduction targets. Membership includes roughly 100 people.

- Le Comité de concertation et de valorisation du bassin de la rivière Richelieu (COVABAR)—created in 2000, this committee is better known in the US by the acronym COVABAR which roughly translates into the committee for the protection of the Richelieu River drainage basin. The Richelieu River drains Lake Champlain north to the St. Lawrence. While COVABAR is a citizens committee, they receive funding from

the Quebec Ministry of Sustainable Development, Environment and Parks. Funds received are spent on developing action plans to clean up waters in the Richelieu watershed.

How place-based groups engage with the larger decision-making framework

The Northern Waters Partners and the Quebecois place-based groups are familiar to the Lake Champlain Basin Program and to the Lake Champlain Citizen Advisory Committees in Vermont, New York and Quebec. When the Lake Champlain Basin Program Steering or Executive Committees convene every month or every other month, the meetings begin with nearly a half hour of public comment. Some members of the Northern Waters Partners and the Quebec citizen groups serve on some of the advisory committees to the Lake Champlain Basin Program, in particular the Vermont and Quebec Citizen Advisory Committees and the Education and Outreach Committee. The Lake Champlain Basin Program's long-term management plan for Lake Champlain, *Opportunities for Action*, was derived from multiple public meetings and working sessions so that the contents of the plan were recognizable and supported by the public. For this reason, the Governors of Vermont and New York and the Premier of Quebec signed the two versions of the plan developed so far. *Opportunities for Action* basically reads as a menu of identified priorities. The Lake Champlain Basin Program awards grant funds to place-based groups, municipalities, universities, and other group to implement priorities of the plan. It is a living document that was created and is being implemented especially by many local place-based groups.

A mosaic of empowerment and collaboration

It is interesting to map a diagram of the relationship between the Lake Champlain Basin Program, the Vermont Agency of Natural Resources' Center for Clean and Clear and the place-

based groups in the northern watershed. The Lake Champlain Basin Program provides an

overarching framework that allows groups to interact without triggering regulation. The Center

for Clean and Clear is a response from the state to place-based groups in the northern watershed

to accelerate funding and implementation to clean up the watershed (which will clean other areas

as well). The place-based citizen groups engage with both programs, and they are fairly

intertwined in purpose and action. One way to map this arrangement might be as a pyramid,

where the Lake Champlain Basin Program is at the top of the pyramid as a neutral organizer and

funder, the Center for Clean and Clear in the middle with the regulatory part and technical

expertise and funding, and the strong base of the pyramid is the network of place-based citizen

groups. An inverted pyramid with citizen input driving actions and practices by resource

managers may be more accurate. Another model might have the place-based citizen groups at

the top of the pyramid since they are connected to action and implementation and they are

guiding the LCBP and CCC.

However, the relationships are so entwined and overlapped that it is better to view the

relationship as a mosaic or quilt, where different pieces either fit together or overlap, where some

pieces are larger and more colorful than others. In this diagram, the Lake Champlain Basin

Program and the Center for Clean and Clear provide the base fabric or two-dimensional

foundation, but it is the place-based citizen groups that create the character of the quilt. In the

quilt analogy, the separate pieces create layers of organization. The separate pieces overlap and

strengthen the fabric (Figure 5). This symbiotic relationship is influenced by strong connections

to place. Bringing these small groups together through the management framework empowers

them and helps mobilize them. The quilt brings their individual actions into a larger collective

action to improve Lake Champlain's watershed, especially by trying to solve the hardest to solve

problem first—Missisquoi Bay. The lake quilt concept serves as a good example of citizen empowerment and social justice.

What happens when the framework breaks down

There have been several instances in the last few years when place-based citizen groups felt that the overarching framework and collaboration between the Lake Champlain Basin Program and the state agencies did not serve them well. In those instances, these groups took control of the situation in their own ways instead of relying on the state agencies for answers. While the committees within the Northern Waters Partners may be small, they are well connected and receive regular sit down meetings with the Governor. They also have good media contacts and relationships. They are exerting greater influence and power over the activities of the state resource management offices.

Citizen interpretation of Lake Champlain monitoring data: Some citizen groups and newspaper reporters are applying their own interpretations to scientific monitoring information. For example, the Lake Champlain Diagnostic Feasibility Study conducted in 1991-2 designated 1991 as the 'base year" that was used to establish in-lake phosphorus concentration criteria and acceptable sub-watershed phosphorus loads. The Water Quality Agreement (1993) and the Phosphorus Reduction Agreement (1996) codify these criteria. Basin citizens are extremely frustrated since fifteen years later, after the investment of millions into Lake Champlain cleanup, lake conditions appear to be the same or getting worse in most sections of Lake Champlain. Demands for improvements inspired the Lake Champlain Basin Program and State of Vermont to closely view the monitoring data which suggest that 1991 was an unusually dry year. Since the weather in the Lake Champlain Basin has been unusually wet in the 2000s, data showing trend detections are first flow-adjusted before being released to the public to account for higher

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than usual water flows and rainfall. The flow-adjusted data show that improvements in phosphorus reductions have occurred, while the raw data does not.

Some citizen groups perceived these adjustments as spin. These groups are also very connected to the media. When they did not like the interpretation of lake monitoring data being released by the state agencies, they contacted reporters who took the raw data and rendered a different interpretation. According to a prominent article in a major newspaper, the raw data show that phosphorus levels have been increasing, much to the embarrassment of the Vermont Agency of Natural Resources. Some state employees have perceived the situation as one where data that they collected and interpreted is being held against them.

Accounting for phosphorus reductions: The Lake Champlain Basin Program and the State Agencies of Natural Resources and Agriculture have demonstrated national and international difficulties with developing an accounting system to track phosphorus reductions with funds expended. They share the frustrations that citizens have with the slow cleanup of Lake Champlain and the challenges of accounting for the millions invested in cleanup. As some citizen groups believed that the State of Vermont was ignoring or resisting their concerns, they contacted legislators and testified at the Vermont Statehouse.   Due to this testimony, the Vermont Legislature has applied pressure to the leadership of the Vermont Agencies of Natural Resources and Agriculture. One result was that in the first year that the Center for Clean and Clear was created, it was audited by an independent contractor. Additionally, the center was required to submit a progress report to the legislature about how funds had been spent through the Clean and Clear Action Plan before the center was even created. This result speaks to a shift in the power balance between citizens and the government resource management agencies that serve them. Some might see it as an end-run around the jurisdictions of the Vermont Agencies

of Natural Resources and Agriculture. An even larger jurisdictional shift is being suggested.

Vermont is one of only a few states designated by the US Environmental Protection Agency as

leading their own compliance with the Clean Water Act.   As a "self-designated" state, they

initiate compliance among agricultural and commercial sectors. Some citizen groups and non-

profit organizations have called for this designation to return to the US Environmental Protection

Agency.

<div align="center">Conclusion</div>

The Lake Champlain Basin presents a very complex ecosystem and poses a very complex

network of stakeholders engaged in cleaning up the basin. While many more stakeholders and

organizations exist than are included in this chapter, it was important to carefully craft the scope

of this chapter. The contents of this chapter focused primarily on the Lake Champlain Basin

Program as a framework for interaction among specific groups. Therefore, the framework was

defined between the Lake Champlain Basin Program and the Vermont Agency of Natural

Resources Center for Clean and Clear, with the International Joint Commission to show the

international collaboration and because of their involvement with Missisquoi Bay. The place

was defined as northern Lake Champlain, especially Missisquoi Bay. Place-based citizen groups

were limited to the Northern Waters Partners and two Quebecois citizen groups, again revolving

around Missisquoi Bay. This region is particularly rich in action and opportunities for improving

the surrounding ecosystem.

While the focus has been how place-based citizen groups can significantly influence the

quality of their environment, there are lessons and examples of how what was done at the local

level can be tranferred to other regions. An overt message in the chapter is how a larger

framework coordinated through a politically neutral organization such as the Lake Champlain

Basin Program can support action by small place-based citizen groups. An underlying message is how when those frameworks fail to meet the needs of these groups, they are also capable of finding other ways to stimulate action. Perhaps the message to take away from this chapter is partially summarized in the quote above. Because Lake Champlain's small place-based citizen groups are connected through their hearts to their places within the larger watershed, that place becomes elevated in their lives.

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Part 4: Place mapping and segmentation

Place-based planning does not necessarily imply the need for new techniques or revamping strategies for public involvement. Whereas some researchers start with the concept of place and derive planning process from the concept, others start with the traditional tools of land-use planners and fit the concept to adaptations of the tools. Such is the case with chapters of this section. These chapters recognize that maps are an essential element to ground land-use plans in the physical world, and because they are recognized as such, they form a common basis for dialogue amongst stakeholders. Geographic Information Systems (GIS) allow spatial information to be digitized and mapped for various kinds of analysis. Although the concept of place is embedded in frameworks of social construction, felt senses, and lived experiences, there are geographic groundings of place that emerge in the following chapters. Each chapter portrays a distinct technique and unique set of outcomes associated with the various adaptations of GIS to place-based planning.

Cacciapaglia and Yung adapted a participatory mapping technique to understand place meanings and their relationships to fire and fuel planning. Their technique involved individual conversations with stakeholders coupled with computer-based mapping exercises. When discussing their special places, stakeholders referred to specific sites and particular place meanings. However when questions were asked regarding fire planning, stakeholders' geographic scale of reference moved from site to landscape level place meanings. Private landowners could not divorce the place meaning of their property from the entire landscape, and addressed them as if they were one and the same.

McIntyre, Lesueur, and Moore elicit place meanings from local stakeholders in northwestern Ontario through coordination of focus groups and mapping. The second phase of

their research employed a broad-based survey that resulted in mapping of the place meanings from the first phase in conjunction with a mapping of forest-based recreation activity. Their study recognizes some distinct qualities of managing Crown Lands in Canada, including the potential for disconnections between the policy-oriented federal Canadian Forest Service and the planning and operations handled by provincial governments. In particular, federal directives to manage for wilderness values were relegated to lower priority in some areas due to the provincial priorities that privilege place values related to harvesting timber. Their approach to participatory mapping elicited public dialogue on some of these disconnections, with implications for management to address the disconnections.

Using a relational marketing framework, Watson and colleagues also characterize a participatory mapping technique. Their technique emphasizes the development of long-term relations and trust building with stakeholders. Their study is conducted with stakeholders from the Flathead Indian Reservation in Western Montana, and recognizes the need to address the heavy accumulation of fuel build-up due to decades of fire suppression on tribal forests. Interviews coupled with the mapping exercises led to further clarification of the impacts of logging on places, the impacts of fire events on places, and the trade-offs between these two kinds of impacts as evaluated by tribal members. However maintaining trust between the land management agencies, the tribal council, and other tribal organizations was a significant outcome of the participatory mapping technique.

Whereas the three previous chapters embrace the particularities of the planning locale, Brown and Reed's chapter approaches place meanings from a universal typology and the need to standardize metrics across planning contexts. Brown and Reed premise their values compatibility analysis on the need for planning process to recognize multiple place meanings,

that planning processes rarely provide room to articulate place meanings and landscape values, and that decision-making occurs at multiple geographic scales. They describe their decision support system founded on traditional planning techniques, yet integrated with place meanings and values. Traditional forums generally have neglected place meanings and values because of problems with measurement, aggregation, and trade-off analyses. Brown and Reed address these problems with their GIS-based values compatibility analysis.

Although not employing a GIS technique per se, the community-based segmentation study conducted by Christensen and Burchfield is compatible with mapping analyses in that it promotes public dialogue about place and seeks compatibility amongst the place bonding of stakeholders. Christensen and Burchfield recommend their human / place bond procedures for employment in the early phases of land-use planning in order to breakdown stakeholder stereotypes, assess spatial arrangement of human / place bonds, and serve as basis for stakeholder dialogue about place attachment. The application of their study takes a seemingly polarized issue of off-road vehicle use on federal lands, and reveals multiple community segments. Although at first-blush appearing as dichotomous, the analysis portrayed a nuanced view of community from which to start collaborative efforts.

There is not any one strategy to fit place-based planning to traditional mapping or community segmentation techniques. Rather there are multiple paths that allow customization to the context of the site. They share in common a basis to foster public dialogue about place, to strengthen relationships amongst stakeholders due to the participatory exercises and depth of interaction, and hold promise to address multiple geographic scales for land-use management.

Participatory place mapping in fire planning

Michael Cacciapaglia and Laurie Yung

Abstract: Because place situates social phenomenon in geographical space, the place concept demands that we think more carefully about the role of scale and how different scales interact. This chapter explicitly connects place meanings to proposed management actions through participatory mapping. We used a computer-based mapping exercise embedded in an in-depth qualitative interview to understand forest landowners' relationship with place and views on fire and fuels management. Participating landowners mapped places of importance and locations where specific fuel treatments were acceptable; maps could be drawn at multiple spatial scales and landowners were able to describe their maps in detail. We found that relationships with special places had little bearing on landowner preferences for fire and fuel management. Instead, most were very willing to accept change in their special places, acknowledging that such change is an inevitable and integral part of the forest landscape. Landowner preferences for fire and fuel management were situated almost exclusively at the landscape scale and these preferences were connected to place meanings that were also situated at the landscape scale (what we call "landscape narratives"). Getting scale "right" is critically important to management, especially for public lands managers engaged in project planning at multiple scales.

The question of how to manage fire and fuels in ways that accomplish ecological and social goals is of growing importance. In many western forests, fuels have accumulated as a result of decades of fire suppression. Higher fuel loads can increase the risk of catastrophic or stand replacing fire. Climate change may increase both the frequency and intensity of fires in the west. At the same time, rural residential development within forested landscapes has expanded and forest landowners living in the wildland urban interface (WUI) are disproportionately impacted by fire and fuel treatment. Forest fires and fuel management can affect the economic resources, scenic views, and property of such landowners. As local communities are brought into the conversation about the management of nearby forests, it is particularly important to understand the views of forest landowners on the management of fire and fuels. Place may provide an important window into landowner views on environmental change and proposed management actions as they relate to fire and fuels.

In this chapter, we explore the potential of participatory mapping to link place to decision-making. In the last decade, there has been a surge of interest in participatory mapping. By capturing the spatial dimension of place in a reproducible map, researchers may be able to communicate place concepts to managers and, therefore, better inform planning and decision-making. Below we describe a study of forest landowners living adjacent to the Kootenai National Forest in northwest Montana. We employed in-depth interviews and a computer-based participatory mapping exercise to understand the relationship between landowners and the place where they lived, and how place meanings connect to views on fire and fuel management. This mapping exercise was specifically designed to ascertain the spatial relationship between place meanings and management preferences. In other words, we hoped to demonstrate that management preferences were different for places that landowners identified as particularly important. While we found important connections between place and management preferences, these connections are in many ways contrary to prior research on place. Below we examine the implications of these findings for decision-makers interested in using place research in planning and management, and for researchers or decision-makers using participatory mapping exercises.

Linking Place with Proposed Management Action

While managers and policy-makers recognize that people's relationships to places are important, place research only occasionally contributes to decision-making. Where place research is available it is often used to understand the broad outlines of people's relationships with the surrounding landscape. However, because such research is rarely explicitly connected to proposed natural resource management actions, it is difficult to translate research results into public preferences for specific management options. In other words, place research investigates

people's views on and relationships with particular landscapes and locations, but often fails to examine how these views and relationships are related to specific management actions. Thus researchers cannot draw direct conclusions about how documented place meanings relate to different management options. For example, research might reveal the meanings associated with a particular lake or scenic view, but provide little understanding of how those meanings interact with preferences for how that lake or scenic view are managed. Far too often, researchers and decision-makers make "logical," but unfounded assumptions about the relationship between place meanings and proposed management actions. They assume that particular place meanings are threatened by particular management actions (or that the place meanings themselves influence views on particular management actions). But many questions remain. If a particular campsite is important to local residents, should it be protected from catastrophic fire through thinning? If a beautiful scenic view is important to tourists, should managers attempt to maintain that landscape in its current condition? In most cases, decision-makers cannot be certain how place meanings translate into management preferences.

For place research to truly integrate place meanings into natural resource planning and decision-making, it must investigate the connections between sense of place and specific management actions. We need to better understand if, how, and under what conditions place meanings are related to views on a range of management actions, from forest thinning to ski resort development. Decision-making bodies will then have information regarding why an understanding of place is relevant to specific decisions and how to use place research in decision-making. This knowledge could potentially aid managers in anticipating, if not avoiding, conflict over values or interests that may be threatened by particular management actions.

Place Meanings and the Sociopolitical Landscape

As described by Williams, this volume, the building blocks of people's relationship with place are place meanings. Place meanings include beliefs, values, symbols, images, memories, and personal history. Such meanings are often influenced by political ideology, material interests, and identity. Place meanings are malleable, diverse, and continuously created (Williams 2006). A fisherman prefers a particular stream because he had memorable trip there with his family as a boy. Residents of a timber-dependent community describe the surrounding landscape as a working forest, emphasizing livelihood, resource use, and community identity. Place meanings are individual threads in the tapestry of people's individual and collective relationships with place, intricate and complex. However, such meanings are not necessarily shared or agreed upon. Even in small, rural communities, there are multiple and sometimes competing views (Belsky 2002; DuPruis & Vandergeest 1996). Place meanings are often politicized and contested, because such meanings are connected to different ideas about what is and is not legitimate use of a particular landscape or location (Yung et al, 2003). In the example above, descriptions of a working forest are inextricably connected to ideas about how that forest should be managed. Thus, place meanings, while oftentimes described as largely psychosocial, are part of a broader sociopolitical landscape characterized by agreement and difference, shared and contested ideas, and, in the case of fire and fuel management in the west, conflict over natural resource management. However, how ideas about legitimate use translate into specific management preferences, or support for particular proposals, remains unclear.

Special Places

The concept of "special places" is particularly relevant to this study, and to the effort to connect place to decision-making. To the extent that decisions are site specific (e.g. the decision to thin a specific stand of trees or to conduct prescribed burning on a hillside), understanding site specific place meanings may be critical. Schroeder (2002) described special places:

> When people have highly valued aesthetic and emotional experiences in specific
>
> places…these places…take on particular importance for them and become
>
> "special places." People become attached to such places.

Schroeder also set outs the spatial parameters of special places as "particular geographic areas." In 2004, Schroeder suggested that understanding special places could help managers protect the qualities that people valued in particular locations on the landscape. According to Schroeder,

> …managers should make a special effort to listen to residents and visitors to learn
>
> what characteristics of special places are important...adapting plans as much as
>
> possible to protect the qualities that make these places special. (Schroeder 2004)

Other research on special places concluded that management policies which disregard the attachment of users to special places and are based on the substitutability of these places will not be acceptable to users (Eisenhauer et al. 2000). Moore and Scott (2003) reiterated the importance of managing for special places to improve user satisfaction and community-agency relations. Because special places are assumed to be spatially discrete and non-substitutable, many mapping efforts have focused on understanding place at this scale.

Participatory Mapping

Mapping has become increasingly important in place research. Mapping provides a window into the spatial nature of place meanings and a way to represent such meanings visually. Furthermore, managers make many decisions based on maps that typically include ecological and biophysical data. Geospatial data, usually in the form of geographic information systems (GIS) maps, has become a critical component of decision-making. However, to date, social scientists have struggled to capture complex and nuanced social data in such formats. Furthermore, because of the technical expertise it demands, GIS is oftentimes an inaccessible technology and is thus difficult to utilize in to engage the public. But, if social data, such as place meanings, can be adequately represented in a visual format, such data might be more accessible to a range of interested parties. Specifically, participatory GIS exercises could be incorporated into NEPA-mandated public involvement processes. Alternatively, collaborative groups could employ participatory mapping as they actively negotiate how they envision proposed projects actually happening on the ground. Oftentimes a visual aid such as a map will elicit different reactions and clarify important ambiguities present in abstract group discussion of inherently concrete phenomena. Some place researchers have suggested that such interactions can contribute to mutual learning, trust building, and much more (Carver 2003, Williams 1995, Gunderson et al. 2004).

In the past two decades, GIS and related techniques have been used to map public views and social meanings in a wide range of studies and disciplines, from mapping perceptions of crime to public views of wildness. Early efforts involved working with pencils or markers and paper maps (Gunderson et al. 2004; Jakes et al. 1998) or placing stickers-dots on maps to represent various environmental values (Brown 2005). Gradually, these methods have given way to digital mapping techniques. Brown (2006) continues to advance the landscape values/sticker-

dot methods, now in digital form, while Norm McIntyre and others (Yuan et al. 2004) have developed a mapping process using GIS points and polygons. In the field of critical geography, some researchers have utilized a methodology referred to as "grounded visualization" wherein the commitments and methods of grounded theory are melded with powerful visualization capabilities of GIS in an iterative, mixed-methods approach (Hurley et al. 2008; Knigg & Cope 2006; Pavlovskaya 2006; St. Martin 2001). As transdisciplinary work becomes more common and GIS technology becomes more accessible, efforts to map supposedly qualitative data in quantitative ways will no doubt continue.

The research described herein was the third iteration of a larger research program focused on mapping place meanings to better understand local views on fire, fuels, and wilderness. An initial study was conducted by Gunderson et al. (2004) and focused on local residents' relationship with the Selway-Bitterroot Wilderness in Montana. Watson et al. (2007) in the second iteration of this study, described earlier in this volume, investigated place meanings and the threats to these meanings by fire and fuel reductions on the Flathead Reservation in western Montana.

Fire and Fuel management on the Kootenai National Forest

The question of how to effectively manage fires and fuels in the western U.S. is increasingly important to natural resource managers, policy-makers, and forest communities and landowners. Fuel build-up and the expansion of rural residential development, combined with prolonged drought and the risk of high intensity, stand-replacing fires have pushed this issue to the fore. In 2000, following a summer of widespread wildland fires, a National Fire Plan was developed. The plan provided a guide for federal land agencies, such as the Forest Service, regarding how to "respond to…severe fires, reduce the impacts of these wildland fires on rural

communities, [and] reduce immediate hazards to communities in the wildland-urban interface"

(USDA/USDI 2000: 1). The plan suggested several avenues for improvement to planning for fire

and fuel reductions. These suggestions included two mandates directly aimed at increasing local

participation: 1) Invest in Projects to Reduce Fire Risk, and 2) Work Directly with Communities.

These mandates emphasize achieving community protection through hazardous fuel reductions

and collaboration between managers and stakeholders.

Volumes of research have been produced concerning the economic and ecological

aspects of fire (Agee 1993; Arno & Allison-Bunnell 2002; Johnson & Miyanishi 2001). By

comparison much less research has focused on the social and cultural aspects of wildland fire.

But, according to Daniel et. al. (2003) "support for fuel reduction strategies hinges on public

perception and evaluation of a complex set of tradeoffs among uncertain and potentially

conflicting values" (36), including "fire safety and aesthetic/amenity values" (42).

Much of the fire social science research has focused on the aesthetic values of forest

landowners. Previous literature has established that WUI landowners often preference their

landscape aesthetics over fire hazard reduction on their own property (Daniel et al. 2003; G. F.

Winter et al. 2000). Nelson et. al. (2005) found that homeowners in Minnesota and Florida

managed trade-offs between a wide array of values including "naturalness, aesthetics, wildlife

considerations, recreation and privacy" (178) when making decisions about managing their own

property for fire safety. Wall (year) found that, in Seeley Lake, Montana, homeowner views

regarding defensible space were related to aesthetic preferences. Many landowners who favored

thinning on public lands did not favor thinning on their own property because of specific

aesthetic ideals. This seeming contradiction is well documented in the literature (Beebe & Omi

1993; Daniel et al. 2003; Vogt 2003; G. Winter & Fried 2000).

Beyond aesthetics, previous research has linked community-landscape relationships, including place concepts, and perspectives on fire and fuels. Gunderson et al. (2004) found that that local people held functional and emotional attachments for forest places, and that community place attachments were at risk from fire and fuels treatments that alter the landscape. Watson et. al. (2007) indicated that a wide range of social and ecological factors contribute to individual and community place meanings, and that some these meanings were threatened by certain types of fire (Watson 2007).

Study Site: Libby and the Kootenai National Forest

The study described here was conducted in the rural, forested community of Libby, Montana, which lies within the Kootenai National Forest (KNF). The Cabinet Mountains Wilderness (CMW) rises sharply at the KNF's southern end (See Figure 1). Within miles of Libby, the Cabinet Range descends steeply into heavily forested foothills. The Cabinet landscape includes wilderness and roadless areas as well as units used for timber production. National Forest lands gradually phase into clusters of rural residential development and some isolated homes completely ensconced by the National Forest lands. The WUI lies here, where these private parcels adjoin and intersperse public and private forest lands.

Like many rural communities across the West, the economy of Libby was historically based on extraction of natural resources. Namely, the industries of mining and logging dominated in the past. Now the region is transitioning to a more diverse economy where extractive natural resource industries play a smaller role. Service industries, such as tourism and outdoor recreation, are being endorsed by some residents and organizations within the Libby community. However, this vision does not represent the views of many residents who still rely

on and champion the traditional livelihoods based on timber and ore. Because of these competing views on natural resource use and public lands management, local views on fire and fuel management in the WUI vary considerably, and land managers have the difficult job of negotiating the interests and needs of different users and groups. Conflict over management of public lands has figured prominently in local politics. If decision-makers can better understand the residents' relationships with place, they may be able to work through such conflict and achieve more desirable management results for all stakeholders.
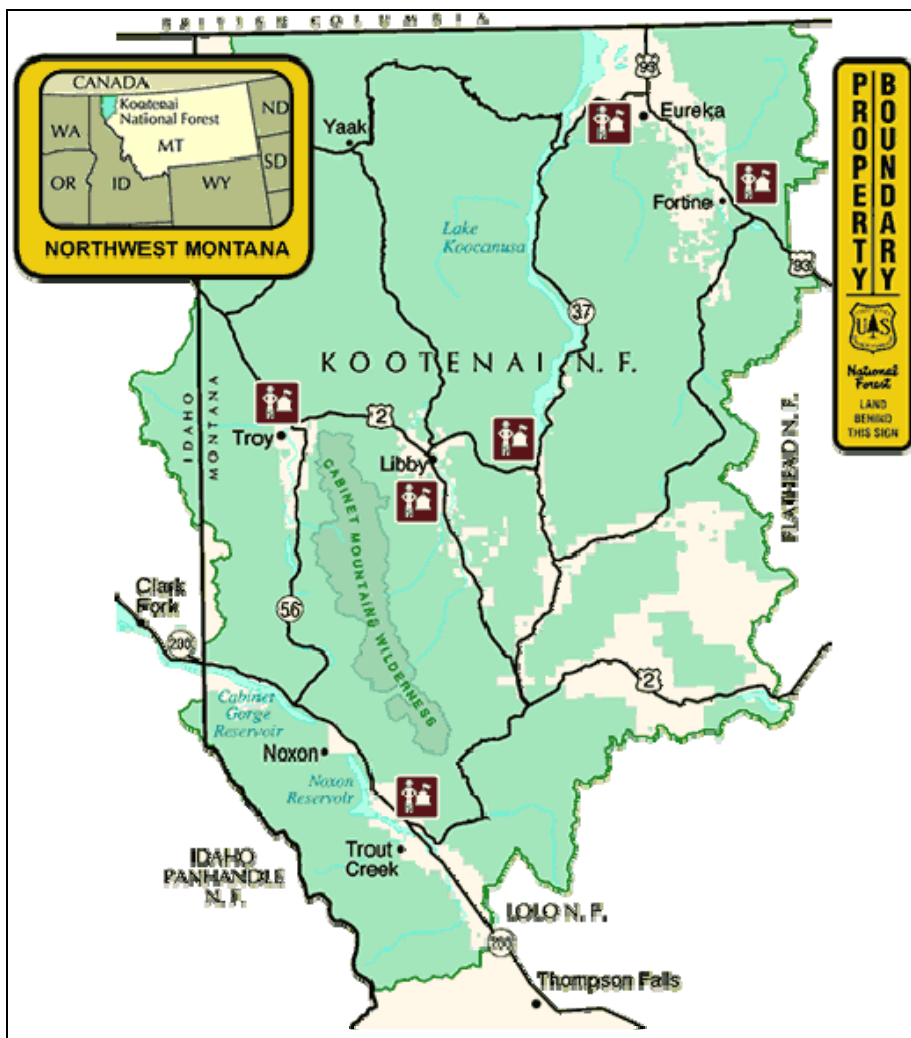
Figure 3. Map of the Kootenai National Forest. Courtesy of the USDA/USFS.

Integrating Participatory Mapping into Qualitative Interviews

To better understand the meanings and views of local landowners, the first author conducted in-depth, semi-structured interviews during the summer of 2007. The qualitative method of extended interviews was chosen to gain insight into complex place meanings and views on fire and fuel management, and connections between the two. This study focused on the population of forest landowners living in the wildland-urban interface (WUI) near Libby. Forest landowner was defined as an individual or family who own a parcel of forested land adjacent to or within close proximity (<1 mile) of the Kootenai National Forest. In total, 29 interviews were conducted with 37 participants. Seven married couples were interviewed together, as were one landowner and his property manager. A diverse sample was achieved by using non-probability, purposive sampling that included landowners who varied in length of residence, gender, age, political affiliation, ethnicity, and occupation. An interview guide ensured that interviews were systematic and that data was relevant and comparable across interviews, while also allowing for unanticipated topics to emerge. Interview questions focused on landowner relationships with specific sites and with the landscape as a whole. Landowners were also asked about wildland fire and hazardous fuel management.

After detailed discussion of place meanings and views on fire and fuels, landowners completed a computer-based mapping exercise. This mapping exercise was adapted from the Tagger mapping software described by Watson et al in the previous chapter, which aims to capture "fuzzy" boundaries rather than the points, lines, and polygons commonly employed in GIS-based mapping. This program uses a "spray can" tool which allows participants to mark locations on the map by "painting" them with bright colors. Participants can create marks that vary in size and shape. In the mapping exercise employed for this project, participants could

mark specific locations on a large map that included topographic features, landownership, and human developments, or utilize a small inset map to efficiently "paint" the entire landscape.

The mapping exercise first required landowners to mark important places on a map and describe why those places were important. Landowners could mark specific locations or identify the entire landscape as important. Landowners could make multiple maps, identifying locations important for different reasons. Landowners made from one to eight maps, with an average of 3.25 maps. After mapping important places, landowners were asked to mark locations where three different fire and fuel management options were unacceptable. The three management options were 1) wildland fire use, 2) prescribed fire, and 3) mechanical thinning. Participants were provided with descriptions of each of these options using lay terminology and standard Forest Service definitions. Landowners then created three maps related to fire and fuels, identifying those locations where each of the three management options was unacceptable. Because this mapping exercise was embedded in an interview, landowners verbally described why specific places were important or why specific fuel treatments were unacceptable in particular locations (unlike the mapping exercise utilized by Watson et al which required participants to tag locations on the map by writing text in a box on the computer).

This mapping exercise allowed researchers to better understand the spatial dimensions of landowners' place meanings and their preferences for fire and fuel management. The exercise also served as an elicitation tool, deepening the dialogue between the first author and participating landowners by allowing them to visually represent and spatially delineate their place meanings and management preferences. We hoped, at the outset of the project, that maps would also demonstrate a spatial relationship between special places (or site specific meanings) and views on fire and fuels. In other words, we set out to provide evidence for the hypothesis

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that understanding special places would help managers understand which management actions might be supported or opposed. We also wanted to assess the ability of the mapping exercise to meaningfully represent the social data in a visual format. We wanted to know if people's place meanings could be represented spatially in a way that captured the complexity of such meanings and provided accessible GIS data to managers. Because the mapping exercise was embedded in a qualitative interview, we could evaluate what we learned from the conventional portion of the interview versus the mapping exercise versus the two combined.
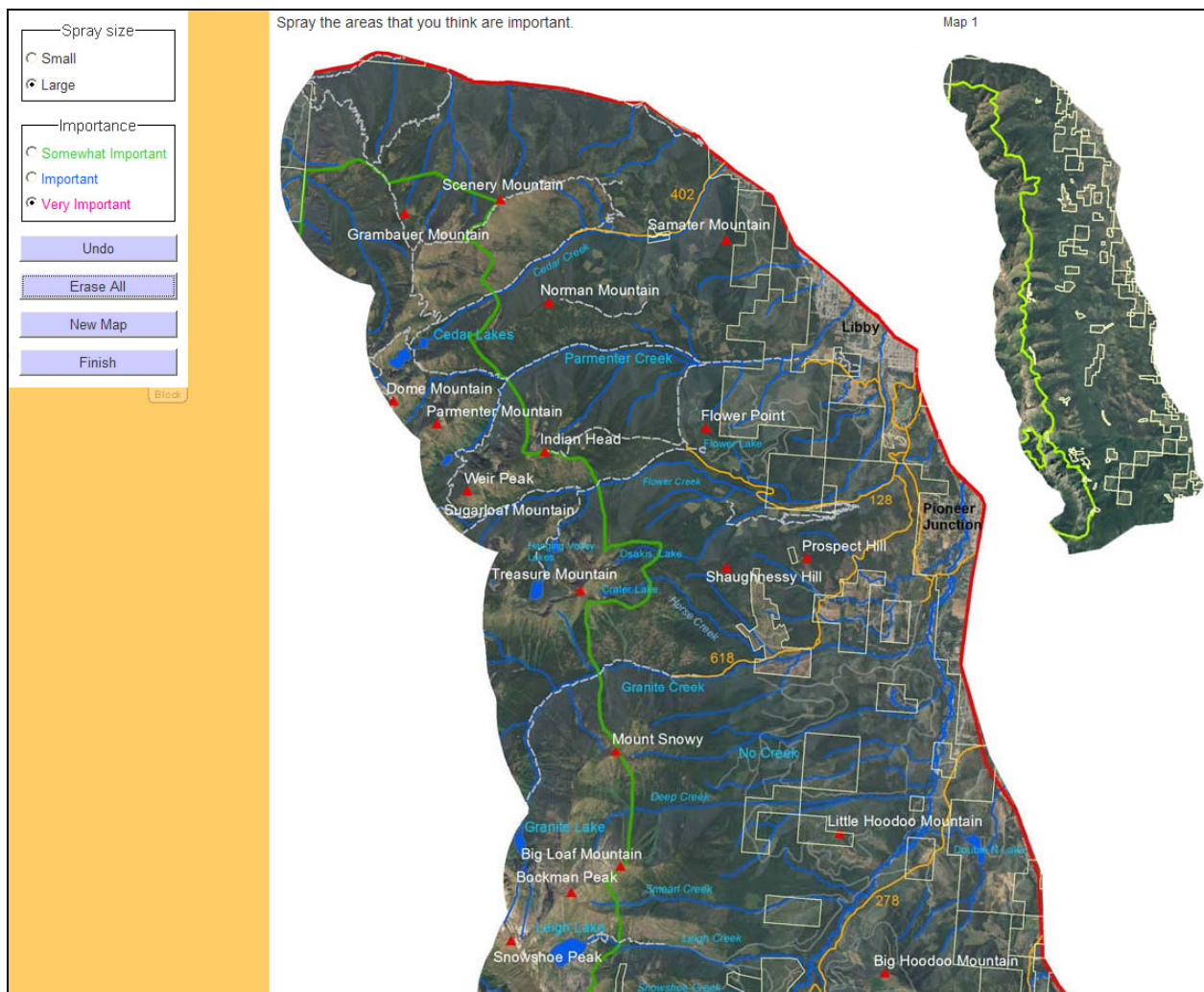
Figure 4. The mapping exercise as it appeared to participants. They could scroll down to view and mark the southern portion of the map (not depicted here).

Connecting Place Meanings and Fire and Fuels Preferences: Why Scale Matters

As described above, we expected that understanding site specific place meanings (special places) would enable us to better understand site specific fire and fuel management preferences. In other words, we imagined that place meanings and management preferences would be linked spatially, and that mapping data would therefore provide managers with insights into how to use place research in decisions about fire and fuels. We did, in fact, find that place meanings and views fire and fuel management were connected, but not necessarily at the scale suggested by previous research. Research results indicated that landowner place meanings operated on different scales ranging from site-specific "special places" to the entire landscape, but that landowner views on fire and fuel management were almost exclusively situated at the landscape scale. Furthermore, management preferences were not connected to special places. Rather, landowner preferences for fire and fuel management were related to landscape-scale place meanings. These findings, described in more detail below, have important implications for how place research can be applied to decision-making.

Special Places: Their Importance and Unimportance

Landowners in this study described and mapped special places, often in great details, but ultimately argued that the entire landscape was more important than specific sites. Landowners described place meanings at multiple scales, from the very discreet, such as a particular stand of blue spruce trees, to the very broad, such as the entire Cabinet Mountains range. For example, landowners described and mapped special places to which they felt a bond and to which they attached meaning. Landowners marked their special places on the map, sometimes meticulously, and discussed them in great detail, often relating very personal stories,

experiences, and memories. While a range of special places were described, these special places fit into four general categories: 1) personal home and land, 2) recreational areas, 3) scenic views, and 4) hunting and gathering areas. The map below (Figure 4), paired with the following excerpt, illustrate how landowners mapped and described such special places. This landowner described his huckleberry gathering activities in great detail, as this activity was both an annual rite and part of "living traditionally." He says:

> *Well, it's all important to me. But up in the Scenery Mountain country, this is all really important, because at one time this used to be really good huckleberrying right in here. And in Cedar Lakes it still is… My family is old-time huckleberries. I probably know more about huckleberries than most people in the world. (L31)*

These places and the activities he associates with them hold great significance through memories, stories, and subsistence as huckleberry harvesting was something that he did all throughout his life with his family. He went on to discuss how the gathering ritual connected him to both his cultural heritage and the land. Through gathering huckleberries he came to know the land quite well, which is reflected in the incredible detail he has provided by marking so many individual locations. This level of detail in mapping and describing special places was very common among landowners.
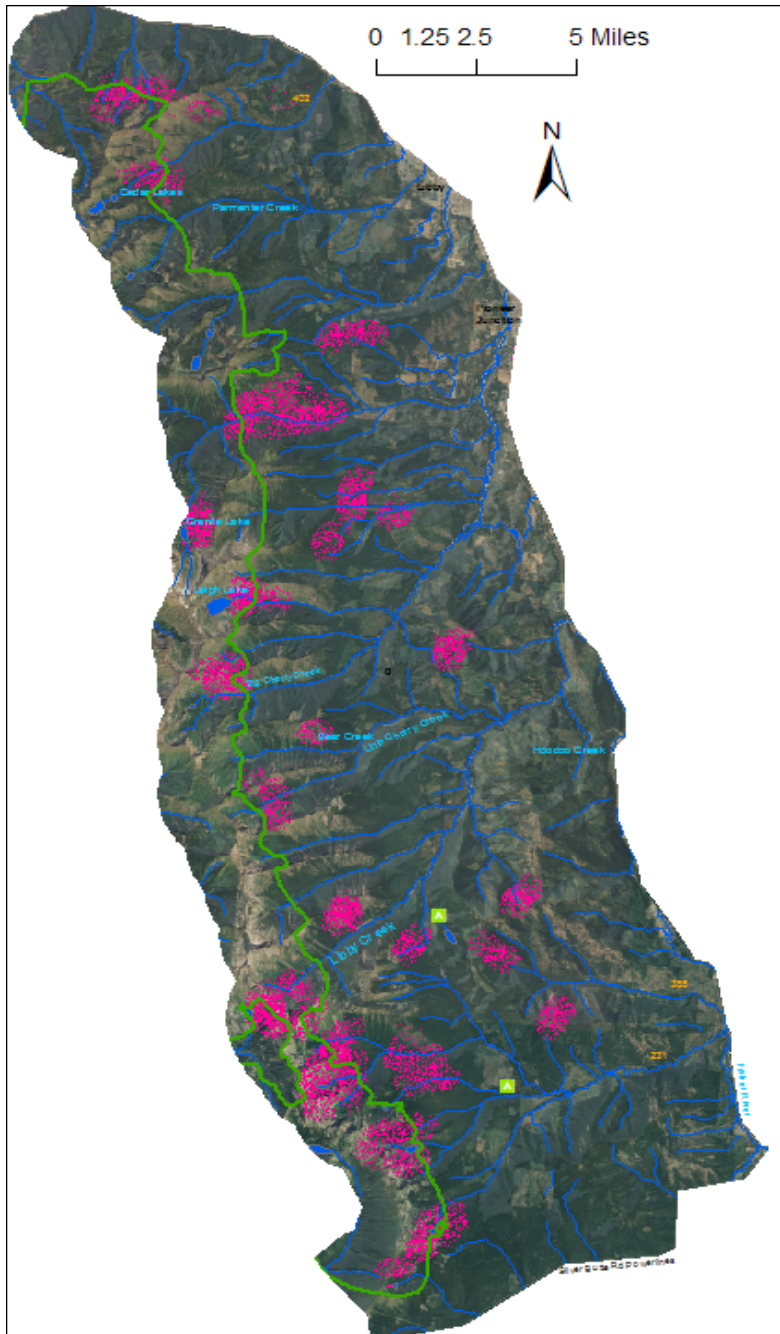
Fig. 3. One landowner's special places to pick huckleberries.

Landowners attached multiple meanings to specific areas, as these special places were the sites of annual getaways, family events, important memories, subsistence resources, and environmental values. Previous research on special places suggests that people's attachments to

particular locations are connected to their preferences for management actions in those locations (Gunderson at al 2005, Moore and Scott 2003, Schroeder 2002). It follows that a special place, as a bounded physical unit, might be a tangible factor which could be easily accounted for in a land management strategy. However, in this study that did not turn out to be the case.

While small scale special places were important, landowners repeatedly cautioned the interviewer against overemphasizing specific sites. When the landowner above began to describe his special huckleberry spots, he said: "Well, it's all important to me." This was a critical and telling statement. Before that landowner would talk about the specific importance of huckleberries, he had to state that the whole landscape was important to him. This sentiment was echoed in by most landowners. In other words, landowners were willing to create individual maps of special places but would always remind the interviewer that "the whole thing" was tantamount. To bring this point home, many landowners created maps to demonstrate the importance of the entire Cabinet Mountains and their broad attachment to this landscape. When asked how her special places influenced her ideas about management, this landowner said:

> *Well, it is [all important], because everything is part of the whole. You can't look*
>
> *at it… I mean, you can. Of course you can analyze different areas. But*
>
> *everything is related to everything else. And it all has to be important. We can't*
>
> *just have this microbe focus on one, little area without taking everything into*
>
> *consideration.*

Some landowners actually resisted identifying specific spatial locations as any more or less important than the entire landscape. Instead, they asserted that an expanded focus on the whole landscape was required even though they *could* identify specific special places if prompted to do

so by the interviewer. They concluded that, while their favorite locations were important to them, management agencies must take a broader view of the whole landscape.

This landowner, new to the area, admitted that, while she enjoyed occasional recreational outings, she placed emphasis on the importance of just *living* in the forest rather than knowing it all directly. When probed about her special places, she responded:

You can't single out a specific area in my mind that's better than another. It's all part of the package…It's all really important. I don't want to give it a lesser degree and say, well my place is more important and just, you know, 20 miles around is important. No, it's all important. It's all home…I can't say that I only want to take care of my spot, I don't care what happens to the rest. That's just so irresponsible to me.

Landowners overwhelmingly related to the Cabinet Mountains as a whole landscape, despite their willingness to describe and map special places.

Fire and Fuels Preferences and Landscape Scale Place Meanings

In the preceding section we showed that while landowners related to the landscape at a number of geophysical scales from the bounded to the broad and could readily map and describe site specific special places in detail, they repeatedly suggested that the entire landscape was the important scale to consider. Similarly, nearly all landowners situated their preferences regarding fire and fuel management at the landscape-level, rather than describing preferences for particular locations. For example, Map 4 was created by a landowner to show where it was unacceptable for land managers to employ wildland fire use. Forgoing the use of the larger, more detailed

map of the Cabinets landscape, this landowner used the small inset to demonstrate that wildland fire use is very unacceptable for use by managers everywhere *outside* of the Cabinet Mountains Wilderness Area. Many landowners talked about not holding spatially specific preferences, and did not need to map in any level of detail. When asked to map the locations where he thinks mechanical fuel reduction (thinning) is unacceptable, this long-term resident said:

> *I don't think that I could say this mile wide band on my [property] perimeter is more important than what's up adjacent to the dam. It's not any more important than the whole thing. When I talk about that they need to be managing "it", "it" is all of it. They need to start managing the whole thing [the whole National Forest]. And this piece [indicating his private property] isn't any more important to me than beyond that.*

This landowner could not conceive of divorcing his private property from the entire Cabinet landscape in his thinking about fire and fuel management. The notion that one person would expect management to accommodate his personal special place seemed offensive to him and his ideas of community responsibility and stewardship. He instead described the need for management that accounts for the whole landscape. This response was common among landowners in this study.
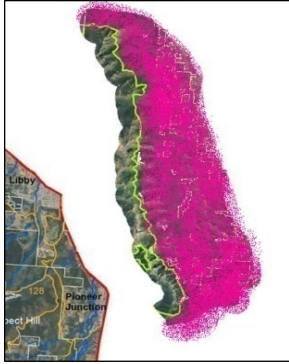
Fig. 4. One landowner's map of where WFU was unacceptable.

To explain their management preferences, landowners drew on complex sets of meanings, values, interests, and ideologies. Ideas about aesthetics, appropriate use of resources, the meaning of stewardship, and the human role in nature intermingled in two distinct narratives about the Cabinet landscapes, one which emphasized a working forest and resource use, and another which focused on natural processes and non-commodity values. Landowners who describe the Cabinets as a working landscape privileged economic interests and resource use. They argued that human are stewards who have dominion over the forest and a responsibility to actively manage and benefit from natural resources. Allowing wildland fire or prescribed fires to burn was seen as a violation of these responsibilities. In the following excerpts, landowners explain the maps that depict their opposition to prescribed fire and wildland fire use (opposition depicted at the landscape scale).

> *I think that's poor management. We're stewards of the land. If we weren't going to be stewards of the land, then we shouldn't be here, and we should just let nature take its course. But we are. We live here, and we have a responsibility. (L5)*

But I think [not thinning and allowing trees to burn] is wasting resources. And in

wasting the resources, you also allow the ground fuels to accumulate and so when

you do have the fires, they're just that much worse. It needs to be harvested rather

than wasted. (L4)

I don't see why would they use a prescribed burn if they could do the same thing

by utilizing some kind of economic resource by farming it. I'm not as much of a

proponent of fire, because I've always seen fire as one of the biggest destroyers of

the merchantable timber. (L36)

The working forest narrative emphasized the notion that resource extraction is the most appropriate use of the forest, the aesthetic appeal of "park-like" stands with widely-spaced, and that idea that fire is generally "bad." Thinning was mapped and described as the most acceptable avenue for fuel reductions because it provides "jobs in the woods," useable timber products, and fire protection.

By contrast, a smaller but significant portion of landowners described the Cabinets landscape as a natural forest. Although many newcomers subscribed to this narrative, it was also described by some long-time landowners. These landowners described the forest as a landscape with its own intrinsic value, emphasizing wildlife and other ecological values. Appropriate use of the forest by humans was most often confined to recreational and aesthetic enjoyment, rather than commercial extraction of resources. Fire was described as generally "good," "natural," and "part of the ecosystem." Below, landowners connect their views on fire and fuel management to notions of the Cabinets as a natural landscape.

And I do agree that we could reduce the fuels. [Some people say], "they're going

to go to waste." I don't agree with that. It's not wasted just because nobody used

it. Nature doesn't think it's wasted. The birds don't think it's wasted. (L9)

I have a really hard time with thinning by machine in that I have little faith in the

system. I wonder what that really means to the animals and to the rest of the

terrain when they go in and thin. The idea of it is probably nice. But I wonder

what the reality of it is. I'd say it's unacceptable. Just as a general thing. I don't

have specific places. I'm not necessarily against the thinning if I feel like it's

done right…I just see that a lot of situations where a lot of machinery is brought

in the land is destroyed, the animals are destroyed in the process, and I just don't

have the confidence that it's going to be done right. (L29)

I have no problem with burning as a practice. That's necessary. It's natural, and

it needs to be utilized...I guess I get a little bit put off by people who go out into

the forest and they want the forest managed like their township. To me, if you are

fortunate enough to go out and have a place in the forest, then recognize that you

are in a forest. And you adapt to the forest, don't make the forest adapt to you.

That's kind of been my philosophy. I think that's appropriate because fire is a

natural part of the ecological cycle so I have no problem with it at all. (L18)

These landowners also emphasized stewardship, but envisioned appropriate stewardship

as generally "hands-off," suggesting that humans should not interfere in ecological systems. For

these landowners, thinning was seen as intrusive, and controlled burning and/or wildland fire use were preferred for their "regenerative" effect and because they "restore the balance of nature." Natural landscape landowners preferred a "natural" or "pristine" look to the forest (i.e. unmanaged) without overt signs of human activity.

Landowners drew on fundamental ideas about how humans interact with nature to explain what types of human management of fire and fuels were acceptable to them. In doing so, they described two competing narratives, the natural and working landscapes, which wove together meanings, values, interests, and ideologies to explain (and perhaps predict) management preferences. Thus, these landscape narratives are much more than descriptions of a place; they are both embedded in and contain ideas about what is proper use and management of the forest and its resources. Although special places play a role in landowners' relationship with the Cabinet Mountains landscape, these site-specific places were not invoked when landowners described their fire and fuel management preferences. Instead, landowners connected management preferences to landscape-scale narratives of place.

Improving Connections between Place Research and Decision-Making
Resident Adaptability: Rethinking Special Places

We often assume that relationships with special places are of paramount concern when people consider proposed management actions. In describing the relationship between special places and forest management, Schroeder (2002) stated that "When a person's "special place" is lost or altered by a human action such as a timber harvest… or by a sudden natural change such as a fire… the person may experience intense emotions such as grief and anger" (p. 12). Similarly, a Forest Service employee interviewed for this project suggested that local support for

fuel reduction would be dramatically impacted by people's passion for special places. According to her, large scale fuel reductions would be necessary to protect landowners and the community of Libby from large, intense fires. But, she argued that "The likelihood of that ever happening is pretty low because you're getting into that very special area that people are pretty passionate about." Both researchers and managers imagine a strong and direct link between special places and responses to management actions and environmental change.

In this study, we found that relationships with special places, while important to landowners, had little bearing on landowner preferences for fire and fuel management. Very few landowners felt strongly about proposed alterations to their special places. Instead, most were very willing to accept change in their special places, acknowledging with equanimity that such change is an inevitable and integral part of the forest landscape. Several landowners maintained that their places will remain special even in the face of dramatic ecological and aesthetic change (such as fire) or significant management intervention (such as fuel reduction). Others said that they would find new special places if fire destroyed the old ones, indicating that, in certain situations, special places may actually be substitutable. Rarely did a forest landowner in this study conclude that their special places should be accommodated by a fire management decision.

Differences between residents and visitors might explain why this study's conclusions contradiction much of the literature on special places. Previous studies on special places have focused largely on recreationists, who might have different kinds of attachments to specific geographic locations. The relationships that recreationists have with special places may be more salient because, at least some cases, recreationists only experience the landscape in a limited set of locations. Thus, those locations may be particularly important repositories of meaning and memory. Residents, in contrast, experience many different locations on the local landscape and

they have multiple relationships with these locations, including, but not limited to recreation relationships. Thus, for residents, place meanings may be connected to larger number of geographic sites and these meanings may be more diverse, drawing from recreational use during different seasons, from views on community history and agency management, and from livelihood needs. Furthermore, landowners who reside in the WUI are directly affected by National Forest management and experience such management on a daily basis, suggesting another factor that might influence relationships with place. Finally, because fire and fuel management is such an important local issue, landowners may simply prioritize such management actions over personal needs associated with special places.

The lesson here is that the relationship between place and management decisions may be highly contextualized. The population of interest might differ, as we suggested for recreationists and residents. The management issue, such fire, water quality, or wildlife habitat, might change the way place meanings interact with management preferences.

It Could be the Forest, Not the Trees: Avoiding a Scalar Mismatch

We often assume that a variety of social phenomena operate at the same scale, including place meanings and public views on management actions. As described above, past research has suggested that understanding how people view special places on the landscape (identifying discrete locations and the meanings associated with such locations) will help managers understand which management actions will be acceptable in which locations. Because place situates social phenomenon in geographical space, the place concept demands that we think more carefully about the role of scale and how different scales interact.

In this study, landowner preferences for fire and fuel management were situated almost exclusively at the landscape scale and were not related to special places. Instead, management preferences were connected to meanings that landowners explicitly situated at the landscape scale. In other words, the stories that landowners told about the Cabinets landscape as a whole and about their relationship with this landscape, which together revealed the meanings, values, and interests associated with the area, were closely connected to views on fire and fuels.

There existed, in this study, a mismatch in scale between special places and management preferences, which were revealed in large part through the mapping exercise. Getting scale "right" is critically important to management, especially for public lands managers engaged in project planning at multiple scales, from site specific treatments to landscape level restoration. In certain situations, if decision-makers are not alert to a potential mismatch, they might rely on information about special places to guide decision-making, thus missing the social phenomena most relevant to management preferences. In the Cabinet Mountains area, a hazardous fuel management decision based on accommodating special places would have overlooked the values and interests that were actually linked to landowner preferences for fuel treatments. This sort of scalar mismatch would have resulted in inaccurate conclusions about public views of different fire and fuel management options. Instead of effectively integrating local views into decision-making, getting the scale wrong might have increased local conflict or public opposition to National Forest management efforts.

Decision-makers and researchers need to be attentive to place meanings that operate at different scales, and choose the appropriate scale to lend insight into the management issue of interest. We also need to recognize that not all management preferences will be tied to specific locations on the forest; some management preferences are instead tied to broad values and

interests that people apply to the entire landscape, ideas about proper forest management and resource use, local economies and decision-making, and the meaning of stewardship.

<center>Using Participatory Mapping to Understand Local Views</center>

Social mapping, or the spatial representation of values, views, and interests on GIS-based maps for inclusion in decision-making, is increasingly popular. As federal, state, and local agencies work towards greater civic participation and democratization, tools such as participatory mapping of social data may become an important part of planning. If social data, such as data on relationships to place, can be adequately represented on GIS maps, then decision-makers might be able to integrate such data with biophysical data.

In this study, participatory mapping provided additional insights beyond traditional interviews. First, the mapping exercise provided an important elicitation tool that revealed additional insights into both place meanings and views on fire and fuels. Second, the mapping exercise was critical in understanding the issues of scale described just above. Because landowners were able to map at a variety of scales, the exercise exposed an important scalar mismatch. This scalar mismatch between site specific special places and the "location" of management preferences could easily be overlooked, particularly in a mapping process that privileged site-specific phenomena such as special places. Thus, in order to capture the social phenomena most relevant to the decision at hand, it is important that mapping exercises allow participants to identify locations at a variety of scales.

Because this mapping exercise was part of a qualitative interview, we were able to assess the effectiveness of the mapping portion for capturing the nuances and complexity of social views expressed during other portions of the interview. While the maps added to the interview

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in the ways described above, the maps alone did not adequately capture or represent the rich detail of place meanings or the complexity of views on fire and fuels. Thus, mapping cannot be seen as a substitute for other types of social research; it is not a quick method for obtaining the same information in a handy GIS format. Maps of special places may only capture certain components of individuals' and communities' complex relationships with places. A static, two-dimensional map will never fully convey the dynamic, multi-dimensional nature of place relationships or perhaps any social construct. By attempting to get place research into planning via mapping, decision-makers may paradoxically run the risk of reducing the complexity of local relationships, the complexity that makes these relationships so important in the first place. Decision-makers need to include more than just maps of social data to truly understand public views on proposed management actions.

To the extent that mapping exercises can be part of a larger conversation about place and proposed management actions, spatial data can be contextualized within a larger set of social data. In this study, we were able to capture unanticipated or emergent meanings because the mapping exercise was part of an in-depth interview. In the context of a qualitative interview, landowners were able to raise issues and ideas that were not predicted, results that might have been missed by mapping alone. Participants were able to comment directly on the mapping exercise, suggesting the ways in which it did or did not effectively capture their views. For example, a few landowners suggested that the mapping exercise did not adequately capture their relationship with the landscape. Mapping in the context of focus groups or other community conversations would likely accomplish similar goals.

Because the maps that landowners created in this study were inseparable from their discussion of place and fire during other portions of the interview, this mapping exercise failed to

produce maps of spatially-specific preferences that could be utilized as standalone products and be easily integrated with typical GIS data. However, the mapping exercise provided important insights into the role of participatory mapping in communicating management preferences to decision-makers.

Conclusion

Participatory mapping provides an important mechanism for linking place to decision-making. However, to realize the potential of participatory mapping, researchers must be attentive to issues of scale and how place meanings fit into the larger sociopolitical landscape. To fully integrate the lived experiences, stories, values, and interests of stakeholders, mapping should be combined with other methods of gathering social data, and mapping results must be understood within the context of a broader program of social research.

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Participatory mapping of place values in northwestern Ontario

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Abstract: Although the theoretical importance of place values in natural resource planning has been recognised for some time, it is only recently that researchers have begun to struggle with ways of incorporating them in resource planning. This chapter sets out to address the conceptualisation, elicitation, mapping and integration of place values in resource management decision-making in the boreal forests of north-western Ontario, Canada. Spatial values data collected as part of a survey revealed that residents attached four broad categories of values to places within these forests. Two of these value categories (*Other Values* and *Recreation Diversity*) were attached to places that were widely dispersed across the forest and the two (*Consumptive* and *Family Recreation)* exhibited a clear pattern of attachment to places that were more spatially restricted and somewhat unique to each value category. Crown or public lands which make up the majority of the land base in north-western Ontario are administered at the provincial level by the Ontario Ministry of Natural Resources. Management of these lands is dominated by forest company and to a lesser extent remote tourism operator interests with recreation access. Land and access issues are often contentious. Understanding the spatial distribution and character of valued places provides an opportunity for managers to incorporate recreation and other values proactively into forest management planning or to establish special management zones where planning provisions and controls (e.g., harvesting cycles, cutting regimes, forest road planning and maintenance) can be implemented to better integrate forest company activities, remote tourism operations and recreation.

Some researchers (e.g., Farnum & Kruger, 2008) have argued that place-based planning approaches to natural resource management have become more popular in recent years In part, this has arisen as a result of increased involvement of planners and managers in community-based collaborative partnerships which has encouraged a move away from traditional "one-suit-fit-all" planning models (McIntyre, Moore, & Yuan, 2008). Place-based planning approaches are focused on specific planning contexts and are collaborative in that, they recognise that people form strong bonds to places and want to be involved in influencing the future direction of change in such places.

Maps and mapping have traditionally been a major means of representing resource inventories in natural resources planning, most particularly in the case of biophysical and recreational use characteristics (forest types, topography, recreation sites and opportunities). The

rapid growth in availability and reduced cost of Geographic Information Systems (GIS) technologies have enabled the extension of spatial representation to a broad range of contexts beyond the traditional areas of geography and demographics (Steinberg & Steinberg, 2006). Most recently, the development of internet-based GIS has further extended the scope and possibilities for various publics to be involved in community-based planning (Carver, et al., 2001) or what has come to be called "public participation GIS" (PPGIS). These new technologies have enabled a number of researchers to experiment with various web-based approaches to eliciting and mapping a wide variety of social data from neighbourhood regeneration (Kingston, 2007) to environmental issues (Evans, Kingston, & Carver, 2004).

Despite these technological developments, major impediments persist to the integration of social data into natural resource planning notably, the reluctance of social scientists to collect and represent such data spatially (McIntyre, et al., 2008; Williams, 2008) and attitudinal and legislative constraints to recognising the legitimate contribution of such 'soft' data to enhancing public input (Farnum & Reed, 2008). Beyond this, a number of broader theoretical and practical challenges are involved in eliciting and spatially representing place values to better represent in decision-making the "emotional ties and feelings of connectedness that people have for places" Farnum & Kruger, 2008: 2). These issues can be summarised in the following four questions: a) how are place values conceptualised; b) how are place values elicited; c) how are place values represented spatially; and d) how are place values incorporated into decision-making?

This chapter focuses on our approach to these issues in the context of a study of the values residents attach to the boreal forest landscape of north-western Ontario, Canada.

How are place values conceptualised?

The work of Brown (1984) on values has provided a basis for a common understanding of the concept in natural resource management (More, Averill, & Stevens, 1996). He focused on a preference–related view of values which is useful in natural resource contexts in that much of the contestation surrounding recreational use centres on one value (e.g., economic) being 'better' or more preferred than another (e.g., recreation). Brown distinguished two major types of values: held and assigned (p. 232). The former he defined as 'an enduring concept of the preferable which influences choice and action' (p.232) and the latter as 'the expressed relative importance or worth of an object to an individual or group in a given context' (Brown, 1984: 233).

The concept of 'held' forest values has been applied to study forests and forest ecosystems in the USA and elsewhere (e.g., Brown & Reed, 2000; Manning, Valliere, & Minteer, 1999; Xu & Bengston, 1997). While such values may be appropriately applied to a particular forest (Manning *et al*., 1999: Green Mountains National Forest, Vermont) or forest system (Bengston & Xu, 1995: US National Forests), they would seem less suitable to examining values at the site or locality level. Assigned values, however, which encompass judgments on the relative valuation of objects, would seem particularly appropriate to mapping forest values, as this process involves making choices among particular sites or localities within a forest and attaching values to them (McIntyre, et al, 2004).

How are place values elicited from users of natural resource areas?

Kuentzel, Tritton, Dennis, & Wang (1997) argued that the main difficulties with incorporating values into public participation processes are a lack of recognition of philosophical and theoretical differences about how people form values. In clarifying this situation, these authors suggested that three dominant perspectives could be distinguished: social utility (Driver,

Brown, Stankey, & Gregoire, 1987; Bengston, 1994); social cohesiveness (Parsons, 1951); and social discourse or constructivist (Giddens, 1984)

In conceptualising forest values, we adopted a social constructivist perspective recognizing that place values are 'constructed through the interaction of individuals and structures in a socio-institutional context in places – they have a 'geography' (Davies, 2003: 82). This position suggested the need to employ interpretive methods to elicit context specific values (e.g., Kreuger & Casey, 2000; Satterfield, 2002). This contrasts with other recent research (e.g., Brown & Reed, 2000), which used generic sets of values at the 'held' level to asses site evaluations.

A combination of focus groups and place mapping was used to develop a list of values for the boreal forest area of northern Canada. This list was included as part of a recreational survey of residents of Thunder Bay in north-western Ontario and visitors from the USA and other parts of Canada (McIntyre, Yuan, Payne, & Moore, 2004). Analysis of the responses to the relative importance of the various values enabled the development of a seven item, contextualised forest values scale for the boreal forest, which was used in the case study reported later in this chapter.

How are place values represented spatially?

At a practical level, a major difficulty in including values data in planning has been the reluctance of social scientists to collect and represent these data spatially. Spatial representation of user values is especially important because otherwise such place-based meanings cannot be easily integrated in Geographic Information System (GIS) technologies which are now commonplace in depicting relationships between the distribution of natural resource (e.g., forest

types, land-use) and other kinds of data in planning (Ghose , 2001; PPgis, 2008). The growing

emphasis on place-based, value-centered meanings means that social scientists involved in

natural resource planning need to think in spatial terms to make it easier to integrate place-values

data into the resource-based decision models used by forest planners (McIntyre, et al., 2008).

Research involving the collection of spatial data through surveys has been restricted due

to limitations of map size. Such restrictions on the detail that can be communicated to

respondents can impede their ability to indicate places of interest accurately. Recently,

developments in GIS technology enabling its use on the World Wide Web (www) have made it

possible for lay professionals and the general public to contribute spatial data in planning

contexts (Kingston, Carver, Evans, & Turton, 2000). Public Participation GIS (PPGIS) has

experienced rapid growth in the last 10 years as access and familiarity with internet technologies

among the general public has increased (Carver, Evans, Kingston, & Turton, 2001). However,

the potential of integrating GIS and the www is a relatively more recent innovation (Kingston,

2007). The case study discussed in this chapter used both a web-based GIS survey and a

conventional paper-map survey to elicit and map the place values of residents who used the

boreal forest landscape along the north shore of Lake Superior in Canada (hereafter: "the north

shore").

This chapter focuses on answering the last question posed in the Introduction to this

chapter: "How are place values incorporated into decision-making?" Prior to discussing the case

study proper, we provide some background information on forest management in Canada

generally and more specifically in the province of Ontario.

Managing Crown Lands in Canada and Ontario

Forest management in Canada is defined both by the public nature of most of the landbase and the institutional arrangements governing resources. In most Canadian provinces, the vast majority of the land is publicly-owned Crown land. Eighty-seven percent of the Province of Ontario is Crown land, most of which is concentrated in the north of the province where it makes up 95 per cent of the landbase (OMNR, 2008). Most forestry thus takes place on public land which is often expected to simultaneously support other activities. In contrast with the United States, where most forestry on public lands (i.e. in national forests) is managed at the federal level, the Canadian Constitution makes the management of Crown land resources a provincial responsibility. There is a Canadian Forest Service, but its role is limited to science and policy, leaving the planning and management of forestry to ministries or departments in each province.

In Ontario, the Ministry of Natural Resources (OMNR) is responsible for managing Crown lands to meet a variety of objectives, including ecosystem health, development and sustainability of natural resources, protection of natural heritage values, and the provision of recreation opportunities (OMNR, 2007a). Ontario's Living Legacy land-use strategy sets out the strategic direction for management on over 39 million hectares of Crown land, encompassing most of the land currently available for forest harvesting in the province. Approximately 15 per cent of the land is conserved in various forms of protected areas, while a further 4 per cent is designated as Enhanced Management Areas (EMA) intended to protect values such as recreation, fish and wildlife, or remoteness (OMNR, 2007b). There is very little formal land use or recreation planning for the remaining 80 per cent of the Crown land in Ontario, meaning that the forest management planning process becomes the primary avenue for managing recreation on Crown land in the province

The province is divided into forest management units (FMU), with timber harvesting rights for each FMU licensed to private forestry companies. Management of these FMUs is governed by the 1994 Crown Forest Sustainability Act, which requires that forest management must take into account forest health along with social and economic values including recreation. While recreation values are therefore supposed to be considered in forest management planning, there is little guidance as to how this should be accomplished. The OMNR publishes a series of 35 guides and manuals outlining methods for protecting many different forest values, yet there is no guide dealing with Crown land recreation. In practice, recreation values are most often dealt with reactively as concerns are raised by the public. It is hoped that methods such as those described here can contribute to a more proactive approach to managing recreation on Crown lands.

Mapping North Shore Residents' Values and Recreational Use Characteristics

Values attached to places are seen as being socially constructed (Satterfield, 2002) which justifies an interpretive approach to their elicitation. Such an approach, however, presents a problem in managing places in that it creates a tension between evaluations that are unique to the individual and those that are common to us all (Patterson & Williams, 1998). Thus, the main challenge in incorporating values into decision-making is to find a level at which the findings are still context specific and representative of individual variation, and yet are sufficiently generalizable to be managerially useful. The following case study is an attempt to articulate an approach that meets this specific challenge.

Study Area

The study area (Figure 1) encompasses the southern portions of a number of Forest Management Units (FMU) and includes several Conservation Reserves and Enhanced Management Areas (EMA). Two of these EMAs provide management direction for forestry and

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recreation management along the shorelines of Lakes Superior and Nipigon. The former

constitutes the southern boundary of the study area. Its western, eastern and northern limits were

defined arbitrarily because the actual recreational ranges of the residents were unknown. The

study focused on the place values and outdoor activity characteristics of residents in the north

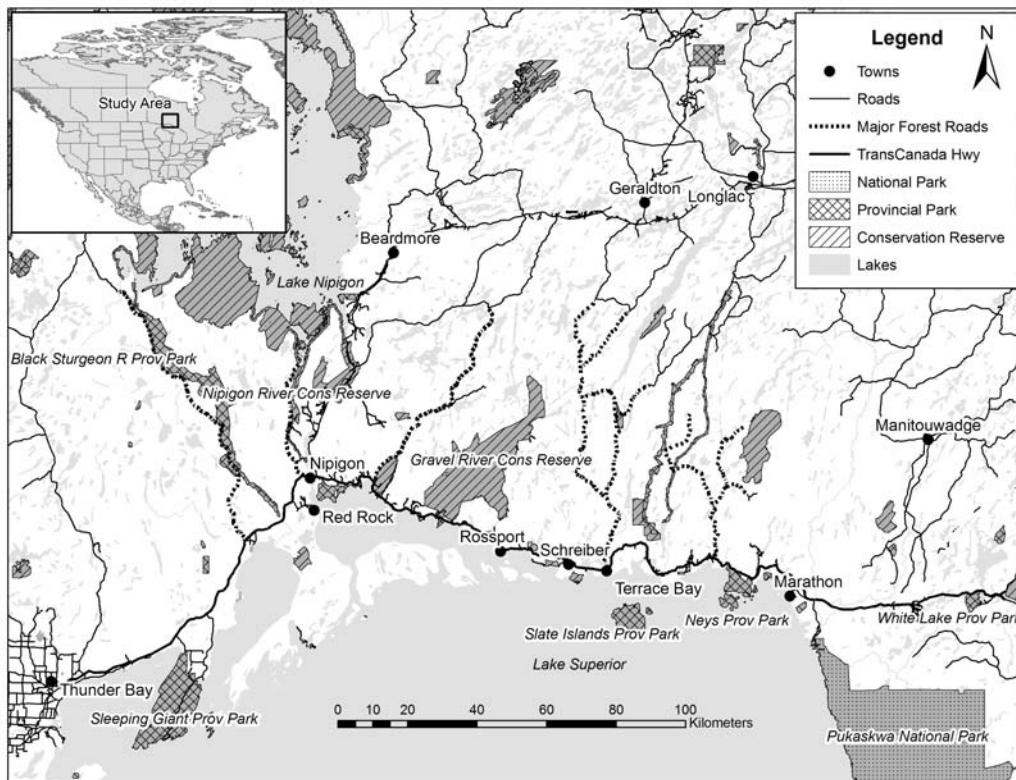shore communities of Red Rock, Nipigon, Schreiber, Terrace Bay and Marathon (Figure 1).

Figure 1: Map of the Study Area (showing localities mentioned in the text)

The Survey

A web-based GIS survey and a parallel paper version were purpose designed for use in

this project (Lesueur, 2008). The survey collected information on residents' characteristics (e.g.,

gender, age, place of residence) and outdoor recreation use experience (e.g., frequency and

season of use, type(s) of activity). Respondents were also asked to locate and mark sites, areas,

and routes that they had used for recreation on a digital or paper map. When a respondent located

a place on the map, he/she was prompted to rate the importance of seven value statements using

a five-point importance scale (5 = very important) and indicate personal recreation use

characteristics. These values were derived by factor analysis of data from an earlier study in a

closely similar boreal forest area to the west of Thunder Bay (McIntyre, et al., 2004). The values

used in the survey comprised: *Wilderness & Solitude*; *Adventure*; *Recreation Diversity*; *Wildlife;*

Other Values; Family Recreation; and *Consumptive Recreation*. The values encompassed within

the first four value categories are relatively self-explanatory; however, the other three which

combine a mix of social and physical values require some explanation. *Other Values* included a

factor made up of value statements such as 'a place for learning', 'economic support for local

communities', a sacred place' and a place where 'a person can feel at home'. Similarly, *Family*

Recreation comprised value statements like 'a good place for families', a place to keep for future

generations' and 'beautiful lakes' and *Consumptive Recreation,* while including the obvious

value of 'a good place for hunting and fishing', it also referred to 'good access' and notably

'friends and camaraderie' as components of this factor. These latter three value factors thus

combine social, recreational and physical characteristics of valued places which are to some

extent different in each case.

The Sample

   A sample of 750 residents and their contact information were selected from a data base

purchased from *info***USA**. To maximise spatial coverage of responses, the percentages of

population in the five north shore communities of Nipigon, Red Rock, Schreiber, Terrace Bay

and Marathon (Figure 1) were established from census data (Statistics, Canada, 2007) and these

values were then used to select a random sample from each of the five communities. As a pilot

study indicated difficulties with web-access in some areas, both web and paper versions of the survey were made available to potential respondents.

Characteristics of Respondents

Overall 201 surveys were completed giving an overall response rate of 27 per cent which provided data on 408 recreation sites spread throughout the region. The spatial distribution of responses was not significantly different from census data, however, many more men (76%) than women (24%) responded and younger persons (< 40 yrs old) were underrepresented in comparison to census figures. A majority of the sample (62%) had lived in the area for more than 20 years. In summary, there is some confidence in the spatial representation of responses but less so for gender and age.

Recreation Use Patterns of North Shore Residents

The first stage of the analyses mapped the broad recreational use patterns of residents using a density analysis procedure in ArcGIS. Figure 2 indicates the density of use by intensity of shading. Spatial patterns of higher use were distinguishable along the Lake Superior shore, the highways and forest roads (around Red Rock, Nipigon, Schreiber, and Terrace Bay), and along the Nipigon River and Lake Nipigon. These data also suggest that the recreational activity of people living between Red Rock and Terrace Bay is largely confined to about 150km north of the main east-west highway (Hwy 17) and west as far as Lake Nipigon. Road access to the north is relatively limited for Marathon residents who either go south into Pukaskwa National Park or west into the study area.
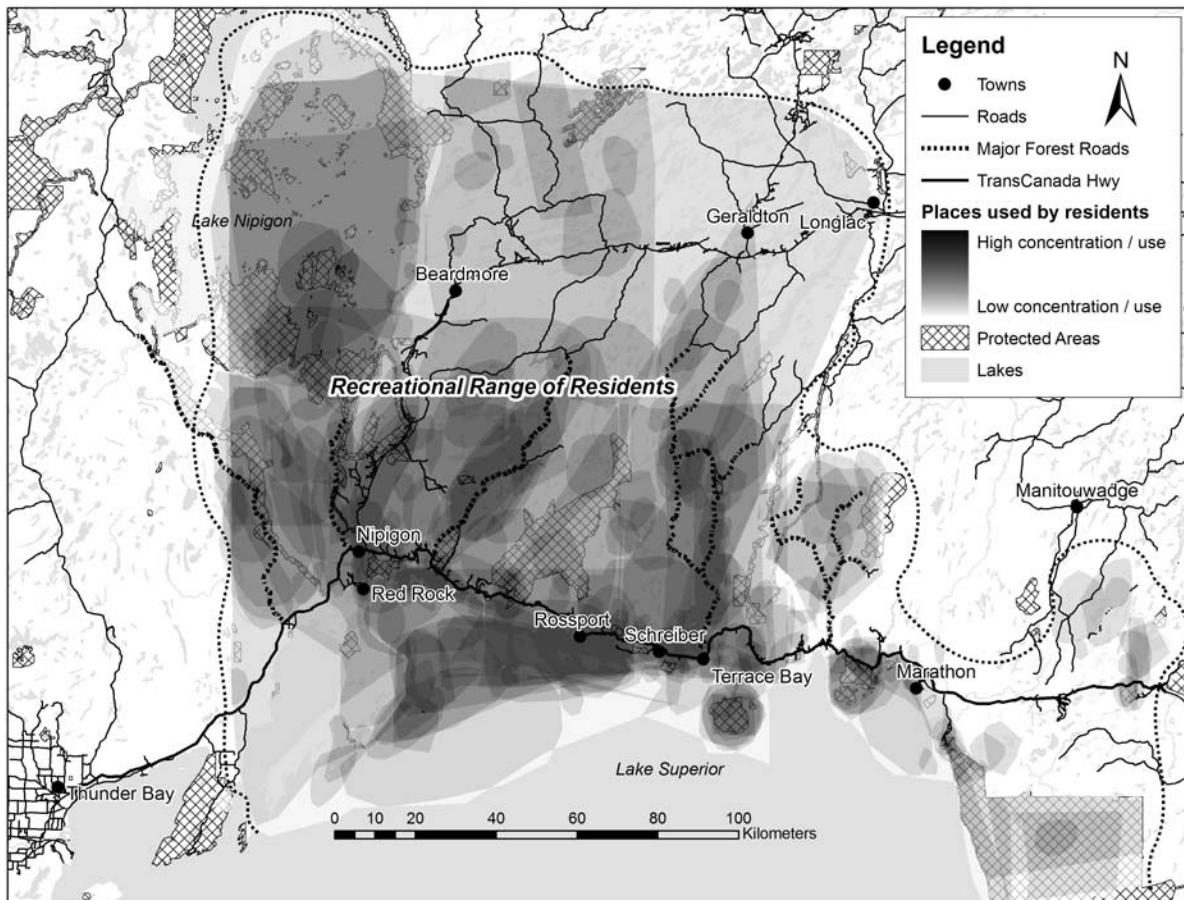
Figure 2 Recreational Use Patterns of North Shore Residents

Place Values of North Shore Residents

Overall, *Consumptive Values* were rated as the most important (Mean Value = 3.55) followed by *Wilderness & Solitude* (Mean Value = 3.4), *Family Recreation* (Mean Value = 3.2), *Wildlife* (Mean Value = 3.1) and *Adventure* (Mean Value = 3.0). *Recreation Diversity* (Mean Value = 2.4) and *Other Values* (Mean Value = 1.4) were rated as relatively unimportant. This same pattern is evident in previous studies in the region (McIntyre, et al., 2004) where residents demonstrate a strong valuing of the boreal forest as a place for consumptive activities such as fishing and hunting. This same study indicated that this preference is shared with visitors from

the USA but not with those from other parts of Canada who value this same forest for its *Other*

Values (e.g., learning, economic, sacred).

Analysis of value ratings by gender indicated that the females rated both *Wilderness &*

Solitude, and *Adventure* significantly higher than males. When patterns of value ratings among

the age cohorts were examined, all age groups rated *Consumptive Values* and *Wilderness &*

Solitude similarly important. The 40 to 59 years cohort, however, rated most other values as

significantly more important, placing their highest rating (after *Consumptive Recreation*) on

Family Recreation (Mean Value = 3.45). The one exception was the *Adventure* value which was

rated highest (Mean Value = 3.73) by the youngest cohort (20 to 39yrs).

Distribution and Characteristics of Valued Places

The second stage of the analysis was to classify each of the places marked by respondents

on the basis of the seven values. A combination of K-Means Cluster Analysis (SPSS, 16.0) and

Discriminant Analysis (SPSS, 16.0) was used to classify the 408 places. The former procedure

enabled classification on the basis of the seven values and the latter indicated the value or value

combinations which best discriminated between the various clusters. Four site clusters were

identified: a) *Consumptive Recreation* (159 sites); b) *Other Values* (70 sites); c) *Family*

Recreation (95 sites); and c) *Recreation Diversity, Wildlife & Adventure* (84 sites). A correct

classification of 96 per cent indicated that the four clusters were well discriminated by the

predictor variables (values or value combinations).

Using these data it was possible to map the distribution of the various cluster sites and

delineate those areas which were valued for the individual values or value clusters. Both the

Other Values and the *Recreation Diversity, Wildlife & Adventure* cluster sites were rather

uniformly distributed over the whole study area indicating, in the former, the overall value of the

area as a place which provided economic benefits to the community and a sacred place where

residents can learn about nature and feel at home. Further, the North Shore is perceived as a

place where residents could view wildlife, have adventures and enjoy a diversity of recreation

opportunities. This diversity is reflected in the range of activity participation at the sites included

in this latter cluster (fishing, nature & relaxation, hiking, camping, and canoeing and other water

sports). Overall the sites in this value cluster received higher frequencies of use in all seasons

than in any of the other value clusters.

Sites valued for *Family Recreation*, in contrast, are the most spatially restricted. They

occur quite close to population centres (Figure 3), along the main highways (Trans-Canada Hwy)

and major Crown land access roads (e.g., around Nipigon and Red Rock), and coastal waters of

Lake Superior. Recreation activities at these sites include hiking, camping, nature & relaxation,

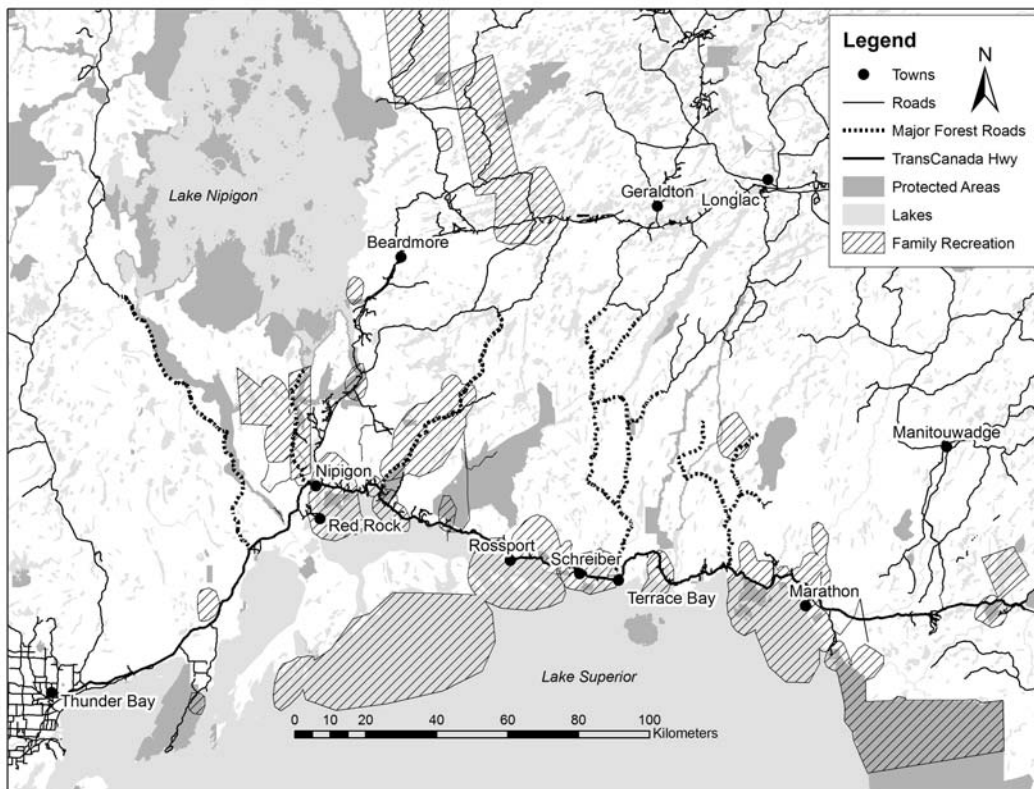and canoeing and other water sports which are carried out mainly in the summer.

Figure 3: Distribution of Sites Valued for *Family Recreation*

Consumptive Recreation, although similarly centred on road access, demonstrates a somewhat more widespread and different spatial distribution from Family Recreation (Figure 4). Two types of areas are evident in Figure 4: a) sites on Lake Superior and Lake Nipigon; and b) sites within the boreal forest. The former are mainly sheltered or near-shore areas on the major lakes and the latter are defined by major timber-harvesting roads radiating from current or former mill-towns into the boreal forest. As would be expected, the main activities associated with this value cluster are fishing and hunting with significant participation in camping. Frequency of participation by season is least in winter and greatest in the summer with use in fall and spring lying between these extremes.
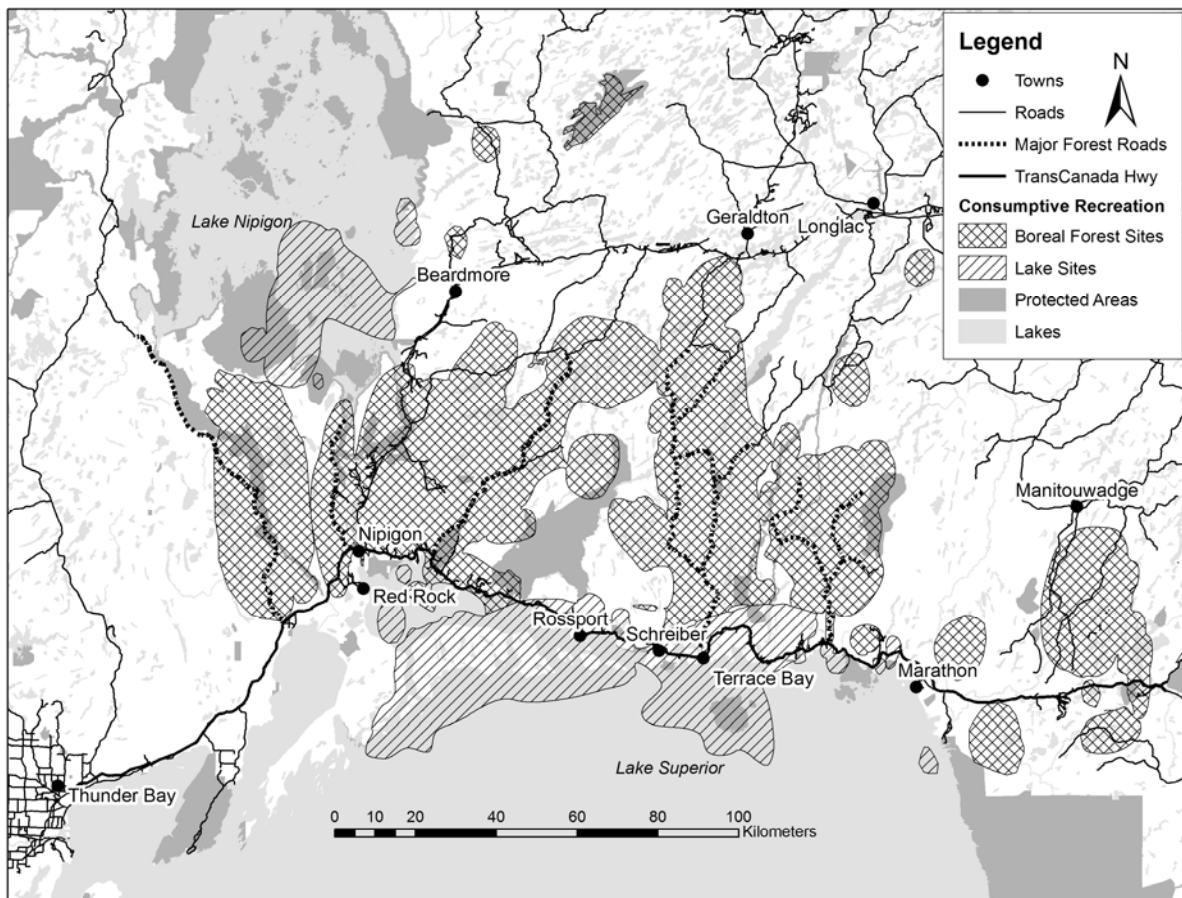
Figure 4: Distribution of Sites Valued for *Consumptive Recreation*

How are place values incorporated into decision-making?

These data suggest that the values attached by residents to the North Shore are dominantly recreational in nature and centred on opportunities for social interaction contexts (families, hunting and fishing companions) and activities (consumptive, lake/water based and diversity) with other values such as belonging, economic, and nature contact being apparently less prominent. Residents' place attachment could be thus best characterised as place dependence (Altman & Low, 1992), although conversations, interviews and focus group discussions with residents also point to strong identification with special places in the boreal forest as indicated in both the recognition of and widespread distribution of sites included in the *Other Values* cluster. In this study, we adopted a two-tier approach to the elicitation of values; first eliciting places used and then secondly the values associated with these places. This approach represents a reaction to the generally negative responses by residents to a prompt to reveal 'special places'. Consequently, the emphasis on use values in this study may well have resulted in under-representation of the broader values expressed in the *Other Values* category. This cautionary note is mitigated by the observation that previous work in the boreal forests to the west of Thunder Bay provided somewhat similar results (McIntyre, Yuan, Payne, & Moore, 2004).

Analyses of the spatial distribution of the *Family Recreation* value cluster sites indicate that most lie adjacent to the east-west line of Hwy 17 (Trans-Canada) and that this route is a main focus for tourism and recreational opportunities. It is evident that many of these valued sites fall within lands that are already under some kind of protection or are available for recreation. Examples include the 53km Casque Isles Trail following the Lake Superior shoreline between Rossport and Terrace Bay (Casque Isles Trail, 2007), a number of provincial parks with

camp grounds and walking trails (e.g., Neys and White Lake) and conservation reserves (e.g., Gravel River) fringe the Trans-Canada Highway between Nipigon and Marathon. Other readily accessible, attractive recreation areas are the beaches at Rossport, Schreiber and Terrace Bay, and the Nipigon River (Figure 1). In addition, much of land adjacent to Lakes Superior and Nipigon is contained within Enhanced Management Areas which are managed to protect recreation opportunities.

The accessible sheltered waters of Lake Superior are valued areas common to both *Family Recreation* and *Consumptive Recreation* clusters. These waters are included in the recently designated Lake Superior National Marine Conservation Area (Parks Canada, 2008); set aside, in part, for the provision of recreational opportunities. In addition, the southern portion of Lake Nipigon and the Nipigon River, a world famous brook trout fishery, lie within provincial conservation reserves.

 In summary, a large percentage of the specifically designated areas valued for and common to both *Family Recreation* and *Consumptive Recreation* clusters are integrated into diverse management regimes (provincial, municipal and federal) which are supportive generally of the maintenance of these valued places. Generally, as with most management agencies in Ontario, if not throughout Canada, recreation is a secondary function to conservation or municipal planning. The remaining *Consumptive Recreation* areas, which lie within the actively harvested general-use areas of the boreal forest, present a number of challenges for management in accommodating recreation values within an area managed principally for resource extraction.

Consumptive Recreation Values and Boreal Forest Timber Management

Active timber harvesting has provided and continues to provide access to desirable recreation areas. Harvest roads have historically been accompanied by the creation of new access

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points providing angling opportunities to lakes and rivers. Clear-cutting and subsequent re-growth provide a variety of habitats which are attractive to game animals such as moose (*Alces alces)* and, as a consequence, to hunters. With time and repeat visits, familiarity with a specific place grows and emotional bonds, sense of place or place attachment can develop (Williams, Patterson, Roggenbuck, & Watson, 1992).

The data from this study indicate that residents have developed specific types of utilitarian, symbolic and emotional attachments with places in the northern boreal forest. Such attachments have been made possible through access provided principally by timber harvesting activities. It is evident (Figure 4) that areas valued for *Consumptive Recreation* are delineated on the basis of the access provided by major and minor roads radiating from the various townships on the shores of Lake Superior (e.g., Nipigon, Terrace Bay). This observation emphasises the fact that the majority of recreation in this part of the boreal is motorised because of the difficulty of the terrain and distances involved. Management of road access including construction, maintenance and de-commissioning is therefore important and often contentious (Hunt, Lemelin, & Saunders, in press) involving negotiation among forest companies, management agencies, tourism operators, First Nations, tourists and residents.

Once long-term management directions, harvesting areas and primary road corridors have been established through the forest management planning process, road construction, maintenance and de-commissioning is the responsibility of forest companies in conjunction with the management agency (OMNR) as part of operational planning. These roads are built to provide access to and transport raw materials from harvesting sites to central processing plants but an important by-product of these roads is the provision of access to recreation opportunities. Just as timber harvesting can open access to new areas, cessation of such activity can result in

de-commissioning of roads and loss of access to places within the forest. This is a typical pattern in clear-cut operations in the northern boreal forest where cutting, clearing and re-growth accompanied by changes in road access form part of a repetitive cycle of harvesting. This may present few problems for some recreationists who are able to substitute another locale to pursue their desired activity as previously inaccessible areas are opened by a new phase of harvesting. In colloquial terms, "they follow the bulldozer to the next fishable lake". For others, de-commissioning can mean a loss of access to areas that have become over time places that are special to them and hence, non-substitutable.

Although the above may seem to present a particularly fluid situation, the reality is somewhat different in that, major forest access roads generally persist for significant periods of time (e.g., 25 - 50 years). Secondary and tertiary roads are often less persistent as these forestry companies are reluctant to assume the expense and potential liability of maintaining roads once harvesting and tending operations have ceased in an area. Roads are sometimes decommissioned through removal of water crossings and/or destruction of the road bed, while other are simply allowed to deteriorate over time. Other access controls including travel or camping restrictions, signage, or gates may be used to control recreational access to an area, generally to protect remote tourism values. Such controls are often controversial sometimes inciting considerable opposition (Hunt, et al., in press), which gives some credence to the value that residents in particular place on access to the forest.

The continued existence and maintenance of forest roads has been, until recently, the responsibility of the forest companies and has depended largely on the continued need of these companies for access to harvesting areas. Recently, however, the Ontario provincial government agreed to assist forest companies with financing the construction and perhaps more importantly

from a recreational access perspective, the maintenance of forest access roads. This latter is important in that it opens the possibility of maintaining access to selected areas even when harvesting has been discontinued.

The boreal forest thus presents a management system which is valued principally for its economic contribution from forest company activities which on the one hand, provide access for residents to a variety of mostly motorised recreational opportunities and on the other, removes that access based on economic priorities without consideration of the recreational values that might have developed over time. Similarly, the management agency privileges forest companies and remote tourism operations over recreation in forest management planning and forestry road access provisions. In summary, there is little priority given in most instances to proactive planning for recreation in the forest management planning process. There are exceptions in some particularly contentious areas (e.g., Wawa District in Hunt et al., in press; EMA's) which serves to emphasise the notion that recreation issues are treated generally on a case-by-case basis.

The recognition of areas that are used by resident recreationists and that are valued for specific purposes can provide a means to proactively integrate recreation into the forest management planning process thus enhancing the range of benefits that are provided by and which are in fact, required under the multiple use provisions of the Ontario Crown Forest Sustainability Act 1994 (Ontario Government, 2006). Spatial data such as that collected in this study allows the identification of specific areas which are important for recreation. The inclusion of data on the specific values attached to each area (refer Fig. 4) can guide managers in ensuring the protection or enhancement of these values. For example, maintenance of forest road access in such areas could be considered a priority. In certain situations, areas identified as having high recreation values could be designated as Enhanced Management Areas with special provisions

governing harvest cycles and maintenance of forest road access designed to promote integration with recreation.

Conclusions

In this chapter, we set out to answer four questions related to the theoretical construction of values, their elicitation and mapping and finally, their integration with decision-making in natural resource management. We adopted a theoretical position based on Brown's (1984) work on values in resource management and an elicitation method which allowed values attached to places to arise naturally in focus groups and through using maps of a study area set in the boreal forest. Analyses of these data allowed for the development of a boreal forest values scale which was used in the case study discussed in this chapter.

A survey was used to explore the spatial distribution of residents' recreation activity, the types of activity participation, and the values asssociated with the areas identified. These data first revealed where these activities were concentrated (Figure 2) which information, while being valuable to managers in identifying recreation use areas, was relatively limited as to the guidance it provided in managing the areas identified. When information on values attached to the various areas was mapped (Figures 3 & 4), their spatial differentiation enabled more specific management approaches to be targeted on the areas identified.

Specifically, the values data revealed that residents attached a broad range of utilitarian, symbolic and emotional values to specific places in the forest. Further analyses suggested that these values could be clustered into four broad categories, two of which (*Other Values* and *Recreation Diversity*) were attached to places that were widely dispersed across the forest. The other two value clusters (*Consumptive* and *Family Recreation)* were more spatially restricted and somewhat separate in their distribution. *Family Recreation* is mainly centred on readily

accessible beach areas of Lake Superior, provincial parks and near-urban recreation sites located along the main highways. In contrast, *Consumptive Recreation* was associated with forest access roads radiating into the boreal forest at or near the main urban centres.

The particular nature of management of Crown Lands (public lands) in northern Ontario with its emphasis on forestry and to a lesser extent on remote tourism, creates opportunities for vehicle-based recreation on company-built forest roads and for 'wilderness' (non-motorised) experiences. The former is not, however, integrated proactively in forest management planning processes but is rather a serendipitous outcome of forest company activities. Thus, established (by practice) recreational access can persist or disappear depending on the location and timing of harvesting and the continued need for access to support forestry activities. An understanding of the spatial distribution of recreation use sites and the values associated with them can provide managers with the information necessary to make decisions about priorities for road maintenance and the creation of special management zones (EMAs) where planning provisions and controls (e.g., harvesting cycles, cutting regimes, forest road planning) can be implemented to better integrate forest company activities and recreation.

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Participatory place mapping on tribal lands

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Abstract: Relational marketing provides a framework for examining and protecting human relationships with protected landscapes. Among other aspects of these relationships is the need to understand the meanings people attach to a landscape. A web-based mapping exercise employing fuzzy mapping methods has been developed that allows people to describe and locate those places that hold meanings to them, indicate the scale and intensity of those meanings, as well as describe their perceptions of threats to these places. On the Flathead Indian Reservation in Montana, USA, the Mission Mountains Tribal Wilderness is bordered on one side by a buffer zone, designated to protect the wilderness from human activities. In this chapter, results are presented from a mapping exercise to facilitate focus group discussions with forest managers and the public about fuel treatments in this buffer zone. To build trust among both tribal and non-tribal residents, fire planners must understand how proposed actions interact with human meanings ascribed to the land and develop a prioritization process that addresses publicly perceived threats. In this case, final decisions about implementing fuel treatments within the buffer zone were well informed about human meanings attached to those places.

A framework to articulate and protect (or restore) relationships between the public and public lands places was described by Watson & Borrie (2003) as public-purpose marketing, a form of relational marketing. A relational marketing approach, in contrast to marketing that focuses solely on transactions with customers with largely revenue generation and repeat purchases as objectives, focuses on building and maintaining relationships (Morgan & Hunt, 1994; Garbarino & Johnson, 1999). In a demonstration of this framework, these authors and others applied this framework to study how public attitudes toward recreation fee policies are dependent upon relationships with public lands and public lands managers. They also demonstrated the value of segmenting the public based on relationships with National Forest lands to better understand response to public lands policies (Borrie, Christensen, Watson, Miller & McCollum, 2002), instead of using more transactive or demographic attributes. These authors have also built upon this framework to justify and propose a system to guide monitoring of changing relationships between the public and public protected areas (Watson & Borrie, 2006). Within this framework, the public is considered primary stakeholders (both customers and partners) of public lands services.
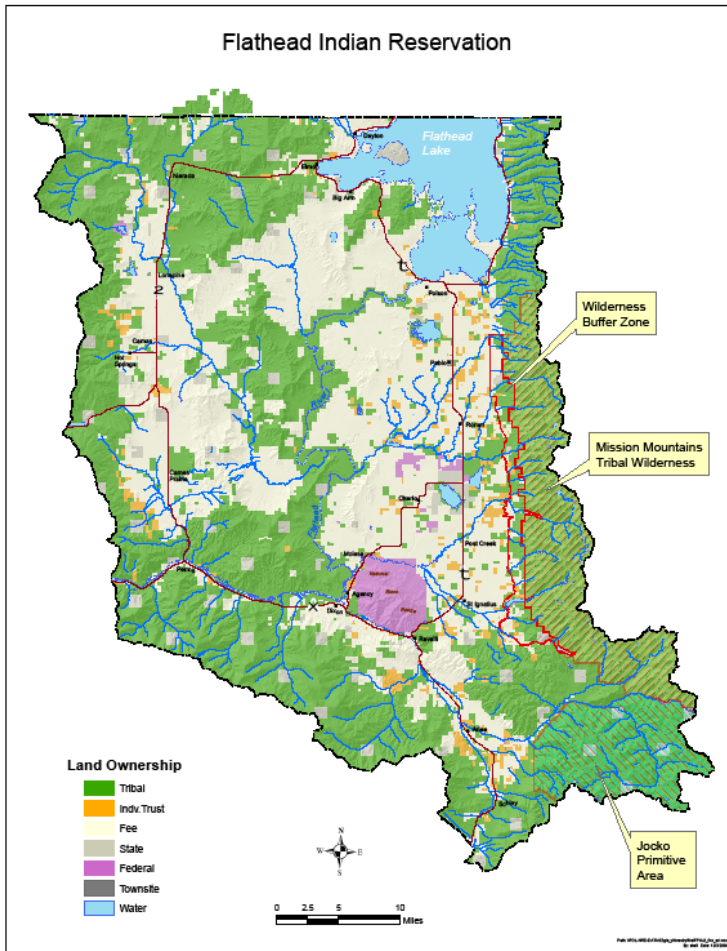
Most private sector marketing approaches we are commonly familiar with focus on transactions between individuals (or organizations) and customers, which have a distinct beginning, short duration, and sharp ending. A relational exchange, however, acknowledges effects of previous contacts and knowledge, is longer in duration, and reflects an ongoing process (Dwyer, Schurr & Oh, 1987). Watson & Borrie (2006) suggest that when providing services for the public through the development of programs on public lands (or any other collectively held lands), the more appropriate view of "customer service" would probably be the fostering of a relationship between members of the public and the places that have been established on their behalf as public lands, particularly with any level of protection from publicly perceived threats. Accomplishing the public purposes of these lands is among the stewardship responsibilities of managing agencies (Watson & Borrie, 2003). Morgan and Hunt (1999) and Watson & Borrie (2003) emphasize that commitment and trust are often commonly the primary influences on successful relational marketing.

Not all customers desire the same relationship with a producer of goods or services. An organization may be well advised to pursue both transactional and relational marketing simultaneously, as customers may exist on a continuum of transactional to collaborative exchanges. In the public sector, however, members of the public are, by definition, involved in a collaborative relationship with the stewardship agency taking responsibility for implementation of public policy. While we are suggesting that a collaborative relationship exists for all people, we do acknowledge that the level of commitment (measured by intensity of meanings) for the services provided by an agency and the level of trust instilled among members of the public may vary substantially. Public purpose marketing suggests that a focus on understanding variation in trust, commitment, and meanings attached to protected areas will be paramount in developing and implementing public policy to meet the mandates or purposes of these public lands (Watson & Borrie, 2006).

A Cultural Landscape with Contrasting Meanings

On the Flathead Indian Reservation in Montana, the Mission Mountains Tribal Wilderness (92,000 acres) is bordered on the east, across the Mission Mountain divide, by Forest Service Wilderness (Flathead National Forest, Mission Mountains Wilderness – 74,000 acres). The Tribal Wilderness (see Figure 1) was designated by the Tribal Council in 1982 at the urging of many Tribal members, was the first tribally designated wilderness in the U.S., and is symbolic of a much larger relationship these indigenous people once had with a vast place we commonly refer to as the Northern Rocky Mountains in the US. To the west, between the Tribal Wilderness and the Reservation community, about 22,000 acres of land is held in a unique status, and also protected at the urging of many Tribal members, though playing a slightly different role in protecting the relationship between Tribal people and the Mission Mountains landscape.

Figure 1. The Mission Mountain Tribal Wilderness is bordered to the west by the Wilderness Buffer Zone. (Photo courtesy the Confederated Salish & Kootenai tribes)

Flathead Indian Reservation

Land Ownership
- Tribal
- Indv. Trust
- Fee
- State
- Federal
- Townsite
- Water

This area is not intended to be Wilderness, but when originally established, in 1987, it was listed as not available for commercial timber harvest. The Wilderness Buffer Zone, originally designated to help protect the Tribal Wilderness from human activities, extends along the wilderness boundary but contains some 200 homes and a few roads, and therefore, remains a working landscape within the community. About half of the land in the Wilderness Buffer Zone is in Tribal ownership; about half is owned by individuals, both Tribal and non-tribal.

Both the Tribal Wilderness and the Wilderness Buffer Zone are broadly considered protected cultural, as well as natural, landscapes; thus major decisions about management of these areas are subject to review by the Tribal Cultural Committee, the Tribal Council and the Tribal member public. To successfully improve forest health within that Wilderness Buffer Zone and increase opportunities to

restore fire in the Tribal Wilderness, the Tribal Forestry Department and the public are working together to find solutions to increasingly threatening fuel buildups.

One of the primary barriers to fire restoration in the Mission Mountains Tribal Wilderness on the Flathead Indian Reservation in Western Montana, is the health of adjacent lands. Fire suppression has had substantial influence on the structure and general health of the forest within the Wilderness Buffer Zone. Heavy accumulations of dead wood and down timber on the forest floor, a dense understory of brush and young trees, and closely spaced trees and closed forest canopy make the forest "unhealthy" and highly susceptible to destructive wildfires, as well as diseases and insects such as the pine bark beetle.

Participatory Approaches to Understanding Values at Risk

One of the key problems in developing a better understanding of different public responses to landscape level management actions, such as fuel treatments in the Wilderness Buffer Zone, is being able to confidently record and accurately spatially delineate relationships stakeholders have with the landscape. Being able to actually map and discuss the different meanings people place on the landscape has a number of advantages over more general place-based techniques to understand sources of place attachment. These include the ability to link meanings to specific locations or landscape units, and perform advanced analyses on responses by looking at spatial relationships based on proximity, adjacency, containment, connectivity and visibility. "Hot spot" areas have been delineated in past studies through categorizing information such as number of people indicating a particular spot is important, the type of meaning people gave to that indicated spot and the specificity, or scale, of the area indicated (Carver, Watson, Waters, Matt, Gunderson & Davis, in press). Of particular need noted by Carver et al. (in press) for improvement in this type of methodology was to increase the number of people engaging in this type of map-based activity, retain good scale representation, but also capture the

intensity of the meanings and identify perceived threats to those meanings. A more useful "hot spot" designation could then be developed. The cumbersome task of a researcher meeting with every person, or even in focus group discussions, and leading them through pencil and paper exercises while trying to either record or note things they say about these important areas has proven difficult (Gunderson & Watson, 2007). Mailback attempts at this complex task have largely provided unacceptable response rates, particularly within rural, indigenous sub-populations. Also of concern was that an individual's relationship with a local landscape is essentially fuzzy and cannot be easily captured using traditional map-based features or entities such as points, lines and polygons. So, while scale has sometimes been estimated, it has not been captured accurately or efficiently, and the intensity of meanings attached to places has previously not typically been captured at all.

In order to address the issues described above, the current project adopts more fuzzy methods of capturing the landscape areas that people value or for which they hold a particular meaning. This is based around the application of a Java-based mapping applet called "Tagger" that uses a spray-can tool, similar to that found in most desk top image processing/manipulation packages, to allow users to define areas over a base map in a manner that allows them to easily vary the density, extent and shape of the sprayed area (Evans & Waters, 2007). This is used to capture information about fuzzy spatial concepts such as vagueness and approximation in defining spatial pattern and extent, as well as (un)certainty and importance in the relative values and meanings attached to these. The system can be used both online over the internet and offline on a stand-alone laptop facilitated by a member of the research team.

Mapping Relationships on the Flathead Indian Reservation

A combination of qualitative, culturally sensitive research and a web-based mapping exercise employing fuzzy mapping methods was used to develop understanding of the meanings Tribal members attach to the Wilderness Buffer Zone, articulate trust issues, and describe perceived threats to these

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meanings. An important element in developing this understanding was describing contrasting meanings associated with both the Tribal Wilderness and the Wilderness Buffer Zone by both Tribal and Non-tribal residents.

Selecting meanings to map

Semi-structured interviews were conducted with Tribal members and non-tribal Reservation residents to solicit information on the range and types of meanings associated with this landscape with varying levels of protection (Tribal Wilderness and Wilderness Buffer Zone). Following the work of Lewis & Sheppard (2005), key informants were selected to meet the following criteria:

1. knowledge, understanding and appreciation of traditional Tribal and non-tribal meanings associated with the landscape;

2. roles in the community that require a wide exposure to a range of Tribal and non-tribal perspectives and perceptions of the landscape; and

3. ability to communicate with outsiders and ability to discuss relevant research issues in detail.

Twenty-two interviewees were asked to provide information about the range and type of meanings attached to the landscape in interviews scheduled and conducted at the convenience of the interviewees. These analyses and results are described in detail by Watson, Knotek, Matt & Yung (2007) and Watson, Matt, Knotek, Williams & Yung (in press). Since this chapter is focused only on the Tribal member meanings attached to the Tribal Buffer Zone, these Tribal member meanings are presented under the following categories, as described by Watson, Matt, Waters, Gunderson, Carver & Davis (2008): 1) The role of the Wilderness Buffer Zone in protection of the Tribal Wilderness and the transitional value of connecting people to the Tribal Wilderness, 2) access and functional attachments, 3) personal and cultural attachments, 4) wildlife and water quality, and 5) recreation, privacy and scenic values.

Protector of the Tribal Wilderness and the Transitional Value of Connecting People to the

Tribal Wilderness

Tribal members viewed the Tribal Wilderness and the Wilderness Buffer Zone quite

similarly in some ways. They commented frequently on the interconnection between the two,

and many feel that decisions about the Wilderness Buffer Zone should be driven primarily by

protection of the Wilderness. Not only does the Wilderness Buffer Zone provide a physical

protection of the Tribal Wilderness, but it also provides for transition and that feeling of being

one step closer, even for those who never get into the Tribal Wilderness. For example, many

people described this protection and transition value similarly to these Tribal members:

The buffer zone was created to help, again, buffer from development, buffer from, you know, manage the buffer zone in a way to help preserve the Wilderness. I think it should be managed in a way to where it protects, where the main focus is on the Wilderness. That how you manage the buffer zone, how you protect the buffer zone, how you keep the buffer zone intact and do things in there, always focusing on how it's going to benefit the Wilderness, not necessarily the people that are in the area, but the Wilderness. (Interview 1)

Well, I just think the importance of it is the fact that it is looked at as a transition zone between hard core development and wilderness. I think it's very critical to have that area as a tool to help manage, to create special conditions that would complement the Wilderness. (Interview 10)

The importance of the buffer zone, which I've stated time and time again, within the Tribe, within the Tribal organization, within the individual contacts with people is that, again, it was designed to protect the Wilderness area. And it is to protect the integrity and the resources of the Wilderness. Protect the Wilderness from the impacts from outside the wilderness. (Interview 8)

And it's nothing you can see on the ground when you pass through it. The association that the buffer zone, that most people and I have, between that, the valley floor, and the Wilderness is sort of one and the same. (Interview 15)

Access and Functional Attachments

The lower elevation of the Wilderness Buffer Zone and different regulations makes it much more accessible to Tribal members and more functional in its use than the Tribal Wilderness. For example:

As they got older, then we spent more time in the Wilderness. But in the buffer zone, that was a much more gentle transition and much more accessible area for us. Right out the back door. It's an area where more frequently I go to, when I don't have longer periods of time to walk or to gather plant materials or to participate in other activities that are important in my spare time. (Interview 16)

I think you see a higher diversity of activities there. You see more berry picking going on. Yeah, you just see more different kinds of activities going on throughout the year. And I think a lot of it is just because it's close, it's more accessible than, the true Wilderness boundary I guess is higher up, more difficult to get to. (Interview 23)

Functionally, the Wilderness Buffer Zone was often described by Tribal members as a "working landscape," a place with functional values to the community. For example:

I know growing up the importance of the buffer zone was, and it still is, it was important, because there's a lot of small scale logging that happened. People's families were raised on that money. And small scale logging to me, even when I was a kid, didn't seem like such a big deal because, well, we cut down five or six trees and we made a few hundred dollars. And that supported our family. And I know it supported a lot of other families that we bumped into at the post and pole yard that we got to know and grow up with and ran into in the woods. You know, whether that buffer zone area was just an egress to get to that timber or if it was just where the timber was that we took, I know that was a big deal growing up. (Interview 15)

I mean, I know families that still subsist off of that deer or that elk that they got that was brought down because of places like the buffer zone, because the animals come down further for grazing when they get heavy, high snow and those areas down low are able to support them. And I think if that goes away, there's going to be a lot of problems for people's, not just their way of life, their way of living, it's just that still all trickles down. (Interview 15)

Personal and Cultural Attachments

Tribal members described some very personal attachments to the Wilderness Buffer Zone frequently. It is a place they grew up, a place they have used to access the Tribal Wilderness for many years, and in some cases a final resting place for relatives. No matter what the designation of the land, these places hold unique meanings for Tribal members. For example:

(What do you think is important about this buffer zone area?) It's like I say, it was probably culture. Because, see, before you get up, really up into the wilderness area there, I know probably 10 or 15 families from the old people that died, they'd take them up there and hide them and bury them. And only four or five people would know where they'd be. Well, it's getting now to where them are even dying, so you're losing it. (Interview 20)

And Tribal members' relationships with the Wilderness Buffer Zone often go beyond

individual attachments, to those that symbolize important things to their culture, attachments to

their past and very similar to the spiritual meanings they attach to nature everywhere. Often there

is little differentiation between the Tribal Wilderness and Wilderness Buffer Zone. Minimally,

they are closely linked in the symbolic meanings they hold for Tribal members. For example:

To me they still have that piece of spirituality of the mountains, of connection that I talked about to the past, to the families that are still there, is still part of it… I just hope that whatever the outcome is, that somehow people will understand how important that is. It's a way of life to a lot of people. It's part of their lives, and it's survival. To me it's survival.
 (Interview 1)

Well, culturally, all I can say is what I know from other people. That it is still used and it's still significant spiritual and culture, not because, well, part of it's because it's there. I mean, there's a spiritual sense of having the Mission Mountains right there. (Interview 15)

(… were there places in that lower area, the buffer zone, that were important for your family that you guys would go to and do different things?) Well, yeah. And there's a lot, there are areas where people would [engage in cultural activities], like in the winter. You know, … and so forth like that. I really don't feel comfortable talking about specifics of it. (Interview 7)

Wildlife and Water Quality

The Wilderness Buffer Zone is often perceived as just as important as the Tribal

Wilderness to wildlife. The wildlife do not know the boundaries, and neither does the water.

Tribal members often see the Wilderness Buffer Zone as an important protector to the quality of

both. For example:

Right up above there there's some grass about this long, and the bear likes to eat that, the grizzly bear. And there's another area down the canal from me. And they got a big area there where the grizzly bear, and the bear likes that grass. I like the animals in there. I really like the

animals in there, especially if we, if people move in there, the grizzly bear will move away. The deer will too, and all those things. So we got to keep those places closed, to me. (Interview 13)

And the water that comes down from the mountain is coming down the buffer zone and everything. It helps to keep all our trees and keep the moisture, which some just comes down to the, for the people to use. Yeah, water is the most important thing in our lives.
(Interview 12)

And I think we have to be concerned about where water drains. We see this, I don't know about up in the wilderness zone, but I know that we have some real water issues from some of the creeks that come down into the valley floor. And that's where they start. And we've got some erosion issues. We've got some issues that we have, we have declining aquifers here. And I think that with good management we could probably impact those aquifers to keep them healthier. I think that all has to start in kind of that mother or that heart area which is the Mission Mountain Wilderness. (Interview 22)

Recreation, Privacy and Scenic Values

Tribal members are only slightly likely to assign recreation values to the Wilderness Buffer Zone. It's really more of a working landscape for them, with value mostly as protection for the Tribal Wilderness. There is lots of recreation going on there, however, and the remoteness from more dense housing situations is appreciated, as well as the scenic qualities. For example:

(What do you think is important about the buffer zone?) Well, I think that the biggest importance is it is a place where people can go recreate. And I think by extension of your own soul that you need to do that and you need to get into the woods if you have that opportunity. And I think that's what that is. I think that's a pretty easy question. (Interview 22)

It's beautiful. It's pretty. And I always liked that area because there's always places to go, you know, walking around, traveling around. And there's no people up there. I mean, well, there's a few people, but not too many. (Interview 13)

And then another big reason is the solitude. You know what hunting season is like off the Reservation. You know, there's orange everywhere. And up there, even though we can hunt year round up there, I think that spreads the hunters out. Even though it's probably peaking in the fall and early winter, you can get away from hunters up there easily, where it's much more difficult off the Reservation. So you can actually enjoy hunting more than off the Reservation I think. I find it more enjoyable that you're not bumping into someone all the time. So it's that solitude, I guess, even though you may not be by yourself, there's maybe only one other person or a couple other people in the same area that you're hunting, so that's a lot of it is just being able to get away from people. (Interview 23)

Today people use that area just for scenery, where people stop there along the highway and take pictures. (Interview 2)

Trust and conflict

Though not an intended line of questioning in the interviews, care was exercised to probe things that may have caused conflict or had an impact on trust. Many Tribal members talked about trust and conflict and part of the purpose of this research is to strengthen feelings of trust and engagement with the community in seeking solutions to issues which threaten the sustainability of the Wilderness Buffer Zone. Some of the general comments that need to be understood for management of this area and engagement with the public are summarized here with examples.

Among Tribal members, it has been suggested that the whole reason for designation of the Tribal Wilderness was at least partly due to a lack of trust the community had in forestry interests. They were afraid of intensive logging and loss of connection to the Missions due to aesthetic and psychological impacts. The Wilderness Buffer Zone designation further illustrates the lack of confidence in common forestry practices that could extend directly to the Tribal Wilderness border. The Wilderness Buffer Zone essentially established a checks and balances system that assured deliberation and conscious decision-making, essentially to assure that trust is protected and the Tribal Wilderness values do not deteriorate. Some of the conflict, not surprisingly, comes from the history of forestry practices in the Missions and from the perception that new residents bring different values into the community. For example:

People that don't understand the process of nature, the people that don't know, that don't look beyond what the visual, they don't look beyond what it really provides. So they come here and end up staying here. And instead of learning the values of a place like this, they try to put in their own values. (Interview 1)

When I saw the boundary lines of where the Wilderness boundary was being proposed and where the canal was, I was pretty taken back by that because I thought, wow, there's a little bit of, to me, at the time I was thinking of trickery or, you know, because when I would think that it should be down here, and most of the Tribal members thought it should be down here … (Interview 10)

I don't know how other people feel, but it looks just unnatural and used, like there wasn't the respectful hand that went across that area, that landscape. And I think that's what people fear, because I've seen examples of forestry logging practices, and they don't want to see that in the Missions. And I know that's an issue for the buffer zone. And I don't know, I do hold a little bit of distrust for forestry practices, just because of my own personal experience since I've been here in this position and hearing the frustration of other wilderness or even wildlife managers with it. (Interview 15)

You know, Forestry has great software that they've used in the past to sort of be able to allow people to visualize that through computer graphic generation, but that's still, even though it's nice, it's different than actually seeing a place that's had that done to it. So I think that's something that the Tribe needs to look at and for people to sort of gain trust back into Forestry because of things that have happened in the past. (Interview 15)

I think that there is a lot of controversy now in the management of the buffer zone. And I think that Tribal Forestry Department is interested in entry. And it's unfortunate that there's such a high level of distrust or mistrust… But the proposal to change the buffer zone management plan and engage in commercial timber harvest is not a way to instill confidence in the Tribal membership that they're really interested in hazard fuel reduction. (Interview 16)

When I was young, I don't know if I should say this on the recording, but I have to give you a little bit of history. Being in the woods all the time, I remember being a kid and going up to Hellroaring, which is the headwaters of Polson's water system, along the east shore. And we had a fellow that mom said he was from the prairie, couldn't stand any standing trees. His name was (deleted), I believe. He was, at that time Forestry was under the control of the BIA, and he was the head of that department here. And he did some really atrocious forestry practices… You know, so as a result of that, I used to flip off loggers when I was very young. (Interview 7)

<div align="center">Mapping meanings for the Buffer Zone</div>

While Phase I of this research focused on learning about these five types of meanings stakeholders attach to places within this landscape and some of the sources of conflict and threats to these meanings, Phase II placed those meanings and threats on the landscape. The main user interface in Phase II is based on the "Tagger" fuzzy area definition software developed by Evans & Waters (2007) as a Java applet running within a standard web browser environment. This uses a spray can tool that will

be familiar to many users from popular desktop image editing packages, and with which a user can define fuzzy areas of varying density on a map. Variations in intensity, or importance, can be easily made by spraying more or less over an area, making it correspondingly darker or lighter. Attribute information can be attached to the fuzzy area through the use of free-format text input boxes. The basic interface consists broadly of:

- a spray can tool that enables the user to spray fuzzy areas on a map;

- Radio buttons to select small or large spray sizes;

- an Erase button to remove any spraying from the current map;

- a New Area button to save the current sprayings and allow the user to spray another area;

- a Paint All button that opens up a dialog window asking for a number from 0-100% to uniformly spray over the whole area;

- a Send Everything button that sends all the saved sprayings and attached attributes to the server; and

- text areas where the user is asked to type about "Why the areas are important," and "What are the threats to these areas?"

Users progress through the application in a linear fashion as follows:

1. Welcome and outlining of the tasks and any technical requirements needed.

2. Background information about the project, fire and fuel treatments and the area of the Wilderness Buffer Zone.

3. Introduction to the mapping system and explaining concepts such as "The longer you hold down the mouse button the darker it gets. The darker it gets means it has more importance" showing examples, and how users can use the mapping tool to indicate intensity.

4. Practice page, which helps people become familiar with the spray can mapping tool using a

map of the US and asking participants to "Spray the areas that are the warmest" - and in the text areas type "Where is the hottest area you've been to?" and "How hot was it?".

5. Questionnaire, with questions about age group, gender, length of residency on the Flathead Indian Reservation, tribal membership, zip code, and a question asking if they were doing the exercise individually, or in a group.

6. After the questionnaire, a short explanation of the task is given i.e. "Please show on the next map those areas that are most important to you for each of the five layers of meanings described in Phase I. An option is given to skip a map, if desired.

7. Maps were given for each category of meanings:

    - Wildlife & Water Quality

    - Access and Functional Attachments

    - Protection of the Tribal Wilderness

    - Personal and Cultural Meanings

    - Recreation and Scenic Values

8. Each user is given these maps in random order, to help reduce bias.

9. Participants are asked to spray on each map showing where the most important areas to them were and write in the text areas "Why these areas are important" and "What are the threats to these areas".

10. After completing all the maps, a thank you page is shown together with further details about the project.

Each sprayed area entered by the user is processed by the Tagger software into a standard image format (gif and GeoTIFF) and compressed. The image and associated attribute information are stored

and can be viewed either as an individual entity or combined into an aggregate "average" map based on all the users' responses. The Tagger system also includes a query function, where researchers can click on the composite image of everyone's responses and query this area for the text associated with that area, weighted by intensity. Additional administrative tools include the ability to examine, delete or edit individual maps and textual responses.

An appeal through the local newspaper for residents to participate in the web-based version of the information collection activity or have a research assistant bring a laptop version to the person encouraged broad participation in the community for 3 months.

Results of the Mapping Activities

Analysis consisted primarily of developing maps which illustrated these relationships with the Wilderness Buffer Zone. While maps could have been developed at the individual level or at the group level, we used a two-step process to provide 1) an overall picture of where meanings are attached and the average intensity of meanings attached to those places and 2) maps for individual layers of meanings.

This chapter will build first of all upon analysis of data from all Tribal members who responded to the appeal for participation, either over the internet or in person with a research assistant. Input is averaged and images produced using classes based on natural groupings inherent in the data with break points identified by picking the class breaks that group similar responses and maximize the differences between classes (Jenks, 1967). For insight, contrasts can be then examined between layers of meanings.

Overall picture of meanings and intensity of attachment

Across all five layers of meanings, 180 maps were contributed by Tribal members and used in this analysis. These maps were generated by just over 40 Tribal participants. An overall average map

was developed that depicts so-called "hot spots" by averaging responses. Therefore, those areas that are indicated as the highest intensity are those with the greatest agreement among Tribal members that they are important and are of the highest importance, regardless of meaning attached. Figure 2 illustrates the overall mean across all five layers of meanings.

Figure 2. Overall mean intensity across five layers of meanings for Confederated Salish & Kootenai Tribes (CSKT) Tribal members.
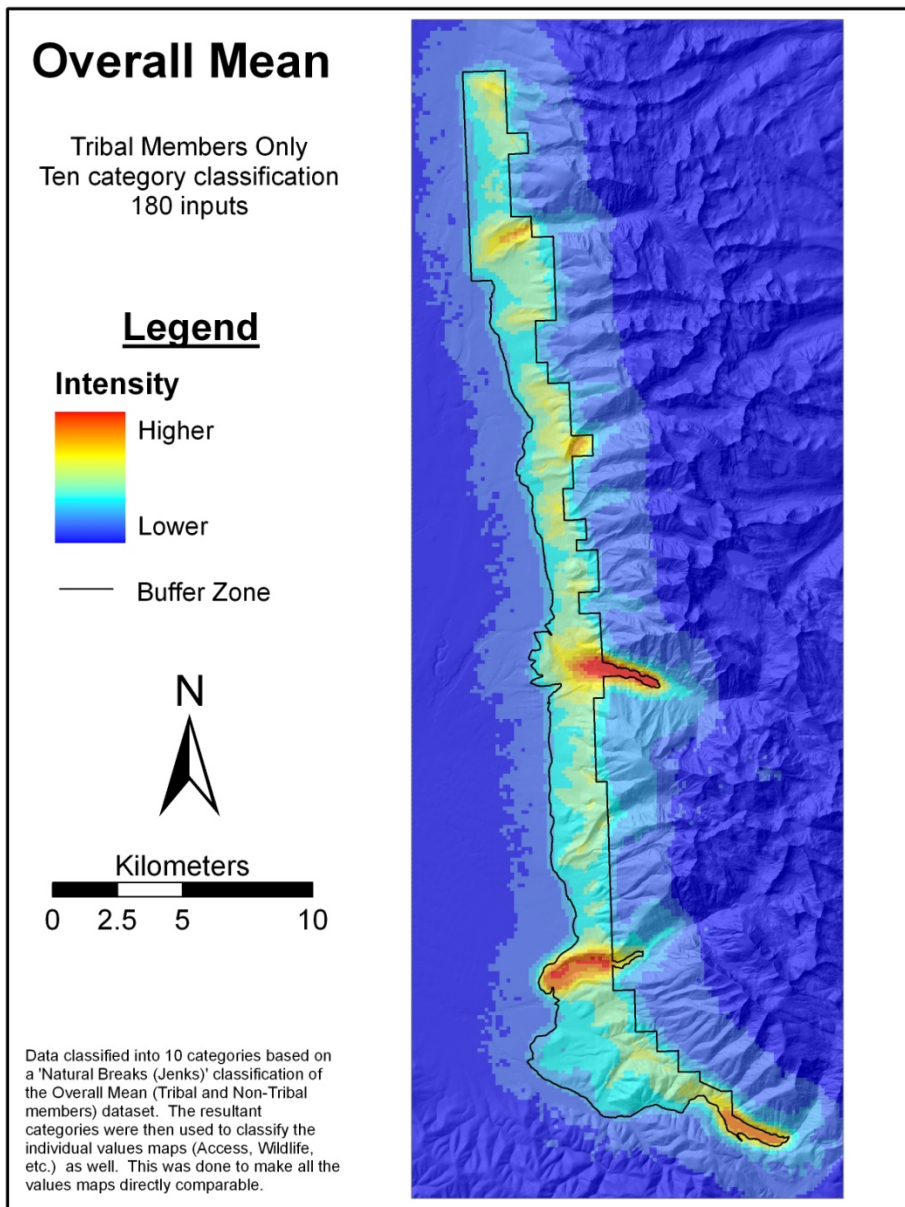
The Jenk's method develops as many categories of intensity as you desire. In this case, a total of 10 was selected to provide adequate illustration of variation in intensity of meanings indicated by respondents. While the maps developed for each layer could also be averaged and used to generate maps with varying numbers of categories, for contrasting purposes here the maps for each layer of meaning

were averaged but presented in the same 10 categories used to develop the map of overall means. In this way, variation can be illustrated across the maps in terms of the contributions they make to the overall mean map when averaged with others. For example, the "wilderness protection" map is presented in Figure 3. From examination of this map, it can be recognized that there was some agreement among those contributing maps that this set of meanings was attached broadly to this area. The scale was extensive, and likely indicates that many people simply chose the option of applying this meaning at a specific, consistent level of intensity, to the entire map. It is a strongly held belief across many Tribal members, as indicated by the intensity attached.

Figure 3. Average intensity of meanings for the "wilderness protection" layer across Confederated Salish & Kootenai Tribes (CSKT) Tribal members.
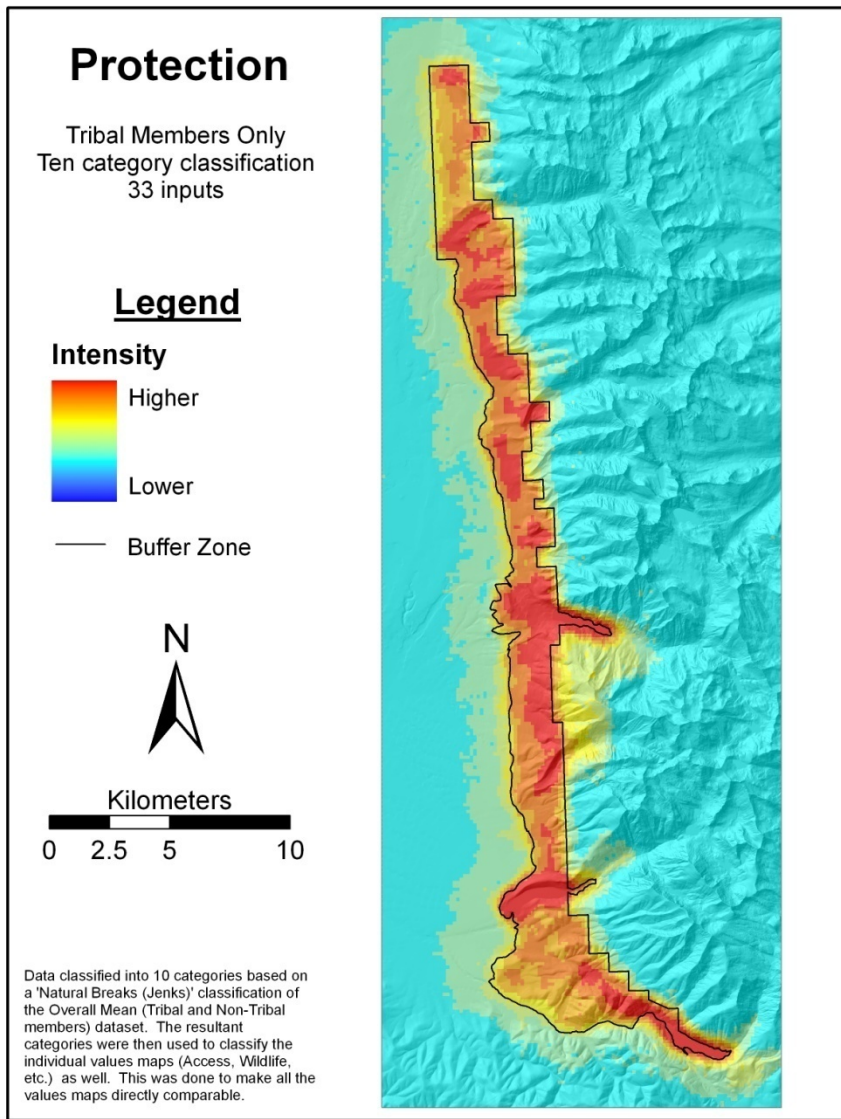
One additional map also represents relatively more broad meanings and high agreement on intensity across Tribal members. That is the map depicting "wildlife and water" meanings. In this case, it is not as widely distributed as the "wilderness protection" values, but is very intense at many places and this meaning is attached to most places by at least some people (Figure 4).

The other three layers of meanings were much less likely to be broadly indicated as important across the landscape, though they were intensely attached to some places (Figure 5). When the maps are averaged with the previous two maps presented, it is easy to see the components of the overall mean map and what it represents in relation to each of the five layer maps.

Figure 4. Average intensity of meanings for the "wildlife and water" layer across Confederated Salish & Kootenai Tribes (CSKT) Tribal members.
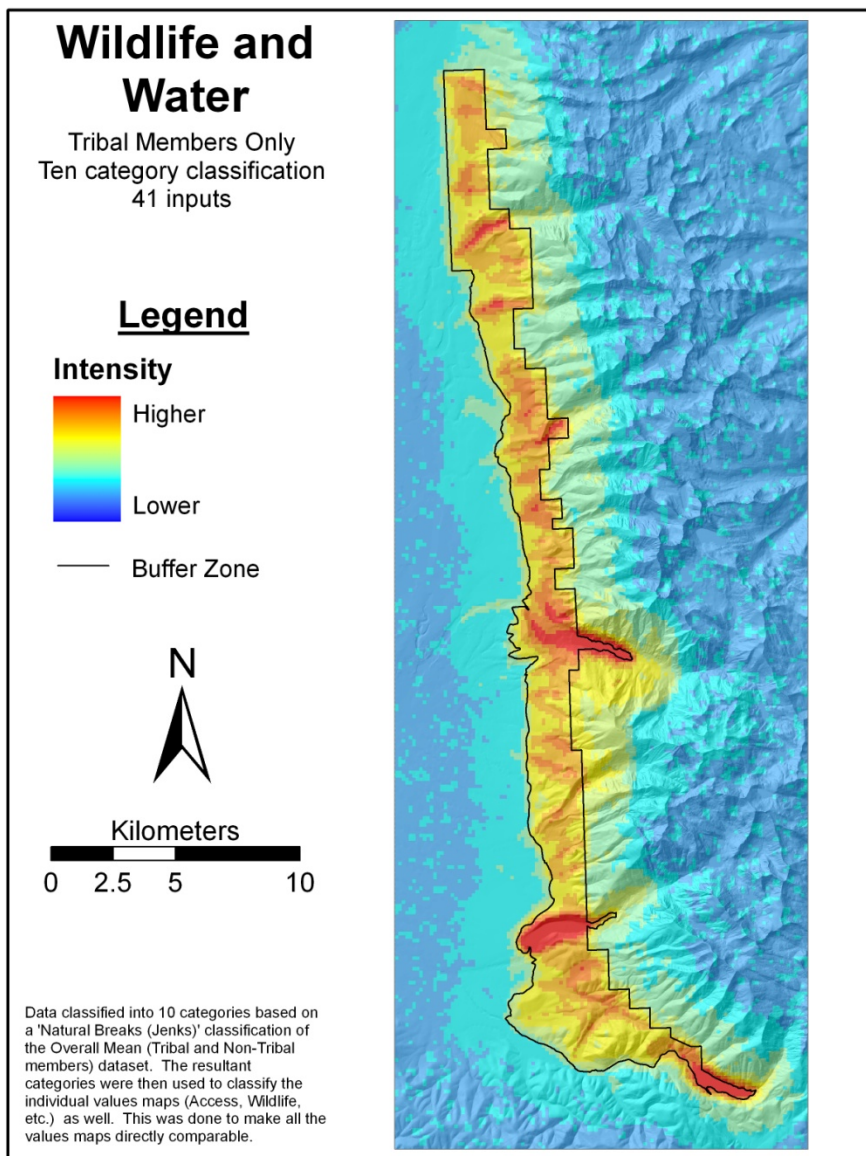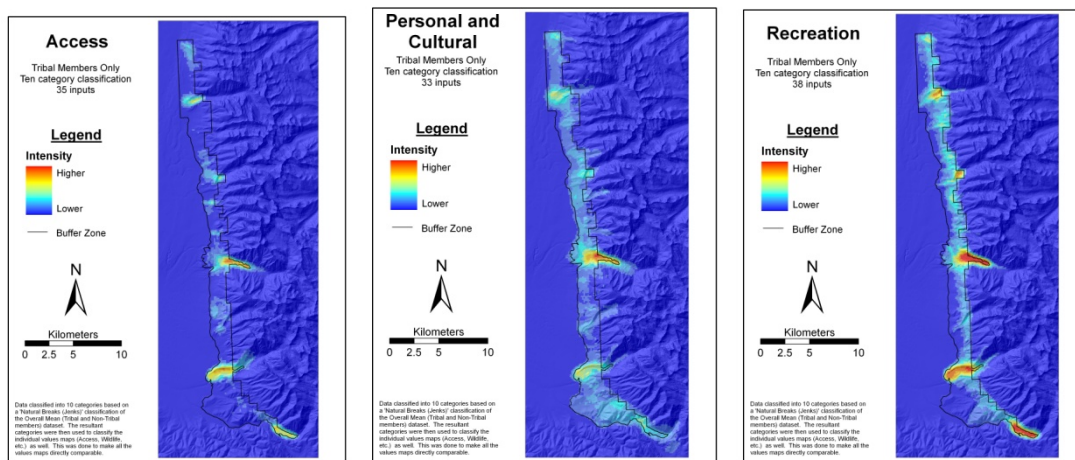
Figure 5. Average intensity of meanings for the "access and functional attachments," "personal and cultural attachments," and "recreation, privacy and scenic" layers across Confederated Salish & Kootenai Tribes (CSKT) Tribal members.

Phase III application

The maps presented above provide managers and the public with good understanding of where and how intensely the various types of meanings are attached to the landscape, and according to the framework supported by Watson & Borrie (2003) are likely to build trust through manager commitment to understand and include knowledge about these local meanings in decision making. Results have been used to guide focus group discussions between forest managers and Tribal members about proposed fuel treatments in the Wilderness Buffer Zone. The maps above are not the ones providing the most useful stimulus for these discussions, however. To build trust among Tribal residents, fire planners must understand how proposed actions interact with local community values at risk and describe a defense prioritization process that addresses publicly perceived threats. In the mapping exercise, Tribal members were asked to describe the threats they believed created risk for the meanings they attached to the Wilderness Buffer Zone. Additional maps were generated to illustrate location of these threats and to stimulate discussion in focus group meetings on the Reservation.

When the threats were analyzed, Tribal members had indicated many that posed risk to the meanings they attached to these important places. These included private land ownership within the Wilderness Buffer Zone, use of all terrain vehicles and their impacts, grazing of livestock, crowding in some places, recreation use in some places, past evidence of temporary drug manufacturing laboratories, lack of respect shown for the land by users, fire, logging and vegetative change. For the purposes of this analysis, fire, logging and vegetative change were the threats of highest priority for more analysis to move ahead on forest health issues in the Wilderness Buffer Zone.

Again, across over 40 Tribal members who participated, maps were created that first of all showed, across all five layers of meanings, those places where any of these three threats were indicated. Vegetative change was included because many times it seemed that the respondent was talking generally about the lack of fire or the lack of good vegetation management as the cause of the vegetative change, but they were not explicit about that relationship belief. This overall threats (fire, logging and vegetative change) map is presented below in Figure 6.

Figure 6. Overall average intensity of meanings threatened by logging, fire and vegetative change threats across all meanings Confederated Salish & Kootenai Tribes (CSKT) Tribal members attach to the Wilderness Buffer Zone.
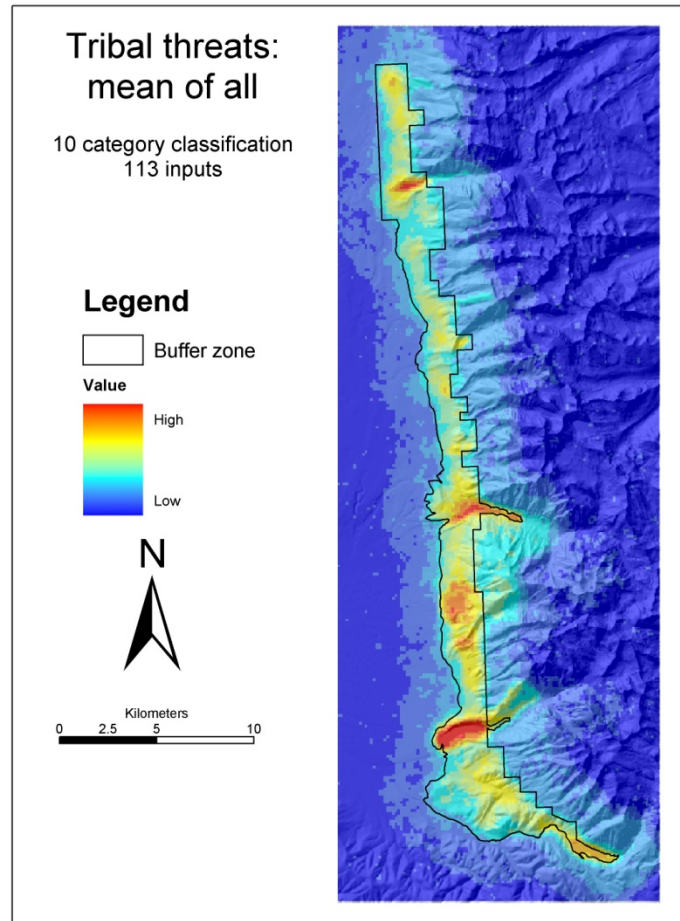
Figure 7 illustrates the extent of the fire threat by itself. Within this threat, Tribal members mentioned such things as the threat of burning cultural areas, the possibility of lethal levels of fire, a catastrophic fire threat, wildfire, fire, hazardous fuel and even fire fighters as a threat to the meanings they attach to these areas. This threat, or these threats, if plotted collectively, is intensive and there is agreement that this threat is distributed widely. Figure 8, however, demonstrates the even more intense and broader distribution of the logging threat. Tribal members chose a variety of words to describe this

threat, using the following terms: loggers logging the area, large scale logging, commercial logging, clearcutting, irresponsible logging, incompatible timber harvest, too much logging, harsh logging, and even attributed threats to the presence of loggers.

Figure 7. Average intensity of meanings threatened by fire across all meanings Confederated Salish & Kootenai Tribes (CSKT) Tribal members attach to the Wilderness Buffer Zone.

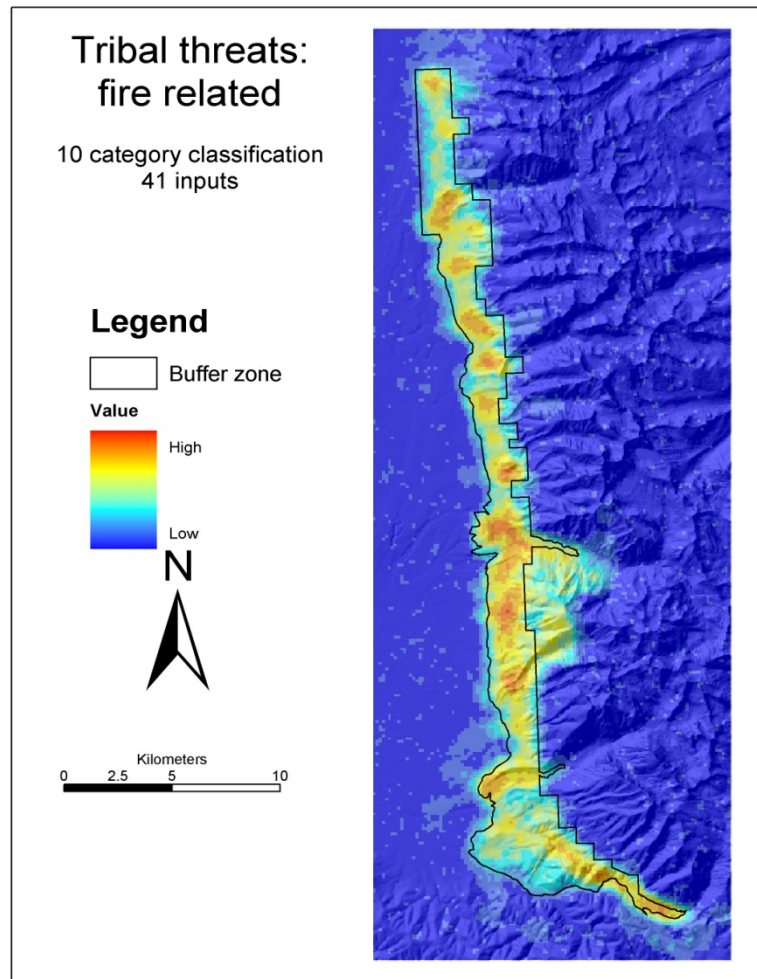Figure 8. Average intensity of meanings threatened by logging across all meanings Confederated Salish & Kootenai Tribes (CSKT) Tribal members attach to the Wilderness Buffer Zone.
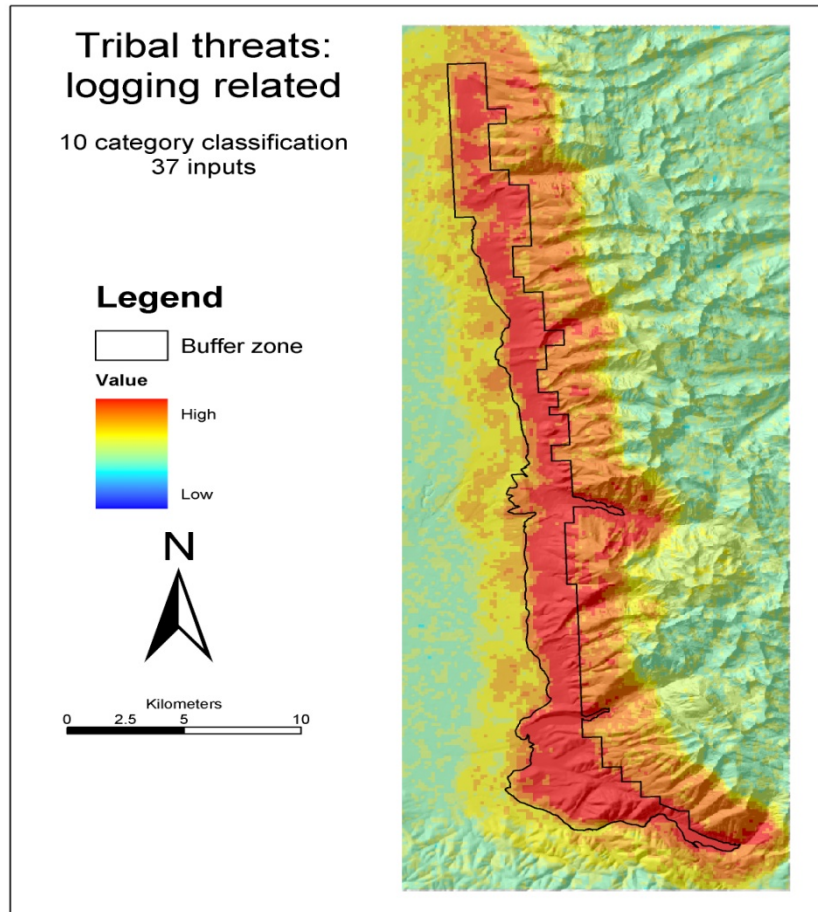
Figure 9 represents the vegetative change threat and mostly serves to average the other two threats map out to make the overall mean map more illustrative of true hot spots of concern across the three types of threats. For this map, Tribal members mentioned too much undergrowth, too much vegetation, dense stands, tree density, brushed over and beetle kill as threats. Also included in this category of threat is invasive species, non-native plants and noxious weeds.

Figure 9. Average intensity of meanings threatened by vegetative change across all meanings Confederated Salish & Kootenai Tribes (CSKT) Tribal members attach to the Wilderness Buffer Zone.
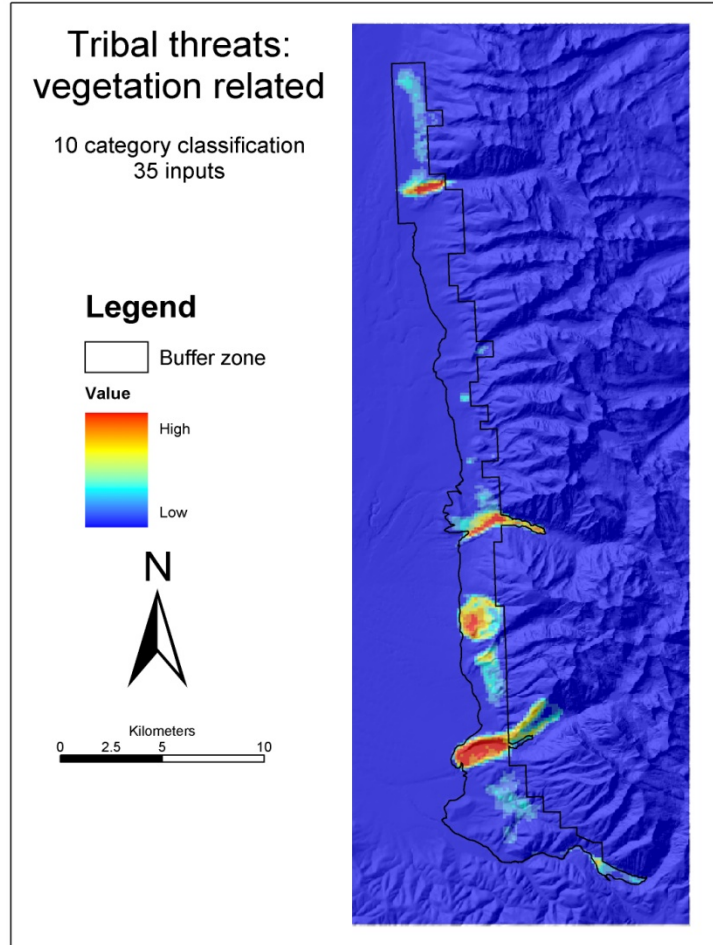
Tribal threats: vegetation related

10 category classification
35 inputs

Legend

☐ Buffer zone

Value

High

Low

N

Kilometers
0 2.5 5 10

Implications for Decision Making

Complete analysis links these mapped meanings to the threats respondents perceive associated

with each layer of meaning. These are the priority inputs (location, meaning, intensity of meanings, and

threat) that in combination managers must integrate with resource management objectives to maintain

public trust. Focus groups composed of Tribal members, facilitated by the Tribal Forestry Community

Outreach Education Specialist, have interacted with Forestry Department staff who are proposing

general fuel treatments in the Wilderness Buffer Zone. Emphasis was on three questions in these focus

groups: 1) further clarify the threat (or benefit) of "logging" on the various layers of meanings attached

to specific places, 2) further clarify the threat (or benefit) of fire (wildfire? Prescribed fire? Exclusion of fire?) on layers of meanings, and 3) how do Tribal members evaluate tradeoffs between these two threats to the meanings they attach to this landscape and how will trust be affected by decisions implemented? This, the final stage of this project, is focused on application of place meaning knowledge to decision-making and an evaluation of whether public members believe better solutions resulting from these participatory activities will be obtained.

Generally, this phase was evaluated positively by participating Tribal members. And while a great deal was learned about the specifics of how fire and logging threatened these places, of most importance, and very apparent during these focus groups, was the need for a method of managing tradeoffs. Forestry activities that are aimed at revenue generation are not desired by most Tribal members participating, with some extremely anti-logging attitudes apparent. Similarly, many people, and often the same people, are fearful of the catastrophic potential for any type of fire, from any source.

It is hoped that in making a set of recommendations for resolving conflict over actions to be taken in the Wilderness Buffer Zone, the tradeoffs between fire and vegetation removal can be addressed. If these tradeoffs can be described in terms of the impacts to meanings people attach to this area, and limits can be established for the amount of acceptable impact on these meanings, then both logging and fire introduction can be implemented within these constraints and held accountable through long term monitoring. Through this process, healthier forests, renewed public trust, and a protected natural and cultural resource are all more likely.

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Place-based decision support system for national forest planning

Greg Brown and Pat Reed

Abstract: Value preferences and place-based meanings are embedded in public land planning decisions but are rarely articulated in the decision process. National legislation for public lands often provides conflicting goals but little guidance for agencies such as the Forest Service to operationalize value preferences and place attachment into decision support. The historical difficulty for integrating sense of place into planning decisions includes the problems of measurement, aggregation, and tradeoff analysis. In this chapter, we present a method for measuring and integrating landscape values into a national forest planning support decision system that uses public participation geographic information systems (PPGIS) and analysis tools we call values compatibility analysis (VCA). We provide a case study to demonstrate how landscape values can be used in a place-based decision support system to determine the compatibility of designating ATV/OHV routes on national forest land. The applications and limitations of VCA for decision support are elaborated and we conclude by indicating that an effective decision support system that integrates sense of place must provide some degree of standardization, be broadly inclusive, and provide the opportunity to engage in systematic landscape value trade-off analysis.

Land use planning decisions are inextricably linked to geographic areas that humans identify with, depend on, and often associate multiple place meanings and values. The planning and decision process can involve publicly owned lands where the government performs management and trust functions for society, or the process can involve decisions about private lands that regulate human behavior for the collective good. Decisions about land use can be reactive and take the form of consent or denial of a proposed land use or they can be proactive and result in the designation and allocation of land for one or more prospective future land uses.

Land use planning decisions occur at multiple scales—from town and urban planning, to regional, national, and even international contexts. What all land use planning decision processes share in common are that value preferences and place-based meanings become embedded in actual or prospective land use decisions, although the actual meanings and values

upon which the decisions are based may not be fully, or even partially—and rarely overtly articulated in the decision process.

Lurking behind each governmental land use planning decision are important questions about the *people* that were included in the decision, the *process* that was followed, the *information* that was collected, the *decision criteria* that were considered, and the *rules* for using the decision criteria such as ranking or weighting. Optimistically, some of the answers to these questions may be disclosed in a formal agency record-of-decision. However, land use planning decisions often involve deeper, unspoken questions about social values and governance. For example, what social values should be considered in the land use decision? Whose values and place-based attachments should count? Whose should not? Are formal decision support tools useful or distracting? If the former, how should different individual and collective values and place attachments be ranked, weighted, or otherwise integrated in the planning decision? What is the process to adjudicate irreconcilable value and place attachment differences, if not disputes? Are the land use preferences of local residents inherently more important than more distant residents? What are the government's obligations to seek out multiple social values and place-based meanings in the decision? Is expert opinion about place more valuable that lay opinion?

Legal statutes regarding land use planning decisions seldom provide responsible decision makers with specific guidance regarding these important questions. In the case of public land management in the United States, national legislation provide broad, sometimes conflicting goals resulting from political compromise that invariably push down controversial decisions about land allocation and management for administrative agencies to resolve. National legislation imposes some constraints on the decision process such as requiring the development of long-range plans for public lands, providing adequate public notice, and disclosing the potential human and

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environmental impacts of various alternatives. But mandating public access, disclosure, and even consideration of the potential impacts of a planning decision by itself provides little guidance on how agencies can or should operationalize that direction to consider the multiple and often competing visions for public lands that are grounded in value preferences and place attachment. The requirement that administrative agencies use rational-comprehensive or synoptic decision processes to guide decision-making does not avoid the inevitable conflict over land use decisions that are linked to place and bonds that people have formed with places. As this volume evidences, agency efforts to integrate place-based attachments and values into the environmental and natural resource decision process have not been widely successful, and systematic approaches nearly nonexistent. Alternative dispute resolution (ADR) processes may be successful in some land use decisions, but unfortunately these interventions usually occur later, rather than earlier in the planning process.

Ideally, what is needed to augment current public land management planning is a decision support system that is grounded in the rational-comprehensive model, is broadly inclusive of individuals and groups, and provides guidance regarding the breadth and intensity of place values and attachments. The historical difficulty for integrating place attachment into land use planning decisions has involved the problems of measurement, aggregation, and tradeoff analysis.

Measurement. The measurement of place attachment has followed two general pathways—qualitative measurement and psychometric scaling. Qualitative measurement of place attachment, for example, through hermeneutics or narrative content analysis, provides for the elicitation of the full range of knowledge, experience, and emotions associated with place that can be expressed in language. The breadth and richness of the place associations measured

through qualitative methods provide contextual and sometimes unique human-place relations that risk distortion, if not errors of omission, through generalization and aggregation. Further, spatial reference information about place, if collected in qualitative research, is often unique with ill-defined boundaries of place. Conversely, psychometric scaling of place attachment (e.g., see Williams and Vaske, 2003) provide generalized results for place attachment for an area, but fail to capture the nuanced relationships that individuals form with place. Further, measuring place attachment through psychometric scaling is only broadly spatially referenced to an area or region. Neither pathway permits any systematic and replicable approach to the daunting but necessary task of inventorying, evaluating, and allocating what are often scarce resources.

Aggregation. Aggregating place attachment measures through stakeholder groups or other organized interests in a land use planning process fails to capture individual needs and perspectives (Christensen and Burchfield, this volume). The rules and rationale for individual aggregation from within or between stakeholder groups in a public involvement process are seldom well-defined or explicit. The problem of aggregation is further compounded with the knowledge that stakeholder groups, attendees at public meetings, and individuals that comment on land use decisions in the scoping or impact review planning phases may not be broadly representative of larger populations. While many consider members of the general public to be *de facto* stakeholders in public land use decisions, there are relatively few examples where place attachment has been systematically measured in representative samples of regional and national populations. Thus, the place attachment measurement of the silent majority is often unknown and unaggregated for land use planning decisions. As a result, the natural tendency is to give greater weight to known and vocal interest groups in a decision process. The politics of modern land use decisions suggest that knowledge of areas adjacent to a specific area must be

considered, and that knowledge of those areas at least somewhat similar to the specific area assist in planning decisions, such as knowing whether the specific area has relatively unique or common values.

Trade-off analysis. Although logical inferences about individual preferences for land use decisions might be inferred from place attachment measures, these inferences are seldom made explicit, nor or are the rules for weighing, balancing, and modeling place attachment differences. For example, an individual with strong emotional bonds to the diverse natural flora and fauna of an area might logically oppose the designation or conversion of the area to plantation forestry. Similarly, an individual with strong place attachment grounded in place dependence on economic livelihood could reach the opposite conclusion about the designation. Even if the different types of place attachment could be measured and aggregated into similar perspectives about land use, it is not self-evident that one preference should necessarily trump the other based on a simple majority principle. The value tradeoffs should be made explicit. Nonetheless, even a majority values approach would be an improvement over existing land use planning decisions where decision makers can only speculate about silent majority preferences. Information about the larger supply of such areas with similar if not identical place attachments is important to decision makers.

From a land use planning perspective, the concept of sense of place and its related constructs of place attachment, place dependence, and place identity ultimately suffer from suitable operational definitions for prescriptive management or allocation, limiting their role as replicable and model-able decision criteria. To the extent that operational definitions can be forged for a particular land use planning application, it is not clear that logical land use decisions will naturally flow from sense of place constructs without meaningful and socially acceptable

aggregation. Rational planning decisions would require that special places, defined as places where people have some form of place attachment or identification, be spatially identified, be linked to reasons for their importance, and have the capacity for aggregation that reveals shared or divergent perspectives to engage in necessary suitability or trade-off analyses. In short, an operational bridge is needed to connect special place locations (geography of place) with their underlying perceptual rationale (psychology of place) for land use planning decision support.

The essential qualities of a decision support system would therefore include valid measures of place attachment, an expansive and inclusive public involvement process, the use of spatial tools for geo-referencing, and a set of decision heuristics based on the place measures that are linked to prospective land use decisions.

The Decision Support System Context—National Forest Planning

The National Forest System (NFS) in the United States comprises about 193 million acres (approximately 78 million hectares) divided into 155 national forests and 20 national grasslands. These public lands hold multiple values and meanings for American society and the uses of these lands have been contested historically since their inception as forest reserves. Multiple generations of Native Americans and European immigrants have forged special, deep, and often conflicting, place-based relationships with the national forests. Others, often distant from the national forests, have viewed them as sources of potential economic gain. As a result, national forest planning has been a process marked by conflicting values and ambiguous or contested goals at multiple scales of analysis, from the individual national forest to the NFS as a whole.

The traditional rational-comprehensive forest planning model that locates primary planning activity at the national forest unit (forest planning goals are subject to broad consistency

with regional and national goals) has not often performed well under these conditions, and particularly when multiple values and place-based relationships have no ready means of quantification and aggregation. Although there are a myriad of reasons, through 1996, every one of the 96 national forest plans had been appealed (Kaiser, 2006). The U.S. Forest Service (Forest Service), the administrative agency responsible for developing and implementing national forest plans, currently lacks formal protocols to cope with these "wicked" value-related, and place-based planning issues. Since inception of the requirement to develop forest management plans under the 1976 National Forest Management Act (NFMA), there has been little, if any, practical advancement in (1) systematic inventory and mapping of place-specific values the public attaches to national forests, or (2) rigorous and replicable quantitative analysis of place-specific value data in spatial modeling to assess forest plan decisions for consistency with public values—much less in a manner that is helpful to most forest planners and capable of withstanding legal challenges in the 1970 National Environmental Policy Act (NEPA) process. All national forest plans are subject to the disclosure of environmental impacts under NEPA.

Place-based values and special places. With national forest conflict centered on conflicting forest values from individuals and groups, national forest planning provides an important but challenging opportunity to develop a decision support system for incorporating place-based values and special places to help diffuse conflict. Substantial funds are spent on forest planning, but the only source of information about public values and preferences for land management planning outcomes comes from the NEPA process that is not scientifically structured, nor replicable, and not necessarily completely representative of actual public values. A preponderance of comments to forest planners and managers may come from a vocal few who represent their own interests, or the interests of a specific user group, to the exclusion of the

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interests of other, potentially conflicting uses. In lieu of reliable, scientific data about public

values, forest planners and managers will sometimes make erroneous assumptions about public

values leading to likely suboptimal land management plan decisions.

Landscape values and special places operationalizaton. An important premise of a

place-based decision support system is that the concept of value provides a natural connection

between place and decision-making (Schroeder, this volume). There are conceptual and

empirical linkages between place attachment concepts and the ways in which people value

places.

The human valuing process is complex with multiple meanings of the "value" concept.

Brown (1984) classified the realm of values into three categories: held values, assigned values,

and relationship values, with preference relationships providing the linkage between held and

assigned values. Brown (1984) defines value as the feeling or experience that emerges from a

person's preference for an object in a given context and this relational value is termed "felt"

value by Schroeder (this volume).

In the earliest national forest planning application, Brown and Reed (2000) asked

individuals to identify the location of landscape values in the Chugach National Forest. The

starting point for the selection of landscape values was based on conceptual work by Rolston and

Coufal (1991), who identified 10 basic landscape values: life support, economic, scientific,

recreation, aesthetic, wildlife, biotic diversity, natural history, spiritual, and intrinsic. This

values typology was modified and expanded from 10 values to 13 values by including

subsistence, cultural, and therapeutic values, the latter 2 based upon earlier "taxonomies"

described by Rolston (1988). The landscape values and their definitions used are broad enough

to cover a wide range of geographic settings and spatial scales, and to date, all have been

referenced by at least some respondents in survey research. In subsequent national forest applications of the method, a category of "special places" was added to measure place-based values that individuals did not feel were expressed in the pre-defined values typology or alternatively, to emphasize multiple values in a given location. An additional benefit of mapping special place locations separately is that it provides a means to examine inter-rater reliability in the placement of predefined landscape values.

To operationalize the measurement of landscape values as defined above, individuals are provided with electronic or paper sticker dots (points) representing the different values and a map of the national forest. In the cognitive process of selecting one of the values and spatially locating the value on the forest map, individuals are expressing preference relationships that link their held values with the place-based context values in the national forest. This operationalization appears consistent with Brown's (1984) conception of the human valuing process that links held values to object values through relationship or felt values in the process of mapping the values. This method also appears consistent with the transactional concept of human-landscape relationships (Zube 1987) where humans are active participants in the landscape—thinking, feeling and acting—leading to the attribution of meaning and the valuing of specific landscapes and places. When an individual places a value marker on a place location, the relationship between the individual and place becomes explicit. In the measurement of values, we have not attempted to parse the influence of held values (based on life experiences) from assigned values (based on object attributes) as the process of mapping landscape values and special places is best viewed as relational and holistic. Further, the difference between held and object values is likely indistinguishable to the public for the purposes of forest planning.

The relationship between place attachment and the mapping of landscape values was empirically examined in a study of the Otways region of Victoria, Australia (Brown and Raymond, 2007). A psychometric measure of place attachment (Williams and Vaske, 2003) was included in the study where residents and visitors mapped regional landscape values. The data indicate that the perceived importance of spiritual and wilderness values were significant predictors of the scale-based measure of place attachment. Further the data show that mapped aesthetic, recreation, economic, spiritual, and therapeutic values spatially co-locate with participants' mapped special places and thus likely contribute to place attachment. Thus, the mapping of landscape values and special places appears to provide a reasonable proxy for scale-based measures of place attachment while providing specific place-based information for land use planning (Brown and Raymond, 2007).

Public Participation Geographic Information Systems. The linking of geographic information systems (GIS) technology with public participation processes for national forest planning is a type of public participation geographic information system (PPGIS). In the late 1990's, social researchers developed PPGIS methods to capture place-based information for land use planning (see Sieber, 2006; Sawicki and Peterman, 2002; and Brown, 2005 for a review of PPGIS applications). For example, landscape values were mapped in marine and coastal areas in Prince William Sound (Alaska) to assist nongovernmental organizations in developing a conservation strategy for protection of the Sound by identifying conservation "hotspots." Subsequent analysis of the values data provided opportunities to compare "expert" with "lay" or public conservation priorities (Brown et al., 2004).

Additional applications of the PPGIS methods identified the location of highway corridor values in Alaska to assist in the designation, planning, and management of national scenic

byways (Brown, 2003); the measurement of landscape values and special places in Kenai Peninsula coastal areas in Alaska to identify "coupled social-ecological" hotspots (SES) where human and biophysical systems are closely linked (Alessa et al., 2008); the measurement of preferences for tourism and residential development on Kangaroo Island, a popular tourism destination in South Australia (Brown, 2006); the identification of priority areas for conservation in the Otways Region of Victoria, Australia (Raymond and Brown, 2007) and the Murray River corridor in Australia (Pfeuller et al., 2006); and the measurement of park and open space values in Anchorage, Alaska for the purposes of park and open space planning (Brown, 2008). Additional PPGIS studies that mapped landscape values that included national forest lands were completed by doctoral students Nielsen-Pincus (2006) and Jessica Clements (2006) at the University of Idaho and Colorado State University respectively.

Using the Brown (2005) landscape value spatial mapping method as a model, researchers with the Canadian Forest Service designed and developed the first internet-based participatory mapping application to collect data on the locations of forest landscape values across a 2.4 million ha study area in the province of Alberta, Canada (Beverly et al., 2008). Three additional internet-based PPGIS landscape value and special place mapping studies were completed for the Coconino, Deschutes, and Mt. Hood National Forests in the western United States in 2006 and 2007 (Brown and Reed, 2007; Brown and Reed, in review).

While the PPGIS methods that map landscape values and special places are best characterized as applied research for land use and forest planning, the method has also contributed to theory development and validation. For example, the method has been used to validate the presence of spatial discounting of environmental resources (Brown et al., 2002), the development of a theory of urban park geography (Brown, 2008), and the development of proxy

measures and indices for scale-based place attachment (see Williams and Vaske, 2003) that provide place-based information to assess the risk associated with landscape modification (Brown and Raymond, 2007).

From Data Collection to Decision Support

The landscape value maps that result from aggregated public responses represent a mix of preferential values that exhibit some degree of collective, spatial consistency, despite a high degree of spatial variation on an individual basis. The analogy of Surowiecki's (2004) "wisdom of crowds" may be appropriate here in observing that that a diverse collection of independently-deciding individuals in the PPGIS process can produce collective spatial information that is better than individuals or even experts. Surowiecki's claim assumes that such individuals have access to reliable knowledge and it must be assumed that if the public's knowledge has been accepted as valid and reliable to date by the courts through the "scoping" process in forest planning, it must also be accepted as valid and reliable in the PPGIS process.

The sampling design used in the forest planning public involvement process establishes the limits for population inference in the decision support system. If the process is broadly inclusive and utilizes scientific samples of regional populations, these representative results can be compared with non-representative stakeholder, interest group, and convenience samples. A scientific sample of the regional population, while not strictly required for decision support by regulation, is arguably essential to provide baseline value data for comparison. In addition to the regional sample, the values data collection process should include individuals on the national forest's mailing list, individuals that attend forest planning meetings, and those that learn of the forest planning process through the Federal Register notice.

The termination of the values data collection process and immediate GIS maps of the data mark the beginning of using the values data for decision support—translating place-based values into planning decisions for the national forest. The normative, guiding principle behind national forest planning decisions is that forest plans should be consistent or compatible with public values for the forests. The degree to which plan decisions reflect public values depends on the sampling design (whose values are included?) and the validity of the relationships between values and prescriptive or allocative national forest decisions.

The values compatibility analysis (VCA) process. The overarching goal of the VCA methodology is to explicitly integrate place-based values in forest planning decisions. The simplified VCA process for providing decision support in national forest planning decision consists of: 1) identifying the typology of place-based landscape values relevant to the planning purpose, 2) querying the general public and optional subgroups about the distributions (i.e., location and relative importance) of the identified values through an inclusive and representative participatory process, 3) compiling and preparing the value data for analysis and interpreted mapping, 4) modeling the compatibility of proposed management activities or decisions with the values, and 5) using the modeled results to enhance collaborative learning opportunities through discourse with those affected by the plan outcomes.

The validity of the methodology rests upon the following set of assumptions:

•the general public and various stakeholder groups hold multiple, diverse, and generally known values for national forests

•individuals can and will express place-based national forest values in a public involvement process

• national forest values have identifiable spatial (place-based) locations, although the scale and resolution of the values will vary by individual and method of collection

• reasoned judgments can be made about the compatibility of potential forest management actions with forest values

The analysis of landscape values can be schematically mapped into five domains: 1) the relationship among landscape values; 2) the relationship between landscape values and forest management activities and/or policies; 3) the modeling of compatibility with existing or prospective forest plans; 4) the relationship between landscape values and biophysical forest attributes and conditions, and 5) the relationship between landscape values and public uses. While a comprehensive decision support system for national forest management should ultimately use information from each of the analytical domains, the VCA decision system described in this chapter is concerned with the first two domains—describing relationships among values in a national forest using metrics and indices, and modeling the compatibility of values with prospective forest management planning decisions related to place-based forest policies.

Landscape metrics and indices. An important component of any decision support system is baseline information about system attributes and the relationships between the attributes. The use of metrics and indices provides a standardized means to quantify and describe values to provide consistent place-based comparisons. Metrics and indices can be calculated to describe, among other things, the frequency, density, diversity, dominance, risk, and conflict potential of place-based values.

There are two classes of social landscape metrics for landscape values—"boundary" and "inductive." The inductive, social landscape metrics are the same as traditional landscape

ecology metrics (see Botequilha et al. 2006) in their calculation and terminology, with the key difference being that landscape value "patches" consist of higher intensities of human value for the landscape rather than the presence of some biological or physical landscape feature. We call these metrics "inductive" because they are emergent landscape attributes from the PPGIS process that measures landscape values. The delineation of landscape value patches—areas of either dominant or relatively homogenous landscape value features—occurs in analysis by applying consistent, heuristic decision rules to aggregate the spatial data into patches. Similar to traditional ecological landscape metrics, the interpretation and managerial implication of the inductive metrics at the landscape scale requires judgment—interpretive thresholds wherein the ranges of metric values might logically trigger some type of logical inference. Like traditional landscape ecology metrics, the process of calculating social landscape metrics is relatively straightforward once the inventory and delineation of landscape value patches has been completed.

Unlike traditional landscape ecology metrics, the boundary metrics described in this chapter have little foundation in the existing research literature. These metrics are grounded in the need for relevant decision criteria for land *allocation* and *management*. Boundary metrics are calculated by analyzing the distribution of landscape values that fall within pre-defined management areas of interest. The management areas could be watersheds, political boundaries, administrative areas, recreation sites, or simply areas of heightened managerial concern. Boundary metrics presuppose the need to understand the type and mix of human values that occupy a given management area thus providing decision makers with data to engage in value tradeoff analysis.

The fullest potential of VCA analysis and modeling is realized when a national forest planning team has previously identified management areas relevant to the forest planning decision or set of decisions. When metrics and indices are calculated to describe the value distributions within and across the pre-defined management areas, relative comparisons can be made between management areas to determine whether areas have unique or similar value distributions as a precursor to trade-off analyses and compatibility modeling. Some common and useful metrics of place values are presented and described in Table 1.

Specific decision support questions that can be answered by the boundary metrics include: What management areas have the highest frequency of values? What particular value is dominant in each management area? How dominant is the dominant value? Which management areas have the greatest density (intensity) of values? Which management areas have the greatest diversity of values? Which management areas have the greatest potential for conflict based on *a priori* assumptions about value compatibility?

Metrics and indices are descriptive rather than prescriptive measures and thus do not prescribe or proscribe specific decisions. Nevertheless, it is not only possible to compare multiple existing decision options but to generate an option with the maximum possible compatibility.

The interpretation of metrics and indices is also subjective—the magnitude of a metric or index may have alternative planning interpretations. However, they can support decisions by providing a system of checks for a particular forest planning decision. For example, if recreation and aesthetic values are dominant in a particular forest management area, a planning decision that allocates a management area to economic production of forest products would likely be considered inconsistent with the public's values for the area if that economic production is to be

realized through activities that do not preserve or enhance either or both the recreation or aesthetic value. A management area with a high value on the conflict index suggests, at a minimum, that special planning attention should be given to the area to ensure the identified potential value conflict is either diffused or channeled constructively in the decision process. Planning "attention" could consist of a variety of activities but may include formal or informal ADR techniques. The key is that it is possible to identify obvious problem areas long before they are likely to emerge in the more contentious NEPA arena.

Aggregation and trade-off analyses. Land use planning decisions represent a series of choices about allocation and designation. The complexity of land use planning, especially with public lands, requires a multi-criteria decision approach which should include place-based values and special places. One of the traditional weaknesses of land use alternatives analysis, regardless of the decision criteria, is the lack of commensurate measures that provide meaningful comparisons of the relative merits of the land use alternatives. Because value data is collected systematically for an area using the same value definitions, the data is commensurate across the planning area. Alternatives can be compared for their relative compatibility with a particular land use decision (e.g., whether or not to designate ATV/OHV use, as described below), or for a bundle of decisions associated with a particular management area.

Decision Support Case Study—Travel Management Planning on the Mt. Hood National Forest

All-terrain-vehicle and off-highway-vehicle (ATV/OHV) use on NFS lands is one of the most contentious issues facing land managers. In 2005, the Forest Service published a rule in the Federal Register requiring the designation of roads, trails, and areas that are open to motor vehicle use. Motor vehicles will be prohibited off the designated system of routes. To implement

the rule, each NFS unit or Ranger District will need to designate roads, trails, and areas open to motor vehicle use. Thus, the travel management planning process in national forest planning consists of identifying areas where ATV/OHV use may occur on national forest land and the policies that regulate or otherwise enable or restrict off-highway vehicle use. With the increasing popularity of ATV/OHV use on public lands and the potential for conflict with other national forest uses, decisions regarding travel management can be controversial. For some individuals, the use of ATV/OHVs may facilitate and enhance place attachment through access while for others, the presence of ATV/OHVs may have the opposite effect.

In 2007, the authors completed a web-based PPGIS project that mapped landscape values and special places for the Mt. Hood National Forest. Approximately 180 individuals representing a general public random sample and individuals from a Mt. Hood National Forest mailing list participated in the project and indentified 4,614 value locations and special places on the national forest. Individuals were asked to map the values and special places indentified in Table 2 resulting in the distribution of values appearing in Figure 1.

Independent of the PPGIS value data collection process, the Mt. Hood National Forest planning staff had tentatively identified 6 proposed areas for ATV/OHV use on forest (see Figure 1). They inquired whether the values data could be used to validate the designations and to identify potential problems with the designations. We indicated the VCA process could provide decision support by answering the following questions: 1) What are the place-based values that characterize these areas? 2) Are the designated areas unique or similar in their value distributions? 3) Is the designation of ATV/OHV use in these areas compatible with public values based on the relationships between specific place-based values and ATV/OHV use? and

4) Are there other areas on the national forest where ATV/OHV use would appear to be compatible or incompatible with ATV/OHV use designation?

Figure 1. Distribution of mapped landscape values (n=4,614) on the Mt. Hood National Forest (Oregon). The six proposed ATV/OHV areas appear in blue.
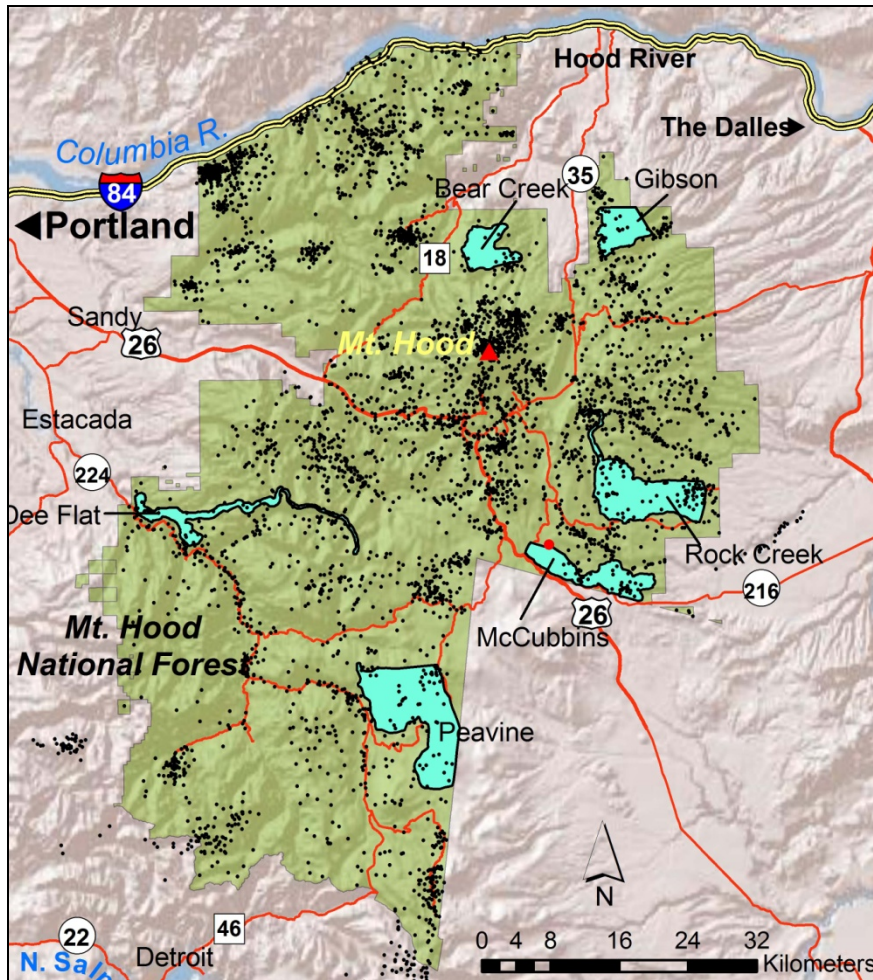
Metrics. The first step was to describe the composition of values and special places indentified for the 6 proposed areas. The 11 indices described in Table 1 were computed for the 6 proposed ATV/OHV areas with the results appearing in Table 3. The metrics may be grouped into general 3 types: 1) value distribution, 2) value composition, and 3) value stability. Value distribution metrics (D1 – D4) describe various aspects of the number of value points across areas without respect to the different types of values. Value composition metrics (C1 – C5)

reflect greater emphasis on the identities of the different types of values than on the number of values. Value stability metrics (S1 – S2) reflect the potential conflict among, and risk to, those values. Each of these 11 metrics provides a somewhat different aspect of the values within an area in ways that are generally intuitive and useful in the process of constructing and evaluating alternative land management scenarios and their compatibility with landscape values.

Some observations can be made about the distribution of mapped values for designated ATV/OHV areas on the Mt. Hood National Forest. For example, the Rock Creek area has the highest number of mapped value points (D1 index), containing about 43 percent of all value points mapped in the 6 areas (D2 index), with approximately 2.5 times more value points (D4 index) than the average number of mapped values per area. The Rock Creek area also has the highest density of mapped value points per acre on average (D3 index) and is dominated by primitive recreation value (that is, the single most common value type or C4 index). The Peavine proposed ATV/OHV area has the highest diversity of values (C1 index) and the highest potential for value conflict within the area (S1 index). Developed recreation value is the dominant mapped value in 3 out of the 6 units.

Some logical suppositions can be made from the indices but they necessarily present an incomplete picture. For example, areas where *primitive* recreation values dominate (Gibson and Rock Creek) could present a problem for ATV/OHV designation as primitive recreation experiences appear *prima fascia* incompatible with ATV/OHV recreation. However, this conclusion must be considered tentative, at least for the Gibson area because primitive recreation value is not highly dominant as indicated by a lower value dominance (C5) index. Additional investigation reveals that the second most frequent mapped value in the Gibson area is *developed* recreation value which may be considered *prima fascia* compatible with ATV/OHV use.

Further, the metrics and indices are computed for the entire area. It is possible for apparently incompatible forest uses to harmoniously coexist within an area. In the case of ATV/OHV use, natural corridors, topography, and vegetation could provide natural separation or zoning to minimize value conflict.

Compatibility modeling. There are multiple ways to approach compatibility modeling with a prospective forest planning decision such as the designation of an ATV/OHV area. The method briefly described herein makes assumptions about the relationship between the different landscape values and ATV/OHV activity in general and then builds upon these assumptions to generate a quantitative compatibility score for ATV/OHV activity based on the spatial distribution and composition of values for the forest.

Specifically, the VCA process for travel management planning decision support is a multiple-step process consisting of the following: 1) converting landscape value point data (vector) into density-based data (raster data with grid cells), 2) assigning compatibility weights or scores to the relationship between each landscape value and the proposed ATV/OHV activity (e.g., positive, negative, neutral), 3) mathematically aggregating and classifying grid cells based on the landscape value and ATV/OHV compatibility scores, 4) displaying and overlaying the resulting compatibility maps with forest travel management landscape units, and 5) modifying or adjusting designated travel management areas (as needed) based on the compatibility scores.

The important step of assigning compatibility weights or scores to each landscape value and ATV/OHV activity relationship on a national forest can be accomplished a number of different ways—by forest planning personnel, by "expert" panels such as a group of District Rangers, or by a survey of the general public. Weighting offers the ability to model or test the "robustness" of the assumed influence of individual values on overall compatibility scores. The

resulting maps based on the value/activity compatibility scores show areas on the national forest where ATV activity appears compatible or incompatible with perceived landscape values.

To model ATV/OHV compatibility for the Mt. Hood National Forest, we used mean compatibility scores generated from a convenience sample of 28 Forest Service employees attending Forest Service workshops in 2007. Forest Service employees were asked to *a priori* assign a compatibility score for each value on a scale that ranged from –5 (the value and ATV/OHV use are highly incompatible) to +5 (the value and ATV/OHV activity are highly compatible) based on the definition of the value and the likely effects of a specific management activity. An assigned score of 0 would indicate no apparent or obvious relationship between the value and ATV/OHV activity.   Each of the value/activity relationship scores represents a subjective judgment on the part of the rater but obvious relationships emerge with increased polling of individuals. Figure 2 shows the frequency distribution of responses to each value in the typology with ATV/OHV activity and the mean compatibility scores. The option to vary the assumption of the compatibility helps to construct sensitivity analyses of the relationships, or to compare the assumed effects as posited by differing interests.

The value/activity frequency distributions can be used as input to compatibility modeling in a number of different ways. One simple method, illustrated here, would be to use the mean scale score of the respondents. This method has the advantage of capturing the direction and magnitude of the perceived compatibility relationship. Alternative methods would include collapsing the compatibility scale to dichotomous variables or using the modal value of the scale. In this illustration, we used the mean value/activity scores as shown in Figure 2 which range from –2.18 (Wilderness value) to +3.32 (Developed recreation value).

Figure 2. Frequency distribution of compatibility scores for 12 landscape values with ATV/OHV use (n=28 Forest Service employees). Scale scores ranged from -5 (highly incompatible) to +5 (highly compatible). Negative scale values appear on the left and positive values on the right. The mean scale score appears in parentheses.
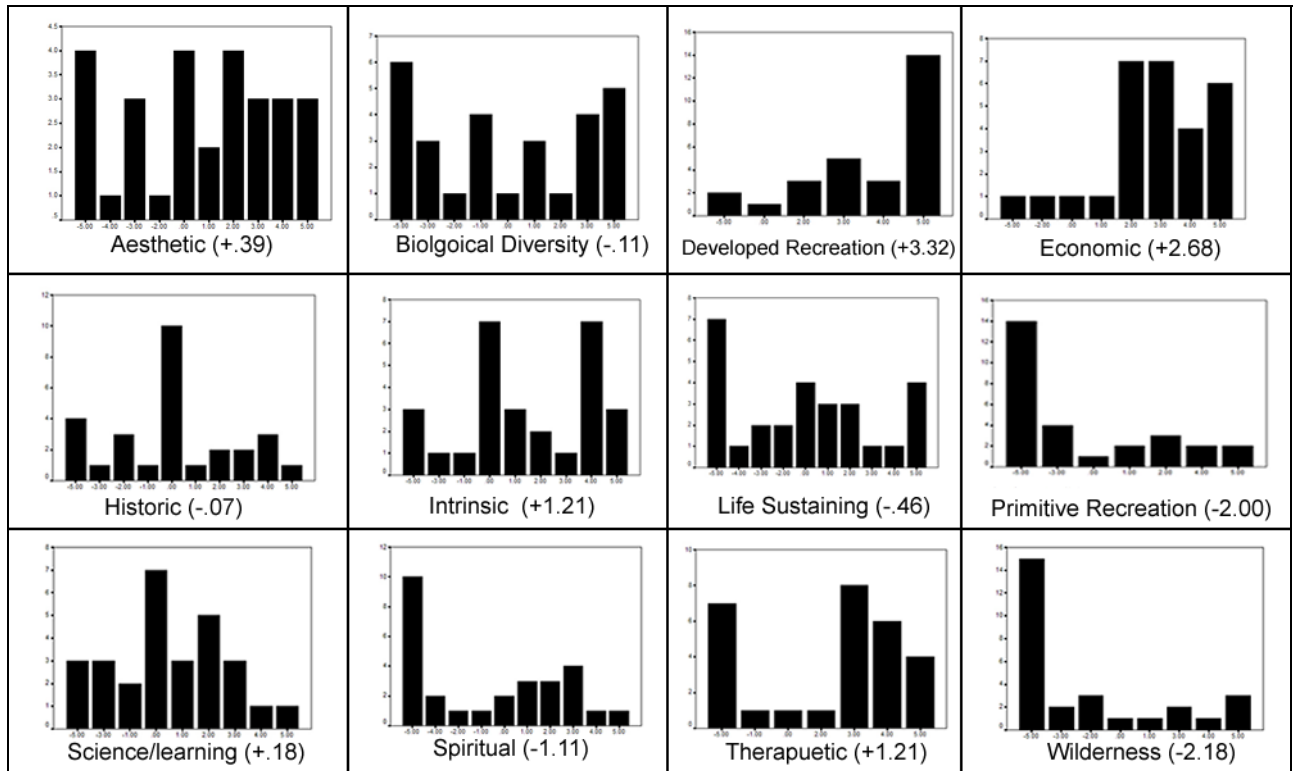
The next step is to translate the compatibility perceptions to the value locations on the forests. Each value was mapped on the Mt. Hood National Forest as a point location. These point locations are converted to raster data (square cells) through a point density function. In this example, the density of points that fall within each cell (500 m) and within a search radius around the grid cell (2000 m) were calculated using GIS software. The output of this process is a set of 12 raster data layers representing each landscape value with each grid cell containing the point density for the landscape value. The raster data can be visualized as data layers draped on the forest landscape.

The final step in the quantitative compatibility modeling process is to associate the activity/value compatibility scores with the distribution of values represented by the raster layers. A composite compatibility score is calculated for each grid cell through the selection of a mathematical function. There are multiple ways to combine the compatibility scores with the density values from the grid cells, but a simple method described here is to treat each value equally by multiplying each activity/value compatibility score by the density of the value for each grid cell. These 12 multiplicative products are summed into a single composite compatibility score for each grid cell. The composite compatibility score will be negative if a particular grid cell contains more values that are perceived to be incompatible with ATV/OHV while the score will be positive where a grid cell contains values that are perceived compatible with ATV/OHV use. In the Mt. Hood National Forest, this method yielded composite compatibility scores ranging from –5.8 to +9.3. The composite scores represent both the direction of the relationship (positive or negative compatibility) and the magnitude of the compatibility relationship based on the distribution of values found in the forest location. The compatibility scores are color-coded (reds-incompatible, greens compatible) and displayed for the forest in Figure 3. Color is used as a visual guide to show the magnitude of compatibility/incompatibility relationship.

Using the Model for Decision Support. Each of the 6 proposed ATV/OHV areas is examined in detail to determine individual and aggregate value compatibility. If compatibility scores are positive (green) in the proposed area, the value data would appear to support ATV/OHV activity. Where compatibility scores are negative (red), the data suggest incompatibility with ATV/OHV activity. Figure 4 provides enlarged map images for 2 of the proposed ATV/OHV areas, Rock Creek and McCubbins. The model indicates general value

compatibility with ATV/OHV designation for the McCubbins area (the area is dominated by positive, green-colored grid cells), but potential problems with designation of the entire Rock Creek area. Within the Rock Creek area, there are significant incompatible areas (red grid cells) in the Western half of the unit, while the Eastern half appears compatible (green cells). This finding should prompt the forest planning team to more closely examine the specific quantity and mix of actual mix of values in the Western reach of the unit that resulted in the negative composite compatibility scores.

Figure 3. Model of ATV use compatibility with mapped forest landscape values and special places on Mt. Hood National Forest (Oregon). Compatibility scores range from compatible (dark green) to incompatible (dark red).
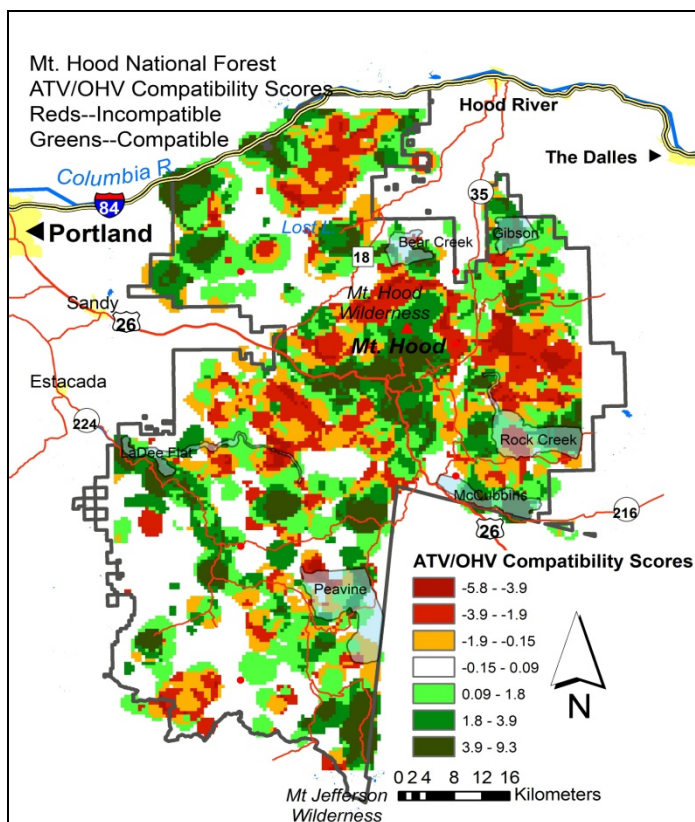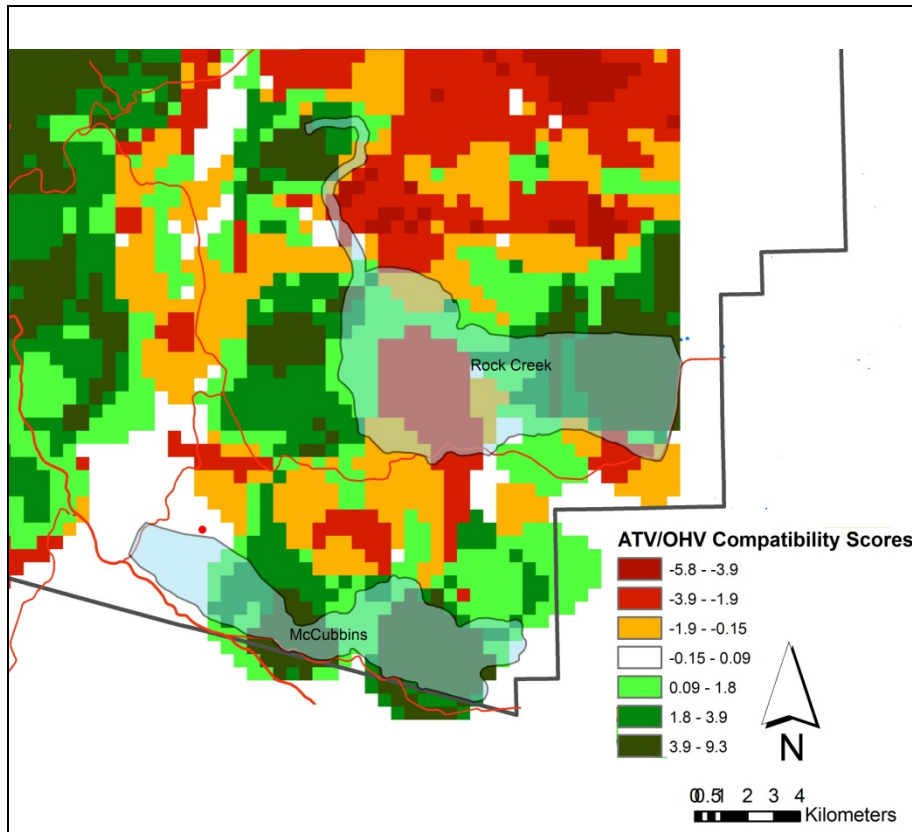

Figure 4. Model of ATV use compatibility with mapped forest landscape values and special places on Mt. Hood National Forest (Oregon). Overlay of compatibility scores on two proposed ATV/OHV management areas—McCubbins and Rock Creek. Compatibility scores range from compatible (dark green) to incompatible (dark red).

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ATV/OHV Compatibility Scores

- -5.8 - -3.9
- -3.9 - -1.9
- -1.9 - -0.15
- -0.15 - 0.09
- 0.09 - 1.8
- 1.8 - 3.9
- 3.9 - 9.3

N

0 0.5 1 2 3 4 Kilometers

The compatibility model described here is designed to provide decision support, not actual decisions. A decision to allow ATV/OHV use in the Western reach of the Rock Creek area could result in significant national forest user conflict, depending on the specific sources of the landscape value incompatibility scores. Ideally, the compatibility maps generated by the model would become the basis for further public involvement or stakeholder processes to determine the magnitude of the potential value conflict over ATV/OHV use in this area and whether the presumed value conflict can be ameliorated. It is important to reiterate that these scores, in effect, treat every subunit (acres, hectare, etc) as if they were truly homogeneous with respect to value distribution across the entire unit. While this is surely rarely the case in larger units, it nevertheless is satisfactory for thinking about broad LMP landscape allocations and management strategies that will be applied consistently across the whole of the unit. The model

will mask small, inconsistent areas but planning for these is more the province of site level projects and other plan implementation activities.

Assumptions about the landscape value/forest activity relationships used in the decision support system can be easily changed to perform sensitivity analysis to show how widely the model results may—or may not—vary by value/activity assumptions, by geographic area, community, population demographic, or management unit of analysis. The VCA decision support system can operate at multiple spatial scales.

Applications and limitations of VCA as a decision-support system

Decision support systems based on the systematic mapping of landscape values and special places provide forest planners, local communities, first nations, special interest groups, and other stakeholders with a useful starting point for a participatory and iterative planning process to develop and revise forest land management plans (LMPs). Because the VCA decision support system provides data that is place-specific, includes both tangible and intangible forest values, and accounts for local and regional place attachment values, it offers significant advantages over the historic system of soliciting place-based values through a "scoping" process that is non-systematic, voluntary, and consequently likely to be non-representative of the multiple publics that have an interest in national forest management outcomes.

But the development and implementation of a NFS-wide protocol for mapping landscape values and special faces some formidable constraints that appear more administrative and political than technical. The list of constraints includes, but is not limited to the lack of specific agency directives, the cost of developing and implementing the VCA protocol, the Office of Management and Budget (OMB) review process for collecting data, the lack of agency

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experience in working with value and special place data, the public acceptability of using this type of data for forest planning, and the uncertain legal implications of planning decisions that reference landscape value data.

Lack of specific directives.

The Forest Service is required by law to develop LMPs under the NFMA for each of its national forest or grassland units. The agency is guided by planning rules that describe forest planning procedures and requirements. In recent years, the agency revised its planning rules only to have those revised planning rules nullified by a California court decision. Both the older rules and revised rules provide agency discretion to engage with the public and stakeholder groups in the forest planning process. However, the collection of landscape value and special place data for the purposes of forest planning is not specifically identified as a requirement in the forest planning process and thus there is no specific directive for national forests to use the landscape value mapping protocol in forest planning processes. If the protocol remains discretionary in the forest planning process, national forests could choose not to implement the protocol.

Cost of developing and implementing the protocol.

The protocol for collecting and analyzing landscape value and special place information as part of the LMP development process would not be expensive relative to many other components of plan development, but in an agency with flat or shrinking operating budgets, any additional expense will need to be justified. This planning cost is considerably less than the costs associated with conducting basic biological surveys and inventories of forest resources for national forest units at a comparable scale.

OMB Approval.

Under the Paperwork Reduction Act (44 U.S.C. 3501 et seq.), the Forest Service is required to have certain public information collection activities approved by the Director of the Office of Management and Budget (OMB). The systematic collection of large scale landscape value and special place data as part of the forest planning process would come under the authority of the Act and thus require the Forest Service to seek approval for protocol implementation through the OMB. While the Paperwork Reduction Act may limit the paperwork burden on the public, the opposite is true for federal agencies seeking to collect information from the public to help them plan and allocate federally managed public resources. The set of administrative procedures to be followed to obtain OMB approval for data collection is onerous at best, and labyrinthian at worst. Further, the turn-around time for OMB review and approval is highly variable. OMB reviews can take from months to years to complete. These processing times are not functional for individual LMP timelines and typically require planning farther ahead than any other discipline with a less than certain outcome.

Lack of Forest Service experience.

Although the Forest Service has historical experience working with quantitative information collection and decision support systems (e.g., the NRIS, FORPLAN, Spectrum, and IMPLAN) and geographic information systems, the agency has little experience working with landscape value and special place data and the VCA decision support system that is used to analyze the data. Further, current staffing patterns within the agency's NFS branch result in planning interdisciplinary teams often lacking members with social science experience, if not concern comparable to that given to the bio-physical resources. The initial pilot of landscape value data collection in the 1998 Chugach National Forest planning process was received with caution, if not some skepticism by the interdisciplinary forest planning team (Farnum and Reed,

2008). And although web-based PPGIS data was collected for the Coconino National Forest in

2006 as part of a pilot study, the forest planning team did not use the data collected in a decision

support capacity. The mapping of landscape values and special places, and the VCA decision

support system that uses the data, represent new technology for assessing forest plan options.

Personnel in federal agencies such as the Forest Service are not rewarded for taking risks—few

individuals want to be on the "bleeding edge" of technology. Positive agency experience using

landscape value mapping for decision support will eventually overcome distrust and skepticism,

but this will only happen if the agency can accumulate "stories of success" with the method.

Public acceptance.

There is an open question about the public acceptability of using landscape value and

special place data for decision support. The initial pilot studies of the method suggest the public

appreciates the opportunity to provide their personal values and perspectives for forest planning.

However, results from pilot studies suggest that established interest groups (both forest

protection and resource-use based NGOs) have concerns about the agency collecting landscape

value and special place data because these organizations did not know how the information

would be used by the Forest Service. Interest groups have become familiar with methods to

leverage their interests in the forest planning process and the new method represents "uncharted

waters." They are not familiar enough with the protocol to endorse its use, and in lieu of this

familiarity, some interest groups would prefer to maintain status quo in forest planning

processes. This reaction is not unexpected. Any protocol that measures the "silent majority"

represented by the general public is likely to be viewed as a "wildcard" to the forest planning

process, one that cannot be easily manipulated by interest groups to present a particular

perspective. Other reactions have included some hesitancy to endorse the approach since it tends

to diminish the role of the NGO in representing what heretofore has largely been their province to represent (albeit without a great deal of rigor). Once a history of using the VCA method is established, interest group skepticism may diminish.

Uncertain legal implications.

The forest planning process has become a politically charged environment with interest groups perceiving final LMPs as a zero-sum game—one group's influence necessary diminishes another's. Interest groups do not hesitate to use the federal court system to challenge the legality of LMPs under NFMA, or the adequacy of the NEPA process used in the plans. A reasonable assumption for the agency is that the adequacy of the LMP will be reviewed by a court of law. But the court system provides imperfect guidance at best for the agency to develop LMPs that will pass legal muster.   Expanding the public participation process in forest planning through landscape value mapping and using the data in decision support would presumably be viewed favorably by the courts but the legal implications are unknown since there is no explicit language in the regulations about how to appropriately collect or utilize information on public values. Nor are there established legal precedents by court cases regarding such information and its use in planning.

Conclusion

Beierle (1999) lists five goals to evaluate the quality of public participation in environmental decision-making. Does the process educate and inform the public? Incorporate public values into decision making? Improve the substantive quality of decisions? Increase trust in institutions? Reduce conflict? Although not perfect, we argue that the values compatibility analysis process achieves these goals by explicitly integrating public values to improve the substantive quality of national forest planning decisions. By targeting broad and representative

publics in the values data collection process, the public is informed, trust is built, and the potential for conflict is reduced, though certainly not eliminated.

Even the best conceived participatory process for measuring and integrating landscape values and place attachment concepts into a decision support system must consider institutional priorities, existing planning practices, organizational norms, and public comprehension. Unless a decision system can be translated accurately into a standard operating procedure (SOP) in the Forest Service, the method is unlikely to be widely used or adopted. Qualitative methods for measuring place attachment, while providing the greatest richness in data, have yet to be standardized into a decision support system and the prospects have been dim given the agency's need for defensible and replicable decision support. For better or worse, qualitative research has not achieved the same "science-based" status of other quantitative research within the Forest Service.

Previous research on integrating place attachment into decision-making has failed to fully acknowledge that inherent place-based value tradeoffs exist (i.e., places can't be all things to all people), does not provide a formal mechanism for conflict resolution (i.e., how does one reconcile conflicting place identities, dependencies, and meanings?), and sidesteps the issue of where the locus of decision weight should reside relative to public participation (i.e., what influence should individuals and stakeholder groups have relative to local, regional, and national populations?)

And yet, there is a clear need to translate values and place attachment concepts into decision support. But how to best achieve this outcome remains a work-in-progress. We believe that understanding and mapping landscape values and special places through PPGIS offers considerable promise. The knowledge of values must be attached to the geography of place,

must provide some degree of standardization, and provide the opportunity to engage in systematic trade-off analysis that is relevant within the different disciplines of a land management agency as well as for the public that interacts with the various disciplines.   Further, the data collection process must be broadly inclusive, and the decisions must be transparent if the resulting land use decisions are to be accepted.

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Table 1. Landscape value metrics useful for national forest planning decision support.

Definition	Calculation	Usefulness	Limitations	
Value sum absolute (D1)—A point distribution metric for the total count of all value points located within a landscape unit	Sum all the landscape value points within the landscape unit. Ranges from 0.000 to no set upper range. $$D1 = \sum p_i$$ where: p_i = number of landscape value points mapped within landscape unit i	Indicates the landscape unit with the most value points (of all types) among landscape units	Larger landscape units may have higher point counts simply by virtue of the larger landscape unit and does not necessarily reflect an individual's strength of attachment.	Wl nu
Value sum percent (D2)—A point distribution metric for the percent of mapped value points in a landscape unit relative to the total number of mapped landscape values across all units.	Sum of all landscape values within landscape unit divided by the total number of landscape values mapped. $$D2 = \frac{\sum p_i}{P}$$ where: p_i = number of landscape value points mapped within landscape unit i P = total number of mapped landscape value points	Reveals the landscape units with the highest proportions of all mapped landscape values.		Wl gre va
Value density index (D3)—A point distribution metric that measures the relative density of landscape values per landscape unit by area.	Sum of all landscape value points per landscape unit divided by the number of acres or hectares in the unit. $$D3 = \frac{\sum p_i}{h_i}$$ where: p_i = number of landscape value points mapped within landscape unit i h_i = number of hectares within landscape unit i	All factors being equal, larger landscape units would have more landscape values mapped. This index complements the D3 index by removing the influence of the size of the landscape unit.	Does not indicate whether values are diverse or uniform within the landscape unit.	Wl ma
Value frequency index (D4)—a point distribution metric for relative frequency of landscape values within a landscape unit compared to the average frequency of mapped landscape values across all landscape units.	The sum of all landscape value points within a landscape unit boundary divided by the mean number of landscape values mapped for all other landscape units. Has no set upper range. $$D4 = \frac{\sum p_i}{\dfrac{1}{n-1}\sum_{j=1}^{n-1}\overline{X}j}$$ where: p_i = number of landscape value points mapped within landscape unit i n = total number of landscape units excluding $\overline{Xj}$ = mean number of landscape values per landscape unit j	Shows whether a given landscape unit, has greater relative frequency of values (D4>1.0) or less frequency of values (D4<1.0) than the average number of mapped landscape values across all landscape units		Hc lar co
Value diversity index (C1)—A value composition metric using the standard Shannon diversity index used in ecological studies calculated for the different landscape values located within a landscape unit.	$$C1 = -\sum_{i=1}^{v} p_i \ln p_i$$ where: p_i = the proportional abundance of the ith landscape value = (n_i/N). n_i = the number of mapped landscape values in the ith landscape value category N = the total number of all mapped landscape values ln = natural logarithm v = the number of landscape value categories The calculated diversity index may be normalized to a scale ranging between 0.000 and 1.000 where higher index values indicate higher value diversity within the landscape unit.	High diversity scores could indicate multiple, competing interests for the same landscape unit.	Does not fully indicate the potential for conflict because some landscape values may be complementary rather than competitive.	Hc in

Value identity index (C2)—A value composition metric using standard coefficient of diversification calculations for comparing different landscape values within a landscape unit. [Note: the coefficient of diversification is the opposite of the coefficient of specialization].	The calculated diversity index is normalized to a scale ranging between 0.000 and 1.000 where higher index values indicate higher value diversity within the landscape unit.	Whereas the C1 index indicates diversity against a hypothetically perfect distribution, C2 compares the distribution of any unit against the actual mean distribution of all units.	Measures only relative rather than absolute value diversity (as in C1 index). Should be used in tandem with C1 index.	Ho in to
Value uniqueness index (C3)—A composite measure of 2 tests of how unique each landscape unit is in terms of the composition of values, including the dominant value and a Spearman rho rank-order correlation of all values. The C3 index does not consider relative acreage of the units.	The index is the percent of times a landscape unit shares either or both the same dominant value with other units and has value rank orders significantly correlated. The C3 index ranges from 0.000 to 1.000, with 0.000 indicating that the value distribution is exactly like all others and 1.000 indicating that it is unlike any other unit.	The C3 index is helpful in understanding whether a landscape unit shares key value distribution characteristics with other units. The higher the index, the larger the number of other units sharing the key characteristics.		Ho of co
Dominant value (C4)—A value composition metric for the landscape value with largest count of point locations within the landscape unit.	By definition, the landscape value with largest count of points within the landscape unit $$C4 = \max\left(\sum v_i\right)$$ where: v_i = number of mapped landscape value points for a given value v in a given landscape unit i	Identifies the dominant landscape value within a landscape unit	A landscape unit can have multiple values close in total count and a focus on the dominant value could mask small differences. Should be used in tandem with C5 index.	W ea
Value dominance index (C5)—A value composition metric to quantify the dominance relationship between the dominant landscape value within the landscape unit and the next most common value.	Calculates the difference between the landscape value with the highest point count and the next highest point count (second rank) within a landscape unit and expresses as a percent of the highest point count. The index can range between 0.000 (no difference) to 1.000 where there is only one landscape value located in the landscape unit. The larger the value, the greater is the percent difference between the dominant and second most common value. $$C5 = \frac{\max\left(\sum v_i\right) - \max\left(\sum v_i\right)^{(2)}}{\max\left(\sum v_i\right)}$$ where: v_i = number of mapped landscape value points for a given value v in a given landscape unit i	Shows whether the dominant value is distinct or only slightly more common than another landscape value in the landscape unit	Only examines the difference in the top two values in a landscape unit. An evenness index (use the C1 as a proxy) should be used when counts between all landscape values are important.	Ho co fre
Value conflict potential index (S1)—An index based on *a priori* estimates of the inherent conflict between each pair of values. The index is a function of the estimated conflict between two values weighted by the percent of all possible combinations among values. For example, if two values are estimated to be inherently incompatible, but both represent a relatively small number of values the index will be smaller than if the two values together represent a large percentage of the values present.	Calculation varies based on a table that quantifies the complementary or competitive relationship between landscape values. The index is designed to range between 0.000 and 1.000 where 0.000 indicates there are no conflicting values in the landscape unit and 1.000 would indicate complete conflict between the values located in the landscape unit.	Provides a complement to D3 index.	The conflict relationship between different landscape values requires subjective judgment.	W co in
Value risk index (S2)—An index that measures whether a landscape unit contains a disproportionately high percentage of values—such that if those values were lost they would represent a significant proportion of all such values across all landscape units. The composite measure represents the sum of individual at risk indicators for each landscape value.	The S2 index ranges from 0.000 to 1.000, with 0.000 indicating that no values exceed the subjective thresholds and 1.000 indicating that all values within a landscape exceed the "high" risk threshold.	The S2 index is helpful in understanding whether a landscape unit contains such a high percentage of all values that the loss of the values would represent a significant reduction of all values. The higher the index, the larger the number of values at risk.		W dis va un

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Table 2. Landscape value typology used in the Mt. Hood PPGIS project.

Aesthetic— I value these areas for their scenic qualities.

Economic— I value these areas because they provide income and employment opportunities through industries like tourism, forest products, mining or other commercial activity.

Developed Recreation— I value these areas because they provide for recreation activities such as hiking, camping, fishing, skiing, or wildlife viewing with motorized access and some facilities.

Primitive Recreation— I value these areas because they provide for primitive recreation activities such as backpacking and horsepacking without motorized access and facilities.

Life Sustaining—I value these areas because they help produce, preserve, and renew air, soil, and water.

Learning/Scientific— I value these areas because they provide opportunities to learn about the natural environment through activities like nature interpretation and scientific study.

Biological diversity— I value these areas because they provide places that support a variety of plants, wildlife, or other living organisms.

Spiritual— I value these areas because they are sacred, religious, or spiritually special places.

Intrinsic/Existence— These areas are valuable for their own sake, even if I or others don't use or benefit from them.

Historic or Cultural— I value these areas because they have features that represent history, or provide places where people can continue to pass down wisdom, traditions, and a way of life.

Therapeutic/Health— I value these areas because they make me or others feel better, physically and/or mentally.

Wilderness—I value these areas because they are wild, uninhabited, or relatively untouched by human activity.

Special Places—I value these places because they are special to me. Please double click on the Special Place marker to indicate the reason why the place is special to you.

Table 3. Selected metrics and indices for 6 proposed ATV/OHV areas on the Mt. Hood National Forest.

Area Name	Size (hectares)	Sum of all values (D1 Index)	Percent of Values (D2 Index)	Dominant value (C4)	Value Dominance (C5 Index)	Value Frequency (D4 index)	Value Density (D3 Index)	Diversity Index (C1 Index)	Confl Poten (S1 In
Bear Creek	2267	19	6.786	Dev. Recreation	0.400	0.407	0.00338	0.816	0.43
Gibson	2380	32	11.429	Prim Recreation	0.143	0.686	0.00543	0.858	0.47
LaDee Flat	2761	40	14.286	Economic	0.250	0.857	0.00585	0.916	0.53
McCubbins	3649	34	12.143	Dev. Recreation	0.143	0.729	0.00376	0.853	0.45
Peavine	9490	34	12.143	Biological Prim Recreation Dev. Recreation	0.200	0.729	0.00145	0.924	0.58
Rock Creek	6683	121	43.214	Prim Recreation	0.500	2.593	0.00731	0.870	0.50

Community-based place attachment to public land

Neal Christensen and Jim Burchfield

Abstract: The challenges for place-based management are to develop strategies to understand widely varied public interests and to seek balance between a consideration of each individual's views and that of aggregate populations. Organized stakeholder groups are often the most common means available to the public to articulate their interests in planning processes, however, individual needs may be poorly represented by stakeholder groups. The human / place bond segmentation approach described herein is useful early in planning processes. This approach combines survey research with GIS mapping of social conditions to explore a community's perceptions of a travel management plan within a forest stewardship project on the Bitterroot National Forest in southwestern Montana. The plan was particularly contentious between off-highway vehicle (OHV) enthusiasts and local home owners who expressed numerous concerns about OHVs in their 'back yard.' Segmentation of the public according to their bonds with a public place is inspired by market research segmentation and resulted in clustering stakeholders into compatible viewpoints. This research presents managers with a nuanced view of human / place bonds with potential to uncover community-level alliances.

Public land managers must consider a broad range of public input in developing effective and equitable land use projects. There is growing evidence that increased understanding of public views and desires can enhance honest and meaningful involvement of the public and contribute to more balanced, integrated and equitable management decisions (Kruger 2003). The challenges are to develop deeper understanding of widely varied public interests in meaningful ways and to seek the best balance between a consideration of each individual's views and that of the aggregate of the affected populations. These challenges are shaped by the public purpose and the social and ecological characteristics of the planning area.

Organized stakeholder groups are often the most common means available to the public to articulate their interests in project planning situations - through lobbying, organized letter-writing, attending public meetings, or in collaborative decision-making processes. However, individual needs may be poorly represented by stakeholder groups. Special interest stakeholder groups commonly focus on a narrow set of objectives, while their constituents are unique

individuals with varied concerns, values, and life stages. Many public planning processes fail to find solutions to contentious issues, not only because stakeholder groups struggle against each other, but also because these groups cannot agree internally on acceptable management options (e.g., Marston 2001; Moseley 2001; Snow 2001). This chapter describes a research approach that examines people's bonds with specific public places at an individual level through survey research and segmentation analysis. The authors argue that this process clarifies mutual interests among participants in land use decisions and that segmentation based on people's bonds with public wildland places reveals alliances within communities that reflect powerful, latent expectations and demands that enable more creative and cooperative solutions to contentious planning problems.

A general goal of the survey research application described here is to provide a pre-planning tool to build understanding of public behaviors and interests during contentious public planning situations. A human / place bond segmentation approach supplies a relatively underutilized and replicable tool for public wildland planners. The information from this type of study could be useful early in the planning process to managers, organized stakeholders, and the general public to improve understanding of local views during project planning efforts. This research could help break down inaccurate stereotypes that lead to planning gridlock by identifying more moderate stances within traditional stakeholder groups along with common views and activities shared between seemingly opposed groups. This social science information is complementary to other forms of input usually developed by biologist, hydrologist, and other resource professionals in a public wildlands pre-planning process. This approach is also complementary to the GIS techniques described in other chapters in this application section. The combination of survey research and GIS mapping of social conditions creates for managers and

the public a realistic assessment of latent conditions before planning begins. While GIS techniques assess spatial variation in human ties to place, the human / place bond research approach presented in this chapter focuses on variation in these ties among a particular population toward a specific place.

The population of interest in this type of application is usually bounded to a geographic community in proximity to a wildland planning project because that is where particularly controversial issues are often publically debated among widely varying interests. A typical planning project where this has been applied would encompassing a limited watershed on a portion of a National Forest Ranger District in the Western United States. Our goal is to understand local social interests - their extent and intensity for a public wildland place. In many contentious public planning situations the depth and breadth of local public interests are poorly understood, with the energies of managers and public participants more focused on divisive interest group politics than genuine collaboration and shared learning. The human / place bond research approach provides a tool to describe complex and varied interests that managers and local citizens can understand as a precursor to public deliberation. Just like you can "see" things on a map, survey research gives quantifiable, reliable information on the distribution of local public interests. Whether or not a manager chooses to use these interests as determinants of action is usually left to their discretion within other relevant pressures on their decision space.

Informed collaborative planning opens up the discussion on land use to allow people to co-create, with managers, a relevant range of opportunities for use (or constraint) that can be distributed and monitored. It has always been difficult in collaborative planning to address the fairness of the representation of public interests. William Leach describes this in "Devolved Democracy" (Leach 2003), showing that the issues of inclusion and representation are extremely

difficult barriers to collaboration. How do you know if it is not just the loud voice of a few "gladiators," as Jack Ward Thomas (chief of the US Forest Service from 1993 - 1996) called them, shouting out for their own specific demands? Better information may blunt the power of the loud voices, as deliberation is about using information, logic, and persuasion for purposes of influence, which is a short step from power (even though the nominal power rests firmly in the hands of the agency managers). The human / place bond survey research provides managers and the public with data that is similar to a GIS representation – a fair, accurate, and repeatable characterization of social conditions. This is a vital missing step in collaborative planning – actually knowing what the local population cares about for a particular public place.

There is growing evidence that people's ties to public places influence their views about conflict and appropriate management solutions in natural resource management decisions (e.g., Brown, Reed, and Harris, 2002; Cheng, Kruger, and Daniels, 2003; Davenport and Anderson, 2005). Low and Altman (1992) offer a conceptual framework compiled from a number of authors, across many disciplines, engaged in developing understanding of humans and place. They adopt the term "place attachment" to represent the concept of human ties to place (Altman and Low 1992). Hinting at the numerous perspectives on this concept, they say that place attachment "subsumes or is subsumed by" other terms in the literature including topophilia (Tuan 1974), sense of place, and place identity, among others. Their view of place attachment involves an interaction between practice, cognitive, and affective components of expression. They describe the practice component as actions and behavior, the cognitive component to include thought, knowledge and beliefs, and the affective component as emotional attachment. However, they critique their contemporary researchers (as well as the term, itself) for tending to emphasize the affective, emotional component.

In the nearly two decades since Low and Altman (1992) developed their framework interest on humans and place research has continued, with the present volume representing current thought on this intriguing topic. Chapters presented in this volume, and particularly chapters in this section on research application tools, reflect a transition in place research toward recognizing and considering the multiple, rich components of human/place relationships described by Altman and Low (1992) and many others (e.g. Schreyer, Jacob, and White, 1981; Jorgensen and Stedman, 2001; Williams and Vaske, 2003; Kyle, Mowen, and Tarrant, 2004). Authors of the chapters in this volume generally recognize the importance of considering values along with more traditional measures of association like activities and place attachment in order to better understand humans and place and to develop meaningful and affective management applications for place research. Shroeder's description in this book of felt values is closely related to an emotional, affective tie to place. His view of held and assigned values following the work of Brown (1984) supports assigned values as a form of cognitive expression of ties to place. The chapters in this section presenting GIS applications consider assigned place values (Cacciapagalia and Yung, this volume; McIntyre and Lesueur, this volume), or threats to assigned place values (Watson, et al., this volume), while McIntyre and Lesueur also consider activities as a form of behavioral expression of place bonds.

This chapter uses the term human / place bonds to represent a concept having a multi-dimensional research focus influenced by Low and Altman's (1992) place framework. Human / place bonds are defined as the ties people develop with specific places through the interaction of cognitive, affective, and behavioral forms of human expression. The human / place bond research approach is based on the recognition that people's ties with specific places are difficult to observe directly, are expressed in multiple ways, and are related to attitudes about

management of those places. As a latent concept, researchers typically rely on measuring people's bonds to place indirectly through the use of indicators (Watson, Glaspell, Christensen, Lachapelle, Sahanatien, and Gertsch 2007). Following the definition of human / place bonds to include cognitive, affective, and behavioral forms of expression toward a specific place guides the selection of indicators to reflect these three domains.

The choice of indicators is critical and should be carefully considered given the unique nature of ties between individuals and specific places. The chosen indicators should be easy to monitor, valid in their representation of latent concepts, and have established methods of reliable measurement based on past research. The choice of indicators used in this type of research is also guided by the applied goal of improving the consideration of human / place bonds in natural resources management decisions so the indicators should be related to current management issues. Because of the situated nature of human / place bonds to a specific place with specific management issues the chosen indicators should also be adapted to reflect local terms and issues. This is generally done by conducting background investigation and qualitative interviews with management and the public prior to development of a survey research instrument.

A case study example will be helpful to illustrate this approach. The application of this human / place bond research is appropriately referred to as a case study because the bonds residents of a particular community form with a specific public place are situated, with research results generalizing only to that specific human / place interaction (see Yin 2003 for case study design). The human / place bond case study described here explored a community's perceptions of a travel management plan within a forest stewardship project on the Bitterroot National Forest in southwestern Montana. The travel management component of the Trapper-Bunkhouse Forest Stewardship project on the Darby Ranger District was particularly contentious among off-

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highway vehicle (OHV) enthusiast who desired better access to the Trapper-Bunkhouse watershed, and among local home owners who expressed numerous concerns about this type of recreation in their 'back yard.' Public meetings were held in the local community of Darby to help clarify the travel plan component. The meetings were contentious, and ultimately, unsuccessful in their objective of building support for the proposed travel plan. The travel plan was eventually dropped from the forest stewardship project because of the controversy, thus postponing travel management decisions for this area until they are resolved as part of a larger scale, forest-wide travel planning process. The public meetings and written comments provided a rich source of qualitative input to the Darby human / place bond case study and the design of a quantitative survey instrument to assess the local community and inform future travel management planning in the Trapper-Bunkhouse area.

To provide a robust set of measures the research approach uses three general types of indicators in quantitative surveys to assess human / place bonds. These three types of indicators fit the above criteria for applied research and represent the behavioral, cognitive, and affective forms of expression in our definition of human / place bonds. The three types of indicators include: 1) activity participation, representing the behavioral component; 2) assigned values, measuring cognitive beliefs; and 3) place attachment representing the affective component. The following three figures provide examples of survey items in the Darby case study measuring each of these types of indicators. The indicator items were modified to reflect the local situation based on understanding gained during the qualitative phase of the case study. Figure 1 shows four of the 16 activity items that were included on the Darby case study survey instrument. These items reflect onsite activities but could also include off-site public participation and conservation efforts related to the Trapper-Bunkhouse planning area. The 'experience use

history,' or length of time the respondent has been using the Trapper-Bunkhouse could also be included as a measure of behavioral expression of human / place bonds.

Figure 1: Example of activity participation items from the Darby case study survey.

Q1. Which of the following recreation activities have **you and other members of your household** done in the Bitterroot National Forest? *(Check all that apply)*			
	Have you personally participated:		Other household member(s) did this activity in the
	In the past year	*or* In your lifetime	past year
Walking or hiking	☐	☐	☐
Overnight backpacking	☐	☐	☐
Fishing	☐	☐	☐
Horseback riding	☐	☐	☐

The Darby case study survey included 11 different types of assigned values for local Bitterroot National Forest lands. The range of these value items included on the survey was determined from the previous qualitative research and reflect local orientations. Four of the assigned value items are shown below in figure 2.

Figure 2: Example of assigned value items from the Darby case study survey**.**

Q2. How **important** to you are each of the following values that may be associated with the Bitterroot National Forest? *(Circle one response for each type of value that best represents the importance you place on it)*				
	Not at all Important	Slightly Important	Moderately Important	Very Important
Watershed protection	NI	SI	MI	VI
Economic value of timber resources	NI	SI	MI	VI
Economic value of recreation visitor spending in the area	NI	SI	MI	VI
Wildlife and fish habitat protection	NI	SI	MI	VI

The third set of items included in the Darby case study survey measured two aspects of attachment to place. These indicators represent the affective form of expression of bonds with place. Williams and Vaske (2003) describe place identity and place dependence as two sub-dimensions of place attachment that have been applied to the study of human / place bonds within recreation research. The authors established a reliable set of psychometric scale items to measure the place dependence and place identity subcomponents of place attachment. Williams and Vaske (2003) tested and established reliability estimates for six place identity and six place dependence items. The following figure from the Darby case study survey shows three of those items, with the first and second items representing the place identity subcomponent of place attachment and the third item being an example of an item from the place dependence subcomponent. To strengthen this approach, indicators of other aspects of emotional ties to place, such as measures of felt values (Schroeder, this volume) could be included to strengthen the assessment of the affective domain of expression.

Figure 3: Example of attachment to place items from the Darby case study survey.

Q3. How much do you **agree or disagree** with each of the following statements? *(Circle one response for each statement that best represents your level of agreement)*	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
The Bitterroot National Forest means a lot to me.	SD	D	N	A	SA
I identify strongly with the Bitterroot National Forest	SD	D	N	A	SA
I would enjoy doing the things I do in the Bitterroot National Forest just as much at a similar place.	SD	D	N	A	SA

The complete set of items within the three components of expression were administered to a representative sample of residents of the community of Darby using survey research techniques. The study population was chosen because Darby is the nearest community to a forest stewardship project area in the Trapper-Bunkhouse drainage and includes the residents living in close proximity to these public lands. The research approach described in this chapter is unique in combining these three concepts of affective, cognitive, and behavioral forms of expression as the primary indicators of human / place bonds, and in segmenting the public based on these bonds for the purpose of developing understanding about their opinions in contentious planning decisions. Combining these indicators offers a robust and diverse set of measures, each with a history of applied measurement in natural resource management studies, to better reflect the multidimensional nature of human / place bonds than a traditional single-focus method.

To develop understanding of local human / place bonds the data from the survey research are analyzed using a combination of factor and cluster analysis (see Hair, Black, Babin, Anderson, and Tatham, 2006 for a good explaination of these multivariate statistical techniques). The data analysis follows three general modeling steps. In the first step factor analysis is used to

reduce the list of human / place bond indicator items to a set of sub-components within the more general categories, and these sub-components are assigned descriptive names by the researcher (e.g., 'motorized activities,' 'economic assigned values,' 'functional attachments'). This process allows the unique local sub-components to emerge from the data rather than being pre-defined by the researcher. The second data analysis step uses the human / place bond sub-components from the factor analysis as input to cluster analysis. A respondent's type of bond is determined by the combination of high and low factor scores across the sub-components while their bond intensity reflects an index of the combined factor scores across all forms of expression. The cluster analysis is an efficient data organizer in that it can simultaneously consider concepts measured on different scales by using factor scores across all human / place bond sub-components to classify individuals into segments of respondents with similar types and intensities of human / place bonds.

The combination of statistical methods used to develop the quantitative results is an appropriate set of tools to efficiently account for the multiple types of expression of human / place bonds and to interpret the findings in meaningful ways to managers and interested citizens. Factor analysis identifies latent components of human / place bonds that are otherwise difficult to observe and measure, while cluster analysis identifies segments of the local community having similar human / place bonds based on a combination of qualitatively different types of indicators. Following the factor and cluster analyses to identify human / place bond segments and the classification of respondents into these segments, they can be compared for meaningful patterns of differences in opinions about management options for the planning area. Figure 4 shows three opinion survey items from the Darby case study focused on motorized recreation management options.

Figure 4: Example of management items from the Darby case study survey.

Q8. Tell us whether you **oppose or support** the following recreation and travel management options for the Bitterroot National Forest. *(Circle one response for each statement that best represents your level of support or opposition)*					
	Strongly oppose	Oppose	Not Sure	Support	Strongly support
Open more currently gated roads to motorized access during the summer months.	SO	O	N	S	SS
Close some roads or trails that are currently open to motorized use to provide more nonmotorized recreation opportunities.	SO	O	N	S	SS
Close some roads or trails currently open to motorized use if it improves wildlife habitat or water quality.	SO	O	N	S	SS

After the analysis of survey results is completed, the final step is to interpret and report

them to managers and interested citizens to help inform public input to the planning process.

The human / place bond analysis for the Darby case study identified six segments (population

subgroups) that reflected relatively like-minded or like-valued individuals within their local

geographic community. Each of these subsets of the overall resident population displayed

different human / place bonds with local public lands in the project planning area and each had

statistically different concerns about conditions and perceptions of appropriate management. It

is important to remember, however, that while the differences in opinions across segments were

statistically significant, the generalization of the study results is limited to the population of the

local community because of the situated nature of human / place bonds and the case study design

of the research.

Figure 5 demonstrates the utility of using segment membership to understand patterns in

opinions about management of local public lands. The figure shows a series of four two-

dimensional plots of the six community segments. The first three plots show the relative position

of each segment among the sub-dimensions of each of the three forms of human / place bond expression, while the fourth plots their relative opinions about two contrasting reasons for travel management restrictions. Factor analysis was used to identify the sub-dimensions shown in the chart and cluster analysis simultaneously considered the factor scores across all of the sub-dimensions to identify the six community segments. Each of the six segments is represented in the plots with a number representing their rank order from low (1) to high (6) on their overall human / place bond intensity score - an index derived from the combination of the factor scores across all of the sub-domains. Segment 1 had the lowest intensity index score and the first three plots of figure 5 show its relative position along each of the human / place bond sub-dimensions.

The first quad shows that segment 1 scored below average on both motorized and nonmotorized activity participation. The second quad on the upper right shows that this group scored below average on intangible assigned values and about average on tangible assigned values. The lower left quad also plots their position below average on both place identity and place dependence subcomponents of place attachment relative to other community members. Contrast segment 1 to the other extreme in segment 6 (the highest intensity group), which scored the highest on all six sub-dimensions of human / place bonds between Darby residents and nearby National Forest lands. The other four segments identified in the case study and plotted in figure 5 scored somewhere between segments 1 and 6 on one or more of the sub-dimensions.

The three segments having high participation rates in motorized activities (2, 3, and 6) are circled in each quadrant for easier comparison in this illustration. These segments would have been represented by the motorized user stakeholder group during public input to the Trapper-Bunkhouse travel management debate. The motorized user stakeholder group was largely dominated by Jack Ward Thomas' "outspoken gladiators" in these travel planning discussions.

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While the three motorized user segments share a common activity, they have much less in common on the other two types of human / place bond expression or on their opinions about management. The fourth quadrant plots responses among the segments to two of the travel management options shown in figure 4. Both options propose closing existing motorized access in the Trapper-Bunkhouse area, but they offer opposing reasons for doing so - one to increase nonmotorized opportunities, and the other to protect the resource. While none of the three motorized user segments support closures that would restrict their access for the personal gain of nonmotorized users (they do vary a bit, but range from opposing to neutral on this issue), there is considerable variation in their views on closures to protect the resource. The high-intensity motorized user group (segment 6), along with the next two high-intensity groups (4 and 5), strongly supports this stewardship-oriented management option, while segment 2 is somewhat neutral and segment 3 opposes it. The three highest intensity segments (including motorized users and those who do not) show the greatest support for closing roads to protect the environment. Segment four (the quiet user group that has below-average rates of participation in motorized activities) is most supportive of closing roads to enhance nonmotorized recreation, while segments two and three (two of the motorized user groups) are least supportive of closing existing roads for any reason.

Figure 5: Human / Place Bond components and their relationship to stewardship-oriented opinions about management, Darby case study survey results.
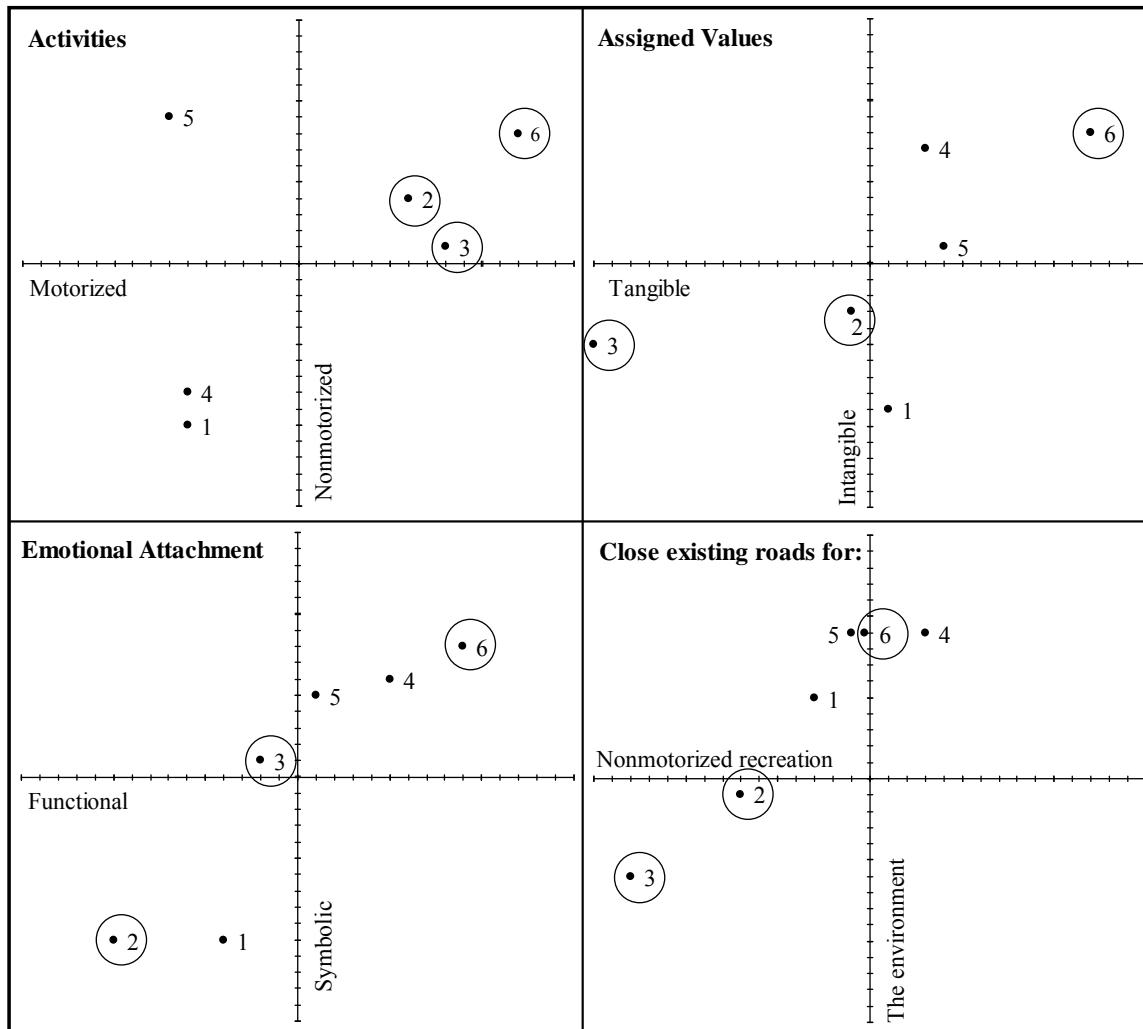
The "high intensity" place-bonded groups in the community of Darby (segments 4, 5, and 6 in figure 5) appear more likely to adopt a stewardship orientation toward local public land management and resource protection. Because these segments tend to use the area regularly, they likely have realistic perceptions of current conditions. They are more likely to have a long experience use history and they probably care deeply about the place, and therefore, are more willing to sacrifice personal benefit for a greater public purpose. Darby residents with bonds focused on a single activity, but without the intensity of bonds formed through high levels of assigned values and emotional attachments (segments 2 and 3 in figure 5), seem to care more

about the local National Forest space as a backdrop providing the opportunity needed for their activities. As they seem less likely to support restrictions of their use of this place, they may represent the greatest challenge to the public participation process that will follow in forest-wide travel planning.

This example describes considerable diversity across the motorized stakeholder group and figure 5 also shows similar diversity among those who do not participate in motorized activities on the local National Forest. These internal group tensions were apparent at the Darby community meetings among both motorized and nonmotorized stakeholder groups and will likely surface again in future travel planning for the area. At the meetings, some motorized advocates were angry at others in their own group for breaking ranks and considering any type of restriction to their motorized access. One member of a local homeowner group that was largely represented by the self-titled 'quiet-user' stakeholder group during Darby meetings, described a much more complex view of the situation during a qualitative interview. While opposed to the existing travel plan, this person said they were not opposed to OHV use of the area, though they did not like being startled by the machines while riding a horse on local trails. They described their son as an avid OHV rider who had used his machine to pull their car out of the barrow pit that very morning. It was the illegal activities and irresponsible behaviors that bothered this local 'quiet user,' not motorized use itself. The local homeowners were also especially concerned about the plan to publish a map of designated travel routes as part of the travel component, fearing it would bring unwanted attention to the area; yet travel route mapping is driven by requirements of a national travel management rule rather than a local forest stewardship plan.

This example demonstrates how information derived from human / place bond research can inform the planning process. Stakeholder groups organized around activity participation might poorly represent the community of Darby, which appears divided along more complex human / place bond types. Identifying management solutions based only on the views of participants versus non-participants in recreational activities would fail to account for the diverse concerns and opinions across the local community. The Darby community bond segments share opinions about management that are more closely related to their overall bond intensity than to their activity participation alone.

Segmentation of the public according to their bonds with a public place is inspired by market research segmentation (Parasuraman 1986) as well as an approach to developing relational, rather than transactional, marketing principals to engage the public in public land management issues (Borrie, Christensen, Watson, Miller, and McCollum 2002). Segmentation provides a potentially powerful method for identifying and understanding important concerns of stakeholder representatives as well as their constituents, based on human / place bonds with public wildland places. Applying this form of analysis will allow managers to consider management options that protect and enhance the deepest and most abiding elements of people's interests regarding public lands. For example, a collaborative planning effort for motorized recreation use may invite a group of stakeholders to the planning table that includes 'motorized recreation users,' 'nonmotorized recreationists,' and 'local homeowners.' A typical local resident, however, might easily fit all of those categories to some degree, with no single stakeholder group adequately representing their individual interests or concerns. A typical planning process would consider all motorized users (in the Darby setting) as one stakeholder group with a common set of interests and concerns. Yet, the human / place bond research

revealed multiple community segments on each side of a seemingly dichotomous controversy. Each of these communities of like-minded/like-valued individuals showed different types and intensities of human / place bonds with their local public lands, concerns about the resource, and opinions about management solutions. This research presents managers with a far more detailed and nuanced view of public expectations that may reveal potential underlying community-level alliances that could support or oppose a given management activity. The approach allows public land managers to improve citizens' input by considering their bonds to specific places in land use planning decisions, to inform collaborative efforts, and to ultimately make better, less contentious resource management decisions. This provides a practical system to measure a relevant set of indicators of bonds to improve understanding of attitudes about the public's desires for management of these places.

The Darby case study example suggests the utility of the human / place bond approach to identify distinct communities of interest within geographic communities and to provide meaningful insight about public opinions in contentious natural resource planning situations. It is important, however, to interpret the results about these community divisions within the limitations of the research methods and our ability to simplify complex situations. The community segments that are identified do not represent homogeneous groups with consistently held experiences and opinions. Rather, this research identifies 'clusters' of the population with more common characteristics than other groups within the population. The borders of these clusters are imprecise and porous - the segmentation results offer insight about the structure of the community, but membership and characteristics of these groups should not be interpreted too literally. These segments are not stakeholder groups, with tightly held interests, but rather 'clusters' of interests with more fuzzy, ill-defined, boundaries between groups. The

segmentation results are not the ultimate representation of how people feel about a place and its management, but they do offer us insight and nuanced understanding about the structure of these relationships.

Understanding the differing orientations and structures of community segments does not answer the question for managers about how to deal with this knowledge in resource allocation decisions. While the purpose of human / place bond research is to inform decision making, the process of resolving conflicts over the management of public lands is political in nature. The human / place bond research approach is designed to inform that process rather than serve as a democratic 'voting' procedure to supplant it. Stokowski describes how social actors attempt to shape the contested meanings of places through language, discourse, and social context. These processes influence how we make decisions in recreation and natural resources management; as for example, when the politics of place in tourism development contend that the economic benefits of destination development outweigh negative impacts (Stokowski 2002). Fitting with the goals of this study to inform the planning process about place bonds and related attitudes about management, Stokowski concludes that understanding the processes of place meaning formation can reveal strategies for challenging existing social values and resolution processes, thus allowing more appropriate consideration of important human / place bonds by managers and the public in natural resource management decisions. Wondolleck and Yaffee (2000) suggest that more effectively involving the public in land use planning is not only important for developing future community capacity for problem solving, but can also shape the values that people assign to natural resources and foster a sense of responsibility toward the public good, thereby improving future community capacity to make better decisions for the overall public good. Managers may need to make a special effort to reach out to and foster relationships with

certain community segments in an attempt to improve their stewardship orientation based on the nature of their bonds with specific public places. For example, opportunities might exist to demonstrate appropriate recreational behaviors or provide information to segments that care deeply about the place but may lack the first-hand experience to form realistic expectations about conditions and management concerns.

A human / place bond research project may improve the process of identifying management solutions by developing a thorough understanding of local residents' views. Shindler and Neburka (1997, p. 19) found that for "local people, natural resource planning success is largely measured by the extent to which their own ideas and concerns are given serious consideration and the agenda is not driven by federal agency politics or national debates." McCool and Guthrie (2001) identified seven dimensions across two major categories (product oriented and process oriented) to be important for successful public participation in messy natural resource planning situations where there are conflicting goals and scientific disagreement. On the product side, these include the development of a plan and improving social and political acceptability of the plan. Elements of process-oriented success include opportunities for learning, building a sense of ownership in the solution, building interpersonal relationships, and feelings of being heard. This set of criteria are supported by others who have described the benefits of public participation in natural resources decisions, especially within social assessments and collaborative planning (e.g., Cortner and Moote 1999; Haynes 2005; Kruger and Shannon 2000; Shindler and Neburka 1997). Utilizing this place-based social science technique prior to implementing a formalized public participation process may significantly contribute to enhancing these criteria for successful public contributions to natural

resources planning by developing a base of relationships between stakeholders and managers that is necessary for cooperation.

Developing shared understanding about contested places based on multiple meanings may provide direction for stakeholders and managers interested in reducing interpersonal conflicts over public land resource decisions. Understanding these processes will allow managers to better recognize and account for human / place bonds among competing stakeholders. With this understanding they are better able to employ management options that protect and enhance the publics' bonds with public places that are appropriate within the established purpose of those places, as determined by the political process. This is a method, grounded in the theory of human/place bonds, to show that local people have interests in land use developments based upon reasonable, measureable, independent variables (activities, values, and attachments).

The benefits of this method will not be realized if its application is not practical, efficient, and otherwise relevant to real world planning situations. The cost of conducting this type of study can be relatively low. The greatest expenditure other than labor is the materials needed to conduct a quantitative survey. For a mail-based survey, materials include printed questionnaires, cover letters, postcard reminders, outgoing and return envelopes, and outgoing and return postage. In the Darby case study, 245 completed questionnaires were collected from a mail type survey for a total cost of materials of $1,963, or about $8 per returned survey in 2006 US dollars. The survey process spanned eight weeks and required the part-time work of one person. In the US Forest Service, the skills needed to design and administer survey questionnaires, conduct statistical analysis, and report results would typically be available through the social scientist at the regional or research station level or from colleges and universities with programs

emphasizing the social sciences in natural resource management. The skills of district and forest level employees could supplant much of the need for direct, on-site involvement of an agency social scientist. If the planning environment in the Forest Service continues to grow more contentious, the agency may find a greater need for employees trained in the social sciences at the district and forest level, much like currently common positions in biology, geology, botany, silviculture, and other professional disciplines. A change in disciplinary focus of this type would improve the ability of district rangers to develop human / place bond studies in-house as part of their planning processes.

Lélé and Norgaard (1996) recognize that social science can facilitate public interaction and collaboration through the development of mutual understanding. They indicate that it is the role of scientists to help identify like-minded/like-valued communities and to understand the differential concerns of these communities and the effects of various policies on them. This chapter argues that applying social science through a human / place bond research approach uncovers the types of shared values and goals that define like-minded communities, and therefore, may improve upon the practice of identifying stakeholders on the basis of dichotomies in controversial issues.

We caution the reader, however, not to overestimate the ability of research in pre-planning to determine appropriate allocation of desirable actions across physical space. We know in general terms about the interests of the population and how it might depend on specifically named places, but often these place locations are either fairly broad or ill defined. How these multiple desires fit on a landscape also will have a temporal dimension (sometimes activities are O.K, other times not). Additionally, although survey research and GIS tools help us to understand latent interests or possibilities, it does not mean that people actually want to

grasp these opportunities. Actions have consequences, and these impacts might be harmful. Evaluating actions is a separate step in planning that occurs later on. However, these "pre-planning" tools allow managers to have a far better interpretation of the social and physical landscape – one that they can address with the confidence generated by the strength of research methodology.

This chapter outlines a workable methodology for understanding citizen interests regarding land uses in specific places. The only reason place "theory" enters into this is that people happen to live some place, and they are interested enough in their locale to have something to say about it – potential actions are relevant to the affective dimension of their interests. This is really a chapter about a planning tool to identify the relative desirability of potential actions. All public places cannot serve all purposes to all people so it is necessary to allocate uses at least partially based on the compatibility with the public purpose of the place and the potential for conflict with other legitimate uses. This type of information may help guide managers to make those decisions by developing understanding of how important specific places are to different groups of citizens, why they are important, and what would be required of possible substitute locations. It provides a clearer view of the major types of local interests in the population, as well as shedding light on some of the characteristics of citizens holding relatively extreme views compared to those with moderate stances that are more likely to reach agreement.

The most appropriate time to implement the type of approach described here would be prior to a formal planning process or community collaborative effort. This would allow subsequent deliberations to possess a more objective basis for determining the major types of local stakeholders that should be represented, at a minimum, during a collaborative process. The information would serve as a complement to other supporting documentation usually gathered by

other specialists during early phases of project planning. The results may also be used to assess

the overall equity of resource allocation on the landscape beyond each small scale planning

project. Further, successful application of segmentation in public wildland planning can

encourage productive cooperation between social scientists, the public, and managers such that

other social science tools supporting management assessments and evaluations might become

more broadly applied.

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Part 5: Representation and framing processes

Place meanings are not easy to represent and equally as difficult to integrate with decision-making. Although we grow-up knowing our preferences for food and clothes and other everyday things, we do not grow-up knowing our place meanings. Even though we all have place meanings, they are not given to top-of-mind reporting. The chapters of this section breakdown the problems in the representation of place meanings, and identify processes in which they become public and potentially integrated within planning processes. Because place meanings are more than simple statements of preference, their representation becomes a conscious process of building a frame for them to be understood. In other words, place meanings need a context of someone's life or a community's narrative before their representation is fully comprehended.

Hall and colleagues depicted places as being bounded by communication. They portray land-use conflicts as struggles for control over the interpretive framing of the landscape. Because land managers can not control the ways in which groups represent place, they need to understand relationships between representations of place and communication practices of everyday life. The way places are named and labeled has implications for the type of activities done there as well as activities not done. They explore place representations of stakeholders of Wyoming's Yellowstone River, and discover the meanings of everyday life represent their place meanings: hobbies, occupations, education, chores, and so forth. Recognizing the dynamic nature of place, the identify roles for land managers to represent place and actively participate in legitimizing knowledge about place.

Stewart, Glover, and Barkley extend the work by Hall and colleagues by arguing that social learning is at the center of place-based planning. They argue that emotions about place

need to come to the surface of stakeholder dialogue, and done in ways that lead to appreciative accounts of place and people. Stating the social learning should occur prior to any formal stage of planning in order to being public dialogue at a point that appreciates landscapes and builds a positive base to grow relationships among stakeholders. Recognizing an outcome of communication is the construction of something new, Stewart and colleagues provide insight to conditions that would foster social learning within stakeholder forums. Their chapter develops "learning circles" as a strategy for stakeholders to feel safe sharing place meanings, to represent emotional attachments to place, and to create new public values for place.

Van Auken and Golding discuss the relationships of collective action to place meanings of rural property. They view the process of place making in rural areas as being affected by in-migrants pulled by amenities of living in the country. Van Auken and Golding argue and provide evidence of two rural towns facing similar pressure to develop a brand image. They develop a model that integrates community, commodity, and place interests as having implications to collective action. Their chapter details the behavior of local organizations to reaffirm or resist various place meanings, and the purposeful communication used to frame the community by asserting place meanings.

This section is concerned with the seemingly simple act of representation of place meanings. Although they exist in the everyday lives of people and communities, they are not always recognized as such in planning forums. Looking beyond the everyday life, planning forums may emphasize regional or national place meanings as being appropriate frames for land-use change. Place-based planning is representation of place meanings and translating them into public values.

Integrating Divergent Representations of Place into Decision Contexts

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Abstract: Places are spaces that humans have bound, ordered, and defined by communication. Such representations are culturally situated and inherently involved in the production of legitimate knowledge. Place representations slice space into pictures of the world that simultaneously flatten and deepen space within public discourse. Flattened space is the bounded site where place is displayed as generalizable, accessible, calculable, and isometric. Deepened space displays the experience of place through artistic or poetic accounts. Whereas flattened representation of place removes the subject to accurately replicate the reality of place, deepened representation of place focuses on active participation of the experiencing subject in place. Conflict arises when groups must reconcile a site's simultaneously deepened and flattened representations. Thus, attending to how place is represented in various natural resource management (NRM) decision contexts is critical to the potential success of NRM. Since managers and decision makers cannot fully control the representation of place, they need to understand how place representation connects meaning and language to culture via practices of everyday life. We offer a cultural inventory as a tool that can facilitate development of such an understanding. The cultural inventory emerged from informant-directed interviews with landowners, recreationalists, civic leaders, and agriculturalists along the Yellowstone River. After interviewing resource users, we analyzed interview transcripts to discover how these residents represented their place, focusing on discursive frames that flattened and deepened it. Our analysis suggests how a hermeneutics of place representation provides NRM advisors, planners and other decision makers with a conceptual framework that may help them integrate divergent place representations into decision contexts, leading to more effective management.

Environmental conflict often arises because divergent representations of a shared resource clash. Representations of place—as containers for groups' identities and interests—become sites of struggle for control over the interpretive frames that direct land use and planning. A shared vocabulary helps groups of people work together (Burke 1959; Peterson 1997), and agreement on a shared set of terms for representing a place endows decisions about how to manage that place with legitimacy. Because managers cannot fully control the social dynamics of how groups represent place, they need to understand how place representation connects meaning and language to culture via practices of everyday life and the practical consequences of those practices. An awareness of this easily overlooked social compact is useful for framing decisions that emerge seamlessly from representations of place offered by local

stakeholders. Place meanings can be used as rich (thick) demographic data, and observed in their politically-engaged form as representations which contribute to the struggles over legitimacy in decision making. Because natural resource management (NRM) includes both symbolic and material resources, managers need to understand both. This chapter focuses on symbolic dimensions of NRM, as they emerge through people's taken-for-granted communication. We offer the cultural inventory as a tool to enable managers to understand how people connect symbolic and material resources as part of their representation of place. In response to NRM needs for the Yellowstone River, we designed and conducted a cultural inventory to discover and document dominant representations of that place. The cultural inventory began as any inventory, with identification of available resources (in this case human resources), and then moved to production of a data base describing how these resources function. The primary function we sought to understand was place representation. After identifying major groups of resource users, we conducted informant-directed interviews with landowners, recreationalists, civic leaders, and agriculturalists that live along the river. We then analyzed the interview transcripts attending to how these residents individually and collectively represented their place. Our analysis suggests how attention to localized cultural discourses provides NRM advisors, planners and other decision makers with a conceptual framework that may help them integrate divergent place representations into decision contexts, leading to more effective management in and of place.

In this chapter, we contextualize the cultural inventory by beginning with a broad discussion of how processes of place representation contribute to place meaning. We then examine the functions and forms of place representation, threading together scholarship emphasizing relationships between place and discourse. Using Edward Casey's (2002) framing of the practices of place representation, we examine resource users' *flattened* and *deepened*

representations of the Yellowstone River, including how discourse has integrated the river with local and cultural meanings, political strategies implicit in the discourse, and unexpected consequences. After describing the results of the cultural inventory, we end with suggestions for how decision makers can encourage place representation frames that enable diverse resource users to creatively negotiate their identities and interests in the resource

Place Meanings and Place Representation

That people connect to place in significant and lasting ways is established. Whether this connection is based on a utilitarian experience of place such as physical sustenance, security, and dependency or an experience of place through a sublime encounter with nature, people physically depend upon and affectively attach to place. Natural resource scholars and managers have examined the expression of place meaning and its significance. These discussions of *place meaning* fit within research on the human dimensions of NRM, and focus attention on how people come to value and understand natural landscapes. The analysis of place meaning aims at discerning landscape valuation in terms beyond but not mutually exclusive from economics (Williams et al. 1992). As such, NRM scholarship operationalizes theories of place from cultural geography (i.e. Tuan 1974, 1977; Cosgrove 1998), phenomenology (i.e. Relph 1976; Casey 1993, 1998, 2002), and social and environmental psychology (i.e. Fried 1963; Proshansky et al. 1983; Altman and Low 1992) into metrics of place meaning expressed in terms of attachment, sense of place, place identification, and others (Patterson and Williams 2005). Broadly speaking, research that attempts to account for the importance of place to people tends to focus on felt experience of place and/or the communication of a *sense of place* into place meaning. These models of place attachment are primarily rooted in social and psychological theories of attitudes,

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values, and behaviors and include constructs such as place bonding (Jorgenson and Stedman 2001), place dependence (Stokols and Shumaker 1981), and combinations of attributes such as place familiarity, belongingness, identity, dependence, and rootedness (Hammitt et al. 2006). The social psychological basis (e.g. Ajzen and Fishbein 1980) undergirding these studies connects how people perceive and value place as meaningful to human behavior—a notion that resonates throughout the annals of place literature (c.f. Tuan 1977; Soja 1989; others). Linking behavior and value relations with place meanings has proven useful for informing recreational opportunity planning (Kaltenborn and Williams 2002), understanding resource conflicts (Cantrill and Senecah 2001; Cheng et al. 2005), and incorporating stakeholder sensibilities into decisions related to changing land uses (Davenport and Anderson 2005; McCool et al. 2008). Leveraging resource users' affective valuation of place meaning as it indicates use-value and behavior can inform decision making processes, practices, and outcomes.

Although the psychometrics of place meaning are useful from a socio-demographic perspective, cataloging and using persons' expressed place meanings is problematic first from a communication theory perspective and second when we consider how these meanings enter the political realm of NRM. The context theory of meaning (Richards 1936) suggests that communicated meaning is multiple, flexible, historically bound, based on normative and habitual conventions, and inherently interconnected and interdependent with its context. This constrains the transferability of place meanings between scientific and public realms because scientific discourses require generalized (context-transcendent) subject-free frameworks (Flyvbjerg 2001) which are difficult to reconcile with individuated context and subject-dependent affective accounts of place. No matter how accurate the symbolic system of description may appear, there is no one-to-one abstract referencing that can account for people's place meanings with

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consistent precision because meaning is context-dependent and unique in each voice, group, culture, moment, and situation (Wittgenstein 1958). For each person, the picture of the universe shifts as place description moves from tongue to tongue (Carroll 1956). There is no single authentic way of generalizing place meanings (Abram 1996). As such, scholars must question the utility of searching for an orderly semiology of place meanings that would render multivocal and hypercomplex place meanings commensurate (Lefebvre 1991; Casey 2002). This problem of incommensurability of place meanings first with one another and then with scientific discourses is a matter of epistemology (Williams this volume) that needs to be explored if managers are to use the concept of place as part of an effective decision calculus.

This chapter focuses on the political challenges of using place meaning to inform decision making, exploring what happens when place representation enters the political realm. In addition to its immediately practical value, however, understanding how place representation functions in the political realm can improve our ability to negotiate the conceptual problems of irreconcilable place meanings.

When we consider the interests, mandates, and stakes involved in the political realm of NRM, communicated place meanings assume a strategic form and function. In decision making, place meanings are used as tools for action that vie for control over the truths told about a place, in order to influence management to make changes or preserve a vested status quo. Place meanings become communicated with purpose in representations of place which take a different form than individuated expression of felt value. Groups construct and advance representations of place that do work for their advocates by framing and naming the contexts of decision making, what is important/unimportant, and what should be included/excluded as valid information. The representation of place performs a constitutive function in the politics of managing shared

natural resources. Places as spaces that humans have bound, ordered, and defined by communication (Sack 2001) are linguistically represented in legal, scientific, managerial, and public discourses. Thus in decision making settings the study of place is not only concerned with accounting for stakeholder's place sensibilities so that managers may navigate and anticipate buy-in or resistance to decisions. Attention to place also involves examining the social and cultural practices of socially-agreed upon representations of place within local political and managerial discourses. How publics and decision makers represent place—how it is named, labeled, mapped, and illustrated—in decision spaces has both instrumental and constitutive functions. Representing place organizes a perspective of reality that legitimizes certain cognitive schemes, and excludes others. It produces what we know about a particular landscape, what actions are proper and improper within its boundaries, and how we come to value it. How we represent place not only delineates (points to) a place by highlighting its borders but also makes a statement about its character, utility, past, future, and how it should be managed.

The Production of Place Discourse

How we speak and write about place and the words we assign to it constitutes much of how we think and act in place (Lefebvre 1991; Tuan 1991; Cosgrove 1998; Stokowski 2002). A number of scholars have examined the connections between communication and place from language and place making (c.f. Meinig 1979; Lefebvre 1991; Tuan 1991; Greider and Garkovich 1994; Herndl and Brown 1996; Sprin 1998) to discourse and management (c.f. Berdoulay 1989; Myerson and Rydin 1994; Dryzek 1997; Stokowski 2002; Norton 2005; Wolf and Klein 2007) with each providing helpful frames for understanding how communication shapes our interactions with place. These scholars argue that representations of place in public

discourse make sense of complexity, unite disparate persons, anchor collective memory, and give authority to subscribers.

Representation of any sort connects meaning and language to culture via practices of everyday life. Stuart Hall describes representation as the production of meaning through language, or "the link between concepts and language which enables us to refer to either the 'real' world of objects, people or events, or indeed to imaginary worlds of fictional objects, people and events" (Hall 1997, p. 17). Such representations are kept alive through communicative practices like storytelling because they function as a source of explanation, comprehension, thought, meaning, and beyond (Entrikin 1991; Stegner 1992; Smith 1999; Carbaugh and Rudnik 2006). Stories representing place include mostly cogent logics, a structural and temporal order and implied values.

Because people's discourse simultaneously structures and expresses their understanding of the experienced world (Burke 1969; Peterson 1997; Lakoff and Johnson 2003), identifying certain places through the naming and labeling of space simultaneously constructs and communicates what behaviors are allowed and which practices are *proper* and *improper* in that space (de Certeau 1984). Like the setting of any story, the way place is described partially determines what actions are likely to occur there (Burke 1969; Cronon 1992). Henri Lefebvre (1991) likens representations of space to street signs that are intended to guide, direct, command, and orchestrate behavior. They "serve to distinguish, but not isolate, particular spaces, and in general to describe a social space. They correspond to a specific use of that space and hence to a spatial practice that they express and constitute" (Lefebvre 1991, p.16). By naming and framing normative practices appropriate for particular sites, place representation reinforces some management options while excluding others.

Managed natural resource spaces are places because they bind the site conceptually in order to think and speak about place as well as use it (Lefebvre 1991). The representation of place, then, is a cultural practice whereby people use various modes of communication to construct and adjust legitimate uses of space (Rose 1994).

Because people depend on communication to enable cooperation in the face of division, they seek a common language to conceptualize, discuss, and manage the natural systems required to sustain life (Burke 1959; Peterson 1997). Terms used for managed sites divide up the world into accepted names and conceptual representations of space necessary for identifying and referencing particular spaces (Rydin and Myerson 1989; Whatmore and Boucher 1993). The primary effect of any discursive representations is that they define and produce the objects of our knowledge (Foucault 1972). Any community (e.g. governing agency, industry, stakeholder group, etc.) has a vocabulary of terms that frame and position relations of everyday human life to the natural world and guide decision making. As such, "language reveals much about a profession, about its preoccupations, about the social, political, economic, and scientific forces that bear down upon it, and also about its readiness to confront those forces effectively" (Guttenberg 1993, p. 1). The discourse of NRM has relied upon technical knowledge to understand and manage the natural environment within institutional, legal, and bureaucratic capacitates and frameworks. This discursive frame has bounded the ways NRM professionals conceptualize place representation in ways that may have placed unwarranted limitations on their decision possibilities.

Place Representation by Flattening vs. Deepening

Two terms especially useful for our discussion of place representation come from Edward Casey's (2002) analysis of place representation in landscape paintings and maps. Casey (2002) argues that representations of place slice up space into pictures that flatten and/or deepen the worldplace. Representations that flatten the world make sense of complexity by flattening landscape's idiosyncrasies into gridlines, contours, and other classifications with the aim of accurate orientation, definition, and utilization of place. Flattened space is the bounded site where place is displayed as generalizable, accessible, calculable, and isometric. This flattened space is the realm of abstract space or space as object according to the isotropic categorizations of Newton and Descartes (Lefebvre 1991). Space in this form is represented in Euclidian geometry and is often conceptualized without the potentially confounding presence of human subjects, which could threaten the objective representation of reality. An alternative way of representing place is by deepening it to explore the subjective experience of place, often through artistic or poetic accounts. Where flattened representation of place removes the subject from place to ensure accurate replication of reality, deepened representation of place is more interested in active participation of the experiencing subject in place than in creating a replicable account. Deepening space involves felt meaning of the subject living *in place*, as opposed to flattened accounts that situate the subject *above place*.

Both deep and flat representations of place are social practices. As such, they unite disparate persons, anchor collective memory, and give authority to subscribers. Since discourse simultaneously structures and expresses a perception of the experienced world, the naming and labeling of space constructs and communicates which practices are appropriate or inappropriate for each place. Conflict arises when groups must reconcile a site's, sometimes highly divergent,

deepened and flattened representations. Thus, how place is represented in various decision

contexts is critical to the potential failure and success of managerial efforts.

The Yellowstone River Cultural Inventory

The U.S. Army Corps of Engineers (Corps) regulates riparian corridor activities under the

authority of Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act

(CWA). Since assuming CWA permitting duties in the mid 1970's, the Corps has processed a

total of 156 permit actions for the upper Yellowstone River (Park County, MT). Over two-thirds

of the permit actions occurred during or after two consecutive "100 year" floods occurred in

1996 and 1997 (Auble et al. 2004). The high volume of permit requests for bank stabilization

projects to control flooding and prevent erosion prompted a grassroots call for a cumulative

impact study of the potential environmental and ecological consequences of this channel

modification. A moratorium on bank stabilization permitting was enacted until the cumulative

effects were examined and permitting processes could be reevaluated.

The cumulative effects study focused on physical features, biological inventories and

historical floodplain mapping of the Yellowstone River. When the Corps decided to include

social and cultural dimensions as part of the cumulative effects study, we suggested a cultural

inventory that would be analogous to the biological inventories.

Historical context

In 1806, on a canoe made from a cottonwood tree Captain William Clark traveled down

the Yellowstone River to meet Meriwether Lewis at its confluence with the Missouri for the

return trip to Washington D.C. (DeVoto 1953). The objective of their journey was to map and

describe the newly purchased lands of the Louisiana Purchase for purposes of delineating the

riverine highways of the coveted Northwest Trade Passage between the east and west coasts of North America. Lewis and Clark characterized the landscape with maps from survey measurements and described the natural resources via journal accounts of their subjective experiences. For President Jefferson and the U.S. Government, Lewis and Clark presented the landscape in both maps which used math and geometry to *flatten* the topographic landscape to paper and journal descriptions to *deepen* the landscape by chronicling the plants and wildlife, the aboriginal peoples and practices, the weather and the topography they experienced. Their report was the first Euro-American documentation of the Yellowstone River.

The Yellowstone River remains much as it was when Clark traveled its length; the longest undammed river in the United States. This characteristic affords scenic and recreational amenities which attracts visitors and residents. At the same time, much about this place has changed. The river's characteristic seasonal flooding, for example, is problematic for riverfront homes and farmland. In a single flood event, hundreds of acres of bordering land may be lost or gained by the movement of the river's channel. We conducted a cultural inventory exactly 200 years after Lewis and Clark's now famous expedition. We spoke with 313 riverfront landowners and users (Table 1.0) along its entire length, from the point where it leaves federal jurisdiction in Yellowstone National Park to its confluence with the Missouri River (Gilbertz et al. 2007). To ensure appropriate distribution of stakeholder interests and account for geographic differences we divided the river into five geographic reaches. Those whom we spoke with depicted the river, its different phases, spots, forces, and character throughout the seasons. As a complement to the interviews, we gathered related documents, engaged in participant-observation, and performed thematic analysis of all texts (Peterson et al. 1994). We analyzed and organized these comments into a report of the cross-sectional themes that ensured the inclusion of each unique perspective

using 1700 quotes from participants to illustrate and provide evidence for our findings (Gilbertz et al. 2007).

Inventory of place representations

Words and phrases struggle to simultaneously reflect truths about place and truths to the felt place experience. Those who live with the Yellowstone River project a hyper-complex assortment of representations of both deep and flat elements onto the river. Meaningful aspects of people's lives contribute directly to the spectrum of representations they give the river: occupations, hobbies, relations with the land, loves and fears, education, expertise, daily practices, river uses, family legacy, daily activities, senses of history, pasts and childhood, geographic reach along the river, proximity to its waters, relations to area laws, economies, and politics, etc.

Among the local vernacular that heaps meaning, value, and purpose onto this resource, we found three dominant representations. Most people represented the river as: the lifeblood of the valley, a great playground, and/or a national treasure. We briefly summarize these dominant constructions, and then provide more detailed description of one case to illustrate how place representations enter the political sphere and may incur unexpected consequences upon the natural resource.

1. "*The Lifeblood of the Valley*"

*"It's the lifeblood of the Yellowstone Valley, that's all there is to it." –*Agriculturalist

Perhaps the most dominant image of the Yellowstone River among agriculturalists, recreationalists, civic leaders, and other long-time residents is that of the river as "*the lifeblood of the valley,*" or an essential element in the creation and maintenance of valley life. One civic leader explained, "the Yellowstone River is the lifeblood as far as Ag and recreation goes. It is

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what draws people here. It is the main artery." Representing the river as "lifeblood" flattens and objectifies it into economic and legal structures that include food crops and other commodities, businesses, and services. A civic leader noted that the "vast majority of the economy is within the boundaries of that river." The river supplies irrigation water for crops, livestock, and drinking water for humans. As a driving force for development of towns, goods, and services, the river offers communities a "*lifeline*" by making water available in the semi-arid landscape: The river as *lifeblood* evokes flat descriptions of biophysical forces. Residents understand that the valley's "productive agricultural lands*"* relate to the river's dynamic forces of historic seasonal flooding. The "*June rise*" ensures the fertility of the fields and the regeneration of the bottomland cottonwood forests. The river also provides habitat and nutrients for fish and wildlife while maintaining humidity throughout the seasons in this arid landscape. As a civic leader summed it up: "Of all the natural things that occur, [the river] is the most important thing. It provides water for drinking, flood irrigation, and recreation. It is the lifeblood of our community."*The Yellowstone River is the lifeblood as far as Ag and recreation goes. It is what draws people here. It is the main artery through Paradise Valley for sure* (Civic Leader).

Descriptions of the Yellowstone as the lifeblood of the valley also include deep subjective representations. One agriculturalist, for example, analogized to his own body when telling us that the river "is like having an artery in your body. It is a vital part of this valley. It is the lifeblood of the valley." Nonlinguistic images and practices also play an important role in deep representations of the place. Everyday operations raising sugar beets, spring wheat, winter wheat, alfalfa, and others irrigated crops are passed down from grandparents and parents to children. The rhythms of flood irrigation practices are represented as part of the lifeblood. Resource users talked of opening and closing the ditch gates, monitoring the furrows to ensure

optimum flow, and pulling their irrigation boots off and on. They pointed out everyday sights such as ditch hoes and other machinery in the fields, all operating on specific increments of time. These felt practices, sights, norms, kinds of knowledge, phrases, and vocabularies are ingrained in the foundation of community and cultural values, and they represent the river as a provider. From this perspective, resource users expressed an ethic of protecting the river as a means of support, which included preserving access rights to the water, whether for irrigation or for recreation.

2. "*A Great Playground*"

> *"There is a lot of river there. It is a huge asset to this state. There are so many opportunities. It is a great playground."* –Resident

A second dominant representation of the Yellowstone resonates with, at the same time it contrasts against, the lifeblood metaphor. This is the representation of the river as "*playground,*" or a place to play and relax. Informants represented the river as a place that provides users with a refuge from the stresses of everyday life. The playground representation builds on the terministic value of sharing a name with Yellowstone National Park. A civic leader explained that, "people have a picture of what Yellowstone Park is even if they have never been there. I describe it [Yellowstone River] as an extension of Yellowstone [National Park]. You attach things like the fishing culture, the hiking, the outdoor mountain recreation." This representation of the Yellowstone River as playground is reinforced by association with the Park's iconic images, such as the Lower Falls, the Grand Canyon of the Yellowstone, and Yellowstone Lake. Because Yellowstone National Park is known as a wild place where nature has been left relatively intact, so to do recreationists hope to successfully justify increased protection for the river.

Playground images typically begin with a deep account of recreational bliss: An experience of solitude, wildlife, peace, rest, natural beauty, or somehow encountering the wild. As one recreationalist enthused, "the Yellowstone is my cathedral. That's my church; that's my spirituality…. It's where I charge my batteries. It's my connection to the natural world." Many see river recreation as a way to regain their sense of well-being whether it is through fly-fishing the cold waters or bait fishing the warm waters; hunting deer, waterfowl, pheasants, wild asparagus, mushrooms, or agates; hiking, bird-watching, boat floating, inner tubing, or swimming; or just sitting and watching the water. Although recreationists frequently used the playground metaphor, so did informants representing other user groups. One local resident explained:

> *I've always gravitated towards it because it's always relaxed me….My church is the river….The fog comes up off the water….The sun pops up and your line is singing out there and you look down and see the little crystals on it, then I look down and see a herd of elk crossing a couple hundred yards from me. It gives you….It's what drug addicts are, the reason they're drug addicts….It gives you that feeling…with no side effects,…other than you're hooked….I'm not leaving here….This is a place to keep forever.*

The deep representation of felt experience when fly-fishing, hunting, boating, etc., is thoroughly intertwined with flattening representation, as the place becomes an object of business and a legal matter of recreational permitting and licensing, bag limits, designations of special waterfowl habitat refuges, conflicts between users, and Montana's stream access law. Flattened representations depict the river as a producer of revenue for outfitters, guides, private landowners, and affiliated equipment rentals, fishing shops, hotels and restaurants. These

representations allow calculable financial valuations of the river's recreational assets and related economic impacts at specific points along its length. The salience of the playground metaphor drives riverfront development and the local real estate industry. The gridlines and contours that define this place through relatively flattening representational practices guide motor boat restrictions, the development of public river access points, state investments in the management of fisheries, and further flattening representation (map making) for boating and angling.

The economic motif of the playground metaphor is most visible among residents and other resource users of the western cold-water stretches of the river where tourists travel through Paradise Valley, which lies near the northern entrance of Yellowstone National Park. Post cards, calendars, brochures, and varied tourist kitsch depicting the Yellowstone as a sublimely wild river are sold throughout that stretch of the river. Because resource users explicitly affiliate the river with Yellowstone National Park, texts centered on the Park as a tourist destination are available to reinforce the playground place representation for the Yellowstone.

Those who represent the river as a playground often share a dedication to the uniqueness of the river and are advocates of keeping the river free-flowing. Their stated desire often included maintaining and improving the ecological health of the river. While those who represent the Yellowstone River as lifeblood may view erosion as a threat to be mitigated or a danger to protect against, those who represent the river as a playground respect natural processes such erosion, and argue they should generally be allowed to proceed without external controls. They want to see that others respect the river's resources, residents who live along the river, and other users. They worry that the river is getting crowded and that access across private lands is becoming more difficult to attain.

The deep representation of the river as a place of play was reinforced by Norman

Maclean's book (1976) and movie (1992) *A River Runs Though It*. Although the story was about

the Big Blackfoot River, the movie was filmed in Paradise Valley on the Yellowstone River. The

cinematographer won an Oscar for the orchestration of the images of this mountain valley and

braided river. One result of what some locals disdainfully call "*The Movie,*" was that fly fishers

flocked to the Yellowstone River in hordes. Leighton (1998) describes this phenomenon as a

"battalion of outfitters, guides, and other full- and part-time trout bums" who are eager to exploit

the region's resources in the "final Gold Rush," (p. 46). Partly in response to public enthusiasm

generated via the movie, the playground representation has influenced home site preferences and

the hierarchy of property values.

3. "*A National Treasure*"

"*I would like to keep the Yellowstone a free-flowing river. It is a national treasure.*"
Recreationalist.

The Yellowstone River is the longest undammed river in the United States. The exclusivity

associated with this material fact contributes to its representation as a national treasure, and to

the frequent inclusion of the word "wild" in descriptions of the river. Informants articulated this

special characteristic of the river as a rarity that enhances the quality of experience for users and

quality of life for residents.. The *National Geographic Magazine* labeled the Yellowstone River

as "*the last best river*" (Chapple 1997) borrowing from a Montana state tourism campaign that

promoted the state as the "last best place." Local residents from across the political spectrum are

especially protective of "their" river, dating at least to the proposed Allen Spur Dam in 1958,

which locals viewed as threatening to both natural amenities and private property rights. Many of

our informants used the idea of the river as a unique national treasure to explain why most

attempts to control the river were inappropriate. As one recreationist said, "you don't want to dam this river. This is one of the—THE—last wild river in Montana, and it may be the last wild river in the nation. There is no dam on the Yellowstone, and we really don't want a dam on the Yellowstone."

As with any national treasure, The Yellowstone River is often represented as needing protection. One resident articulated his obligation this way,

> I guess living next to the Yellowstone; you get such a loyalty to it. It is something that has to be protected and you can't give it away…It just got into a real almost a spiritual thing – when you live next door to it, it becomes something bigger than property rights and that sort of thing.

His felt experience with the river led to a deepened representation for this place. Many informants similarly expressed their sense of "responsibility," or "duty," to safeguard the river. By representing the river as a national treasure, our informants elevated the importance of protecting it as a rare remnant of the truly wild in nature. Residents often spoke about how "lucky" and "privileged" they felt to live along the river. "You know, every other river in the country is dammed, and it is nice to have something that's wild in your backyard" (Recreationalist).

Of course, these deepening representations of place interact across stakeholder categories, uniting streamside residents, agriculturalists, and recreationalists in appreciation for this place. People's descriptions interconnect metaphors of lifeblood, playground and national treasure to represent the place. Their comments often demonstrate an awareness of the place as a system that includes people such as themselves, as well as those who are different. As one recreationalist explained,

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I'm so one with the river, and it's moods that it becomes my spirituality, …it has different character around every bend – it acts differently in the spring than it does in late summer, it's different in the winter, it's an incredibly complex ecosystem, that if one person in their lifetime can figure out a little bit of it, is quite an accomplishment – and that's what transcends the actual fishing.

The national treasure metaphor also allows people to represent the Yellowstone River in flattened form. In this case, the financial treasure becomes the central focus, and discussion swirls around cost-benefit assessments of water storage, flood protection, and electrical power generation potential. The river's (relatively) free-flowing status also makes it always vulnerable to flattened images that de-value many of the felt experiences described above. Subjective description of the river's "spirituality" for example, are of little use if the river's value is predicated solely on the dollar value of its use for irrigation or the dollar cost for prevention of flooding, . Whether described as the lifeblood of the valley, an incredible playground, or a national treasure, the Yellowstone River emerged as a place with distinctive deepened and flattened characteristics, and these characteristics may offer clues for NRM.

Conflicting place representations in the public realm

Different representative images of the same place can clash. The battleground is in public conversation where each seeks to reframe the place to create 'proper' ways of thinking about access rights, quality and quantity of the resource, management authority, and what is considered legitimate use of the resource. Competing representations of place "are the meeting points of tremendous pressures coming from rival word-users, each of whom would like to appropriate the word for his [sic] own purposes"(Guttenberg 1993, p. 6). Competing perspectives of a shared site and the coordination of competing interests is often dubbed the *politics of place* (c.f. Cooke

1984; Jackson 1987; Kemmis 1990; Norton and Hannon 1997; Honadle 1999; Yung et al. 2003; Cheng et al. 2005; Norton 2005). The politics of place is then, in large part, the clash of vested and vetted socially-constructed representations of place.

Past management initiatives for the Yellowstone River illustrate this clash, and resonate in contemporary accounts of river users. In 1958, a state delegation prompted by U.S. Senator James E. Murray (Montana) and the U.S. Bureau of Reclamation (Bureau) first offered a strategy for using the Yellowstone River to provide water and energy security by proposing the construction of a water-retention dam at a narrow point in Paradise Valley (Nolt 2007). From the agencies' flattened representation of the place, the valley was ideally shaped for a dam (Wheelwright 1978). The 380-foot tall Allen Spur Dam was to house a 250 MW power plant and a 30-mile reservoir covering 20,000 acres (Nolt 2007). A grassroots campaign soon developed around residents' recreational and agricultural practices that provided an alternative deep representation of the river as a site of meaningful experiences important to Montanans. By 1963, Park County Commissioners, the Park County Rod and Gun Club, and the Farm Bureau joined together in opposing the dam, citing concerns over the loss of farmland and fish and wildlife habitat (Nolt 2007). In the face of organized local opposition, interest in the proposed dam subsided until the energy crisis of the 1970s and the need for water resources for the Fort Union coalfields.

Recreationalists opposed the dam because it would have flooded the Yellowstone's best trout fishery, the source of several nutrient rich spring creeks where trout spawn including the endangered Yellowstone cutthroat trout (*Oncorhynchus clarki*). As one participant told us, after they learned of the proposal they resisted the proposed dam by publicly representing the Yellowstone River as a blue-ribbon fly-fishing destination and an ideal location for riverfront

vacation homes. Their expressed intention was to interrupt the proposed dam by attracting

wealthy fly-fishing enthusiasts to move to the river valley. Filling the valley with expensive

vacation homes would discourage the Bureau from building the dam on the Yellowstone by

skewing the cost-benefit-analysis calculations when the federal government considered the costs

of necessary regulatory takings. The fly fishing community of Paradise Valley, multiple Greater

Yellowstone advocacy organizations, other recreational users and agriculturalists harnessed the

symbolic prowess of "Yellowstone" to forward a campaign to save the river and its natural

amenities. In addition to grassroots organizing, dam opponents used the media to cover the

controversy and brought visitors to Paradise Valley, the bed of the proposed reservoir. A 1978

Life article titled "Great River in Crisis" told the story of the proposed dam as a demand for a

"30-mile long storage tank" and described the threats to this undammed wonderland alongside

full-page aerial color photos of the river's mountain scenery and quotes from a "ruddy-faced

Montana cowboy with tears in his eyes" (Wheelwright 1978). The campaign worked. During

initial stages of the Bureau's planning, regional and national outcry combined with a

proliferation of riverfront second homes and the values of recreation oriented home owners to

prevent construction of the Allen Spur Dam. Twenty-five years later the high numbers of

vacation homes in the valley continue to suppress re-visitations of the Allen Spur Dam

conversation yet the fly fishing experience has changed. Some participants describe fishing that

stretch of the Yellowstone River as floating through a subdivision. Others no longer fish that

stretch of the river because of the loss of the wild attributes. Furthermore, annual flooding and

the close proximity of new residents' homes have led to the installation of large boulders (rip-

rap) which affect the flow characteristics of the riparian corridor. This rapid rise of development

and use leads to the common phrase we heard of loving the river to death. One of the original

framers of the strategy to prevent construction of the Allen spur Dam told us that although he was happy to have saved the river, the success of the campaign has now backfired. As he and other participants in the original advocacy campaign explained, their representation of place had worked too well and the continued proliferation of homes along the river is damaging the ecological amenities that preservationist advocates sought to protect.

Participants in the advocacy campaign in opposition to the dam recognized that controlling the dominant representations of place is one means of controlling the symbolic resources of decision making. By representing Paradise Valley in a certain way, advocates influenced agency behavior, interpretive frames, and decision making (Lefebvre 1991). As in this example, representations of place regularly "intervene in" and "modify spatial textures" according to a truth-teller's interests (Lefebvre 1991, p. 42). In NRM, political power is actualized through the selection and exclusion of the terms and images used in representation (Bourdieu 1990; Foucault 1994). Opponents of the dam engaged in the politics of place, as they struggled to control the "truths told about a place" to shape acceptable uses and norms so as to exclude the dam.

Reconciling Competing Representations of Place for Decision Making

Like bank stabilization practices along a wild and moving river, words and images armor the boundaries of our conceptualizations of place. Different interest groups advance representations of place that privilege certain knowledge they believe will stabilize or further their advantage over other equally valid interests (Kemmis 1990; Honadle 1999; Cheng et al. 2005). Any representation, for example, deflects opposing worldviews to protect the preferred image of a place. As riverfront landowners and agriculturalists on the undammed Yellowstone

River know; all bank stabilization efforts are temporary. Likewise management cannot entirely control how a managed site is viewed by stakeholder groups and decision makers.

As we followed the Yellowstone River speaking with its residents, listening to their stories, experiencing their practices, and participating in their events, a kaleidoscope emerged. Each participant's mental image and descriptive representation of the Yellowstone was strikingly diverse and yet threaded, sutured, and sewn together by the materiality of the natural system, the legal status of the river as a shared resource, and by vernacular phrases that resonated throughout the community. When we asked participants to describe their place along the river, each informant articulated a unique image based on their lived experiences of the river. Responses displayed how participants: (1) perceived the riparian areas, (2) formed their views on flooding and bank stabilization and (3) articulated their interests and desires for future management. To many the river is a "*gem*, *a goldmine*, and *the golden goose*." It is a "*wild and free flowing*" river that "*takes what it wants*." It is the "*boss*" for some and commonly referred to as "*the lifeblood of the valley*." For others it is a "*trashy*" and "*dangerous*" river that takes the lives of people each year; a "*killer*." Some call it a "*monster*" and a "*problem*" while others call it the world's "*fly-fishing Mecca*," a "*cathedral*," the "*last wild fishery*," and the "*home for wildlife*." One agriculturalist said that "if the Mississippi is Old Man River, the Yellowstone is the *Prom Queen*." Our informants used these, and other statements, to represent the Yellowstone River as (1) the lifeblood of the valley, (2) a playground, and (3) a national treasure.

Although we organized our data collection around interest groups and geographic segments of the river, many of the place representations that emerged cut across both locations and stakeholder categories. This is one methodological strength of analyzing how place enters everyday discourse via representation that is potentially useful for decision makers. We chose to

emphasize the conceptual representations of place rather than the classification or categorization of individual informants.. Emphasis on the conceptual constructions of place rather than on speaker classification enables us to reflect more of the complexity in how people conceive, experience, and reconcile place filtered by multiple overlapping representations. Focusing on the multiplicity of truths told about the place rather than on the truth-teller enables decision makers to de-emphasize entrenched positions and identity based politics.

By shifting attention from personalized symbolic meanings of place to how discourse actively represents place in ways that bind what is legitimate action in that place, the cultural inventory offers a way to identify the *shared* meanings expressed by interest groups, communities, and institutions via representations of place. This redirection towards the representation of place as both deepened and flattened space suggests opportunities for NRM advisors, planners and decision makers to explicitly incorporate multiple meanings, effects, and outcomes into their decision calculus. By taking a dynamic view of place representation, decision makers may become more conscious of the potential *impacts* of seemingly benign acts of place representation and strategic reframing. Awareness of the dynamism of place representation allows managers and publics to actively participate in the production of legitimate knowledge about shared places via shared vocabularies. .

Managing natural resources necessarily involves the management of symbolic resources. A particularly precarious and daunting task that decision makers must perform within the politics of place is the coordination and management of legitimate information. That place is classified, named, and labeled is necessary for planning and management. This necessity of representation of place is complicated because shared places are discussed and constructed multivocally. Each carries with it diverse perspectives including disciplined scientific lenses, bureaucratic

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organizational perspectives, multi-generation lived experiences and other resident/nonresident stakeholder interests. The problem that decision makers must overcome is of a rhetorical nature insofar as they must reconcile divergent conceptualizations of landscapes housed in place representation in order to get things done.

Just as managers attend to the consequences of physical actions on managed landscapes, so must they attend to concomitant symbolic actions. Managing natural resource sites requires them to gather and disaggregate deep representations of place to be integrated into flattened managerial frameworks and administrative policies. Managers cannot completely control representations of place, but they can study these representations to understand their role in decision making and knowledge formation by asking: What are the dominant representations of this managed place? What are the origins and assumptions of each? How do shared place meanings enter decision making? Which representations clash? What effects do place representations have upon planning scenarios? Why? What are the potential consequences of various representations being publicly approved or rejected? How can representations of place be reconciled in a way that leverages perspectives of place to inform the common management objectives for a site?

Careful reflection regarding representation of place will help managers understand stakeholders' argumentation strategies. Analysis of the representations of place may reveal unintended consequences of certain frames. Mangers may become aware of power dynamics, bring consciousness to stakeholders, actors, and agencies so that they may guard against ideological concoctions, and call attention to strategies of oversimplification, expertise, obscurity, identification, and estrangement. Discursive frames for discussing place representation within decision making vocabularies should be respectful of and accessible to local vernaculars.

Members of the local community are valuable allies for implementing resource decisions. Understanding and explicitly including the interests of those involved, and then communicating to landowners and residents within these terminologies may mitigate the off-putting scientific jargon.

In order for decision makers to effectively incorporate place representation into their decision calculus, they must understand it as a participatory construction that both flattens and deepens that space. Place representation includes a (relatively) accurate flattened representation of the abiotic, biotic and social factors coordinating multiple areas of expertise. At the same time, they must integrate this understanding with awareness of an imagined deep representation that accounts for desired futures for that place and its communities of users. The difficulty lies in getting the proportions right; and that effort remains always problematic. The flat representation must not oversimplify and be so removed that it disregards the realities of politics or neglects resource health. Deepened representations of place cannot be so personalized that it becomes too focused upon the needs of powerful interest groups or misses other ecological-level processes.

With these cautions in mind, an analysis of place representation can inform the communication efforts and strategies in agency and management choices when representing these places. Place representation also offers NRM an inventive or liberating dimension. Because place is socially constructed, it can socially reconstructed. From this perspective, planning and decision making become sets of practices of creating legitimate discourses that guide the place users. While the practices of place representation seem to entrench polar positions, forcing a choosing of sides, decision makers must remind all participants that there is only one material place to be shared: a single common ground. Managers can use existing representations to invent

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amicable constructions that bridge dominant existing representations of resource places and

promote new ways of seeing place and NRM practices.

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Table 1.0. Summary of Yellowstone River Cultural Inventory Participants by Geographic Segment

	GEO SEG I: Missouri River to Powder River	GEO SEG II: Powder River to Big Horn River	GEO SEG III: Big Horn River to Laurel	GEO SEG IV: Laurel to Springdale	GEO SEG V: Springdale to Gardiner	TOTAL IN GROUP
AGRICULTURAL	22	22	16	12	14	86
CIVIC	14	14	18	14	8	68
RECREATIONAL	15	16	16	13	16	76
RESIDENTIAL	15	11	16	15	19	76
GEOGRAPHIC SEGMENT TOTAL	66	63	66	54	57	
NATIVE AMERICAN						7
PROJECT TOTAL						313

Sharing stories of place to foster social learning

William Stewart, Troy Glover, and James Barkley

Abstract. Place research underscores a need for social learning. Social learning about place is appropriate in a preparatory phase prior to initiating a formal planning process. Doing so enables land-use planners to begin public dialogue at a point that appreciates landscapes and builds a positive base to grow relationships among stakeholders. Sharing stories of place allows emotions to come to the surface and become known. Planning processes have traditionally avoided explicit inclusion of emotion, and have excluded any knowledge that comes from their public expression. Emotions are best understood when they are shown through a living of the emotions at the moment of representation. Sharing stories about place requires social scientists and planners to expand the traditional roles of their craft to include a showing of emotions. Several scholars have recommended the need to create dialogue forums that encourage the representation of emotions within working relationships. The following challenges are explored within "learning circles" in three different land-use planning contexts: (1) Stakeholder forums need to be structured in ways that allow participants to feel safe and comfortable sharing stories about place; (2) Stakeholder forums need to value emotional expression regarding people's attachment to places; and (3) Stakeholder forums need to recognize that sharing place meanings holds promise to create new public values for a landscape.

Place research underscores a need for social learning. Place research recognizes complexity in place meanings (Kyle, Graefe, Manning, & Bacon, 2004; Manzo, 2005; Williams, Patterson, Roggenbuck, & Watson, 1992), the potential for conflict amongst stakeholders (Measham & Baker, 2005), and need to create new public values for places (Kruger & Shannon, 2000; Schusler, Decker, & Pfeffer, 2003). The implications of place research often point to dialogic planning processes that allow place meanings, values, and emotions to be shared amongst stakeholders.

Over the past few decades, trends in land-use planning have moved in the direction of processes that sustain dialogue among various kinds of stakeholders (Daniels & Walker, 2001; Selin & Chavez, 1995). However, not all land-use planning forums are conducive to social learning. Some are counter-productive to building constructive dialogue (Parson & Clark, 1995; Sarewitz, 2004). Many are framed as public involvement or participatory planning events during

which agencies garner viewpoints from stakeholders (Germain, Floyd, & Stehman, 2001).

Rather than embedding decisions in a learning process, many public involvement strategies are one-way in their communication flow and result in stakeholders reaffirming their understandings of the issues and reinforcing stereotypes of each other (Blahna & Yonts-Shepard, 1989; Gramling & Freudenburg, 1994; Keen, Brown, & Dyball, 2005). Although several strategies for social learning have been explored, there are still needs to continue these efforts and directly link learning objectives to shared meanings and emotions of place (Friedman, 1984; Stokowski, 2008).

The practical relevancy of this chapter is directed at a preparatory phase prior to initiating a formal planning process. Social learning about place is appropriate in a pre-planning phase and has modest aims: (1) *to begin public dialogue at a point that appreciates landscapes, and (2) to build a positive base to grow relationships among stakeholders*. Planning often begins in negative ways by directing attention to problem identification, scoping, inviting reaction to a preferred alternative, or some other point of alarmed discovery (Germain et al., 2001). These are conflict-ridden points to begin a planning process, and encourage stakeholders to formulate their positions and create boundaries amongst each other.

Social learning should be considered in cases where multiple values and place meanings may appear incompatible, and where agency staff want to build relationships with (and among) stakeholders (Schusler et al., 2003). Social learning involves simple acts of publicly representing one's sense of place and listening to others (Parson & Clark, 1995; Schusler et al., 2003). Through these acts of representation, a dialogue is developed that creates new public values and ways to understand the issues at hand – this is the crux of social learning (Keen, Brown, & Dyball, 2005). The social learning that comes from sharing stories about place is not about

reaching consensus nor resolving differences; rather it is about understanding place meanings of oneself and others, and opening opportunities for new meanings to emerge. Creating dialogic relationships amongst stakeholders with potential for new public values has not been a traditional function of planning yet is vital for effective implementation (Blahna & Yonts-Shepard, 1989).

Stories about place are narratives that connect people to their environments. The sense of time developed in narratives is critical to understand relationships between people and places (Cronon, 1992), and such relationships are best represented through stories of one's lived experience (Stewart, 2008). By reflecting a sense of time passing, emotional attachments to place have potential to be represented in ways that are understood by others. Several researchers have argued that story-telling is a natural way for people to organize their experiences, emotions, and values into meaningful wholes (Glover, 2003; Polkinghorne, 1988), and suggest that landscape planning processes could be facilitated through strategies that invite people to share stories about place (Kruger & Shannon, 2000; Fine, 2002; Richardson, 1990).

This chapter characterizes social learning as essential for place-based planning. The recognition of environments as places to which people form emotional attachments is at the center of place-based planning (Stokowski, this volume; Williams, this volume). The first half of this chapter identifies some major challenges that must be addressed in the development of strategies for stakeholder involvement in decision-making. The last half of this chapter addresses these challenges by exploring a strategy for social learning applied in three different landscape planning contexts.

Emotions about place

A goal of sharing stories about place is to provide a positive starting point for planning. The sharing of stories of place allows emotions to come to the surface and become known. Emotions and the knowledge that goes with them, although sometimes discussed as an important part of land-use decisions (Manzo, 2003; Kennedy & Vining, 2007), are rarely given a forum for expression. Planning processes generally try to avoid inclusion of emotional representation, and in doing so, neglect knowledge that comes from their public expression. Emotions are often cast as irrational, unscientific, hard to understand, and ultimately irrelevant to land-use decision-making (Davidson-Hunt & O'Flaherty, 2007; Hull, 1990). As a consequence, emotions emerging in public decision-making contexts are not formally anticipated, often perceived as negative (e.g., anger, frustration, sadness), viewed as counter-productive to dialogue, and being such, usually work to alienate stakeholders from each other. Social learning through the sharing of place meanings is a strategy designed to introduce emotions as important knowledge for planning. Sharing stories about place uniquely explains a person or community and their relationship to an environment (Patterson, Grenny, McMillan, & Switzler, 2002, pp. 98-101). Initiating a planning process whose stakeholders have already shared place meanings allows dialogue to grow from a base of positive emotions (Gratton & Goshal, 2002).

Sense of place is about people and relationships with their environments. Such relationships usually are connected with various emotions and feelings, often referred to as place attachment (Kyle, et al., 2004). There has been an impressive accumulation of research directed at place attachment, and invariably it has assessed the *strength of the attachment* rather than the *emotion behind the attachment* (Bricker & Kerstetter, 2000; Stedman, 2003; Williams, et al., 1992). Social learning about place recognizes the importance of emotions in our relationships with places, and allows a face-to-face representation of place attachment in ways that other

methods are unable to facilitate. Without representation of emotions, a critical part of our relationships to place is missing.

Emotions are best understood when they are shown rather than told. A *telling of emotions* is a summary or some abstracted representation of emotions. Social scientists, and others in positions to represent a third party, often tell about emotions felt by participants in their studies (Denzin, 1985). People who tell of emotions are in roles of being "objective" or "neutral" to the emotions. Audiences of a telling receive the information but are not changed by the telling. A *showing of emotions* is a living of the emotions at the moment of representation. Audiences of a showing feel the impact of the emotions and experience a reaction to the emotions – people are changed by a showing of emotions (Denzin, 2001). Roles for social scientists traditionally are to represent, provide summary statistics, and otherwise objectively characterize people who have been studied. Such studies reflect a *telling of emotions*. Although there are some exceptions, most social scientists do not facilitate a showing of emotions as part of their research, nor are they comfortable in roles where they participate and become emotionally influenced by those whom they study. Sharing stories about place requires social scientists and planners to expand their traditional roles to facilitate stakeholders sharing place meanings, and in doing so, represent place attachments that include a showing of emotions (Barkley, this volume; Olstad, this volume).

The flipside of showing emotions is to feel the impact of emotions when they are represented. Witnessing emotions usually results in immediate changes in one's experience, and aligns with Walkerden's (2005) discussion of "felt knowing." He argues that western traditions have privileged logical reasoning at the expense of other senses of feeling, intuition, and personal experience. Walkerden characterizes felt knowledge as originating from felt meaning and

essential to work through complex situations requiring collaboration and innovation (pp. 175-180; see also Gendlin, 1997; Schroeder, this volume). In his work on social learning in coastal zone management, Walkerden (2005) indicates that felt meaning is about "making sense together – embracing learning within a social context, and specifically embracing dialogue" (p. 179). He claims that when we de-center ourselves from disciplinary and professional ways of knowing – effectively detaching ourselves from anything deemed logically fundamental – we open to new ways of referencing knowledge and exploring felt meanings with one another (Schroeder, this volume). For Walkerden, felt meaning within contexts of public dialogue needs to claim space within planning processes that historically have been debilitated by technical rationality. Although felt meaning is derived from a literature stream distinct from emotional attachment to place, it provides insight to frame feelings and emotions in terms of wisdom.

Public Dialogue about Place

A dialogue is a special form of communication. It is not just people talking to one another and informing each of their own perspective. It is a way of communicating between people as meaningfully as possible and results in the creation of something new together (Bohm, 1996, pp. 2-3). The back-and-forth of dialogue is where people articulate their thoughts and respond in attempts to clarify, challenge, empathize, or embrace the ideas growing among participants in the dialogue. There are often differences between intentions of representation and that which gets represented; there are also differences between the listeners who receive the information and the intentions of the speaker. In a dialogue, differences between that which was said, intended, and received becomes reconciled, and participants invariably see something new that connects the viewpoints of the dialogue. A dialogue is not simply representing one's view

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to make known information already known to the person. A dialogue is about two or more people making something new together – something they share in common – by talking and listening to one another.

Unlike many public hearings and other traditional forums for public involvement that are framed in adversarial ways, a dialogue is about representation of one's viewpoint. Creating dialogue forums that lead to new public meanings about place provides a promising starting point for formal planning processes. Fisher and Ury (1981, pp. 41-57) have argued that public dialogue should focus on interests of stakeholders in which they represent their motives and values, in contrast to promoting their political positions. In advocating the need for new strategies of public involvement, Ison (1995) claims that a dialogue is about thinking together. Unlike a discussion or debate, where sides are formed and the focus is on persuasion and gaining favor, a dialogue is where participants represent their perspectives and jointly create new meanings (Bohm, 1996; see also Bitzer, 1968; Stokowski, 2002).

By viewing dialogue as a "free flow of meaning" among people, Patterson et al. (2002) developed strategies to create new public meanings (in their words, to expand the pool of shared meanings, pp. 21-25). They indicate that people enter a dialogue with their own set of thoughts and emotions that comprise personal meanings. During dialogue, thoughts and emotions are expressed, and meaning becomes shared or owned by those in the dialogue. In other words, meaning moves from being personal to being shared. As the pool of shared meaning grows, so too does a group's synergy and ability to make decisions for themselves.   Patterson et al. (2002) recognize the difficulties of building group synergy (in their words, a group's IQ), and claim that a key element of doing so is "to develop the tools that make it safe for us to …. come to a shared pool of meaning" (p. 25). They understand that successful public dialogue requires conditions

that allow participants to share stories in ways that freely express thoughts, meanings, and emotions.

To improve the creativity and culture of organizations, Gratton and Ghoshal (2002) argue that the quality of dialogue is at the heart of any strategy for improving the dynamics of collaboration and working together. They recognize the "denial" of emotions in workplace discourse and the privileged position of technical rationality in traditional managerial decision-making (p. 214). They found organizations that enable explicit representation of emotions within decision-making contexts are the most successful and efficient in their functioning. Gratton and Ghoshal (2002) indicate that people are more creative and productive when emotions are freely expressed, and form stronger relationships through dialogue that brings-out feelings and emotions. Their recommendations are to build conditions that encourage emotional expression within working relationships, and ultimately, to enhance the capacity to make good decisions.

Social Learning about Place

Social learning engages people to share their perspectives, to develop a common framework, and to value their collective experience as a basis for action (Daniels & Walker, 1996; Keen, Brown, & Dyball, 2005; Korten, 1981; Schusler, Decker, & Pfeffer, 2003). Daniels and Walker (2001, pp. 4-8) assert that land managers are in positions to lead processes for social learning. They argue persuasively that social learning is essential to the formation of new public values to address the increasing complexity of environmental decision-making (Reich, 1985; Yankelovich, 1991). Social learning about place is a first step in any planning process for people to see environments as places (Measham & Baker, 2005; Williams & Stewart, 1998).

It seems like a platitude to assert that environments are places. We take for granted the places of our lives, and most people understand that environments are connected with senses of place. However there are some powerful forces that run counter to such a claim and often prevent planning processes from treating environments as places. Firstly, the long-standing privilege of science in environmental decision-making is already well-known as a force that searches for generalizable knowledge and universal truths (Allen & Gould, 1986; Fisher, 2000; Irwin, 1995; Yaffee, 1994). If one views an environment as an exemplar of some scientific principle, its uniqueness is seen in comparison with other environments that embody a similar set of scientific facts and processes. Sarewitz (2004) argues that scientific knowledge has traditionally held a central role in environmental controversies because of a "shared view of science as a disinterested force that could guide political decision making by providing appropriate facts – so long as it was kept separate from politics" (p. 388). He observes that scientific facts are not detached from human values, even though people on all sides of controversies validate their value preferences based upon an alleged body of facts (p. 397). Sarewitz (2004) concludes his provocative essay by suggesting that environmental controversies are overly "scientized" because environmental values and place meanings are concealed by most planning processes. In an ironic twist, he claims that scientific narratives have become the primary means in which values surface within environmental controversies.

Secondly, land management agencies each have a culture and history of policy-making that influence decisions in systematic ways. From mission statements to agency policy to on-the-ground implementation, agency forces understandably push for consistency and alignment with precedence rather than uniqueness of locale or exception to a rule (Twight, 1983; Vining & Ebreo, 1991). The significance of agency cultural bias has spawned a literature stream exploring

the impacts of professional bias on decision-making (Clarke & McCool, 1996; Foresta, 1984; Jasanoff, 1990; Priscoli & Wolf, 2009). At times, agency culture and professional bias may work against recognizing environments as places, and instead frame issues as challenges to agency policy.

Thirdly, agencies and their environments have a history of decision-making involving various special interest groups and stakeholders. To gain favorable outcomes of decisions, stakeholders learn to work the system in their best interests (Yaffee, 1994). In varying degrees, interest groups and stakeholders use scientific expertise and agency policy precedence to argue their positions and frame their cases (Sarewitz, 2004). It is not unusual for special interest groups and stakeholders to adopt the language and logic of scientists and agency staff, and in doing so, treat environments as battlegrounds for national ideological conflicts while neglecting the representation of their own place meanings (Barkley, this volume; Gottleib, 1993; Nie, 2003).

In short, there are forces that influence the major players in environmental decision-making – experts, agency staff, and stakeholders – that do not recognize environments as places. The result is that a significant portion of stakeholders have learned to work together in ways that avoid seeing environments as places. No doubt it is easy to claim environments are places, but in the practice of decision-making, there is unwitting resistance to this claim.

When environments are viewed as places, people and communities become part of the place. Sharing stories of place necessarily involves stories of people and communities. Through human actions and thoughts, an environment becomes attributed with meanings. Although a story of place is ostensibly directed at a specific environment, it is as much about the person whose story is being shared. Western society generally views aboriginal people as being

intimately tied to their land and as holding deep-seated place meanings. Measham and Baker (2005) counter this point by arguing that all cultures believe "wisdom sits in places" whether they know it or not (a reference to Basso's work with Apache Indians, 1996). They urge environmental planners to prioritize the representation and negotiation of place meanings as central to environmental decision-making (Measham & Baker, 2005, pp. 96-101). At the crux of place-based management is a dialogue process that engages stakeholders to learn about meanings and emotions of place (Keen, Brown, & Dyball, 2005, pp. 6-18), with the implication that civic discovery and self discovery are two sides of the same coin.

The ideas in the above discussion translate to challenges for the practice of land-use planning. They indicate the need for strategies to foster social learning, which in itself is not a new observation to make. However the above ideas provide sensitivity to some of the conditions for social learning, and further suggest that stakeholder forums need to address the following three challenges: (1) To be structured in ways that allow participants to feel safe and comfortable sharing stories about place; (2) To value emotional expression regarding people's attachment to places; and (3) To recognize that sharing place meanings creates new public values for a landscape. Fortunately strategies for environmental decision-making have expanded in the past few decades, and there are planning frameworks that hold promise to address the above challenges (Brandenburg & Carroll, 1995; Davidson-Hunt & O'Flaherty, 2007; Ison, 2005; Schusler, Decker, & Pfeffer, 2003; Selin & Chavez, 1995; Walkerden, 2005).

The second part of this chapter draws on examples from three sites in which stakeholders shared stories of place. The studies explored photo elicitation as a technique to engage stakeholders in a two phase process starting with their self-reflection and personal sense of place, and a second phase as a stakeholder forum for sharing stories of place (referred to as a learning

circle). This strategy has been developed and applied in the following three land-use planning contexts of Midewin National Tallgrass Prairie (a USDA administered site near Chicago, Illinois), Grand Canyon National Park (a world heritage site administered by the NPS in northwestern Arizona), and Urbana Park District (a municipal park district in a mid-size urban area of central Illinois). The purpose of introducing this strategy is to illustrate the above three challenges and provide examples of a way in which they could be addressed. An overview of the methods is presented here (for further background see Glover, 2003; Glover, Stewart, & Gladdys, 2008; Johnson, Glover, & Stewart, 2008; Stewart, Larkin & Leibert, 2004; Stewart, Barkley, Kerins, Gladdys, & Glover, 2007).

A Strategy to Share Stories of Place

Eliciting Stories about Place

All three sites were either in their initial stage of planning or had not yet formally embarked on a planning process. Stakeholders were recruited as study participants, and identified through their participation in previous land-use planning processes or were accessed onsite at agency-based public events. Agency personnel were also recruited to be study participants. Resulting groups of study participants were a mixture of citizen-stakeholders, representatives from various interest groups, and agency personnel. The number of participants varied from 15 to 25 across the three locations. Disposable cameras were distributed to participants. They were asked to take pictures of special places in and around the study sites that were important to their life.

The use of participants' photographs was instrumental in facilitating conversations that elicited place meanings and landscape values through the telling of lived experiences. The first

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phase of the process coupled participant photography with conversations focused on photographs, referred to as an *autodriven photo elicitation conversation* (APEC). The APEC is particularly suited for research that requires a telling of deep-seated personal experience due to its capacity to equalize power between researcher and participant. The APEC is centered on the life experiences of participants; they choose places to photograph, and they co-construct meanings for these places during conversations with researchers. During the conversation, the researcher is in a listening mode albeit prompting participants to discuss the significance of places they photographed. The capacity of APEC to center itself on the life experiences of participants is a virtue of the method and contrasts with traditional social science techniques.

The photographs provided conversational structure during the APEC. As such, meaning was situated in the text of the conversation and not in the photograph itself. Photographs served as a site for the embodiment of memory and were the means by which their experiences in places were narrated. Conversation about the photograph served as an interaction through which meaning of the lived experience was constructed. During the telling of their lived experiences, stakeholders came to some understanding of their place meanings. From the APEC and the follow-up with researchers regarding review of transcripts and modifications to their narratives about places, stakeholders deliberated with their own set of place meanings. They were invited to the next phase that functioned like a group APEC, referred to as a "learning circle."

Learning Circles

In preparation for the second phase, stakeholders were asked to identify two or three photographs from which they could share their place meanings with others. Their photographs were projected onto a screen during their presentation. Discussions were tape-recorded and

transcribed to allow for a review of the dialogue. As a final task, stakeholders were asked to reflect on the discussion. They wrote their thoughts and reactions on a notepad at the learning circles. The discussion of these examples explores a strategy to foster social learning about place.

Feeling safe sharing stories about place. The learning circles, coupled with use of stakeholders' photographs, focused attention on landscapes not people. Stakeholders viewed each other's pictures and considered place meanings, rather than thought critically about the stakeholder doing the talking. When individuals talked about their places, attention was directed at the place rather than at the person doing the talking. Stated differently, we are each experts on our lived experiences in the places of our lives. To enable people to share these lived experiences with others, the structure of the dialogue forum needs to shift the "spotlight" away from the person and towards the environment. With such a shift, people are likely to feel safe and comfortable sharing their stories of place.

As an indicator of this focus of attention on places, stakeholders often introduced themselves in reference to their place meanings. For example, several stakeholders began their discussion by explaining reasons for living where they do, or visiting certain places; these reasons were directly related to their place meanings. Others introduced themselves with details on their personal environmental history that gave comparison points to understand their place meanings. These meanings often connected with deeply held values about their family history including appreciation for their parents and grandparents, their sense of national identity and cultural pride, or their personal or family-based land ethic.

With a focus on place, attention was deflected away from the speaker and quite literally toward an image of the place as projected onto a screen. Stakeholders' stories supported concepts

of "place identity" and "topophilia," which generally assert that people construct deep personal relationships with environments (Williams, this volume). The stories of stakeholders described their personal relationships for the places they had come to know. The discussions were seemingly not about themselves or their ideological beliefs but about the places of their lives. Because of the perception that this discussion was about places and not about themselves as individuals, the conversations about place meanings unfolded with ease.

As part of deflecting attention away from individuals to places, the truth-claims of stories were not given to debate or questioning. Because each stakeholder had undergone the same process of taking photographs and having conversations about the importance of their places, the stories and visual images were received as genuine, and the sharing of stories had become a familiar task that was easy to produce. For example in a final reflection, one stakeholder wrote "I really don't like public speaking, but talking about something I know about and love helps me to become a better speaker." Another wrote "Sharing memories of places is as good as any ice breaker." From both the transcripts of the learning circles and the final reflections written on the notepads, the findings suggest stakeholders felt safe and comfortable sharing their stories of place. There were not any questions about the accuracy of the stories, the credibility of the speakers, or the genuineness of place meanings and emotional attachments.

Building contexts to represent emotional attachment to place. Describing special places was often told as a personal history of a stakeholder's association with an environment, and it fostered a re-living of the experience in a place. With all eyes focused on a visual image of the place, a showing of emotions came naturally to most stakeholders. Sharing personal histories were important contexts for emotional attachments to be known and understood, and as a consequence, were deeply felt by stakeholders. The use of photographs was essential for

stakeholders to reflect on their place meanings, and to build a social context to show emotional attachments to place.

The use of photographs was instrumental in creating a shared memory that fostered empathy for speakers. In sharing their stories, stakeholders were re-living their experiences in the place (Denzin, 1985). The visual image became emotionally laden due to the emotions that surfaced in the story. The visual image became a shared symbol that brought the group into the same emotional sphere as the speaker (Harper, 2000), and led to recognition of joint caring– even though there were implicit differences in political agendas across participants in the circle. In each of the learning circles there were moments of silence as speakers and participants held back tears or choked-up, there were flashes of spontaneous smiles, and there were examples of collective curiosity as place histories were constructed. The emotions that surfaced, particularly those that led to eyes welling-up with tears, were generally associated with family connections to place and the potential for their disruption. When memories of one's ancestors or expectations for one's children were shared, the emotional attachments were palpable.

Stakeholders did not plan to show emotions or become involved with each other as part of their anticipation for the learning circles. The emotions were authentic and the collective empathy that emerged was sincere. The shared emotions created an intimacy among stakeholders that could not have been replicated through traditional planning processes, and established a basis for trust. As written on the notepad by one stakeholder, "[I] learned we all have the same values…[even though] a lot of the pictures were different but it seemed to bring us together as a group."

Creating new public values for place. Several of the stories of place explained current conditions by characterizing a place history. The intentions of such stories were often to enhance

the ability of others to interpret the landscape. Several stakeholders' stories of place addressed

questions about "Why has a place become the way it is?" In essence, they were telling others

about their way to read the landscape. By telling place histories to others, stakeholders shared

rationales for ways in which a place came into being. Conversations often led to additional

layers of meaning to explain current conditions, and a more complex place history was created

compared to the initial story told. The spirit of such discussions was framed as teaching, with

intentions to enlighten others about reading, and possibly appreciating, the landscape. Additional

layers of meanings of place history were invariably received as adding value, and there were no

examples in which the dialogue became competitive or adversarial about expanding a single

truth into a more complicated version of place history.

Stakeholders' comments on their notepads indicated that new meanings were created for

several places. One stakeholder wrote "It was neat to hear about other people's perceptions and

histories. This has helped me to see some of the places differently." Another wrote "The next

time I go to [a specific wooded area], I will think of Frances [pseudonym] and her sisters

collecting walnuts with her grandmother. I didn't even know there were walnut trees growing

there." The personalized contexts of the stories were easily understood by participants to the

point where several participants changed their place meanings, or will "see some of the places

differently."

With the inclusion of agency personnel as stakeholders in the learning circles, it was clear

that agency staff members hold a diverse set of stories and do not embrace a singular sense of

place. Public perceptions during traditional planning processes may simplify agencies and their

staff into a uniform mould (i.e., *the* Park Service or *the* Forest Service) and fail to understand the

complexity of agency decision-making and staff orientation to the landscape (Freudenburg &

Gramling, 1994). For example, stakeholders from the Grand Canyon staff spoke about the toils of constructing trails, appreciation for sublime nature, teaching student groups about natural history, and patriotic meanings of a landscape. Viewing agency staff as fellow stakeholders and understanding their collective diversity is a first step toward redefining a territory. Likewise, learning the place meanings of other stakeholders led to seeing them in a different light (Schusler, Decker, & Pfeffer, 2003). An important part of creating new public values for a place is to see decision-makers and other stakeholders from a new perspective.

During the learning circles, differences between place meanings were generally non-threatening and easy to understand. Dialogue about commonalities and differences among stakeholders in the learning circles appeared smooth and progressed without the anxiety and tension reflective of traditional forums of public involvement – such as public hearings or planning workshops. The written comments on the notepad from one stakeholder stated "I learned that I am more of preservationist than I ever realized I am. I also learned that thinking about the future as well as the past is very important to me." As an example of understanding differences, and its potential for social learning, some staff of Midewin learned about differences in various goals for ecological restoration. Where agency directives were generally focused on restoring an historic prairie landscape devoid of any signs of human development, stakeholders appreciated place meanings of a contemporary prairie that included vestiges of the various eras of humanity that had passed through the Midewin landscape. By opening-up the vision for ecological restoration of Midewin, participants shared and took ownership in the nuance to a new public value for the prairie (Stewart, Larkin & Leibert, 2004; Stewart et al., 2007). By comparing their place meanings, the dialogue allowed stakeholders to discover both themselves and others, with the discoveries leading to the creation of shared values for places.

Conclusions

The effectiveness of the learning circles is their capacity to frame environments as places. All stakeholders in the learning circles became more aware of their own place meanings during the research process. *A first step in place-based planning is to recognize that people need assistance in knowing their own place meanings.* Western culture does not encourage individuals to reflect on their own sense of place, nor does it support collective deliberation about a community's sense of place. The photo elicitation technique legitimized environments as places. In the learning circles, stakeholders became comfortable sharing their place meanings and learning about others. The start of place-based planning is to have built groundwork that centers dialogue on place meanings.

The learning circles shifted dialogue from stakeholder-planner to stakeholder-stakeholder relationships, where agency staff members were part of the mix of stakeholders. The shift has many consequences that hold promise for innovative discussion to support new pubic values for place, including creating a safe and comfortable space for sharing stories and emotional attachments of place. The dialogue of the learning circles was about sharing with fellow stakeholders not about speaking to authority. Because the format of the learning circles felt safe, emotions emerged and participants were open to learning about place meanings.

Public speaking was noticeably easy for participants, in part, because they were talking about their places, not about themselves. Because of this, differences were viewed not between people but between various ways to care about a place. Tension that could align with inter-personal differences was neutralized. Values for landscapes were expressed as part of one's lived experience of place, including the teaching of landscape history, and were not abstracted in

some ideological or adversarial relationship. The learning circles underscored the extent to which all stakeholders cared deeply about their places. The widespread feeling of caring for environments left a collective sense of appreciation for multiple ways to value them, and was reflected in the openness of the conversations to find compatibility across place histories.

Learning circles function to create a positive dialogue among stakeholders prior to beginning the formal steps of a planning process. Germain et al. (2001) indicate that stakeholders should be engaged early in any planning process in order to have a stake in the outcome rather than being reactive to some proposed action. They recommend the development of a "pre-NEPA" public involvement strategy that allows stakeholders to be proactive in planning. Although Germain et al. (2001) are focused on procedural issues, they suggest that a structured stakeholder dialogue will alleviate conflict and lead to improved outcomes. This chapter asserts place meanings as being the focus for a public involvement strategy prior to the start of formal planning, and characterizes learning circles as providing a foundation for stakeholders to build upon in subsequent planning processes.

Learning circles not only facilitated stakeholders to represent themselves in articulate and non-adversarial contexts, they also functioned as a forum for stakeholders to learn about each other and the place relationships of their lives. In their argument for a civic science, Kruger and Shannon (2000; Brandenburg & Carroll, 1995) championed the need to explore strategies that allowed people to express their lived experiences to others in ways that led to social learning. In sharing stories of place, the learning was focused on understanding each others' place meanings. An important consequence of such learning was the inception of new public values for the places being discussed. This does not say that the "old" landscape values or past place meanings were forgotten or replaced. The claim is that learning circles humanized stakeholders to each other

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and opened opportunities to learn about their various relationships with the land. As a result, the learning circles fostered a climate of compatibility for additional layers of place meanings, and complicated traditional landscape values in ways that departed from entrenched ideology.

Photo elicitation and learning circles are not meant for every land-use planning process. The nature of the strategy requires intimacy and commitment for individuals to endure the process. The study contexts were limited to 25 stakeholders, which for many land-use decision processes would exclude some interested parties. There are several points of contact necessary to facilitate the distribution of cameras, the interview, the transcripts and their revisions, and coordination of a learning circle. Some stakeholders may view it as burdensome. If the number of participants is greater than 25, there could be a loss of intimacy in the learning circles. This strategy for social learning is best framed as applicable to a defined set of stakeholders rather than one for general public involvement.

There are many other strategies for dialogue in which stakeholders would feel safe and comfortable sharing their stories about place. Photo elicitation coupled with learning circles is characterized as one such strategy. The primary factor to evaluate any strategy is that they need to foster discussion about place meanings in order for place-based planning to take root. Coordinating a discussion about place does not come naturally for many agency staff, experts, and stakeholders. Simpler to say than do, any strategy for place-based planning needs to structure stakeholder dialogue to focus on environments as places.

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Rural property, collective action, and place-based planning

Paul Van Auken and Shaun Golding

Abstract: In this chapter we cite evidence from Norway and the United States to demonstrate how place is manifest in rural responses to planning and land use change. We draw from interviews to establish place as it is perceived by those who participate in, or react to, land use planning.   We argue that while place meanings are often perceived as individualistic, subjective, and benign, they are, in fact, collective, objective, and conflictual. Our research is not framed as a direct international comparison. Instead, we apply the extended case method to explore how modifications to urban-based theory of place and property interests can more fully illuminate rural events. Thus, we draw from our cases collectively in highlighting the universality of rural property interests as well as to meet the need for greater theoretical focus on the rural planning environment.   Our research should be of interest to those who are involved with rural planning processes and who confront the now common debates arising around land-use decisions. This includes rural planners, elected officials, residents, and land managers in the case of public or managed holdings.

Truly democratic decision making invites the collision of multiple interests. When communities make public decisions about land use, divergent relationships to property give way to competing rhetoric, culminating in a discordant chorus of individual interests. In rural amenity areas,[42] where connections to place are simultaneously influenced by prominent desires for both economic growth and preservation, planning incites particularly fervent debate. Individuals organize around property interests and mobilize civil society to maximize their influence in the public dialogue. In this chapter we examine how private place orientations become public as they are absorbed into planning processes and civil society.

We base our work on field research conducted from summer 2005 to summer 2007, in two rural regions facing similar challenges. As part of a collaborative study of amenity-driven community change, ninety stakeholders were interviewed in Norway and the United States.[43] Participants were first asked to photograph scenes of personal importance from their community.

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[42] Our working definition of amenity is "a feature that increases attractiveness or value, especially of a piece of real estate or a geographic location" ("Amenity," 2008).

[43] Informants were initially selected from a random sample of property records in each area and later by snowball methods. Much of the research was conducted in conjunction with Svein Frisvoll of the Norwegian Center for Rural Research.

These photos were then used to initiate conversations based on their perceptions of social and environmental change. This format helped facilitate particularly deep interviews – as participants were encouraged to preemptively reflect upon their surroundings' meaningful characteristics when selecting scenes to photograph – and effectively captured place attachment. To add important context, additional interviews were completed with key informants,[44] participant observation was employed at several land-use meetings and community activities, and events and discourse were followed via local newspapers. We then performed iterative qualitative analysis, to which the extended case method (Burawoy, 1991) was applied. The extended case method prescribes a detailed comparison of in situ observations to an established theoretical framework. The goal is to understand how a specific context may instruct a refinement of existing theory.

While it was not anticipated, our Norwegian and American sites were found to be in the midst of similar land use struggles. Despite being located on separate continents and having divergent approaches to public planning, these areas demonstrated remarkable similarity in how their residents responded to land use planning initiatives. Together, our cases offer compelling evidence of collective action around rural property. We observed in both settings that a complex array of property orientations have informed competing reactions to planning among stakeholders. These reactions have converged around axes of collective action to form cohesive and organized groups. To dismantle the all-too-common logjams in rural planning, our observations suggest we must first understand how and why groups organize around property.

Contemporary land use theory has tended to focus only on urban environments (see for example Logan & Molotch, 1987; McCann, 2002; Perkins, Thorns, & Newton, 2008). Our research suggests that rural settings warrant specific attention, particularly where planning

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[44] Generally people active in local government and planning, business and civic associations, and real estate.

initiatives are being met with unexpected dissent. We propose that a political economy of rural

land engenders collective action around property. Lacking a contemporary theory of rural land

politics, we use the extended case method to contrast our observations with Davis's (1991)

theory of collective action around urban property. Like Davis, we find that local stakeholders

adopting a particular political position about land use may in fact maintain multiple personal

interests. However, our rural informants evince a pervasive group of interests related to common

interpretations of place, and these property interests prove to be a crucial factor in dividing local

stakeholders in the politics of land use. Thus, we argue that the process of place making is

profoundly impacted by many distinct but overlapping property orientations that are unique to

certain rural scenarios.

This research may help to direct sorely needed innovations in rural planning and decision

making. Though amenity communities and the place concept have begun to appear on the radar

of rural planning practitioners (Spain, 1993; Manzo & Perkins, 2006), rural land use planning

continues to spur conflict, even among those who seem to share intimate place meanings

(Golding, 2006; Van Auken, 2007). In line with other rural sociologists, we contend that rural

planning "necessarily must include the individual, and often divergent, interests of the

landowners and residents" (Jensen & Field, 2005, p. 259). Further, we show how specific

interests around property instigate collective action in response to specific land use actions or

proposals. We find that although collective action may evoke opposition to planning processes,

it also engenders the democratic ideals that planning increasingly tries to emulate.

U.S. Case

The first study area, Bayfield County, Wisconsin, lies on the northern periphery of the American Midwest, bordering Lake Superior. It encompasses several hundred thousand acres of public forest as well as the Apostle Islands National Lakeshore. Bayfield County has transitioned away from dependence on extractive industries, and amenities now sustain a highly seasonal service-based economy. The county attracts roughly $130 million in annual tourism revenue,[45] much of it in historic Bayfield,[46] due to its bucolic charm and proximity to the Apostle Islands. New housing is increasingly built on hillsides with lake views and according to one local informant, "backing up to public lands is a huge attraction," which is consistent with national trends (Davenport & Anderson, 2005). Such development has led to concerns about erosion and water quality, forest fragmentation, and habitat loss. This trend is slowly extending into rural townships and working class communities like Washburn. Land use issues such as these are under the official jurisdiction of the county's twenty-nine small municipal and tribal governments.

In recent years, land use conflict in Bayfield County has been the most visible in Washburn, where a new group known as Washburn Alive supported pro-smart growth candidates in the local election of 2004. Their efforts helped to elect a relative newcomer and strong champion of comprehensive planning as mayor, along with two new city councilors. Together they formed a new regime in local politics driven by concern about development and interest in sustainability, which led to Washburn becoming the first eco-municipality in the U.S.[47]

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[45] This represents a 126% growth rate since 1994 (Wisconsin Department of Tourism, 2007).

[46] Here we refer to the city of Bayfield. There is also a town of Bayfield in Bayfield County. When we refer to simply Bayfield from this point forward, we are referring to the city of Bayfield, which had a population of 587 in 2007 (USCB, 2007).

[47] This means that the local government has pledged to make the environment a key consideration in all decisions. Bayfield, which has a long history of environmental concern, is also an eco-municipality. This distinction and the

Support for Washburn Alive had flourished in response to the city's proposed sale of downtown lakefront property to a private developer who seemed out of touch with community interests. The developer proposed to erect a 60-unit condominium facility near a popular walking trail, and argued that his relatively older target market would not "cost the community anything, because they don't need anything. Their kids are all grown up; they don't need the schools" (O'Brien, 2004). Many residents regarded these remarks as an affront to the community, especially in light of its declining school enrollment and major ongoing investments in local infrastructure.[48] Washburn Alive circulated anti-development petitions, and others pushed for the property to be designated as a natural area. Some feared the issue was tearing Washburn apart (Jacobson, 2004).

Still, many interests welcomed the proposed development. It complied with an existing land-use plan and was supported by the previous administration and other stakeholders. A local realtor argued that the development of Washburn's "biggest jewel" is "one of the only things we have to bring income into" the community (ibid.). The lack of local consensus and Washburn Alive's collective action led to a spring 2004 ballot referendum, in which the proposal was defeated by a count of 638 to 163 votes.[49] In the pendulum of local opinion, this victory for preservation over development proved to be short-lived, as the momentum around sustainability became bogged down by politics.

As in many rural areas of the state, Wisconsin's Comprehensive Planning Act of 1999 caused division in Washburn, helping to perpetuate community conflict. The "smart growth

results of the 2004 election were noteworthy for Washburn, which for more than six decades was a DuPont company town.

[48] Residents of new condominiums in a nearby township had previously objected to contributing to Washburn's infrastructure upgrades, setting a worrisome precedent for long-time residents.

[49] Interestingly, referendums are one of the ways localities in the U.S. have chosen to take action around land use issues *in lieu* of participatory planning like that encouraged by Wisconsin's smart growth law (Benjamin, 2004).

law" requires all municipalities to draft a detailed and standardized comprehensive plan by 2010, or lose their planning autonomy and funding. On the surface, smart growth seems tailor-made for rural amenity areas, where community planning and natural resource management are inherently intertwined. Indeed, some credit the law with helping to curb sprawl and protect natural resources. Others, however, assert that the state uses it to appropriate power over local land-use decisions (Jacobsen, 2004). We observed that mandated planning draws starker contrasts between property interests without offering a venue for resolving the clashes that result.

Following the momentous election of 2004, local stakeholders began working on Washburn's smart growth plan. It was approved in the spring of 2007, narrowly passing after significant contestation. Some local stakeholders perceived that the plan's emphasis on sustainability came at the expense of needed economic development. One of them, Washburn's former city administrator, subsequently won a bid for city council, spurring a return to a pro-development governing body.[50] Among his first actions upon joining the council was to move that the new plan be rescinded (Hollish, 2007).

Norway Case

Hitra and Frøya are neighboring islands, located off of Norway's mid-western coast. Like Bayfield County, the area features an archipelago of islands that has been designated a national preserve. Fishing and agriculture have undergone significant restructuring, which caused population loss of 16 percent in the region from 1951 to 1971 (Almås, 2003).[51] Fish farming has since grown into a major employer, but industry volatility has led some to look to

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[50] The administrator had left his post in 2006 after a public conflict with the new mayor and city council. In an another interesting twist, the man who was defeated as mayor along with the condominium project in 2004, defeated the pro-smart growth mayor and was reelected in the spring of 2008.
[51] The population of this area has only begun to stabilize during the current decade.

amenities to spur place-oriented development. An undersea tunnel connected Hitra to the mainland in 1994 and to its neighbor Frøya in 2000, which improved access to an attractive destination, leading to additional seasonal homes and growth.

Governance in historically-statist Norway has begun to decentralize in recent years (Kaltenborn & Williams, 2002), yielding increased municipal autonomy in planning. According to Jacobs (2006), since 2004 "there has been a formal policy of devolving competency towards local governments" (p. 50). One of the primary reasons for this shift is unprecedented Norwegian wealth, which has brought private property rights to the fore, particularly vis-a-vis second homes (ibid.) in rural amenity areas. Our Norwegian sites demonstrate the complexity of local decision-making in this context.

In Hitra-Frøya, decades of centralized governance loom large; residents turn out to vote, but continue to play a very passive role in planning. Hitra's chief planner argued that local politicians are unwilling to have open, democratic discussions about development. His attempts to better regulate seasonal homes and enforce the national shoreline preservation law have met resistance.[52] According to him, "if we would have had municipal autonomy in every case...we would have developed all of Hitra's valuable areas in one generation." Further, Hitra has "a built-in conflict between the permanent residents and second home owners;" nevertheless, 600 additional seasonal home lots were recently plotted.

A substantial proportion of Frøya's undeveloped land was also set aside for seasonal homes in a recent land-use plan. According to a year-round resident, "We are not supposed to talk about it. Why don't we have a discussion about the development? No – they are completely

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[52] A national shoreline protection law that went into effect in the 1970s prohibits new (non-industrial) construction within 100 meters of a shoreline. Most applications for exemption from this law in Norway are approved (Statistics Norway, 2008).

silent. And silence – that scares me." Further, Frøya is being negatively impacted by the traditional local mindset that land is simply meant to be reshaped:

> *The value is in the sea. So we end up with terrible solutions. There's very little in this plan about living. A municipality is dependent on the people who live in it, but they have included – in already separated properties…(hundreds of) lots to be used to build vacation homes. And they are not doing much concerning (year-round) housing sites.*

While many local people support amenity-led development, several other informants also complained about the government's focus on seasonal residents. A 21-year old from a low-income family asserted that recent changes are turning his rural area into "a summer colony for the…privileged."

While a number of individuals expressed concern about seasonal home development,[53] collective action in Frøya mobilized in opposition to a different development threat. A land-use plan drafted in 2001 zoned nearly one-fifth of the main island of Frøya for wind energy, based on plans by a regional utility to construct a 63-turbine facility. Frøya's planning director indicated that he writes municipal plans, and while citizens are invited to provide feedback, they rarely do. Consistent with this, when the land-use plan was created, "it tied up huge areas and nobody reacted," according to the mayor at the time. When the partnership applied for a permit to proceed with the project in 2004, however, there was an "enormous" reaction, led by a newly-organized oppositional group called Perikum.[54]

The planning director noted that "seasonal people are very much against it because it would wreck their idyll," but supported the project due to the modernity and self-sufficiency[55] it would engender for Frøya. A local carpenter asserted that, "you have to tolerate something for progress," and "we, too, need to be on the map." A retired couple, lifelong residents who had

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[53] A number of others held a positive view.
[54] The name is a reference to verbiage in the wind park proposal. The quote stems from the then-mayor.
[55] While the power would not be consumed locally, the then-mayor argued that the project would produce the largest single source of income for the municipality.

made their living farming and fishing, were actively opposed to the plan. Like many, they feared it would "ruin Frøya," for them and tourists, "because those who come here find the nature very beautiful." A relatively young urban couple and recent seasonal migrants said they would leave if Frøya becomes "a little pin cushion with a lot of pins." Indeed, "visual pollution" from the "industrialization" of the landscape was the project's most commonly identified negative externality.

After months of rancor and nearly 400 signatures of opposition gathered by Perikum, a local referendum was held in 2005. It passed in very narrow fashion, and the municipal council subsequently approved the utility's permit. Due to the local opposition and complaints about a "flawed" referendum, however, the plan remains on the shelf (Kothe-Næss, 2005).[56]

Why have rural land use planning efforts, dispensed through different channels on different continents, incited a similarly place-oriented and collective response?

Contested ground: Urban theory tested in a rural setting

Since rural areas have not been the focus of contemporary land development theorists, we turned to urban sociology to better understand the political economic process through which development proceeds. In *Contested Ground,* John E. Davis (1991) advances a framework for the analysis of collective action in urban neighborhoods that provides a useful starting point. Davis argues that factors such as race, class, gender, and religion often lead to conflict, but locality-based cleavages generally develop along the lines of domestic property interests (those related to housing). People engage in collective action – latent interests become manifest – in response to threats to their domestic property interests or to pursue opportunities to enhance

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[56] Other media reports suggest that the plan was put on hold because the economics of the project were not favorable at that time.

them. According to Davis (ibid.), "Those who have a stake in *property* have a stake in *place* as well" (p. 58, emphasis in original).

In general, there are but two primary property interests, accommodation and accumulation, which are based on the use or exchange value of the property. Broadly, conflict develops between people and groups who attempt to make money from residential real estate and those who see intrinsic value in the use of a home. Davis further divides the two primary interests into six "relational advantages" of domestic property. Accommodative interests are characterized by security (stability of tenure and physical safety), amenity (quantity and *quality* of one's living space), and autonomy. Accumulative interests, on the other hand, are distinguished by equity (unencumbered value in land and buildings), liquidity (income potential), and, legacy (inheritability). These interests are material, in that they originate in relations surrounding a physical unit – land and property used for shelter. Further, they "are *objective* in the sense that one's position in relation to domestic property carries a probability of particular benefits, a susceptibility to particular costs, and a propensity to act in certain ways that inhere in the position itself" (ibid., p. 56, emphasis in original). A key point is that people have certain inherent interests, whether or not they consciously realize it or act upon them. These interests "are a latent relational bond, existing among similarly situated individuals, which may become the basis for solidarity and collective action among persons who are otherwise isolated and very different" (ibid., p. 57).

Davis argues that in general, cleavages develop between people and groups whose mosaic of domestic property interests cluster around the enhancement of *community* and those whose interests tend towards the exploitation of *commodity*. Those with community interests are most concerned with the social amenity of neighborhoods, the "communal living space"

characterized by trust, support, and friendship. Capitalists may utilize the rhetoric of community, but do so to enhance commodity, engaging in "colonization of urban land as a means of accumulation" (Cox, 1981, as cited in Davis, 1991, p. 297). Davis notes that while these are useful ideal types, the reality is often less clear cut. For example, threats to equity can turn community-minded homeowners into (perhaps reluctant) defenders of the status quo. Nonetheless, Davis argues that the homeplace can be the site of resistance to capitalist relations, in part because accommodative interests are generally antagonistic to accumulative ones. Finally, Davis notes that while local solidarity is elusive and fragile because of the complex domestic property interest mosaic, it is not impossible, nor infrequent. When interests are similar and compatible, communities do act.

We believe that an extended version of Davis's framework for collective action can be fruitfully applied to our rural research. The primary actors from Davis's urban case are represented – household and acquisitive homeowners,[57] tenants and developers, and even stakeholders in social property – and the community and commodity interest categories are clearly important in Bayfield County and Hitra-Frøya as well, as elaborated upon below.

Community Interests: Whether they are long-time residents or relative newcomers that have come to the area for employment, or are homeowners or renters, those in this cluster have a defining interest in being secure in their housing tenure and use status. They may also have a strong interest in autonomy, amenity,[58] equity, and legacy stemming from their domestic property. First-and-foremost, however, they wish to be able to afford to live in a community in

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[57] While household homeowners are interested in equity, their primary concerns tend to be with accommodation. Acquisitive homeowners, on the other hand, are primarily interested in liquidity.
[58] An interest in quantity of living space, like security, hinges upon affordability. For the other aspect of amenity - quality of living space - incumbents to this cluster may also have a strong affinity for the landscape, but perhaps more due to historical practices than the aesthetic qualities of landscape or inherent value given to "nature."

which they have long-standing ties or have found gainful employment. They believe in the "right to stay put" (Hartman, 1984).

Frøya inn i Framtiden (FIIF)[59] is the clearest example of a civil society group that embodies the community interest cluster in the case study areas. FIIF was created in 2002 in the aftermath of a large local employer's (a farm-raised fish processing plant) relocation to Poland. This event meant the loss of 170 jobs, leading to the closure of several small businesses and a general sense of pessimism in the community. The local government, industrial development commission, and business leaders subsequently decided to launch FIIF to encourage the "cooperation of all forces in Frøya to create a local community with a high standard of living, a living culture, and an industry aimed at development and sustainability," according to one of its leaders.

Commodity Interests: According to Logan & Molotch (1987), "All capitalist places are the creation of activists who push hard to alter how markets function, how prices are set, and how lives are affected" (p. 3). While she has done very well financially in Bayfield County over the past two decades and has played a role in shaping its landscape, one informant expressed discomfort in being such an "activist." She has been heavily involved in local smart growth planning and indicated that "trying to balance preservation and development is always a big dilemma for me as a realtor."

Realtors, developers, and acquisitive homeowners are the primary commodity interest actors in the two study areas, which have historically been shaped to a significant degree by people seeking accumulation in various ways. In Norway, residential real estate had generally not been one of them, but Flognfeldt (2004) argues that in the 1990s, "second home ownership turned from a hobby and family activity into a professional real estate business" (p. 242). Hitra's

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[59] Frøya into the Future

chief planner agrees that new attitudes and players have become important in recent years. According to him, "we are opposed by the real estate agents. They advertise what they know are (year-round) houses…as second homes...They systematically undermine the laws and the municipality's possibility to provide housing for younger people."As noted, politicians in both Hitra and Frøya have advocated for additional seasonal home lots to be made available, which dovetails neatly with the aims of real estate agents, since seasonal property commands higher prices. Similar shifts have taken place in Bayfield County. According to a year-round resident of Washburn, "in the last 10 years there's been a huge influx of people coming from somewhere else to cash in on what's here." A year-round resident of rural Bayfield indicated,

> You go down this road to the golf course, most of those homes are second homes...and for many years, there were one or two real estate brokers in town. Now, I bet there's 8 or 10...and the real estate market or brokers are really driving prices up. And, um, that, I think, is a real negative to our community.

Those with commodity interests may support (in action or rhetoric) efforts to maintain a "living community," but their defining interest is in facilitating liquidity from the sale of houses, rental of property, and development of the landscape. Therefore, the interests of these "place makers" inherently and antagonistically conflict with community interests.

The role of place interests

To understand the events unfolding in Bayfield County and Hitra-Frøya, we modify Davis's framework to account for a major difference between rural and urban contexts. Davis illuminates the diverse interests involved in development and accentuates the central role played by material relations to property. Like much of the writing on place-making he emphasizes that either use or exchange value shape settlement patterns. In this literature, place attachment is interpreted as a subset of a property stakeholder's use value, and communal visions of place are

relatively inconsequential (Logan & Molotch, 1987; Davis, 1991). Our rural cases, on the other

hand, are defined by struggles over place itself.

Strong place orientations have emerged through responses to change in Bayfield County

and Hitra-Frøya. As increasingly popular destinations, they project publically-oriented place

identity, or place brands. These brands are used to harness impending development by inviting

change that is deemed appropriate. For example, while Bayfield has been a destination since the

nineteenth century, its brand started to develop after the Apostle Islands National Lakeshore was

created and a comprehensive plan was written in the 1970s. The current mayor recently

explained how this initial land use plan helped establish a place identity that persists.

> *The plan said, 'Bayfield is a great place.' It looked at all the past times, the good and the*
> *bad, and 'here's all the things that we need to do to keep it nice.' And they went and put*
> *in place architectural standards, the world's toughest sign ordinance, and created an*
> *historic district. These things were a hard sell in place like this, but thirty years later they*
> *are reasonably well accepted.*

According to him, the biggest challenge facing the community is "just trying to keep

Bayfield as Bayfield – the same thing they were dealing with thirty years ago – and having the

fortitude to stick with it." His primary reason for optimism is also the same as it has been for

decades: that "Bayfield still looks like Bayfield. We still have the Apostle Islands, hundreds of

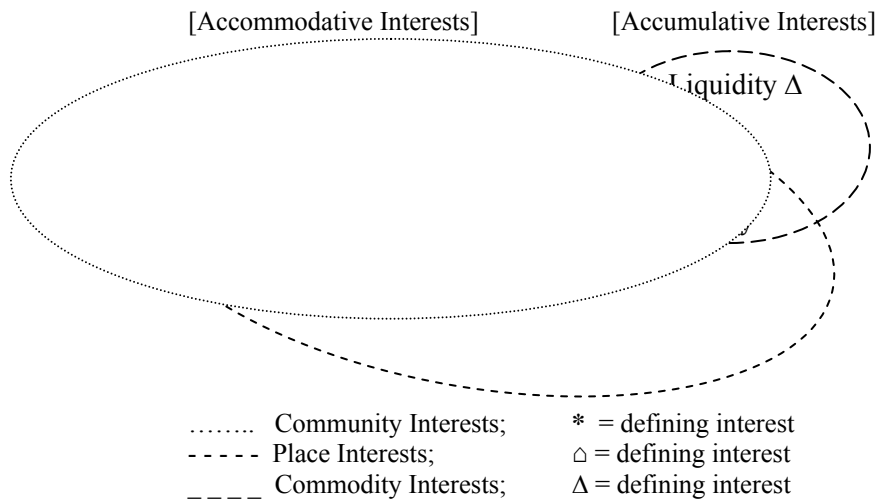thousands of forest acres, and Lake Superior."

Washburn, Hitra, and Frøya now face a similar imperative to develop a brand, as

spending by seasonal residents and tourists has become vital to their modern economies. In

Washburn, authenticity is part of a public image and developing brand. The former mayor

asserted that "what everybody likes about (Washburn) is that it's a residential community, and

they like the amenities that are here, so as far as amenity development for me, it's quality of life.

That's the only thing we've got here." She and other informants argued that such a focus will not only serve current residents' interests but also attract certain visitors and newcomers as well.

Hitra's emerging brand is shaped by the widespread desire for oceanfront homes. Public officials have recently argued that the municipality needs to make it easier for cabins to be developed within protected areas. According to the director of the chamber of commerce, "People want cabins with ocean views. If we want to have additional seasonal residents on Hitra, we must offer attractive lots near the sea." (Hulsrud, 2006, p. A1). As discussed, Frøya faces similar pressures.

In light of this pervasive and resonant stake in place, we suggest that place interests can be reified to the extent that they comprise a third cluster in an interest mosaic for rural amenity areas (See Figure 1). There is overlap between the three categories – community interests, commodity interests, and place interests – but each has a defining interest inherently at odds with the others. Davis gives relatively little attention to the community versus commodity interest divide because his focus is upon tenurial categories (e.g. tenant versus homeowner), which clearly have important ramifications for locality-based collective action. We believe, however, that in our rural cases the interest clusters are more relevant. Having already discussed the first two, we present our ideal type of the third cluster below.

Figure 1. Rural Amenity Area Property Interest Mosaic

[Accommodative Interests]   [Accumulative Interests]

Liquidity Δ

.... Community Interests;   * = defining interest
- - - - - Place Interests;   △ = defining interest
_ _ _ _ Commodity Interests;   Δ = defining interest

Place Interests: While we would assert that this interest cluster is largely comprised of

highly educated, middle-class homeowners, it may also include renters. The key is that their

interest is rooted in the quality of their living space, both the bricks and mortar of their homes

and the *landscape* in which they lie. Like those defined by community interests, many

incumbents to this cluster likely have concerns with interests in their property such as security,

autonomy, equity, and legacy. In general, however, their relatively high education and income

levels have allowed them to live in certain places precisely due to the myriad amenities found

there. These place-based amenities are their defining interest, which they will work hard to

protect.

    The commitment to preservation by people with place interests may be tolerated or even

welcomed by those with commodity interests (due to increased property values near protected

places) and community interests (who may also value amenities). But their defining interest

inherently clashes with the pursuit of liquidity, since an overarching goal of the place interest

cluster is to restrict development. Further, the preservation of land and historical buildings may

help to "produce a thoroughly gentrified, affluent neighborhood that is eventually devoid of all

who are different than themselves" (Davis, 1991, p. 246). In other words, the defense of amenity by those primarily with place interests can jeopardize the security of those with community interests, placing them at odds with this cluster as well.

Whereas actors pursuing both community and commodity interests have very long histories in these study areas, place interests have congealed more recently. The place-oriented but ad-hoc Washburn Alive and Perikum proved to be fleeting associations. Their purpose was to defend valued places from development, and after the referendums in this regard, these groups for all intents and purposes ceased to exist.

The Bayfield Regional Conservancy (BRC), on the other hand, is a relatively longstanding place-based group that preserves land through acquisition, conservation easements, and partnerships. Focused as it is upon removing priority landscape features from the free market and creating public access to private space, the BRC advocates radical change, according to Davis's framework. Founded in 1996, the BRC now has a full-time director and one of the few farmland preservation programs in the Midwest, which has preserved 200 prime fruit-growing acres. The BRC now has more than 1,100 acres in conservation overall, successfully filling the void between the market and the state in this arena, and generally without direct connection to local planning efforts. It has over 400 member households and twenty active volunteers. Of those actively involved with the BRC, "half the people have been there 20-25 years – these people started it," according to one of the group's leaders. "The other half came up in the last ten years for the natural beauty and want to see it preserved." There are no "old-timers" on the board, as "they see it as their entitlement to make money on selling the land." According to her, "They love the land, but in a (hardscrabble) way…we don't have a real conflict with them – it's people coming in from the outside with money that antagonize them."

Those with community interests may, particularly in backstage discussions, decry the influence of "treehuggers," or the "kayak crowd." But they seem less likely to implicate those with place interests as threatening their security as they would the more visible developers or investors from the commodity interest cluster. The BRC board promotes the perpetuation of a "living community" and there may, in fact, be issues of common interest between all three clusters. The BRC's primary interest, however, is in preserving the landscape, which attracts most members – and amenity migrants. An upper-income seasonal resident from Minneapolis, for example, recently renovated a former fisherman's home in Bayfield after she and her husband "fell in love with the lake." She indicated that they have not yet made relationships with local people, but hope to be more involved and join the BRC in the future.

In the same era as the BRC began operations, the progressive-minded leaders of Bayfield created the Bayfield Housing Trust, one of only a handful of such trusts in Wisconsin. The top-down creation of this entity was driven by community interests, yet only one home has been converted into "social property" (Davis, 1991). In contrast to the vitality of the BRC, the organization is basically dormant at this time, according to one of its founders. This helps to underscore the fact that several decades of amenity migration and gentrification have resulted in the local political and civic scene being dominated by people interested primarily in place and landscape preservation.

Place-based conflict and collective action

Our research reverberates Davis's urban observation that "to have an interest in a parcel of domestic property, within a specific territorial space is to become enmeshed in a complex web of local and extralocal relations…that 'orient' one's behavior in a particular way" (Davis, 1991,

p. 59). Planning forces the issues of future development and landscape preservation onto the local stage, compelling stakeholders to make decisions as if there were a caravan of bulldozers en route to the places they love. Though use and exchange values are important considerations for stakeholders in our study areas, we observe that place-related considerations have inspired many of them to organize and act collectively in reaction to or in lieu of planning.

The most notable collective action that has occurred in recent years has generally been by relative newcomers with place interests. Historic preservation is an important consideration for some,[60] but most that belong in this cluster are primarily interested in scenic and recreational values. This aspect of amenity has been under increasing threat.

Washburn Alive objected to the local government facilitating private liquidity (by the condominium developer) and had other concerns with the proposed development. Its primary motivation, however, was the preservation of amenity – the lakeshore walking trail and relatively "wild" lakefront, the development of which was encouraged by the government's land use plan. Condominium advocates included those seeking liquidity in land development and others who perceived that such a project would enhance their interests by improving the overall economy. Community, commodity, and place interests inherently clashed, and the local government became the target of and arena for collective action. Davis (ibid.) argues that while governmental entities are "part of the encapsulating social structure" (p. 259) in which local groups act, they do not fit neatly into the framework. As alluded to, however, we observed in our cases that their intervention in local land-use decisions often seems to be based on particular property interests. In the case of the City of Washburn, its decision on but one relatively small parcel was perceived

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[60] Particularly in Bayfield. According to the current mayor, the community's 2000 comprehensive plan helped stakeholders realize that two major needs remained unaddressed: a waterfront plan and a stronger set of architectural guidelines for historic property. He worked on a committee that developed the guidelines. According to a local realtor, "people love…that this is 'quaint' and 'charming'… that the historic integrity seems to be there."

to be of major consequence, highlighting the pivotal role played by governmental actors in the rural property interest mosaic.

The BRC has taken significant action throughout the region to preserve amenity.[61] It has mobilized in response to action by stakeholders with conflicting interests – those looking to develop land for liquidity or personal consumption and equity, which threatens the amenity of others. While the BRC may not have experienced opposition from "oldtimers," its perception that these stakeholders "are not too interested in what we do" may actually point to inherent conflict that has simply not crystallized into action. As noted by Davis (1991), "People may find themselves antagonistically related, even if they neither recognize nor want such enmity, simply because of a different and conflicting stake in domestic property" (p. 59). The efforts of Bayfield County place defenders, such as historic preservationists and the BRC, have been very tangible and are supported by many. They could have long-term detrimental impact on community interests, however, by contributing to gentrification or the loss of year-round businesses due to increased seasonality, which their efforts encourage, albeit inadvertently.

In Hitra-Frøya, collective action and conflict also seem to relate to the inherent antagonism between preserving amenity and facilitating liquidity. Opposition to the wind park seemed to be primarily motivated by a defense of amenity interests; the numerous, tall windmills on a flat island were perceived as a serious threat to the quality of living space for many residents of Frøya. Adjacent landowners also raised vocal concern over a potential decrease in their property values, but the primary opposition was from Perikum. This group included long-time year-round residents, a few seasonal homeowners, and some Frøya natives who had returned from being educated or working elsewhere, which may have helped them to better appreciate

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[61] BRC also has a strong interest in legacy, but in terms of inheritance of amenities, not wealth.

local place values. This indicates that issues related to land use and the environment are about much more than simply demographics. As noted by Kaltenborn and Williams (2002),

> In Norway, as indeed in a number of other countries, debates concerning natural resource and cultural heritage management often revert to a simplistic distinction between locals (insiders) and non-locals (outsiders) when it comes to explaining different attitudes in conflicts. This is understandable because media and other public forms of communication are prone to simplify highly intricate problems. (p. 196)

In our study areas, the best examples of direct interpersonal conflict related to these issues have, in fact, been between seasonal residents. We argue that more important than categories such as insider versus outsider or newcomer and oldtimer are domestic property interests, which can place people from all of these categories into the same cluster.

Further conflict may be on the near horizon in the Norway case. The level of concern over the number of seasonal housing lots designated for Hitra and Frøya suggests that latent interests may not be converted into manifest conflict until these subdivisions move from plan towards reality; "people tend to take their 'communities' for granted – until they are jolted by a destabilizing disturbance" (Davis, 1991, p. 265).

Collective action may have been inhibited by other factors as well. In Bayfield County, gentrification has led to rural neighborhood stratification. A number of former residents and current local workers – who would likely fall into the community interest cluster – have moved to more affordable homes in Washburn, the nearby Red Cliff reservation, or out of the area. Their defining interest in security may be objectively and antagonistically related to the defining interests of the place and commodity clusters, but the potential for collective consciousness[62] is hampered by a lack of population density in this isolated rural area, as well as by their diminished numbers. While Bayfield's proportion of seasonal housing units doubled in the 1990s, the year-round population dropped by ten percent and has decreased by an additional six

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[62] Recognition of shared interests in domestic property, the first step towards collective action.

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percent since 2000 (USBC, 2007).[63] Historical and cultural factors[64] may also be salient, but in any case, it appears that inherent conflict has not produced effective collective action by members of this cluster.

Finally, while Davis (1991) stresses that conflict is between interest groups and not classes, there is often a convergence between the two. For example, according to Bayfield's current mayor, the creation of local architectural guidelines was a battle. Two people appointed to the committee were diametrically opposed to any governmental action around historic preservation, which turned a "six-month project into an eighteen-month one." One of them was an acquisitive homeowner who profited from "flipping" local houses, while the other was a wealthy woman and relatively recent migrant. Said the mayor, "some of us were concerned about how our guidelines might limit the options for lower-income people, new teachers, and so forth, and the woman…said, 'those people don't belong here.'" Similarly, a highly-educated, relatively wealthy new pair of seasonal residents with no previous ties to Frøya indicated that they were proud to have "discovered" the area before their urban peers. In regard to the proposed wind park, they argued that more people with place interests like themselves were needed to help "save Frøya from itself," as some might suggest is occurring in Bayfield County.[65]

Discussion/Conclusion

We hope that our chapter will make three primary contributions. Planning's effective failure in some of our most threatened natural places has puzzled many. Thus, for planners, we first offer a more nuanced perspective on who stakeholders are and how they organize. Residents

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[63] The current mayor supports the notion that many people were displaced by higher taxes and rents and loss of year-round jobs.

[64] E.g. an independent North Woods mentality, a "company town" legacy in Washburn, and poverty and disorganization at Red Cliff

[65] Others would argue that landscapes and buildings are being preserved, but year-round communities are not.

of our communities seem to unanimously cherish the landscape and pace of life that are characteristic of minimal development. Yet, when presented with an opportunity to curtail future development through planning, communities are unable to reach consensus. Though it is convenient to blame partisan politics for this stalemate, it is a cursory and ineffectual explanation.

The rural property interest mosaic provides appropriate focus to the complex array of interests influencing rural land use politics. Specifically, this perspective recognizes that one stakeholder can embody multiple conflicting interests, but relies on public consciousness and organization in deciding which interest to champion politically. Stakeholders are often classified by planners under a single land use interest, such as development, conservation, preservation, speculation, or gentrification. While convenient, this labeling strengthens the prevalence of political stereotypes and disenfranchises stakeholders from the very interests that must be tapped in order to reach compromises around land use. Even as planning becomes increasingly participatory, it often overlooks the interests in property that underlie divisions in planning perspectives. This supports the need for decision making processes that emerge independent of polarizing land use policies, and for conservation measures that recognize the complex diversity in personal attachments to land.

Second, this work should challenge scholars of planning, politics, and the social sciences to draw connections between the similar place themes evolving in our respective fields. Place is widely understood as being space imbued with human meanings, which has been demonstrated at multiple social scales (see for example Tuan, 1977; Kaltenborn & Williams, 2002; Hanna, Dale, & Ling, 2009). Place meaning can be born from and maintained by individuals or it can be agreed upon and maintained by groups (see for example Davenport & Anderson, 2005; Perkins,

Thorns, & Newton, 2008). In addition, place is invoked as a socially nuanced substitute for geographic location. Place-making, for example, often refers to the political economy of growth and development in a specific locality. However, we have established that as commitments to spatial and economic patterns of development, land use plans are an important link between place meanings and the capitalist process of place-making. We feel this chapter charts a conceptual terrain between place concepts and literatures that is in need of further exploration as place becomes an increasingly jargonized term.

Finally, for scholars and practitioners alike, we hope this framework for understanding rural land use sheds light on the importance of using community-oriented benchmarks for measuring success. Incorporation of place values into planning seems to be viewed by some as the salve that will bring harmony and rootedness to bureaucratic and ineffectual processes. However, the success of group decision making is reflected not in economic growth, or even in political unity. As we observed, profitable place making often translates into heightened inequality, and thus, the politics of planning, conservation, and development will shift inevitably and interminably. As Wilkinson (1991) proposes, it is the "free flow of authentic interaction among people whose lives are interconnected in a local society" (p. 104) that defines successful community.[66] Accordingly, we maintain that land use conflicts such as those we have described represent instances of authentic, collective interaction that has the potential to build community, a key to social and ecological well-being (ibid.).

We observed that while place meanings are often perceived as individualistic, subjective, and benign, they are, in fact, collective, objective, and conflictual. Though recent planning efforts and the reactions to them failed to unite residents around areas of common interests, they

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[66] According to Wilkinson (1991), while economic growth may exacerbate it, the development of community intrinsically works against inequality.

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inspired community-based collective action. Stakeholders from competing interest groups were forced to interact and publicly debate issues of local import. As noted by one Norwegian informant, it is not the debate but silence that is truly "scary."

In conclusion, place-based conflict can yield fruitful public discussion that may prove to be a first step toward democratic community-based decision making. Planning and decision making are complex and divisive, not because place is absent from these processes, but because planning is not engineered to recognize the complex ways in which place interests are manifest. A locally-informed understanding of the rural property interest mosaic may help to harness the inherent potential in strong but diverse interests in place.

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Conclusion: Practicing Place

William Stewart, Daniel Williams, and Linda Kruger

Most writing projects are intellectual journeys with only approximate expectations for a destination. Through several conference gatherings, a workshop, and countless conversations, connecting place to practice took shape and we – the editors and authors – arrived at an enlarged appreciation of resource use, management, and planning as a complexity of spatial practices. It is clear that place is a well-known concept within several academic and professional circles, and there are several planning processes that have developed strategies to connect place to practice. Indeed, many agencies and organizations already are consciously practicing place.

Our appreciation expanded as we shared insights from the diverse ways place was being examined as an active process or practice. Although place typically evokes notions of environments endowed with meaning, it is through various formal and informal spatial practices that places come into being and are transformed through time. Practicing place argues that places are actively constituted through discourse and action. This book explores human action about place – its creation as an experience, its discursive production and contestation, its representation as a public set of meanings and expectations – in the context of public land use planning and management. Inter-related themes rose to the surface that framed the practice of place as a planning process, as an emergent process, and as an organizing concept.

We expected to find place was connected to practice in diverse ways, and came to appreciate the multiple ways in which concepts of place are being implemented. The chapters that portray the nature of individual relationships to place assert challenges to agencies, stakeholders, and citizens to bring forth personal place meanings to a larger public. Re-framing an environment from "my place" to "our place" is difficult, and even more so given that social

and political power differentials are usually close to the surface in land-use planning decisions. Public places already have an identity associated with them, and reflect a public meaning of "our place," with the "our" often referring to traditional power structures. Fortunately most public land decision-making accommodates stakeholder input, and a variety of processes described herein were directed at understanding and re-framing public place meanings. Some chapters suggest that stakeholders were in roles that educated agency staff regarding the kind of information needed for proper deliberation about place. Other chapters provide guidance for agencies to adapt commonly used tools, or by revising standard planning processes, to include various kinds of information and dialogue related to place.

Several chapters suggest that agencies already understand place and the need for its integration within decision-making. Agency perspectives provided in the section on "place mapping and segmentation" illustrate the spatial analysis techniques already used in traditional planning situations. The creative ways in which tools have been customized for incorporating place suggest that many agency staff members are aware of the need to practice place, and are exploring strategies to extend their current techniques. Still, there is much to learn about the applications of these techniques at different scales and engaging the public in participatory mapping techniques.

Several chapters provide insight to roles of organizations and the impact of community-based discourse. Volunteers, private industry, and community organizations incorporate place in various ways. Place making includes both physical acts of changing the land, as well as interpretive acts of teaching others about place meanings and expectations for their behavior. Place is practiced in everyday life in a variety of ways that include people who provide information about appropriate ways to fish, ways to garden our front yards, or choice of labels to

describe our environments. The diversity of promising connections between place and practice argue against the development of a standard formula for doing so.

Applying a place perspective implies processes in which place meanings are a visible force in planning. There are a variety of ways in which place meanings are relevant for land-use planning. In order to improve decisions, information is needed on place attachments, lived experience, emotional knowledge, felt values, and other bonds that require understanding someone's spiritual, family-based, or historical relationships with environments. This type of information is not given to direct control or management by authorities, however it is capable of being publicly acknowledged, and in doing so, may be legitimized as worthy of consideration. Stated differently, the relevance of place-based information has risen over the past few decades, and decision processes are becoming self-conscious of their meaning-making efforts. The outcome of decisions is as much about legitimizing a set of place meanings as it is about changes in the land. Several chapters recommend the primacy of place as both starting and ending points for planning, and suggest the distinct kinds of information necessary to do so.

There are still needs for technical expertise within place-based planning. Practicing place is not about discarding needs for scientists and other experts. Rather it is about identifying specific roles for stakeholders, including roles for scientists. Several chapters frame scientists, agency planners, and other experts as another set of stakeholders. Science is another way of knowing about place. To be sure, science is not marginalized, but nor is it necessarily privileged. In varying degrees of explicitness, several chapters recognize that expanded knowledge is necessary to practice place. As scientists and agency staff bring their expertise to planning, so too do stakeholders, citizens and other lay people. For this reason, practitioners and researchers sympathetic to concepts of place are often concerned about democratizing planning processes.

They see needs for enhanced public access to decision making, and recognize the need for each stakeholder to contribute to, and learn from, a planning dialogue. Diverse strategies are emerging to integrate place-based knowledge with decision-making processes, and the chapters herein provide various options to accomplish this integration.

Through the process of creating this book we have come to appreciate place as an emergent process. Planners have recognized the need to deviate from traditional models of decision-making and explore other approaches that incorporate a wider collection of voices and perspectives. Lacking a standard compass to guide them, many planners and groups of stakeholders have drawn on local knowledge to guide them towards the practice of place. Several chapters discuss historical relationships between agency culture, local communities, and other stakeholders, and explain the practice of place as embedded in such history. For many, the starting point to understand place is the history of relationships in a given locale. Land-use planning is strongly influenced by local factors based on the particulars of community and agency narratives. This approach recognizes the unique dynamics of connecting place to practice, and cautions about their one-size-fits-all attempt to transfer outcomes from one locale to another.

Because place-based planning is emergent, it is not easily scripted into a tool or framework. Rather place may be best positioned as an organizing concept. Practicing place is reflected in the intentions and outcomes of decision-making and implies a process that not only acknowledges and legitimizes place attachments, but also promises to construct new public values for landscapes. The chapters in the section on "producers of place and place-makers" detail various ways in which places are created. Volunteer organizations, land developers, residents, and local governments are some of the stakeholders responsible for producing places.

Each chapter details a process that constructs new public meanings. It is clear that place-making is connected to wider political and economic influences that go far beyond a management orientation or a single narrative about place. We learned that place needs to be asserted as an important starting point for dialogue, and the planning process – in terms of scope and objectives – emerges from there.

Given the emergent nature of place-based planning, the structure of decision-making may have heuristic properties. Several chapters suggest issues of geographic scale as a challenge to planning, and recognize the need to explore interactions across multiple scales of governance. Although there are success stories of agreements between agencies, practicing place elevates the need to coordinate regional land-use practice, and to forge multi-scalar relationships that result in new structures for decision-making. As indicated across the chapters, some of these new structures recognize the need to be dynamic and flexible depending on relationships between institutional learning, social networks, and landscape disturbances.

When framed as an organizing concept, place attachments and meanings are made transparent in decision-making. Practicing place is about stakeholders and affected communities understanding multiple place meanings, and taking some degree of ownership in them – or at least acknowledgement of who owns them. Others, not involved in the planning process, should be able to read the landscape and know the people and places being represented. Across the chapters of this book, the need for distinct kinds of place-based information is a recurrent theme. Several chapters reflect the challenge to represent place meanings, and the need for planning processes to deliberately facilitate communication amongst stakeholders about place meanings. Ultimately practicing place is about acknowledging, and if possible finding compatibility between, divergent conceptualizations of landscapes. Planning processes need to be structured in

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ways that enable stakeholders learn from each other and come to understand the complexity of public meanings of place.

Finally, we have learned to be more aware of our own connections to place-making. As researchers, planners, and professionals, our actions influence the creation of places in which we live, work, and play. Through both our formal and informal practices, places come to be. In this sense, we already have been practicing place. The hopes for this book are to raise awareness of various strategies to practice place and to do so in ways that improve land-use planning, management, and governance.

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Glossary

This glossary is a list of terms commonly used throughout the chapters of this book. Most of these terms have multiple connotations and may vary based on a particular stream of literature. Any given chapter may expand upon the meaning of the terms; this glossary is a point of departure.

Amenity or amenity resource: Natural characteristics and physical qualities of an area that contribute to people's appreciation of the area. These resources are related to non-market values, and are significant to the sense of place. Amenity resources are attributes related to cultural, recreational, and natural features of the landscape.

Community: A bounded geographic locale in which people organize themselves in order to live, work, and carry-out their lives. A "community field" is related to collective action centered on a place.

Decision-making: Processes of managing public environments in order to identify agency or organizational intentions and desired outcomes. Decision-making includes topics related to land-use planning, policy, public involvement, and institutional operations.

Democratize: To reduce power imbalance in decision-making processes in ways that allow stakeholders to share information with one another, and teach and learn from each other.

Discourse: A shared, structured, and often institutionalized way of speaking, thinking, interpreting, and representing objects and ideas. A discourse can be studied or observed in the use of spoken, written and signed language and multimodal/multimedia forms of communication.

Empowerment: A political process that redefines existing power relations between people in a community and/or among stakeholders in a decision-making process. Empowerment is an investment that involves risk taking, occasional failures and disappointments, constant reviews of strategy and persistence. For agencies to promote empowerment implies power sharing and attempts to change alliances with stakeholders.

Legitimation or legitimize: Social and political processes that evaluate the merits of information useful in decision-making. Scientific information has a longstanding history of legitimation (or being legitimized) in land-use planning processes. Place-based information needs to be acknowledged as important and useful in decision-making contexts.

Lived experience: The flow of experience – mood, thoughts, emotions – during the living of it. We can not directly know another's lived experience because any telling of it necessarily reflects on the experience itself and locates it in a context other than that which was lived.

Narrative: A story, often about a lived experience or a community's evolution through time. Distinct from a chronicle that provides a sequence of events; a narrative provides a context to understand connections between events in ways that assert cause and effect, and suggest a beginning and end.

Phenomenology: Subjective experience of living in the world, closely connected to the "lived experience." Social and cultural sharing of environmental knowledge leads to inter-subjective experiences, with consequences for understanding the lived experiences – meanings, emotions, and purposes – of other people and their places.

Place: Generally conceived as the combination of material form, location and scale, and a social/relational aspect described by various terms including *sense of place* and *place meaning*. What most differentiates place from other spatial-material concepts (e.g., environment, resources) is the way that place organizes and even constitutes human/social meanings, relations, and actions.

Place-based planning: Land-use decision-making processes in which the senses of place are at the center of the discussion, and inform the actions, operations, and desired outcomes of planning.

Place attachment: The emotional bond that humans form with places over time and with increasing familiarity with a place.

Place identity: An emotional attachment referring to the symbolic importance of a place that gives meaning and purpose to life. Place identity is a component of self-identity. By frequently visiting or using a place, one's emotional bond with the place increases, and the psychological investment in the place develops over time in the form of a place identity.

Place meaning: Refers to personal, social, and cultural symbolism in any given environment. Most environments are layered with a variety of place meanings – some compatible, some not.

Representation of place: Acts of expressing one's place meanings, identities, and attachments. Challenged by public forums that may not legitimize such information as significant to decision-making, and implies that strategies to represent place are needed.

Practice: Refers to both the *formal practices* associated with planning, management, decision-making, and the policies, laws, and procedures that guide these actions; as well as the *informal social practices* embedded in the everyday actions of people and organizations including such activities as recreation, tourism, ranching, advertising, real estate development, and marketing.

Social construction: People in a particular society share ideas and knowledge with each other that builds a basis for common experience. In this way, people behave to various norms

and expectations in a tacit agreement with one another. For example, the use of money is a social construction, and only worth anything because society has deemed it so.

Sense of place: There are many meanings for this term. Many definitions start by differentiating space from place, noting that the latter is space endowed with meaning, value, and emotion.

Spatial cognition: Perceptions of geographic boundaries as context to understand locations on a map.