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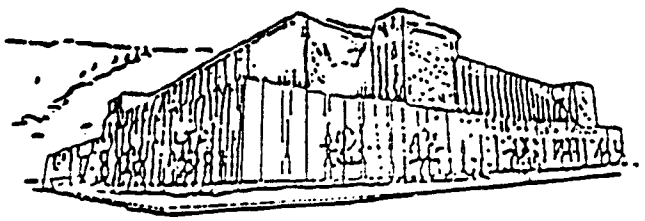

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ANALYSIS OF PERCEPTIONS OF NATURAL RESOURCE PLANNING IN FOUR 'WICKED' SITUATIONS

by

Paul R. Lachapelle

B.Sc. University of Vermont, 1997

presented in partial fulfillment of the requirements

for the degree of

MASTER OF SCIENCE

The University of Montana

July 2000

Approved by:

Committee Chair

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Lachapelle, Paul R. M.S., July 2000 Resource Conservation

Analysis of Perceptions of Natural Resource Planning in Four "Wicked" Situations

Advisor: Stephen F. McCool

The predominant planning model used in natural resource planning situations is termed synoptic and based on a Progressive Era paradigm stressing a reliance on technology, the maximization of efficiency and seeking an objective, apolitical orientation. Yet, natural resource issues are often characterized as "wicked" problems in which goals are contested and significant uncertainty exists regarding cause and effect relationships. New models of planning based on social learning and a transactional approach appear prudent but are infrequently used in these "wicked" situations.

This study examines planner's perceptions of the environment in which they operate and their choice of planning models using a purposeful sample of twenty-eight individuals involved in four planning processes occurring at various spatial and temporal scales in the northern Rocky Mountains (1. Bitterroot Ecosystem Grizzly Bear Recovery Process; 2. Glacier National Park General Management Plan; 3. Upper Clark Fork River Basin Management Plan; 4. Blackfoot River Recreation Management Plan). Applying a qualitative, interpretivist methodology based on in-depth interviews, the research details the themes that emerge from the transcribed interviews. These data are also analyzed using a quantitative approach to assess the relationship between the perceptions of the planning environment and the preferred model of planning.

Results indicate that planners perceive the environment in which they operate as constrained due to procedural obligations, the inflexibility of the organization and an inability to identify and agree upon goals. In addition, the majority of planners recognize systemic-level issues, those involving the values and paradigms within society, as negatively affecting the planning environment. Paradoxically, while most planners recognize that they are constrained by various issues, they continue to apply synoptic models that are ill-suited to dealing with "wicked" problems. Several unexpected themes emerge relating to the importance of trust in planning and the notion that in certain circumstances, power held by individuals or organizations negatively affects the process.

The constraining factors identified by planners in this study ultimately suppressed dialogue and did not allow for social learning to take place. The research provides evidence of the need to investigate how and to what degree flexibility should be applied in natural resource planning organizations in order to encourage innovative planning techniques and address systemic-level issues.

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CHAPTER ONE: INTRODUCTION

Natural resource planning has entered an era of turmoil where goals are frequently contested, the scale of analysis has increased and significant uncertainty exists about the effects of management actions. Increasingly, the academic, government and public sectors have challenged the appropriateness of the use of particular planning models when confronting natural resource planning situations. As Alexander (1996:45) observes about contemporary planning situations, "...nothing is accepted; everything is questioned."

These provocations parallel the development of ecosystem-based management as a paradigm for natural resource planning. Ecosystem-based management is a holistic approach to understanding what goods and services the natural world can produce and the limitations in so producing. Biophysical and social components of ecosystems are linked through a complex web of relationships existing at a variety of scales. While ecosystem-based management relies heavily on science and technically based adaptive management concepts, it recognizes that the synoptic (also termed rational-comprehensive) model of planning dominating past natural resource planning efforts is no longer appropriate. The synoptic model assumes a singular, well-defined objective for which there is general agreement and relies primarily upon the ability to measure and quantitatively model data and interactions. Consequently, natural resource planning typifying this description tends to be solely within the realm of modelers and technicians. Clark and Brown (1990:25) argue that while such an approach "...might best show how to achieve a given end, it is not a process for choosing ends." Choosing ends (i.e. goals) is arguably the dominant natural resource planning challenge of the day. This challenge raises fundamental

questions that involve the character of the goods and services to be delivered from public lands, the selection of social choice mechanisms used to make these decisions and the role of the public in these mechanisms.

The contentious setting that now characterizes many natural resource planning processes is exemplified by a growing public dissatisfaction with many of the methods used by professional planners. This dissatisfaction has been expressed in many forms including a lack of participation, animosity and distrust toward government agencies, litigation and appeals that result from unacceptable plans and procedures and occasionally even threats and violence toward government officials. Most recently, the resignation of Humbolt-Toiyabe National Forest Supervisor Gloria Flora in the fall of 1999 because of alleged intimidation and harassment over a controversial road closure to protect endangered species habitat has attracted national attention to the issue of "fed-bashing" and the potential for violence directed toward professionals involved in natural resource planning and management.

Unprecedented Planning Situations

Natural resource management problems have moved from the well-defined to the "wicked" (Rittel and Webber 1973, Allen and Gould 1986, Shindler and Cramer 1999); where goals are frequently multiple and competing, there is little scientific agreement on cause-effect relationships, time and resources may be limited, needed information may not exist, public opinion and values have become more diverse and increasingly, the public seeks to become more involved in natural resource planning decisions. Further, natural resource planners operate within an institutional framework that is both resistant

to change and which may no longer be appropriate to planning in this era. The traditional synoptic approach to planning may in many natural resource situations actually lead to more, not less, disagreement (Borrie and others 1998).

Considering that the science orientation of ecosystem-based management is increasingly challenged, the practice of natural resource planning is recognized as intrinsically a political task and the difficult questions in natural resource planning "...are ultimately questions of social choice and value judgments" (Clark and Stankey 1991:13). Natural resource issues are commonly made up of a multiplicity of interests, a significant amount of technical uncertainty and complexity, a decision-making environment that is often portrayed as "zero-sum" affecting a large geographical and intellectual landscape and requiring choices that balance short-term costs against long-term benefits that define society's obligations to future generations (Yaffe 1994). In summary, there is multiplying agreement that we are confronted with unprecedented planning situations (Friedmann 1993, Cortner and Moote 1999, Forester 1999) yet there continues to be a significant reliance on the science and technology that typified planning in a different era.

Changing Character of Goods and Services

In order for natural resource planners to effectively plan and manage natural landscapes, they must understand the changing characteristics of what goods and services the public demands from these lands. The goods and services derived from publicly administered lands are identified or measured primarily by social values and judgements. These goods and services include commodity values, public use values, amenity values, environmental quality values, ecological values, and spiritual values (Clark and others 1999). No longer are the goods associated with natural resources viewed purely as

commodities to be bought and sold and as Williams and Patterson (1999:143) assert. "...many important meanings and values are not identified through exchange or market transactions alone, if at all."

Planning processes designed to ensure the delivery of socially desired goods and services are proving to be inappropriate given that these values seem to lie at the center of natural resource management debates. This inappropriateness is a function of the institutional framework and the character of the problems facing natural resource planners. At the same time, demands on natural resources have increased and diversified, while the compatibility of various goods and services as defined by the public is increasingly challenged. Consequently, the values that are not easily measurable or quantifiable in these complex situations are often the most important component of natural resource planning and management.

Political Nature of Natural Resource Planning

Given that the goods and services the public demands are based on dynamic and often conflicting social values and judgements, public land planning is thus intrinsically political. A top-down, decision-making process will inevitably create adversity and contention in a value-laden arena. Allen and Gould (1986:22-23) describe "wicked" problems as those "...that do not necessarily deal with systems where inputs, outputs, and intermediate actions or reactions occur in a scientifically predictable manner ...[and therefore] require nontraditional solutions ...[in which] science and analysis are of secondary assistance to politics." Others note that in natural resource planning situations, "...allocation and management decisions are inherently social and political rather than technical because human relationships are involved ...[therefore] (P)lanning cannot

proceed efficiently unless agencies understand this context and develop mechanisms to work effectively within it" (McCool and Cole 1997:76). Burchfield (1998:34) reiterates in reference to the U.S. Forest Service (USFS) stating, "...until the agency can understand that resource management is politics with science advisors, instead of science with political meddlers, it will continue to stumble through costly new planning procedures ...the root of the problem is not that it has become too political; it is simply not political enough." Thus, as Rittel and Webber (1973:169) assert, the planner must realize that "...the expert is also a player in a political game, seeking to promote his private vision of goodness over others'. Planning is a component of politics. There is no escaping that truism." For these reasons, a civic-minded populace prepared and practiced in the art of politics would seem more favored to successful resolution of the complex issues that accompany natural resource planning.

Natural resource planning processes have been criticized for both impeding public participation and poorly engaging the public throughout the planning process. Blahna and Yonts-Shepard (1989:223) found that USFS planners tended to bury controversial issues during the planning process rather than clearly identifying them to the public stating, "...on most of the forests in this study there was not a partnership between the forests and the public during the planning process, just latent adversarial relationships."

A review of the USFS between 1971 and 1993 reports a dramatic increase in lawsuits and appeals in which most of the cases filed were designed to block activities such as timber harvesting, roadbuilding, and pesticide spraying (Jones and Taylor 1995). In complex, "wicked" natural resource planning situations, the public has resorted to

acting antagonistically including nearly 100 incidents of violence or intimidation against USFS and Bureau of Land Management (BLM) employees in 1998 alone (Denson 1999).

While public dissatisfaction of the planning methods used in these unprecedented natural resource planning situations remains unmistakable, little is done to incorporate the public in a meaningful way so that not only a diversity of opinion can be adequately represented, but also in an appropriate forum that encourages civic integration and deliberation.

New Paradigms of Planning

Thompson and Tuden (1987) and Lee (1993) suggest that organizations are confronted with several different types of planning settings depending upon the degree of public agreement on goals and the level of scientific agreement about cause and effect relationships. The appropriateness of alternative planning models to provide for a sound foundation from which to plan will vary in each situation. While synoptic methods of planning are appropriate when dealing with "tame" problems that involve agreement of goals and a clear understanding of cause and effect relationships, "wicked" problems require new methods of planning that accommodate a diversity of values and goals and acknowledge the uncertainty of analysis.

It is now widely recognized that agencies managing natural resources must move to a new paradigm of planning. Many suggest fundamental changes in institutional design. Stankey and others (1999) maintain that a social learning model of planning, where scientists, managers and the public jointly pursue settlements is most appropriate. Friedmann (1993:483) asserts that planners should act as facilitators involved in linking

knowledge to action while new forms of planning need to be "...normative, innovative, political, transactive and based on social learning." Moote and others (1994) establish a series of principles of ecosystem-based management, one of which recognizes a need for collaborative processes that are currently not generally included in natural resource planning. Machlis and others (1994) propose an ecosystem model that places questions of human uses and values at the center of their approach. Innes (1996) presents a case for planning through consensus building, yet based on the synoptic model. In short, numerous individuals in diverse disciplines have expressed dissatisfaction with current planning models and have proposed innovations to expedite and improve the natural resource planning process.

It is hardly surprising that contemporary natural resource planning is in a state of disarray given that there exist some 80,000 units of government in the United States (federal, state, county, municipal, special districts), that political power is discordantly dispersed between these government agencies and non-government organizations, that Congress largely appropriates budgets and sets policy for the public land agencies, that there is remarkably little coordination between land managers who share administrative boundaries, and that the creation of public lands was accomplished incidentally and with little foresight (Yaffe 1994). Thus, realizing that planners are operating in an environment in which the following is occurring;

1. A change has taken place regarding the characteristics of the goods and services the public demands of public lands,
2. Politicized issues are approached with rational, science-based solutions,

3. The planner's institutional structure is generally inflexible and resistant to change,
4. The public is increasingly dissatisfied with synoptic planning processes.
5. Numerous planning models have been shown to ameliorate many of the current contentious situations,

the following statement of research question is examined.

Statement of Research Question

The paradigms that natural resource planners hold toward the various conventions, both formal and informal, of the planning process are constantly evolving; therefore, understanding these paradigms is crucial to understanding the perceptions and choices involved in natural resource planning. Such perceptions have considerable impact on the success of natural resource planning processes because they guide the planner's behavior in how planning will proceed, how values will be measured and accounted for and how choices of land allocation and management actions will be selected. Therefore, addressing these issues is both pertinent and potentially beneficial to the academic, government and public sectors alike. Thus, this research seeks to answer the question:

"How do natural resource planners perceive the current planning environment and how does this affect their choice of planning models?"

Objectives

In order to answer this question, several objectives have been developed. The primary objective is to understand how natural resource planners view their task and the factors affecting their perceptions of the planning environment and resulting actions. In order to provide a context for the primary research question, the following objectives will first be addressed:

1. Identify how natural resource planners view the situation in which they operate,
2. Understand the relationship between perceptions of settings and the planner's selection of planning models and,
3. Understand how various planning models are associated with the planner's worldviews.

CHAPTER TWO: CONCEPTUAL FRAMEWORK

Overview

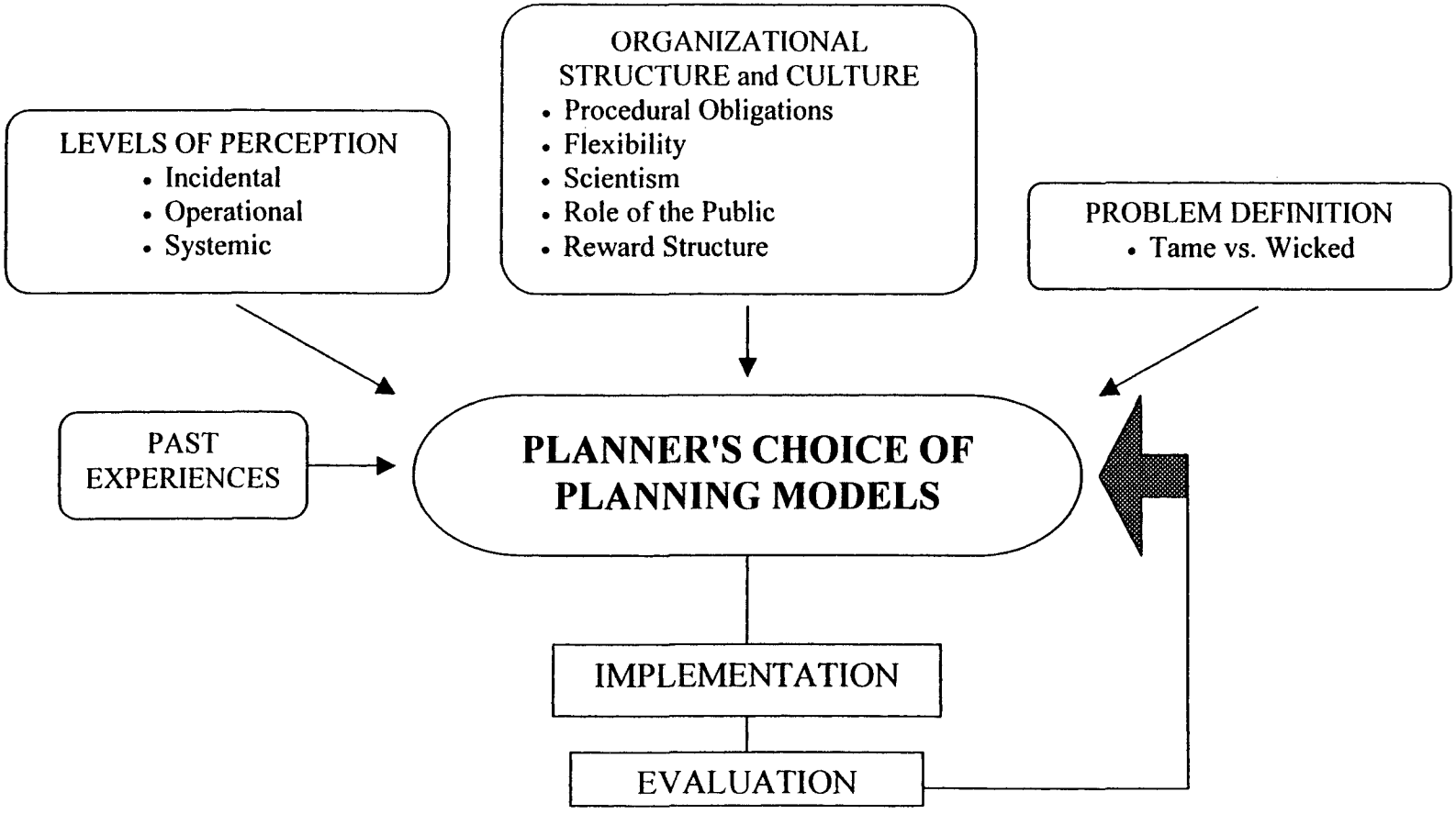
This chapter draws on concepts of previous research from a number of areas concerning planning processes, particularly in urban and natural resource settings. This review of the literature provides a conceptual background for the development of the specific research question and guides the data collection and analysis.

While many specialists in planning theory have written about planning practice, the literature reveals important gaps in how planners perceive planning settings, the appropriateness of various methods of planning, their preferences for implementing different models of planning and how they view the role of public participation in planning.

Thus, I discuss the literature relating to changing paradigms toward natural resource planning. I then describe the various levels of perceiving natural resource problems. Next, I review literature regarding the organizational structure and culture in which planners operate, focusing on such factors as openness to participation, the reward and incentive structure, procedural obligations and the role of science. I then discuss concepts associated with problem definition, goal agreement and casual relationships as they pertain to natural resource issues. Finally, I propose seven working propositions to investigate the planner's perceptions of the environment in which they operate and the resulting actions. Recognizing that numerous factors exist that influence or directly affect a planner's choice of a planning model including a planner's past experiences, I focus on three broad subject areas prevalent in the literature that include the planner's level of perception of the problem, the structure and culture of natural resource planning

organizations and the way that problems are defined. A graphical representation of the conceptual framework that governs this research is illustrated in Figure 1 (following page).

Figure 1. Factors that affect a planner's choice of planning models.



Changing Paradigms of Natural Resource Planning

In order to understand the current trends regarding new paradigms of planning, it is first important to understand the connotations of the word "paradigm." Babbie (1998:51) explains that paradigms simply "...provide ways of looking at life" while Lincoln (1985:29) describes a paradigm as a "normative worldview" that "...reflects our most basic beliefs and assumptions about the human condition." Herrero (1998:5) defines a paradigm as "...a conceptual framework for understanding events ...our interpretations of the world, the questions we ask, the levels of significance we ascribe and the levels of confidence we accept are all based on the paradigms we hold. The interrelationship of people's differing values, attitudes and actions toward nature can be defined as their paradigm regarding nature." Rittel and Webber (1973:166) relate the term to planning and explain that "...people choose those explanations which are most plausible to them ...[and thus] (T)he analyst's 'world view' is the strongest determining factor in explaining a discrepancy and, therefore, in resolving a wicked problem."

Kuhn (1962) applied his paradigmatic theories to the natural sciences explaining that a mature science is guided by a single paradigm. Yet, when "anomalies" come to be seen as posing serious problems to the paradigm, a period of "pronounced professional insecurity" sets in (Kuhn 1962:67-68). Chalmers (1982:95) elaborates on Kuhn's work and explains that "...once a paradigm has been weakened and undermined to such an extent that its proponents lose their confidence in it, the time is ripe for revolution." Thus, when a critical mass of information accumulates that is contradictory to the accepted paradigm, a "revolution" occurs and the established paradigm is rejected in favor of a new paradigm. In the case of natural resource planning, this critical mass

could be construed to be the aforementioned issues regarding the characteristics of goods and services, public dissatisfaction, and the availability of new paradigms of planning.

Imperial (1999) notes that although ecosystem-based management is often advocated as a basis for land-use policy, it is relatively new and still evolving. For some, the tenets surrounding ecosystem-based management advance a stochastic, nonlinear, dynamic system based on a decentralized, adaptive and flexible management regime (Cortner and Moote 1999). Others note that ecosystems are "ecosocial systems" and are the product of the "...relationships between people and nature over millennia" and thus natural resource planning must incorporate political debate, "...located within the dialectic of defining values and defining the structure and function of ecosocial systems and their components" (Shannon 1991:90). Bengston (1994) describes a new environmental paradigm stressing harmony with nature, skepticism toward scientific and technological fixes and a strong emphasis on public involvement in decision-making. The Ecological Society of America recognizes that human effects on ecosystems are ubiquitous and complex and that "...identifying and engaging stakeholders in the development of management plans is a key ecosystem management strategy" (Christensen 1996:670). However, Cortner and Moote (1999:51) explain that a new worldview has not yet usurped the current natural resource planning paradigm stating, "...while substantial information has been accumulated regarding ecological processes and the political dysfunction of the traditional paradigm, the values, theories, methodologies, and tools of the old paradigm have not yet been discarded." While members of the scientific, academic and public may support the tenets of innovative ecosystem-based management strategies based on the dynamics between the social and

biophysical environments, it is the contemporary political, legal and procedural constructs that all work to impede the "revolution" from taking place. Correspondingly, Cortner and Moote (1999:139) caution that ecosystem-based management may simply employ "...tinkering with laws and policies" explaining, "American society, however, may choose to define ecosystem management as an incremental addition to the concept of multiple-use-sustained-yield, adopting what we have called a 'sustain-all-uses' approach to ecosystem management." An ecosystem-based management approach that continues to utilize the traditional technologically oriented, synoptic approach to land management is simply the same wicked problem analyzed at a larger spatial and temporal scale.

Levels of Perception

Given that paradigms toward natural resource planning are changing and becoming more widely accepted, the likely causes, explanations and remedies of many problems facing natural resource planners would then seem to lie not in the operational intricacies of planning methods but rather in questioning the institutional and systemic structures in which natural resource planning takes place. Caldwell (1990) purports that there exist three levels of perceptions of environmental problems:

1. "Incidental perceptions" in which problems are addressed through ad hoc corrections such as clean-up campaigns and are essentially cosmetic,

2. "Operational perceptions" in which problems are addresses through corrective laws and regulations (with most government policy administered and developed at this level) and,
3. "Systemic perceptions" in which problems are addressed through changes in the redesign of institutions and development of alternative methods of resolution.

Systemic issues relate to those that involve the values, goals and assumptions of a society and according to Caldwell (1990) can only be corrected through extensive restructuring and reform within the culture. Environmental degradation results from the inherent dysfunctional design of social systems that rely on technology, economics and efficiency. Paradigmatic change is necessary and according to Caldwell (1990:73, 76), "...the remedy is sought in progressive adaptation and innovation in institutional arrangements" and takes place as "...prevailing understandings regarding events and relationships fail to provide satisfactory explanations."

Addressing complex, value-laden problems with "incidental" or "operational" problem-solving techniques often does not solve a problem and more importantly, can be counter-productive in that problems become increasingly exacerbated and complex. Thus, problems arise from the "solutions" to past problems or as Rittel and Webber (1973:165) purport, "(E)very wicked problem can be considered to be a symptom of another problem."

When addressing problems of a "systemic" nature, only solutions that incorporate methods of restructuring and reforming the basic social, political and economic arrangements are relevant (Caldwell 1990). Consequently, scientific and technical

knowledge will only briefly mitigate or conceal the fundamental antecedents of problems but will never truly "fix" them. Situations in which stakeholders hold different levels of perceptions toward natural resource issues will inherently lead to a dysfunctional planning process.

The most pragmatic approach then is sought in adaptation and innovation that occurs within the institutional arrangements that exist. Addressing the difficult issues surrounding natural resource planning, including planning for uncertainty and the dual goals of use and preservation will ultimately, according to Cortner and Moote (1999:70), "...require major revisions of social beliefs, values, norm and governance practices ...[and] revolutionary changes in the basic philosophical values of American society." Others articulate this theme positing what is needed is a new rationality based on ecological principles that incorporates ecology into natural resource decisions (Dryzek 1987), a more holistic "social ecology" based on mutualism (Bookchin 1991), a devolution of power and reinvented politic based on "the art of the possible" (Kemmis 1990:109) or on bioregionalism, an "organic phenomenon" in which the constraints of the landscape including hydrology, soil, vegetation and other biophysical forces dictate administrative jurisdiction, land policy and use (Aberly 1999). Caldwell (1990:66) points out however that "...institutional change seldom precedes social reorientation, and then is usually as an incident of war or top-down revolutions."

Organizational Structure and Culture

This section begins with a brief description of the historical influences of contemporary natural resource planning and compares and contrasts synoptic and

transactive models of planning. Five issues related to the structure and culture of natural resource planning organizations are described and discussed.

Land management planning in the United States grew largely from the Progressive Era policies of the early twentieth century based on technocentric utilitarianism (i.e. greatest good for the greatest number) in which science and efficiency took precedence over values (Klyza 1996). The "myth of the omnipotent forester" proliferated throughout the century as documented by Behan (1966:398) who quotes a forestry professor proclaiming to his class, "(W)e must have enough guts to stand up and tell the public how their land should be managed. As professional foresters, we know what's best for the land."

Wilkinson (1992:17) describes the public land management policies that still dominate natural resource planning today as the "Lords of Yesterday" that "...arose under wholly different social and economic conditions but ...remain in effect due to inertia, powerful lobbying forces, and lack of public awareness." These policies include a mining law that has remained essentially the same since 1872, below cost and often environmentally damaging grazing and timber harvesting policies, reclamation acts that subsidize water development through poorly conceived dams and reservoirs and the Doctrine of Prior Appropriations, a "first-come, first-served" water right, providing for and encouraging profligate use of water.

Federal agencies involved in land management were originally allowed discretion as to the delegation of mandates by congressional authority. The Progressives sought to instill a political system that utilized scientific management guided by experts to serve the public interest. Public perception of the abundance of natural capital and faith in

technology negated radical reform throughout much of the early twentieth century (Hirt 1994). After the Second World War and in response to a variety of social forces, the discretion of federal land managing agencies was tempered by a host of legislation that required improved information sharing, greater public involvement and consideration of a broader range of values and consequences. Land planning and management statues. such as the Administrative Procedure Act of 1946, the National Environmental Policy Act of 1969, the Federal Advisory Committee Act of 1972, National Forest Management Act of 1976 and the Federal Lands Policy and Management Act of 1976 were responsive to the perceived deficiencies of the Progressive Era planning models that worked "in a vacuum" and tended to isolate the public from decision-makers. While these statutes appeared on the surface to better coordinate social and biophysical relationships, the mandates contained great vagaries as to the "how's" and instead focused on stipulations that agency decision-making would continue to be both professional and objective to avoid appearance of bias and would continue to "...rely upon professionals to set policy based upon a congressional goal and an examination of the facts" (Poisner 1996:76). Thus, the Progressive Era policies continue today as viewed by a faith in science and the reluctance of planners to relinquish control and involve the public in a substantive and meaningful way.

The process of synoptic planning incorporates this ideal by way of a four step process that includes 1) specification of a goal, 2) identification of all possible methods of obtaining the goal, 3) the evaluation of the effectiveness of methods to obtain the goal and 4) the selection of the alternative with the greatest progress toward the goal. Often, these elements are negotiated by "...using conceptual or mathematical models relating

ends (objectives) to means (resources and constraints) [*sic*], with heavy reliance on numbers and quantitative analysis" (Hudson 1979:389). Advocates of synopticism prefer to divorce decision-making from politics and allow public participation so long as it conforms to a scientific model (i.e. objective information exchange) and thus the synoptic decision-making process becomes one of technical analysis and not group struggle (Poisner 1996).

In comparison, a transactive approach to planning is one that is characterized by dialogue, mutual learning and societal guidance with an emphasis on "...decentralized planning institutions that help people take increasing control over the social processes that govern their welfare" (Hudson 1979:389). A transactive approach views the public as integral and able to contribute experiential knowledge and therefore the approach brings more information than if only "expert" knowledge was used. Friedmann (1993:484) explains that this approach requires time and flexibility so that "...both planners and citizens have the capacity to listen sympathetically and share the responsibility for problem definition and solution" and thus becomes a method that "...taps into people's capacity for proactive practice and, where it is successful, may help to create a sense of collective solidarity." Members of the public are viewed as essential and according to McCool and others (1986), in certain circumstances, have the ability to act rationally within the context of the situation.

Social learning, as outlined by Stankey and others (1999) complements the transactive planning process and contains numerous characteristics including a recognition of the pluralism in values and interests and legitimacy of many forms of knowledge, the promotion of active engagement and learning by doing and allowing for

decision-making authority through consensus-building. Table 1 illustrates various qualities of synoptic and transactive planning.

Table 1. Qualities of synoptic and transactive planning.

SYNOPTIC [1]	TRANSACTIVE [2]
Allows for formal public hearings with allotted time limits	Promotes avenues for two-way dialogue
Stresses top-down dissemination of information	Strives for mutual learning
Stresses apolitical orientation	Recognizes the pluralism in values and interests
Puts faith in "best available science"	Recognizes the legitimacy of many forms of knowledge
Relies primarily on numbers and quantitative analysis	Uses science that informs rather than dictates discussion
Allows for periodic engagement	Promotes active engagement and learning by doing
Mandates decision-making through one entity	Allows decision-making through consensus-building
Allows for monitoring if convenient	Recognizes that ongoing monitoring is essential to the learning process
Compartmentalizes problems and solutions	Links people, places and process

1. Based on Hudson 1979; Poisner 1996; Cortner and Moote 1999
2. Based on Friedmann 1973, 1993; Stankey and others 1999

The transactive planning process is one that strives to build consensus among interested parties made up of, "...composites of the unalike; their strength (as well as their volatility) [*sic*] lies in their diversity" (Snow 1996a:41) and posits "face-to-face democracy" based on a Jeffersonian ideology of civic responsibility (Kemmis 1990). It is a process that allows for differences in values and forms of knowledge and recognizes that science is merely one tool in the planning process. Transactive planning is a dynamic process and thus accommodates changing scenarios with new information and new perspectives. Perhaps most importantly, the transactive model promotes a planning environment where deliberation can take place and flourish and where learning is not just a passive by-product but also a lofty goal.

Transactive planning and social learning can take place in many settings. Most recently, processes incorporating the characteristics of transactive planning and social learning have been recognized and sanctioned as legitimate and legal techniques, particularly in many of the collaborative watershed-based approaches used in the western United States (Cesteros 1999). Innes and Booher (1999:414-415) observed various collaborative processes and report that participants in every process, "...established new or stronger personal and professional relationships and built up trust, which allowed genuine communication and joint problem-solving. With this social capital they felt less hostile to others' view, were more likely to share knowledge, and were likely to negotiate other potentially conflicting issues. In most cases, stakeholders also built shared intellectual capital, including mutual understanding of each others' interests, shared definitions of the problem, and agreement on data." This resulting social capital, defined by Putnam (1995a, 1995b:67) as a community's ability to promote mutual trust and reciprocity, and exhibit a collective identity and shared sense of future with "...features of social organization such as networks, norms, and social trust that facilitate coordination and cooperation for mutual benefit," could therefore be construed to be one of the most important intangible outcomes of a planning process.

Frequently, contemporary natural resource planning processes are reactive and crisis-oriented, and according to Yaffe (1994:185), "...based on information that is often inadequate. Agencies are not unbiased sources of technical advice, interest groups act adversarially and strategically in ways that conceal accurate information, and elected officials focus on short-term survival in ways that are often counter-productive to the broader public and future public's interest." Wildavsky (1973:128) defines planning as

the attempt to control the consequences of our actions and claims that "...planning fails everywhere it has been tried" because planning often dismisses the importance of controlling the future in which setting goals and achieving them are part of the same series of actions. Further, Wildavsky (1973:129) summarizes the potential conflict in stakeholder perception of planning outcomes by noting "(P)lanned decisions often have unplanned consequences." Thus, an ideal decision-making process promotes creative solutions that considers future generations and the needs of nonhuman lifeforms, provides opportunities and incentives for various interests to participate fully in, recognizes and embraces these "unplanned consequences" and ultimately produces decisions that are effective at solving problems.

Procedural Obligations

Currently, state and federal land managing agencies are constrained by procedural obligations relating to natural resource planning and management. A regulatory agency may be couched within or completely separate from another agency. The obligations of a regulatory agency may, in certain instances, be in competition with another agency's mandate. For instance, an endangered species restoration plan that is under the direction of the U.S. Fish and Wildlife Service may dictate policy on National Forest land even though the mandate to manage the National Forest land (i.e. multiple use) is antithetical to the restoration plan. These situations have caused considerable controversy as exemplified by the northern spotted owl debate in the Pacific Northwest and the resulting National Forest Summit involving President Clinton, Vice-President Gore, three cabinet members and the interagency Forest Ecosystem Management Assessment Team (Yaffee 1994). In addition, federal agencies with regulatory authority such as the Environmental

Protection Agency and National Marine Fisheries Service can override other federal or state land management directives to implement plans or protocols.

Land managers must follow statutes dictating natural resource planning procedure such as the National Environmental Policy Act (NEPA) of 1969. This statute applies not only to the four federal land management agencies (U.S. Fish and Wildlife Service, U.S. Forest Service, National Park Service, Bureau of Land Management) but also to other federal agencies including the Departments of Defense, Energy and Transportation. Moreover, numerous states have adopted legislation based on NEPA. The premise of NEPA dictates that actions be evaluated in terms of their potential impact on the natural and human environment. An agency conducts a site evaluation, called an Environmental Assessment (EA) and if a finding of significant impact results, a detailed draft Environmental Impact Statement (EIS) must follow. This procedure requires that proposed actions be documented incorporating various alternatives and that evaluations of each alternative be based on the effects of implementation on the biophysical and human environment. The public must be notified of these proposed actions and public meetings and formal comment periods become a standard component of the process. The agency must evaluate and respond to the comments in its final EIS. Loomis (1993) explains that in many public land management agencies, decision techniques are based on five criteria (biological, economic, distributional, social/cultural, and administrative) using techniques such as a matrix approach to integrating the five criteria, a mathematical optimization technique, or a screening approach to "filter" out the alternatives that do not meet the minimum requirements of the criteria. Once the agency feels that issues have been addressed regarding the optimal choice of alternatives, a supervising official in the

agency implements the preferred alternative through the signing of a "Record of Decision" to document the decision. The statute has enabled the public to have access to information, scrutinize agency actions and follow through with appeals and litigation.

Revolutionary in 1970 when it was signed into law, NEPA states "(T)he Congress recognizes that ...each person has a responsibility to contribute to the preservation and enhancement of the environment" (42 USC § 4331, 1994 ed.) and mandates an "...interdisciplinary approach which will insure the integrated use of the natural and social sciences and the environmental design arts in planning and decisionmaking" (42 USC § 4332, 1994 ed.). Loomis (1993:46) notes that this interdisciplinary mandate "...represented an important step in infusing new approaches to decision-making into many federal agencies dominated by one discipline (e.g. forests in the Forest Service) [*sic*]."

However, Webster (1997) equates the composition and nature of the current NEPA process with the rigidity of a military decision-making process where needs are identified, alternatives are established, advantages and disadvantages are weighed and a final decision is made and implemented. The major difference is the participation of the public and thus with this "rational" approach, "...the only viable opportunities to increase efficiency lie in the performance of the steps involved" (Webster 1997:217). Webster (1997:217) further explains that the deficiencies of NEPA include:

1. NEPA analysis starts late in that planning for a project "...is often already well underway before the NEPA process is initiated,"
2. Time frames become inflexible in that "...optimistic timelines often take precedence over the quality of the analysis,"

3. Analysis and data requirements are complex "...in order to address all the required and necessary disciplines,"
4. New and necessary concepts in environmental analysis are evolving and include landscape ecology and biodiversity issues and may not be easily incorporated in the NEPA process,
5. Data to drive the analyses are difficult to obtain and,
6. The notion of "significant impact" is "...based on context and intensity, and within each technical discipline, different criteria can apply."

A more recent critique of the NEPA found that "...over the past three decades NEPA implementation has focused almost exclusively on the procedural requirements ...[and] often fails to effectively incorporate public opinion and adequately address critical environmental protection issues" (Bergman and Kemmis 2000:3).

The Federal Advisory Committee Act (FACA) of 1972 is a statute created to increase public access to the workings of federal agencies by allowing greater participation through advisory committees. However, the statute has actually become a barrier to progressive management due to several flaws including the numerous requirements necessary to charter and maintain a committee, the ambiguities relating to the terms that the committees be "established" or "utilized" by the federal government and that the committees be "fairly balanced" (Norris-York 1996). Cortner and Moote (1999) note that collaborative groups often do not conform to FACA's requirements because they may not be fairly balanced in terms of points of view and may not be open to public observation. Recent case law pertaining to FACA indicates that agencies are

reluctant to engage the public in non-traditional public involvement phases of NEPA for fear of litigation (Solomon and others 1997). Further, Schlager and Freimund (1997:59) found that resource professionals, including those employed at the USFS and BLM, ranked FACA as the second most serious obstacle to ecosystem-based management stating the greatest concern was "...the fear of violating FACA ...[since many were] unclear about what types of public contact were and were not allowed under FACA."

It is evident that many federal agencies involved in public land management have come to view procedural obligations as hurdles to overcome rather than strategic opportunities to improve public participation and relations. According to Wik and others (2000), agencies have been reluctant to experiment with new processes for collaboration and analysis because of the perceived risk of litigation. The fear of litigation has caused agencies to work with legal advisors who act as arbiters involved in risk assessment of legal parameters and thus, "...there has been a general agency preference for creating legally acceptable documents rather than engaging in experimental collaborative efforts, larger scale analysis, or proactive resolution of concerns" (Wik and others 2000:13-14). The mechanization of an inherently dynamic political process often leads to formal meetings, one-way dissemination of information and the disjointed execution of mandated steps to attain an end. Legislation that was supposed to provide for greater public involvement and information sharing has actually been responsible for greater alienation, apathy and bureaucracy.

In response to the multiple levels of dissatisfaction with the USFS planning process, the Committee of Scientists, a 13-member body convened by the Secretary of Agriculture in 1997, released a report on the USFS planning process and

recommendations for improvements (Johnson and others 1999). The tasks of the committee included providing technical advice on planning and suggesting a new planning framework. The committee recommended that "...planning must provide mechanisms for broad-based, vigorous, and on-going opportunities for open dialogue ...The participation of citizens should be encouraged from the beginning and be maintained throughout the planning process, including roles in assessments, issue-identification, implementation, and monitoring" (Johnson and others 1999:10). While the Committee of Scientists' report advocates collaboration and cooperatively developed goals, "...recognizing, enhancing, and capitalizing upon the capacity of interested and affected people to engage in stewardship activities" (36 CFR 219.12), committee member Roger Sedjo (1999:13) explains the recommendations in the report "...are cautious and limited ...[since] (W)ithout a basic reform -- particularly reform of the budget process to allow the budget and the plan to be in concert -- proposed changes in the planning process as recommended by the committee will do little to change or improve the outcome of the planning process."

The numerous state and federal procedures and regulatory mandates created to expedite natural resource planning and improve public participation have in many instances created obstacles to a deliberative and learning-oriented process. Planners are now faced with balancing the plethora of regulatory statutes regarding public land management and natural resource planning with the needs of accommodating an increasingly dissatisfied and vocal public.

Flexibility

The ability of a natural resource planning organization to be flexible involves the degree to which creativity can be accommodated and promoted. This flexibility usually involves the available time, funding and personal resources of the organization. Often, natural resource planning takes place in a large bureaucratic environment in which efficiency and precision subordinate an ability to accommodate a flexible process focused on social learning. Bureaucrats, according to Cortner and Moote (1999:62), must be "...professional experts who are 'above politics' [but] they must, paradoxically, be politically responsive."

Many natural resource organizations have become large, expert-driven bureaucracies with positions that are highly specialized in order to maximize efficiency while mandating stringent standards, reliability and precision. German sociologist Max Weber (1864-1920) noted the dependency that drives a bureaucracy and observed, "...bureaucracy inevitably accompanies modern mass democracy in contrast to democratic self-government of small homogenous units ...More and more the material fate of the masses depends on the steady and correct functioning of the increasingly bureaucratic organization" (Gerth and Mills 1946:224, 229).

The Progressive Era conservation movement embraced a "gospel of efficiency" whereby experts, using technological and scientific methods, decided matters regarding the development and utilization of resources and consequently, "(T)he crux of the gospel of efficiency lay in a rational and scientific method of making basic technological decisions through a single, central authority" (Hays 1959:271). Contemporary natural resource management agencies follow this model and have become increasingly remote

from the public because of the specialized information and jargon they use (Schneider and Ingham 1997).

Past research on the perceptions that natural resource planners have of the institutional structure in which they operate suggests a culture that is centralized, authoritarian, process-oriented and reluctant to change (Lee 1993, Cortner and Moote 1999). This structure is exemplified by inflexibility as expressed by rigidity of timelines, insufficient financial appropriations for thorough and dynamic planning situations and a lack of personnel to accomplish innovative planning techniques. This structure has in many cases frustrated managers and the public alike. Despite the relatively rigid nature of existing institutional structures, planners maintain a comparatively wide latitude in selection of planning processes and methodologies. Mandelbaum (1996:114) posits that discretionary power of the individual planner is necessary and argues "...it is impossible to imagine a stable or competent institutional order that does not adapt to variations in the world by assigning some discretion to its participants ...[who would be therefore] able to redirect public policy on the ground." Caldwell (1990:77) explains that the administrative structures of most modern governments exhibit "...an *ad hoc* political rationality" that is poorly adapted to the ecological circumstances and challenges of the present world where public officials often become "...skilled at appearing to profess one policy while in fact pursuing another." While planners often operate in an inflexible environment, the practice of natural resource planning generally requires ample adaptability and bears little resemblance to this rigid condition. This often contributes to growing dissatisfaction by the public and leads to frustration by planners and may be

partly responsible for the variety of prescriptive legislative mandates that have been introduced in the past.

Scientism

The role of science and technical information is increasingly challenged as the dominant foundation for which natural resource decisions should be based. Caldwell (1990:67) refers to "scientism" as the belief that science is inherently capable of solving almost all human problems and argues, "...science is least developed and least reliable in the very area in which it might best inform humans regarding their options and limitations in social choices and governance - at the interface of the natural and social sciences. As a consequence, science and technology have been put to the service of purposes and policies for which science provides no adequate criteria for evaluation." Yankelovich (1991:10) notes that "...in this Age of Information, American culture grossly overvalues the importance of information as a form of knowledge and undervalues the importance of cultivating good judgement. It assumes, falsely, that good information automatically leads to good judgement." While science-based synoptic models of planning may prove prudent in certain natural resource planning circumstances, the literature supports the presumption that political and value-based situations are not conducive to this planning model. Science then is necessary, but not sufficient in value-laden situations since, according to Clark and Stankey (1994), these issues tend to be fundamentally social so the solutions must embrace people.

The Role of the Public

In her seminal work regarding citizen participation, Arnstein (1969:216) establishes a hierarchy of citizen empowerment and control and addresses the need for

institutions to be responsive to the views, needs and aspirations of the citizenry since valid participation in government is "the cornerstone of democracy." Natural resource planning has been slow to adequately accommodate these views, needs and aspirations. Solomon and others (1997) maintain that agencies rely on a limited array of public involvement techniques, yet early and frequent public involvement can reduce conflict and build cooperative relationships based on resolving mutual concerns. The public involvement process under NEPA promotes "...methods of one-way communication" and thus the public often views an agency "...as non-responsive to their needs, and they must resort to other effective means of expressing their ideas, positions, or issues, usually by use of administrative appeal, litigation, or mediation processes" (Solomon and others 1997:269).

The public will only become and remain involved in a process when they sense their interests are being heard and incorporated. Tipple and Wellman (1989:24) articulate this theme stating, "...the basic premise is that citizens will support the government only if they have voluntarily associated with it and feel it is generally responsive to their interests." McLaughlin and Force (1985) surveyed USFS Forest Supervisors and staff members regarding their roles as either "Leader, Partner or Follower" in the ten National Forest Management Act (NFMA) planning steps. The results establish that USFS planners see their roles primarily as "Leaders," less commonly as "Partners" and only rarely as "Followers" implying an unwillingness to be open to public input or feedback. Selin and others (1997) surveyed USFS employees on their perceptions of the current and future application of collaborative methods. The study revealed that barriers do exist within the organization including the perception by employees that collaborative planning

is not supported by line officers at all levels of the organization. Respondents indicated that the greatest perceived barrier was that planning initiatives were constrained by personal agendas.

Reward Structure

Institutions associated with natural resource planning have several incentives for allowing the individual planner or management unit discretion for planning, but perhaps most importantly, is the need to be responsive to public interests in order to avoid the gridlock and contention that has plagued natural resource planning over the past several decades. However, incentives or opportunities must be made available to planners in order for individual and collective experimentation and risk-taking to occur and flourish. Kennedy and Quigley (1998) report on the reward structure within the USFS noting respondents of their study believe the values that *should* be rewarded within their agency include 1) professional competence, 2) care and concern for healthy ecosystems and 3) care and concern for future generations, yet respondents believe the values *actually* rewarded by their agency were 1) loyalty to the organization, 2) meeting targets, 3) promoting a good USFS image and 4) following rules and regulations.

Senge and others (1994:462) describe a "risk-avoidance" strategy present in many organizations in which the act of "non-inquiry" becomes an addictive loop of "shifting the burden" and sweeping information under the rug in order to avoid "anxiety." Consequently, the ability to solve problems relies on a strategy of inquiry, inventory and audit while incorporating the time sufficiently necessary to promote a dialogic setting in which collective thinking can occur. Senge and others (1994:139-140) describe "systems-thinking" in which methods, tools and principles are oriented toward looking at

the interrelatedness of forces and seeing them as part of a common process that allows members of a team to "...suspend [their] preconceptions about which 'solution' fits the slot, and instead try to explore, as an interfunctional group, the deeper sources of the problem." It is access to this environment that promotes a systems-thinking approach and allows for the exploration of the deeper sources of a problem. Furthermore, Senge and others (1994:200) establish that managers must abandon the assumption that people are motivated by money, recognition and fear or enticed by a "carrot and stick" or "doom and gloom" scenario and therefore must clarify a larger vision and promote an environment where "...people want to learn, do good work for its own sake, and be recognized as people."

Problem Definition

Problem definition can profoundly impact the problem-solving process and quality of solutions. Bardwell (1991) explains that the most crucial single factor governing problem-solving involves the definition of the problem and includes the following three issues: 1) the problem definition will drive the assumptions that undermine approaches to the problem; 2) the definition of a problem will ultimately guide the strategies and actions taken to address the problem; 3) the exploration of aspects of the problem will influence the quality of the solution. A planner's understanding of the interrelationships between social and biophysical systems (including landscape ecology and political systems) can greatly improve the planner's capacity to recognize problems and initiate problem-solving strategies. Accordingly, in a natural

resource planning situation, how a problem is defined can affect the choice of planning model, the methods of execution and the resulting actions.

In addition to how a problem is defined, the lack of agreement on goals and the degree of understanding of casual relationships can influence the planning process. Indeed, as Rittel and Webber (1973:157) assert, "...goal-finding is one of the central functions of planning." Thompson and Tuden (1987) present a matrix of decision-making strategies based on beliefs about causation and preferences about possible outcomes or goals (see Table 2).

Table 2. Matrix of planning situations.

		GOALS	
		Agreement	*Disagreement*
CAUSE AND EFFECT RELATIONSHIPS	*Agreement*	Computation (Bureaucracy)	Compromise
	Disagreement	Judgement	Inspiration

Source: adapted from Thompson and Tuden (1987)

The matrix illustrates that when beliefs about causation are uncertain and preferences about possible outcomes (goals) are competing, organizations must approach decision-making with "inspiration" and employ planning techniques that are not based upon synoptic planning models. Lee (1993) refers to this area of the matrix simply as "conflict" and suggests either "settling" or "consensus-building" strategies, both of which entail mutual learning.

Transactive planning and the ensuing social learning is implied as an effective process when confronting "wicked" problems or circumstances requiring "inspiration" (Friedmann 1973, Stokes 1982, McCool and others 1986, Thompson and Tuden 1987, McCool and Burchfield 1999; Stankey and others 1999). Friedmann (1973:171) explains that a transactive approach "...changes knowledge into action through an unbroken

sequence of interpersonal relations" and stresses the dynamics of dialogue, mutual learning and societal guidance. Further, Friedmann (1993:484) explains that this interaction must start early and should "...draw potentially affected populations into the planning process from the very beginning when problems still need defining."

Much of the literature reveals that the problems surrounding natural resource planning, and many contemporary environmental problems are not only complex and multi-dimensional in nature, but solutions to them must be attacked at the most fundamental level (i.e. a change in paradigm). Additionally, the dynamics regarding the changing characteristics of goods and services demanded by the public, the political nature of natural resource planning, the growing dissatisfaction by the public and the institutional structure of land management agencies amalgamate to create an hostile planning environment within which the planner operates.

Based on the preceding information and conceptual framework, this study attempts to outline and examine planner's perceptions of the planning environment and choices of planning models. While critiques of highly contentious, often volatile and politically-charged public land management controversies abound, there exists a paucity of analysis regarding natural resource planning paradigms of individual planners, their choice of planning models and the consequences that result. Recognizing the complexities and challenges facing contemporary natural resource planners while they accommodate the social needs and values of a growing population, there exists an urgency to understand and describe prescriptive measures to improve planning and enhance biological health and social capital in the twenty-first century. It is at these levels that I approach the research objectives and working propositions.

Working Propositions

In a sense, the adoption of a new planning paradigm is similar to the adoption of a new technology, a process well documented in the literature examining diffusion of innovations (Rogers 1995). Perceptions of the planning environment are influenced by a number of key variables including the organizational structure that the planner operates in, the presence of institutional incentives for experimentation, the problem definition. and the perception of the problem. In order for planners to embrace new paradigms, they must be both willing to accept their role in new planning scenarios and understand the dynamics of various planning models.

Typically, the choice of a planning model is influenced by a multitude of factors including past experience, problem definition, levels of perception and the organizational and environmental factors in which the planner works and lives in. Since understanding the perceptions that planners have toward the planning environment and recognizing that these perceptions are intricately linked to their choices of planning models, the following seven working propositions will be applied.

Procedures that mandate specific actions have become the rule in contemporary natural resource planning situations, yet often it is the regulatory requirements imposed from an institution that differ from and may even directly conflict with the mandate of the institution in which the planner operates. Planners are often concerned with the legal repercussions of not following procedural requirements and thus may be more concerned with procedural obligations than finding new processes for collaboration and analysis. When the regulatory requirements impede the structure and function of the planning domain, a planner may feel restricted in the choices available for possible action and

confined to a model that may be not only inappropriate but also counter-productive. therefore:

WP 1: "A planner who perceives the planning environment as impeded by procedural obligations is more likely to prefer models of planning other than synoptic."

An organization may rigidly adhere to a technocentric or rational science-based approach to natural resource planning. Experiential knowledge may be as legitimate or in some cases, more pertinent than technical forms of knowledge. Institutional structures may not advocate for or accept the validity of forms of knowledge that do not adhere to a particular paradigmatic orientation. Yet, a planning process that welcomes experiential knowledge may promote a more inclusive atmosphere that encourages experimentation and dynamism, therefore:

WP 2: "A planner who perceives scientism as inadequate is more likely to prefer models of planning other than synoptic."

An institution or an individual planner may want to try innovative methods with regard to natural resource planning situations, but the institutional structure may restrict the freedom to do so. Restrictions including time, budgets and personnel resources may supersede the requirements of a particular planning model. The institution may enlist individuals that are open to new planning methods, but these planners are held to specific temporal or spatial planning restrictions, therefore:

WP 3: "A planner who perceives the planning environment as inflexible is more likely to prefer models of planning other than synoptic."

A planner may not be motivated to use innovative planning models simply because their input or innovation will not be rewarded. An organization may actually institute mechanisms that promote "risk-avoidance" strategies instead of ones that promote robust analysis of complex problems. The "risk-avoidance" strategy can lead the individual to feeling uninspired and demoralized as a result. With little incentive to apply an innovative planning model, a planner may simply concede to the organization and reluctantly and apathetically implement a conventional model that the planner feels is inappropriate. The type of incentive or recognition has implications that can severely impact an individual's motives toward experimentation and a more collective "systems-thinking" approach, therefore:

WP 4: "A planner who perceives the planning environment as one that rewards innovation is more likely to prefer models of planning other than synoptic."

Public participation tends to be a hallmark characteristic of planning in settings where there is debate over goals. However, the role of the public in many natural resource planning settings is hindered and often promotes adversity and the potential for litigation. It is recognized that planning processes can be more effective when the public is contributing as much knowledge as the planners, when planning models emphasize learning, and when the connections between knowledge and action become more explicit, therefore:

WP 5: "A planner who feels that public participation should be encouraged is more likely to prefer models of planning other than synoptic."

The manner in which problems are defined greatly affects the methods that are employed to solve the problem. The problem definition will in many cases drive the assumptions that lead to problem-solving techniques. The literature reveals that in circumstances where goals are competing and causal relationships are poorly understood, organizations are most effective when using an approach that stresses "inspiration," a method not favored in synoptic models. Effective problem solving in which the identification of and agreement on goals and questions about causal relationships are given precedence can improve the methods used to solve the problem, therefore:

WP 6: "A planner who recognizes that goals are contested is more likely to prefer models of planning other than synoptic."

Planners may choose to address complex value-laden problems with standardized, "one-size-fits-all" problem-solving techniques when the source of and solution to the problem is more systemic and fundamental in nature. In these cases, a substantially different approach should be taken as to the planning model adopted. The planner must first recognize that the problem lies at this systemic level before a new paradigmatic approach is attempted, therefore:

WP 7: "A planner who perceives problems as existing on a systemic level is more likely to prefer models of planning other than synoptic."

The aforementioned working propositions and conceptual framework derived from literature relating to urban and natural resource planning, organizational structure and culture, problem definition and the identification of and agreement on goals and causal relationships combined with interviews with planners provides the basis of analysis for this research. Since, as Patterson and Williams (in review) proclaim, the use

of working propositions is confined to defending a position, confirming prejudgments or "...limited to confirmation or disconfirmation of prior hypotheses," the testing of the working propositions is supplemented with a more interpretivist approach toward "...developing an understanding of an issue rather than testing pre-existing propositions." These methods are described in greater detail in the next chapter.

CHAPTER THREE: METHODS

Description of Study Areas

This research details the perceptions of planning from a purposeful sample of twenty-eight individuals involved in the following four natural resources planning processes:

1. Bitterroot Ecosystem Grizzly Bear Recovery Process,
2. Glacier National Park General Management Plan,
3. Upper Clark Fork River Basin Management Plan,
4. Blackfoot River Recreation Management Plan.

Processes 2 and 3 have recently concluded and processes 1 and 4 are ongoing. While each of these processes share similar general characteristics, the study areas have taken place at various spatial and temporal scales in the northern Rocky Mountains and contain elements that make them unique and distinct. Table 3 (following page) presents a summary of the general characteristics of the study areas and serves as an aid to define and distinguish the particular study areas and planning processes.

Table 3. Matrix of planning process and general characteristics.

	Geographic Area	*Biophysical Conditions*	*Focus of Plan*	*Impetus for Meeting*	*Mandate for Product*	*Decision-making Authority*	*Potential for Unilateral Action*	*Funding*	*Meetings*	*Time*
Grizzly	~25,000 sq. mi.	Sub-alpine to Lower Montane Forests	Grizzly Bear Recovery	Mandated[2]	Yes	Individualistic	High	Imposed	Selective and Intermittent	Limited
Glacier	~1,500 sq. mi.	Sub-alpine to Lower Montane Forests	General Mgmt. Plan	Mandated[3]	Yes	Individualistic	High	Imposed	Selective and Intermittent	Limited
Clark Fork	~160 stream mi.[1]	Riparian Corridor	Water Rights & Instream Flows	Voluntary[4]	Yes	Collective	Low	Self-initiated	Open and Regular	Limited
Blackfoot	132 stream mi.	Riparian Corridor	Recreation	Mandated[5]	Yes	Collective	Low	Imposed	Open and Regular	Limited

1. While the Upper Clark Fork River (Milltown Dam to headwaters above Butte, MT) is ~160 stream miles, the basin includes over 4,400 perennial stream miles (Upper Clark Fork River Basin Steering Committee 1994).
2. As outlined in the Endangered Species Act of 1973 (16 USC § 1531-1544, 1994 ed.).
3. As outlined in the U.S. National Parks and Recreation Act of 1978 (16 USC § 1a-7b, 1994 ed.).
4. Initiated by stakeholders.
5. As outlined in House Bill 629, 1999 Montana Legislature.

The table provides only a general overview and is not meant to be a comprehensive explanation of all of the characteristics present. While the general characteristics are detailed in the following pages of this chapter, several characteristics of Table 3 should be defined. The column in Table 3 titled "Potential for Unilateral Action" relates to the ability of one party (be it government or non government) to influence or disrupt (by litigious means or otherwise) the planning process. The "Meetings" column of Table 3 defines a meeting process as "Selective and Intermittent," utilizing scoping, public meetings or hearings that occur occasionally and in which the organizing entity performs in a passive capacity to gather interested parties compared to meetings that are open and occur on a regular basis in which the organizing entity actively promotes engagement with and between stakeholders.

The four study areas can be broadly characterized by spatial qualities and orientation of policy. The Bitterroot Ecosystem Grizzly Bear Recovery Process is based on a large geographic area (over 25,000 square miles) and multiple vegetative zones (including sub-alpine forests and lower montane forests) that make up several watersheds and involve numerous communities (and their respective political systems including the federal, state and municipal agencies and an Indian Reservation) surrounding the recovery area. The decision-making authority lies with the Secretary of Interior after preparing a "Record of Decision" to document the findings and determination. In addition, the issue is policy-based and involves a "community of interest" that is national in scale as opposed to a "community of place" that involves a more local constituency that exhibits "...a shared identity, culture and social system ...[in which] (T)he connection to or identification with a shared place is the predominant organizing force" (Cesteros

1999:10). Similarly, the Glacier National Park General Management Plan is based on a large geographic area (over 1,500 square miles) and multiple vegetative zones (including sub-alpine forests and lower montane forests) that make up several watersheds and involve the numerous communities and their respective political systems (including the Blackfeet Indian Reservation) surrounding and influenced by the park. The decision-making authority lies with upper management within the National Park Service. In addition, the plan involves a community of interest that is national (and likely international considering World Heritage and Biosphere Reserve designation) in scale. Furthermore, both of these planning processes are mandated and guided by national legislative statutes that dictate particular outcomes. In contrast, the Upper Clark Fork River Basin Management Plan and the Blackfoot River Recreation Management Plan are based on the narrow riparian corridor of a single watershed and focus on a community of place as there is little in the way of national interest, prerogative or interference. While the authority to implement the plans for these processes is held by the Montana Legislature, the decision-making authority for the crafting of the plans is based on the consensus of the committee members who were self-appointed or who represented nearly all stakeholder interests.

Planners in this study are defined as anyone involved in the preparation, management and implementation of a planning process. Planners include not only state or federal employees but also members of non-governmental organizations and the general public who actively participated or were intimate with the specific planning situation.

The four study areas were chosen because of the unique qualities of the planning processes. My rationale for choosing these four study areas is based on the following:

1. Planners working in these planning processes have experienced difficulties due to the contentious nature of the plan and planning process (i.e. have operated in "wicked" situations) and,
2. The processes represented different contexts and allowed for a range of diverse planning environments from which to study, compare and contrast.

Each of the study areas are described below in detail to provide an explicit and accurate account of the context of each of the processes.

1. Bitterroot Ecosystem Grizzly Bear Recovery Process

The grizzly bear was listed as a threatened species in the lower 48 in 1975, the same year that the Endangered Species Act (ESA) of 1973 was created. The ESA provides "...a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved, to provide a program for the conservation of such endangered species and threatened species ...to use and the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this Act are no longer necessary ...[in which] the Secretary shall issue such regulations as he deems necessary and advisable to provide for the conservation of such species" (16 USC § 1531-1544, 1994 ed.). Most significantly, the ESA shifted responsibility for endangered plants and

animals from the state to the federal level emphasizing the protection of habitat, even on privately owned land.

The last verified bear sighting in the Bitterroot Ecosystem area occurred in 1932 (U.S. Fish and Wildlife Service 1997). (Note: the phrase "Bitterroot Ecosystem" is based on the description provided by the U.S. Fish and Wildlife Service (1997:1-4) that states "(T)he core of the ecosystem contains the Selway-Bitterroot, Frank Church-River of No Return Wilderness Areas.") The Bitterroot Ecosystem (BE), located in east-central Idaho and southwestern Montana, was evaluated as a potential recovery site as early as 1982, since the reintroduction of grizzly bears in this area it is thought, may provide a viable migration corridor between the Yellowstone and Glacier-Bob Marshall ecosystems, restore a native component of the BE, and add to the argument for delisting the grizzly bear. In 1992, the area was endorsed by the Interagency Grizzly Bear Committee, a group of "...high-level administrators that represent the federal and state agencies involved in grizzly bear recovery" (U.S. Fish and Wildlife Service 2000:6-9) and authorized the preparation of the Recovery Plan for the Bitterroot Ecosystem. A Citizen Involvement Group (CIG) was organized by the U.S. Fish and Wildlife Service (USFWS), the lead agency in recovery, "...to help guide the development of the Bitterroot Ecosystem Grizzly Bear Recovery Plan Chapter," a chapter in the more comprehensive Grizzly Bear Recovery Plan (U.S. Fish and Wildlife Service 2000: 6-22). The CIG was formed through invitations that were published in newspapers and sent to people on mailing lists from several local national forests. The final draft BE Recovery Plan called for an EIS to evaluate a full range of recovery alternatives. Several public meetings were

held in 1993 to obtain comments and open houses took place in 1994 in six communities near the recovery area to provide information on this draft of the BE Recovery Plan.

Public scoping sessions for the Draft EIS (DEIS) began in July, 1995 and took place in seven communities near the recovery area. Written comments on issues and alternatives were received from more than 3,300 individuals, organizations and government agencies. Results of the public scoping process were summarized and 46 issues were identified (U.S. Fish and Wildlife Service 1995). The process of summarizing the scoping sessions was conducted by a content analysis team that consisted of nine members of the USFWS and the USFS and took a total of 14 days. The process utilized a coding system in which each individual was given a unique identification number that was then entered into a computer database for "...easier sorting and retrieval ...[and] provides a traceable, visible system for displaying public comments without interjecting interpretation or judgement" (U.S. Fish and Wildlife Service 1995:2). The USFWS (1995:2) further claims that "(A)ll respondents' values, perceptions and opinions were recorded, including those based on misinformation ...[in which] a coder first read the entire response to gain an overall understanding of the respondents' viewpoint, then re-read the response, highlighting and coding substantive comments."

In July 1997, the DEIS on grizzly bear recovery in the BE was completed and released for public comment. The public comment process included seven public hearings that were held in communities near the recovery area. Fear for human health and safety were the issues raised most often during the public comment period (U.S. Fish and Wildlife Service 1998). Issues also arose regarding road closures, the continuation of resource extraction, the effect of reintroduction on source populations, the suitability of

the BE habitat and the legitimacy of past research that concluded the grizzly bear had been extirpated from the BE. Consequently, the USFWS received over 24,000 comments on the four proposed alternatives in the DEIS that detailed various approaches of grizzly bear recovery. The USFWS (1998) asserts that these public involvement efforts were "...intended to gather information and ideas from the public on proposed actions and alternatives to the proposed action to provide a clear basis for choice among options by the decisionmaker and the public. An analysis of public comments will help the decisionmaker make better decisions, ...[by] indicating trends of public opinion."

Prior to the release of the DEIS in 1993, individuals representing the National Wildlife Federation and the Defenders of Wildlife approached members of the Intermountain Forest Industry Association and the Resource Organization on Timber Supply (or ROOTS, which incidentally has stuck to identify the whole group), representing timber industry workers, to work out methods that could ameliorate the potential for polarization and associated delays that had plagued the recent wolf reintroduction in the Yellowstone ecosystem. Their proposal was incorporated into the DEIS as the Preferred Alternative, and called for a Citizen Management Committee (CMC) to manage grizzly bear reintroduction. This preferred alternative also called for the establishment of a 'nonessential experimental population' of grizzly bears in the BE (U.S. Fish and Wildlife Service 1997). This nonessential experimental population categorization infers that certain problem bears "...whose loss would not likely reduce the survival of the species in the wild" would be subject to euthanasia (U.S. Fish and Wildlife Service 1997). The CMC would possess "...authorized management implementation responsibility" for the project; moreover, the committee would have critical responsibility

"...for recommending changes in land use standards and guidelines as necessary for grizzly bear management" (U.S. Fish and Wildlife Service 1997). The proposed plan declared that the CMC "...is to consist of a cross-section of interests reflecting a balance of viewpoints, be selected for their diversity of knowledge and experience in natural resource issues, and for their commitment to collaborative decision-making ...[and will be] comprised of local citizens and agency representatives from federal and state agencies and the Nez Perce Tribe" (U.S. Fish and Wildlife Service 1997). There would be 15 members; 12 of whom would be appointed by the Governors of Idaho and Montana. The core area of the recovery zone under this alternative is 5,785 square miles while the experimental population area encompasses a total of 25,140 square miles. The USFWS (2000:2-24) conclusively determined that this area is "...of sufficient size to allow for grizzly bear recovery."

A second alternative in the DEIS dealing with grizzly bear reintroduction was termed the "Conservation Biology Alternative" (Bader and Bechtold 1996) and called for a committee of scientists to manage grizzly reintroduction while retaining full protection for bears under the ESA, and providing for a substantially greater expanse of protected habitat. The other alternatives in the DEIS called for no bears or no action.

The Final EIS (FEIS) was released March 10, 2000 with a 30-day comment period ending April 24, 2000 (U.S. Fish and Wildlife Service 2000). The preferred alternative in the FEIS remained similar to the preferred alternative in the DEIS except for several points. First, the preferred alternative in the FEIS includes a more detailed description of how bears will be handled if they enter the "exclusion areas," where human health and safety are an issue. There is an increased emphasis on the outreach

information and education program that would accompany the recovery. In addition, the structure and function of the CMC is clarified and changed with additions on how the CMC would be selected, the need for greater scientific expertise on the CMC and the need for further insulation of the CMC from political influences. Lastly, the preferred alternative of the FEIS contains a clarification regarding how the recovery goal would be calculated and on the use of livestock guard dogs. While the "Record of Decision" is not expected to be signed until the summer of 2000, federal officials predict that lawsuits or injunctions will be filed by certain opposing groups that "...could take years to resolve" (Grandstaff 2000:6).

2. Glacier National Park General Management Plan

Glacier National Park (GNP) is a large (over 1 million acres) protected area located in northwestern Montana and at the apex of three large watershed divides. The park was established in 1910 as a tribute to the glacial and geomorphological processes that formed its mountainous terrain, is managed by the U.S. National Park Service and contains the finest grouping of alpine glaciers in the conterminous United States (National Park Service 1999). It is designated as both a Biosphere Reserve in 1976 and World Heritage site in 1995 and together with Waterton National Park in Canada, has been designated since 1935 as an International Peace Park. It receives approximately 2 million visits annually, mostly concentrated in the period June to September.

The U.S. National Parks and Recreation Act of 1978 requires that "(G)eneral management plans for the preservation and use of each unit of the National Park System ...shall be prepared and revised in a timely manner ...[and] shall include, but not be

limited to: (1) measures for the preservation of the area's resources: (2) indicators of types and general intensities of development (including visitor circulation and transportation patterns, systems and modes) [*sic*] associated with public enjoyment and use of the area, including general locations, timing of implication, and anticipated cost: (3) identification of and implementation commitments for visitor carrying capacities for all areas of the unit; and (4) indications of potential modifications to the external boundaries of the unit, and the reasons therefor" (16 USC § 1a-7b, 1994 ed.). Planners working in GNP were confronted with numerous issues including the management of several designated threatened or endangered species (grizzly bear, gray wolf, bald eagle, bull trout and peregrine falcon), regulations surrounding scenic air tours, winter use in the park and the repair of the Going-to-the-Sun Road, a highway placed on the National Register of Historic Places and used by over 80 percent of the visitors to GNP.

In March of 1995, Glacier National Park publicly announced that a new General Management Plan (GMP) would be prepared to succeed its nearly twenty-year-old GMP. A planning team was assembled and consisted of the Superintendent, Division Chiefs, and park staff that volunteered or complied with a request to serve on the team. In addition, technical experts from the National Park Service's Denver Service Center served as advisors or participants on the team. The GMP process began with scoping sessions held regionally in nine open house forums. In addition, consultation with local Indian tribes and Waterton National Park were conducted. As a result of this public input and two publicly released newsletters, 2,300 comments were received. The comments generally favored "...limited growth in the park and even removing facilities to enhance wilderness values" (National Park Service 1999:5). Incorporating these assumptions into

the next newsletter, the park released Newsletter Three in July, 1996 detailing three alternatives, which favored varying degrees of campground closure and restrictions on the use and parking along the Going-to-the-Sun Road. The evaluation of alternatives in Newsletter Three generated "...considerable media attention" (National Park Service 1999:6) and caused a great deal of contention among certain factions of the public who felt their views had not been heard or incorporated. The park recognized the contention and later noted "...the preliminary draft alternatives were not well received by the public as evidenced by the written responses and testimony received at the public meetings" (National Park Service 1998b:250).

Twelve public meeting were held and approximately 1,600 letters were received regarding the alternatives in Newsletter Three. In response to the public reaction to the newsletter, a publication titled "Synopsis of Public Comments on Newsletter Three" was released in April 1997 and attempted to address public concern of the preliminary draft alternatives. The park stated that "(T)he content analysis was one of the tools that the planning team is using to understand how the public felt about the ideas contained in Newsletter 3" (National Park Service 1997:1). The park noted that the general theme of comments from the public favored no change at all explaining, "...one of the comments heard frequently from the public was 'leave it like it is' and why fix something that isn't broken?' For this reason, the planning team decided to present some of the issues facing park managers ...and began working on defining future management goals and objectives" (National Park Service 1998b:251). Three additional newsletters were released between the winter of 1996 and summer of 1997.

The release of the Draft Environmental Impact Statement took place in the summer of 1998, presumably delayed from the actions that occurred after the release of Newsletter Three. Regarding the combined GMP and DEIS, the park candidly proclaimed, "(N)ot everyone will like our alternatives or will agree with our assessments, but we have done our best to air the issues, develop alternative solutions, and select a preferred alternative using the best information available" (National Park Service 1998a). The GMP/DEIS stated, "(C)omments on this draft plan are encouraged and will be carefully considered" (National Park Service 1998b).

A series of public open houses and public hearings were again held and by the end of the comment period, over 2,700 written comments, including transcripts of the testimony from the hearings and comments made at the open houses were received and evaluated. Park planners reported that in order to evaluate public sentiment about the GMP/DEIS, "(E)ach comment was numbered, and information from the letters was recorded. This system helped NPS personnel analyze the comments and compose the responses" (National Park Service 1999:8-9).

In the combined GMP and Final EIS (FEIS) document released in July 1999, GNP developed a management philosophy and addressed eight critical issues in the park. The GMP/FEIS states, "(T)he overwhelming majority of the people ...have indicated that they would like to 'keep Glacier the way it is' ...[thus] (T)he park would retain its classic character within the context of changing resource, social, and economic conditions while continuing traditional visitor service and facilities...A management strategy...recognizes the distinctive character of individual geographic areas within the park and the suitability of various zones in these areas to provide for a range of visitor experiences" (National

Park Service 1999:23). The GMP/FEIS claims the document now provides park managers with a framework for making decisions about resource protection and visitor use. However, dissatisfaction regarding a number of both substantive and process-oriented items extended the process almost two years longer than planners had anticipated and at a total cost of nearly $1.5 million.

3. Upper Clark Fork River Basin Management Plan

The Upper Clark Fork River basin, an area of about 6,000 square miles draining the western slope of the northern Rocky Mountains, is a tributary of the Columbia River. The Upper Clark Fork River basin is defined as the drainage area above Milltown Dam at 3,250 feet to its headwaters in the Anaconda-Pintler Wilderness at over 10,600 feet. Decades of agricultural, industrial, domestic and municipal use had impaired the water quality of the Upper Clark Fork River and turned this once pristine river into Montana's "most abused river" (Upper Clark Fork River Basin Steering Committee 1994). The Upper Clark Fork River and some of its 17 tributaries are plagued with problems associated with toxic metal contamination, sedimentation and nutrient loading and has led to issues of impaired aquatic and riparian habitat, decreased opportunities for recreation and contaminated public water supplies (Maughan 1994). The Clark Fork River is now the largest Superfund site in the United States with an active mitigation campaign spearheaded by the U.S. Environmental Protection Agency.

The river had also been under threat from chronic de-watering for beneficial uses, and according to some, the basin in the 1980's was grossly over-appropriated (Upper Clark Fork River Basin Steering Committee 1994). In Montana, water reservations are

the only legal means of securing water for aquatic and terrestrial health and recreation purposes, known as instream water rights. Natural water quality is related to the flow in a basin, ergo, a decreased flow tends to also decrease a river's capacity to assimilate pollutants (McKinney and others 1989). Under the 1973 Montana Water Use Act, any political subdivision or agency of the state or United States government may apply to the Montana Board of Natural Resources and Conservation, the legal entity for granting water reservations, to reserve water for both offstream or instream uses including municipal growth or water quality. The application must be published in a newspaper and affected persons must be notified. The board then adopts the reservation based on proof provided by the applicant that there exists a need for the reservation, the amount of water requested is necessary for the reservation, the reservation is in the public interest and special criteria will be met if the use is to be out of state (McKinney and others 1989). An unsatisfactory decision by the board could be appealed to a district-level court and then to the Montana Supreme Court.

After initiating an Environmental Impact Statement process, the Montana Department of Fish, Wildlife and Parks (DFWP) submitted an application for instream flow reservation in 1986 on about 25 stream segments representing about 2.5 percent of the total stream miles of the Clark Fork River basin in the state (McKinney and others 1989). The following year, the Granite County Conservation District applied to reserve water from several tributaries of the Upper Clark Fork River for a storage facility for future irrigation use. In 1991, both of these cases were scheduled to go to a hearing before the Montana Board of Natural Resources and Conservation. The expectation of a

litigious situation (with a potentially expensive and uncertain outcome) convinced certain stakeholders that a different settlement process may be necessary.

A committee was formed in 1988 by the private, non-profit organization Northern Lights Institute (NLI) based in Missoula, Montana, to address Superfund cleanup of the Upper Clark Fork River. After a year of work, the committee discovered that more tangible results might ensue by tackling the issue of present and future water allocations. Noting the potential conflicts between DFWP and basin irrigators, NLI provided a forum in which stakeholders slowly realized that civility rendered through informal discussion was not only possible, but could indeed lead to a resolution. In 1990, the committee published a report titled "State of the River" detailing concerns that had been brought up during previous meetings. The idea of a basin closure to water reservations was put forth and agreed to by committee members. Recognizing the efforts of the NLI initiative, the Montana Legislature implemented most of the recommendations of the committee. On May 1, 1991 by legislative decree, the basin was closed to new reservations and the committee was officially recognized by the state government. With 21 members (voluntarily containing nearly all of the original committee members) representing irrigation, recreation, fisheries, mining, hydroelectric utilities, and state and local government agencies, and with one facilitator, the committee became charged with the following mandates: "(T)he steering committee shall complete an Upper Clark Fork River basin comprehensive water management plan ...[that must] consider and balance all beneficial uses of the water in the Upper Clark Fork River basin, ...identify and make recommendations regarding the resolution of water-related issues in the Upper Clark Fork River basin ...[and] complete and submit a management plan to the governor and the

legislature by December 31, 1994" (MCA 85-2-335 to 338). It is important to note that although the committee was under a mandate to produce a plan, there were no specific conditions regarding the details or quality of the plan.

The Upper Clark Fork River Water Management Plan that the committee produced was eventually ratified with little change by the 1995 Montana legislature and signed into law. One of the most significant provisions of the plan was a controversial ten-year water leasing pilot effort in which water rights could be temporarily transferred from agriculture (holding the majority of water rights) to a public organization (such as the state) or a private entity (such as Trout Unlimited) and used for instream flows during the driest years. This agreement represented a tremendous step forward for collaborative processes and according to Snow (1996b:24) "(T)he ten-year pilot provision gives succor to those who want instream flows in the river, while at the same time demonstrating agriculture's willingness to try an innovative solution to one of the West's most vexing and longstanding environmental problems--namely, how to keep rivers biologically intact while maintaining a secure economic base for agriculture and other water users." Most of the original committee continues to regularly meet to the present to discuss topics of water allocation and related natural resource management issues.

4. Blackfoot River Recreation Management Plan

In 1995, the Montana Department of Fish, Wildlife and Parks called together various stakeholders to gain input on the recreational impacts that had occurred on the Blackfoot River in western Montana. Input was sought because of the recent increases in population in the region, recent widespread media coverage related to the river and the

noticeable increase of anglers. The 132-mile Blackfoot River is a tributary of the Upper Clark Fork River and transects land owned and managed by a variety of public and private interests. These interests include the USFS (44 percent), private landowners (24 percent as both agricultural and non-industrial forest land), Bureau of Land Management (20 percent), Montana Department of Natural Resources and Conservation (7 percent) and Plum Creek Timber Company (5 percent) (Montana Department of Fish, Wildlife and Parks 1999).

A private consultant was hired to coordinate the recreation management planning process. A Technical Advisory Committee and a Citizen Advisory Committee were established, seven scoping meetings occurred and the Blackfoot River Recreation Management Direction was produced and released in January, 1999. Officials with the DFWP realized that the scoping sessions and Management Direction were inadequate in order to formulate a comprehensive Recreation Management Plan and thus extended the process by creating a Recreation Steering Committee to identify and specify a detailed recreation management plan for the Blackfoot River.

The impetus for crafting this plan was further prompted by the Montana legislature, who in 1999 produced a bill directing the DFWP to "...undertake a comprehensive study of the Blackfoot River," to address "...the growing popularity of the Blackfoot River and ways to mitigate conflict among landowners, outfitters, and private recreationists, ways to protect the integrity of the river's resources, while continuing to accommodate recreational use ...[and may] enlist the assistance of the governor's consensus council, created pursuant to executive order, to organize discussions among all interested parties" (House Bill 629). The bill requires that the study be presented to the

57th legislature and include "...suggested legislation or department rules, if either are warranted, to alleviate conflict, preserve the integrity of the resource, protect private property rights, and ensure continued high-quality fishing, camping, and floating for commercial and private recreational users" (House Bill 629).

In the summer of 1999, the DWFP conducted a study, using a quantitative survey, on recreation use on the river and began the creation of the Recreation Steering Committee (RecSteerCom) to study in detail various issues relating to the river. Recognizing that representing a diversity of opinion on the RecSteerCom was an essential component of studying and resolving issues, members of the RecSteerCom were appointed based on letters of interest submitted by individual stakeholders, with every interest represented (W. Baxter, DFWP, personal communication). The RecSteerCom is made up of private landowners, commercial outfitters and constituents representing the general public with assistance from federal and state government agency officials. The issues confronting the RecSteerCom include creating a commercial use policy, investigating use limitations on the river including a user fee system, determining access and facility limits and needs and determining the RecSteerCom's role in water quality and land use issues (Montana Department of Fish, Wildlife and Parks 1999:Appendix G). The group has been meeting on a monthly basis through the spring of 2000 in a forum that is advertised and open to the public.

Sampling

I used a purposeful sample of individuals involved with the study areas in order to compile interview data related to the research objectives and working propositions. In

addition, I incorporated a snowball sampling technique in which planners suggested other individuals that could provide further insight or diversity of opinion. The purpose of this sampling was not to determine the extent to which various experiences and meanings were distributed across the population of natural resource planners, but rather sampling captured the experiences of a range of planners selected for diversity. To achieve this diversity, planners were chosen based on the characteristics of their involvement. I sought not only the prominent, outspoken or high-profile members of each planning process, but also members who represented a diversity of opinion (for example, adversaries who had submitted opposing alternatives for the Bitterroot Ecosystem Grizzly Bear Recovery Process). A total of twenty-eight planners were interviewed.

While generalizations can be inferred to either other planners in the study areas, other planners in similar planning processes or natural resource planners in general, caution should be exercised, especially in the latter case as this sample is small and non-random. The results from this study are not meant to be statistically generalizable, but instead to capture the range of perceptions among the sampled individuals. Admittedly, as Patterson and Williams (in review) attest, "(U)sing this sampling approach something is lost - the ability to draw conclusions about how experiences are distributed across a population. However, something is gained - by virtue of the smaller sample size the researcher can employ approaches to data collection that allows a more in-depth understanding of the phenomenon being studied."

Data Collection

Interviews occurred between July 19, 1999 and December 3, 1999 and were tape recorded and transcribed verbatim. Interviews were open-ended and flexible, allowing the planner to elaborate on details and idiosyncrasies of their planning process or personal planning paradigm while still focused to reveal relevant and comparable information. I used a semi-structured interview process with an open-ended questionnaire (see Appendix A). This method was coupled with probing in order to uncover important points related to the research objectives and working propositions. Interview questions were derived from literature related to the conceptual framework. The interview process began with pre-planned questions and subsequent questions were then spontaneous reactions to responses by the planner but still based on the interview guide. Questions began with a broad theme and then developed into more specific detail by way of probing. The questions served as a guide rather than a rigid framework and thus the interview was approached as a conversation that was guided toward attaining information relevant to the research objectives. Respondents were encouraged to elaborate on specific issues relating to the research objectives and working propositions recognizing that unique attributes would characterize each planner who was sampled. Twenty-six of the interviews were conducted in person at a location chosen by the planner. The two remaining interviews were accomplished via telephone.

Other sources of data used to supplement interview data included notes taken during the interviews, observations of various publicly-held meetings pertaining to the study areas and documents such as draft and final Environmental Impact Statements,

summaries of public comments, newsletters, academic analyses, and newspaper and journal articles that pertained to the study areas.

Data Analysis

The interview transcripts form the basis of the project data. Analysis began with a thorough reading and understanding of the interview as a whole. Next, the interview was analyzed to identify significant themes relevant to the research objectives and working propositions. From the more than 40 hours of taped interviews, quotes within the transcripts were excerpted, used to establish particular points of view and validate results.

The goal of the analysis was to understand the perception of the planning environment for each of the individuals who participated in or were intimately familiar with one of the four study areas. The data analysis first incorporated a qualitative approach followed by a quantitative process in order to address the working propositions. The qualitative data incorporated an interpretivist methodology and provides the foundation of the analysis. The interviews using the qualitative approach were viewed more as an emergent narrative that was co-constructed by the interviewer and interviewee (Patterson and others 1998) and thus provided "...the basis for a direct interpretation of a complex unit of social interaction, in comparison to the standard approach where such inferences are based on decontextualized bits and pieces" (Mishler 1986:241). The goal of the interpretation was to outline and describe in rich detail the natural resource planning environment while recognizing the conceptual framework underlying the

research. Dominant themes emerged that defined the planner's perceptions of planning and the planning environment.

The data analysis was based on an organizing system developed through a process utilizing an index system, meaning units and thematic labels. The software package QSR Nud*ist (ver. 4.0) was used to facilitate the creation of the index system. The index system consisted of a numerical reference system sequentially identifying the location of each sentence within the interview. The sentences were used as the base reference unit in the index system for two reasons. First, a sentence is a unit of reference that expresses a coherent idea. Second, sentences are small enough to facilitate ease of manipulation and organization of data. The sentences were numbered in the order they appear in the transcription.

The actual analysis began with the identification of meaning units within the transcripts. The meaning units were typically made up of groups of sentences that were comprehensible on their own and described or conveyed a coherent concept or belief. Later, thematic labels were developed which served to group the various meaning units under similar topics based on my interpretation of the underlying concept relevant to my research question that particular meaning units addressed. For instance, an excerpt describing "negative aspects of NEPA" was construed to be an individual meaning unit. This meaning unit was then grouped into the thematic label titled "Procedural Obligations."

Data categorized by thematic label allowed for analysis both within (idiographic-level) and between (nomothetic-level) planners. The first stage of the data analysis began with an idiographic-level understanding of the individual planner in order to identify and

establish each planner's perception of the planning environment and preference of planning model. The second stage of the analysis was the nomothetic-level analysis that pertains to both the amalgam of planners within one specific study area or, where patterns were observed between many or all of the sampled planners, across several or all four of the study areas. The patterns that emerged reveal consistencies between planners regarding various themes. These patterns were noted in order to initiate the nomothetic-level analysis. For instance, if many of the planners in a particular study area share themes relating to "Dialogue" and "Respect," then a nomothetic-level assumption is made that the process as a whole contained elements of social capital. If the majority of planners in all four of the study areas described procedural obligations as constraining, then the presumption is made that procedures are a constraining factor in other planning processes with similar contexts.

The analysis of these data is presented in two different sections of Chapter Four: Results. The first section presents an analysis of each study area and details the dominant themes that were present to highlight particular elements that distinguish each study area. The second section presents the quantitative analysis to test the working propositions.

The designation of both a planner (idiographic-level) as espousing or supporting a particular theme or the description of an entire study area (nomothetic-level) possessing a dominant theme is based on the intensity of the narrative or narratives describing the theme. This intensity is described as the degree or strength and the quantity of the comments made by the individual planner (for the idiographic-level analysis) or group of planners (for the nomothetic-level analysis). The quantity is based solely on the total number of instances a planner discussed a particular theme or how many total planners

discussed a theme. Using the degree or strength and the quantity of comments as the criteria by which idiographic and nomothetic-level analyses were performed allowed for a thorough and systematic categorization of each planner and the amalgam of planners. The excerpts chosen serve as a justification of the interpretations made regarding the meaning units and themes. The choice of specific individual excerpts used is outlined in greater detail in Chapter Four: Results.

In order to initiate the quantitative analysis to test the working propositions, each of the planners was first categorized as either a synoptic or a transactive planner. This categorization was based on specific themes identified within the transcripts describing a planner's preferred or desired method of planning. Planners who consistently expressed the general characteristics of either model of planning (see Table 1) were categorized as either "Synoptic" or "Transactive." Planners who exhibited characteristics of both models of planning were categorized as "Undetermined." Next, themes were identified that categorized a planner as either agreeing or disagreeing with the commencing statements of each of the working propositions (i.e. for Working Proposition One, excerpts relating to the planners perception of procedural obligations would be sought and analyzed). Once the appropriate data were associated with the working propositions, the responses were coded with either a "1" or a "2" in order to facilitate statistical analysis. The variable relating to "Synoptic," "Transactive" or "Undermined" model of planning was termed "Desired Model." Seven cross-tabulations were performed between variables representing each of the working propositions and the variable "Desired Model" using the statistical software package SPSS for Windows (Release 9.0). A chi-square test statistic was generated to gauge the significance of the test and indicate to what degree

the sample data conforms to or "fits" the working propositions. For instances when the assumptions of the chi-square test statistic were violated, the Kolmogorov-Smirnov Z test was used.

CHAPTER FOUR: RESULTS

OVERVIEW OF RESULTS

This chapter presents results from the qualitative and quantitative analyses. First, the study areas are examined individually and characteristics of the process are discussed and analyzed by the accounts given from the sampled individuals. The second analysis examines the working propositions. Tables associated with the individual working propositions are presented and illustrate the total numbers and percentages of planners who favor a particular planning model and those who agree or disagree with the commencing statements of each the working propositions. Where the tests are significant, the results are discussed as they pertain to synoptic and transactive planners and their respective positions regarding the working propositions. The names of the study areas have been shortened when referencing a planner from a specific study area and are as follows:

1. Bitterroot Ecosystem Grizzly Bear Recovery Process (Grizzly),
2. Glacier National Park General Management Plan (Glacier),
3. Upper Clark Fork River Basin Management Plan (Clark Fork),
4. Blackfoot River Recreation Management Plan (Blackfoot).

Several of the planners that I interviewed participated in more than one of the study areas (specifically, planners involved with the Upper Clark Fork River Basin Management Plan and the Blackfoot River Recreation Management Plan). These individuals were instructed to comment and elaborate specifically on the study area that they were most intensely involved in. While some of the planners in the study are female, the majority of the planners are male (85.7 percent), owing to the paucity of

gender diversity in these natural resource planning processes. However, when describing perspectives from specific planners, the gender of the planner has in some instances been changed in order to maintain anonymity. Table 4 illustrates the number and percentage of planners interviewed across the four study areas.

Table 4. Breakdown of study interviewees.

	Grizzly	**Glacier**	**Clark Fork**	**Blackfoot**	Total
# of Planners Interviewed	9	7	7	5	28
% of Total	32.1	25	25	17.9	100

It is important to note that planners involved with the Upper Clark Fork River Basin Management Plan were able to comment not only on the planning process in its entirety but also its final outcome as this is the only study area of the four in which the process had achieved a tangible outcome before the interviews took place. Each of the remaining three study areas were in various stages of completion (detailed in Chapter Three: Methods) and therefore planners were not able to speculate on its specific outcome, although many were able to anticipate future actions and an end result. In the case of the Bitterroot Ecosystem Grizzly Bear Recovery Process, the Final Environmental Impact Statement was released after the last planner had been interviewed. The Glacier National Park General Management Plan and the Final Environmental Impact Statement were released while interviews were taking place.

Planners were assured of confidentiality, thus the initial "P" and the interview number is used to identify individual planners with specific excerpts from the transcriptions. In addition, the sentence number from the index system of the transcribed interview is provided at the end of the excerpt. This sentence number corresponds with

the first sentence in the excerpt. This number is given in order for the reader to distinguish if the excerpt is one continuous piece of text (in which case only one number is given) or if the text is several distinct excerpts from the transcription, in which case two or more numbers are given to identify how much of a "gap" appears between the different excerpts. The gaps are marked in the excerpts with an ellipsis (i.e. "..."). In several excerpts, I have included the question from the interview (indicated with a "Q.") in order to clarify the response. Additional words or sentences are provided in brackets (i.e. "[ ]") to clarify or expand certain excerpts. In addition, descriptions of the acronyms cited in the excerpts and throughout this study are provided (see Appendix B).

ANALYSIS OF STUDY AREAS

An analysis of each of the four study areas is presented below. In each of the study area analyses, a general overview of the process is given. The overview is followed by a series of dominant themes that emerged from the data and describe significant characteristics of each process. The dominant themes also serve to distinguish processes from each other. Excerpts are presented that justify the interpretation of the theme.

1. Bitterroot Ecosystem Grizzly Bear Recovery Process

Overview

The Bitterroot Ecosystem Grizzly Bear Recovery Process has experienced numerous delays including the release of the Final Environmental Impact Statement and resulting Record of Decision for various reasons. The dominant themes that emerged

from planners in this process were, 1) procedural obligations, 2) issues regarding goal identification and agreement and, 3) mistrust. Constraints resulting from rigid procedural obligations were claimed by all but two of the planners interviewed. The process was mandated to follow a stringent agenda (leading to recovery) that seems to foment agitation and sometimes civil disobedience. The public meeting process mandated by NEPA according to one planner, "isn't a functional way to do business" (P12) and was dominated by the inability to accommodate two-way dialogue because people "grandstand" (P26) to promote their point. These processes promoted adversarial relationships where public gatherings revealed only "the most polarized views" (P12). Timelines required prompt analysis of information collected at the various public gatherings. The content analysis process after public meetings, hearings and scoping sessions was problematic because "you get so much information coming at you" (P26) that the task becomes "a pretty difficult thing" (P26). Fear of litigation according to one planner, takes up a tremendous amount of agency time and the documents required under NEPA "are not intelligible" (P17) to the general public.

In addition to procedural constraints, the inability of the agency and stakeholders to identify or agree upon goals seems to have influenced the Grizzly process. Finally, although trust was present and necessary in order for representatives of ROOTS to come together and reach consensus, mistrust has pervaded the process among many of the stakeholders and in many of the communities adjacent to the recovery area and as a result, disrespect to federal employees occurs even outside of the work environment. Many of the planners in the Grizzly process discussed a lack of dialogue and respect that preoccupied their assignments. These elements appear linked to the mistrust among

many of the stakeholders. The Grizzly process has been mired in the potential for litigation at various points in the process. The question of whether or not to reintroduce grizzlies into the BE and how to do so remains the subject of significant public debate.

Dominant Themes

Procedural Obligations

Various constraints related to procedures mandated in the Grizzly process appeared in nearly every interview from this study area. The issue was identified as one that can restrict the process and outcome. P12 explains that the mandated NEPA process only promoted polarization within the communities and did not adequately represent the community of interest.

> I think the unfortunate part about our public system is the NEPA process -- and all that guarantees is that you're going to find out the most polarized views from everybody. It doesn't in any way get a cross-section of the public ...What we get is the person who is willing to drive to Hamilton and get up in front of the public and emotionally speak his piece, or who feels strong enough that he'll write a letter and sign a petition. The average guy, we don't hear from. We have no way of getting the average person's pulse on this issue through the NEPA process. And that's a huge failure. All it is, is guaranteeing that we'll get the most excited people on either side to participate (P12 Grizzly 217, 221).

P26 describes the process that followed the requirements of NEPA as being unresponsive to issues that were raised in the middle of the process and explains that NEPA is used in some cases as a cosmetic as opposed to a prescriptive process.

> I'm pretty disillusioned with the whole NEPA process at this point. It's been a long process. I think NEPA was a good idea and I think it still is a good idea; in concept it's a good idea. But I think along the way it's lost any ability to be a flexible process, to be a process that's really responsive to issues that are raised in the middle of the process, or into the process. It's just been bastardized essentially by the agencies that use it. I'm thinking about the way that we go through the public comments and

> summarize them and do the content analysis on the public comments, and I was involved in the content analysis on the draft EIS comments and, I mean, for the number of comments we got, 24,000 ...You get so much information coming at you and it's really hard to carry that through. I had to carry the information that I had in my head from all these comments to the team, explain it, and then try and move that forward and bring them to the Final [EIS]. It was a pretty difficult thing ...And the way that NEPA currently is used is, it's sort of a tool to rationalize or prove, whatever the science, to mold a document into justifying cutting the trees on this X block of land, or putting bears into the Bitterroot -- is definitely the right thing to do. And I think the process is abused that way ...The Forest Service does it all the time. I worked on timber sales where the ranger wanted to go cut -- had a target to cut a couple of million board feet of timber, and he said, "okay" -- drew a circle on a map, "this is where we're going to cut it." We built eight or nine alternatives, as we sat around the table, we'd laugh as we built these alternatives, "let's build one for the ORV group, let's build one for -- make these people happy." Knowing the whole time it's going to be this alternative which is what the ranger wants and we're just doing the NEPA process to make it look good (P26 Grizzly 192, 197, 334).

P16 explains that different EIS's associated with different projects tend to be duplicative and thus confusing to the general public.

> I think the real problem with the grizzly bear or the lynx or blackfooted ferret or the prairie dog, all these major controversial issues is, the fact that the EIS's and most of the major planning efforts are outside of the central planning process. So you have an EIS over here for the bear and you have an EIS to revise the forest plan. So you have duplicative efforts ongoing, and I think this creates a great degree of confusion within the public, within the planning process, and within the conservation effort (P16 Grizzly 57).

The public meetings were not productive because according to P26, the forum was a "one-way sort of process" that stifled communication and did not encourage information exchange and instead promoted "grandstanding."

> I mean we've done the mandatory public involvement steps, but we haven't really gone beyond, as far as a lot of outreach activity to people, roundtable-type meetings in communities and that sort of thing. I think we could have done a better job in that way ...I don't think those [public meetings] were very productive. It was a one-way sort of a process where people would come and you would give them five minutes and they would speak their

> piece, and next and next. And I don't think we ever had a two-way kind of dialogue, and I think our end-product here, being the EIS, could have been made a much better document that would have been more responsive to public concerns and issues had we had more of a two-way dialogue ...and a lot of people when they get up in front of a crowd just want to grandstand. Their input is not really terribly productive as far as addressing issues (P26 Grizzly 108, 142, 145).

P17 explains that the fear of litigation takes up a tremendous amount of agency time and consequently, the documents produced "are not intelligible" and read by only "professionals" and thus the procedural complexities do not lend themselves to communication with the public.

> ...the level of disclosure in NEPA documents [EIS] is so high because agencies are afraid that they'll be litigated for insufficiency of not doing a sufficient analysis, not examining all the alternatives, and not considering key features, that they spend a lot of their time on the paperwork side of it, and not as much on the substantive side. Frankly, these documents are not intelligible to a lot of people. I don't know how many people, other than professionals, read them (P17 Grizzly 250).

Goal Identification or Agreement

Every planner in the Grizzly process commented in some regard that goal identification or agreement was an issue that had affected the planning environment. In this first example, P12 explains that politicians in Idaho prevented the involvement of state Fish and Game personnel in the planning process even though certain Fish and Game personnel favored grizzly bear recovery and wanted to participate.

> ...subsequent to the initiation of the process, about half way through the draft process, the political forces in the State of Idaho intervened and directed that the Fish and Game in Idaho not participate any more. So they haven't participated because they were politically removed from the process. In that regard, there has not been agreement among the politicians in Idaho, but certainly the Fish and Game people agreed that it's something that should be done, but the politicians didn't agree (P12 Grizzly 22).

P17 states that the grizzly bear recovery is extremely controversial and thus, a program should have been developed that recognized the implications of the controversy.

> I'd say that this probably is about as controversial a restoration effort as you could have and there are a considerable number of people who think bears shouldn't be restored under any circumstances and they're very wedded to that viewpoint (P17 Grizzly 27).

Mistrust

The last dominant theme relating to the Grizzly process is the issue of trust. Nearly every planner described the air of mistrust present among some factions of the public and certain government employees. Several planners elaborated on the adversity that led to a tenuous working environment both at public gatherings relating to the process and in non-work related settings. P26 describes one event that took place in a rural town near the recovery area where federal employees work and shop.

> When I was there, there was the story of one of our secretaries who went into town to buy a pair of shoes. And went into a shoe store that had the sign in the window that this business is supported by timber dollars. And she went in to buy a pair of shoes and they said, "we don't sell shoes to your kind, the Forest Service" (P26 Grizzly 300).

P12 describes the public education and outreach attempted by a federal agency and that these attempts drew criticism.

> ...we face the problem of dealing with people who already have their minds made up and no matter what we tell them, they don't believe you. And we get accused of things that we never did. We had some kind of a meeting in Hamilton and brought in some people that live with grizzly bears in the Swan Valley, and it was kind of a community thing where they wanted people that were there in the Bitterroot Valley to have the opportunity to listen to somebody who lives in grizzly bear habitat and is not too worried about grizzly bears. So they brought a couple of ranchers down there, and some members of this group, "Citizens Against Grizzlies" accused us of staging this and having these people do it so we could manipulate public opinion (P12 Grizzly 168).

2. Glacier National Park General Management Plan

Overview

Planners involved with the Glacier National Park General Management Plan primarily raised concerns regarding poor internal and external relations with fellow planners and stakeholders. Consequently, the dominant themes relating to this process concern 1) power, 2) goal identification and agreement, 3) mistrust and, 4) practical utility of the product.

Nearly every planner discussed the notion of power. However, this power is described in diverse and even antithetical terms in that different planners elaborated on either *being* controlled by or *wanting* to control aspects of the process. Another prominent theme was goal identification and agreement. Several planners noted that this issue was responsible for confusion within the team and with the public. In addition, narratives relating to trust were mentioned by nearly every planner in this process. These individuals felt that the public trust was violated after the release of Newsletter Three. Others describe the lack of trust exhibited by upper management toward the planning team. Several planners also commented on the utility of the General Management Plan and Final Environmental Impact Statement, whether the document was worth the time and effort and exactly how pragmatic the document would be regarding future planning and management of the park.

In the excerpts below, the term "upper management" is used in brackets when planners describe the individuals or groups of individuals working in the upper echelons of park management who include Division Chiefs, the Superintendent and other high-ranking administrators within the National Park Service.

Dominant Themes

Power

The first dominant theme of this process relates to power. There are two different views of power; individuals or groups of individuals who controlled the process or those who wanted to control the process. The majority of the planners who discuss these power issues elaborated on the notion of being controlled and perceiving an over-exertion of power by [upper management].

This first excerpt details the sentiments of a planner who felt controlled by [upper management]. P5 perceives an over-exertion of power by [upper management] and explains that as a member of the planning team, input mattered little since [upper management] would decide issues regardless of the team's input. P5 further elaborates that [upper management] had historically viewed collaborative decision-making as threatening and feared a loss of control.

> I think Glacier has had a long, long history of very autocratic managers. And the perception from the beginning on the part of many of the Park staff, was that their involvement didn't really matter -- they would give their opinions and they would give their ideas, but it really wouldn't matter because in the long run, [upper management] would just decide what they want to do and do it anyway. ...I think planning by nature is a loss of control because planning has to be collaborative if it's going to work. [Upper management], as a rule, is not [upper management] because they have been collaborative in their careers. Most of [upper management] is pretty autocratic, and having to go through a very collaborative planning process where you have to trust groups of people and the public and the political environment to help you make decisions, is very threatening. ...I think planning in general threatens managers because it has to be collaborative, and that represents loss of control (P5 Glacier 126, 378, 389).

P3 in contrast, views an exercise of power as justifiable and preferable due to the superiority of scientific or technical authority over mere "personal preference." P3

describes the issue of incorporating public opinion within the decision-making process and explains that public opinion is often not "practical" and must be "tempered" by his own skills denoting an air of omniscience in the planning and decision-making process.

> There is a point at which management decisions come into play and obviously people that are trained in park management and are park professionals have to weigh what the public says, which quite often is either personal preference or opinion or because they have not managed parks is not very practical. You have to kind of weigh that and try to incorporate that and temper it with your management skills (P3 Glacier 147).

Goal Identification or Agreement

The next dominant theme that emerged involves the ability to identify and agree upon goals and the resulting actions. P1 explains that there existed deficiencies regarding the identification of goals and this in turn affected the ability to communicate. He explains that [upper management] would review and change the goals that would in turn cause confusion among planning team members.

> I think [there was] a lack of a clear idea of what we [the planning team] wanted the plan to do and how it was going to do it. Disagreements right up to end about what [upper management] wanted out of it or what they were willing to put in there ...But when you put out a very broad-based general plan, how can you argue with, "we want to preserve the resources or conserve the scenery unimpaired for future generations." I mean that is basically restating the parks mission ...It is no wonder it was hard to communicate, because we didn't know. The communication with the public wasn't the problem, it was having everybody clearly understanding what we [the planning team] were doing before we communicated [to the public]. How the plan looked, was evolving as we were going along and that did confuse people -- it confused people on the staff. And it was confusing to even the people who were working continuously on a day to day basis (P1 Glacier 82, 89, 121).

P3 explains that members of the planning team were unclear about what they were hoping to achieve and in particular, the inability of [upper management] to articulate their expectations of the plan.

> But, laying on top of that was even a bigger problem, and I am sure you have heard about this if you have interviewed quite a few other people, is with the park management team [planning team], particularly [upper management] seemed to be very unclear about what they wanted. We kept going through these exercises where we would develop something that we thought was along the lines of what they wanted and they would look at it and say that they didn't want that and that was totally wrong and that wasn't what they were after (P3 Glacier 79).

P1 elaborates that because goals were not agreed upon, the necessary time was underestimated and the allotted budget of the process was exceeded.

> We exceeded the budget, it took almost four years. It turned out to be much more -- what we failed to do is, we could sit around at the beginning and say, "everybody is going to have to participate in this, some people up to fifty percent of their time." That never happened. Some people spent a hundred percent of their time and then others were constantly catching up or maybe we wasted some time, but I think there was a gross underestimate of the time involved, particularly because we were not so clear about the methodologies and the end points of what we wanted to achieve with the plan (P1 Glacier 392).

This next planner believes that finding the overall vision of the park proved difficult because of the multiple definitions of how the park should be managed.

> You've got to remember, Yellowstone National Park has no General Management Plan, and part of the reason is, I think what we found here in Glacier, or these other big parks like Grand Canyon and places like that, it's just very difficult to get a comprehensive, overall vision of how a park should be when so many different parts of the public look at it so differently (P11 Glacier 100).

Mistrust

This next theme relates to mistrust. However, the discussion is focused on both mistrust within the NPS planning team and the public perception of trust. In the first two excerpts, planners discuss violating the public trust. In this first example, P10 explains that the trust of the public was "squandered" with the release of Newsletter Three and consequently was difficult to reestablish.

> We wasted, squandered a lot of goodwill with the public by presenting Newsletter Three the way we did. I think we missed the point on the spectrum where we should have been engaged in a productive discussion with the public. I think we missed that so much that we created a lot of distrust. And goodwill is something that is very hard to build up and doesn't take much to erode it. And I think we really eroded a lot of that in that process. And some of the things we've done since then. We've really gotten cross-wise with the public on it. I don't think you get that back very easily (P10 Glacier 220).

P2 describes the "big mistake" involving the release of Newsletter Three in which the relationship between park planners and the public was diminished and resulted in an erosion of trust and the promotion of skepticism.

> ...and once you've broken their [the public] trust, and I think in Newsletter Three we broke their trust, it doesn't make any difference what you say or do there. They're going to be very skeptical. I think a mistake in the planning process, honestly that was made, and I'm in my [age] and I've been doing government work since I was in my [age], I think we made a big mistake, a big, big, big mistake in assuming that the public was going to buy some of these far-out alternatives. I think we would have been far better off internally, and this isn't what the planners tell you, but sort of doing a reality check and saying, "we're not going to put alternatives in there, like closing the Camas Road." Come on, that thing doesn't have a snowball's chance in hell of ever becoming reality. We get the Chamber in Columbia Falls angry with us. We get the Congressional folks angry with us. We get people driving the North Fork angry, so why put it in? Even though some people are saying the Park should be managed more as a wilderness and there should be more emphasis on muscle-powered recreation as opposed to gas-powered, that thing [Newsletter Three] didn't stand a snowball's chance in hell (P2 Glacier 303).

In the next two excerpts, P5 discusses the lack of trust within the planning team. First, he notes that mistrust was present because members were chosen based on availability and not on their abilities to work on the team.

> We were trying to build that ownership, but we had a lot of resistance and a lot of distrust from the very, very first workshop. And the core team, my impression at least is, the core team of park staff people were selected based on who had the time to devote to this, not based on the people who might be the best at it. And that was another mistake, that later on we realized we should have paid a lot more attention to who it was the Park

> was putting on that core team. I think those people were not necessarily the most trusted by their own staff, nor were they the people that felt the most confident in dealing with this stuff (P5 Glacier 97).

When describing the dynamics among planning team members, P5 elaborates on the amount of distrust present and that the team acted like "dysfunctional families" because of competition among planners who were members of various divisions of the park.

> I think the biggest word that I can apply there was distrust. I always had the feeling that the different staff members didn't trust each other. In the Park staff, the plan is only a part of big piece of what they do. So you're always dealing with the general background modes of operation in a park, and I'm becoming convinced that this is true of all large parks, that they have been in competition with each other for so many years from division to division, and individual to individual in terms of trying to get manpower and time and priority and management attention and all of that, they're like big, huge dysfunctional families. And in a planning situation, I think that just becomes exacerbated because of the need for planning to be really collaborative. At Glacier, it seems to be in an especially big problem and I could never figure out exactly why, but I think there's been a history of management there that has not built any kind of collaborative ways of doing business (P5 Glacier 142).

Practical Utility of Product

The last theme relates to the utility of the final product. This theme was identified by several of the planners and is best articulated by P3 in the text below.

> In the end, the whole sad thing about it, I think the end-product, it really isn't much, it doesn't do a lot for the park. All of the major issues were not addressed. The really big issues in managing Glacier in the future are not addressed in that GMP. You take any of them, like the hotels are falling apart, dilapidated. That's a big issue for the park and how are they going to deal with the future of those hotels? That is not sufficiently addressed in there. No decisions have been made. The Going-to-the-Sun Road -- how is that going to be handled? Not only in terms of rebuilding the road but how are we going to provide for crowding into the future on that road? It's not really dealt with sufficiently in there. Any of those issues -- the crowding and the campgrounds at Avalanche -- none of that. So, all of the major issues facing the park, in my mind, are not addressed. And sadly, what we really started out to do with the VERP process is to define the

> visitor experience and have measurable standards. That is not included. The whole thing in my mind is a real sad waste of -- I guess it updates and rubber-stamps what is going on in the park but it is not the innovative, exciting management plan that we all envisioned at the beginning (P3 Glacier 283).

3. Upper Clark Fork River Basin Management Plan

Overview

The primary tangible outcome of the Clark Fork process was the Upper Clark Fork River Basin Water Management Plan that was ratified by the Montana Legislature in 1995. The process illustrates that agreements can be made in a complex, value-based arena among previously entrenched adversaries indicating that a diverse assemblage with seemingly polar interests can function together and produce lucid results.

The intangible details identified by the sampled planners allow for additional and perhaps more insightful interpretation of the process. The dominant themes of the Clark Fork process centered on 1) dialogue, 2) trust, 3) respect, 4) creativity and 5) learning. These themes seem to build upon each other and relate to the promotion of social capital.

One planner elaborates on the notion that a "generative struggle" (P25) engendered a situation in which participants "really have some freedom to move, to experiment" (P25). Dialogue occurred because regular meetings afforded the opportunity for "opening up avenues for communication" (P24). Dialogue next led to "the breeding of trust" (P25) because through "face-to-face personal, frequent contact" (P25) people were able to understand "motivations and desires and mandates" (P25). In addition, trust enabled discussions not only specific to the river, but to other natural resource issues in the basin. This is exemplified by the planner who noted that the meetings at times led to discussions of "elk and about other issues ...over coffee at the breaks" (P24) adding that

the process "provides a good forum for a lot of different issues that have come up" (P24). Trust then seems to have allowed for and promoted mutual respect, where individuals could not only tolerate the opinion of others, but could also champion the cause of other members. One planner commented that the forum provided a place where members who in the past "had been enemies, actually became the strongest supporters of each other, and each other's interests" (P20). Several planners explained that the process allowed for flexibility that led in turn to innovation and creativity. This led to shared learning where information brought to the table "was generally accepted" (P20). Thus, many of the outcomes are components that characterize the fundamental tenets of transactive planning and social capital.

Few major constraints were identified by planners involved in the Clark Fork process. It appears that through the collaborative efforts of the committee, constraints including those associated with litigation were avoided. Several planners did however comment on the Superfund status of the river and the inability of the committee to work toward a solution because of the complexity of understanding and mitigating the issue. Yet, this did not impede the objectives and resulting management plan crafted by the committee to deal with water rights and instream flows.

Dominant Themes

Dialogue

In this first theme, P24 details his reluctance to work in the Clark Fork process but over time saw the benefits of the meetings that led to creating avenues for discussion.

> ...I was against doing this, to be real frank with you, I was against going to the Committee and not going through the [formal] reservations [process],

> because I thought that we had a real good case. But I guess looking back on it, I think probably this was the correct route to take. That over the long haul, we're going to be able to do more than we would ever have been able to do through the reservations. Because the reservations most likely, even if it hadn't gone to court, would have ended up creating barriers to communications, not opening up avenues for communications (P24 Clark Fork 224).

P20 states that members of the Clark Fork process wanted to avoid large, formal public meetings and thus espoused a forum made up of a small group of people that represented constituencies. He notes that the meetings were always informal and open to the public and describes the problems of traditional natural resource planning processes that utilize public meetings to comment on proposed actions.

> ...if you have huge audiences, you never really get a dialogue. Basically, what you get are opinions stated back and forth ...like some of the old public scoping meetings, or EIS meetings, where you go in and say "here's my document, tell me what you don't like about it." That stimulates people standing up and giving a long list of problems they don't like. Sometimes those problems are invented just to confound the process because they don't want the outcome. It really isn't a dialogue. It's playing a game to try to meet your end (P20 Clark Fork 180, 188).

Trust

The previous theme describing dialogue appears to be associated with trust in the case of the Clark Fork process. P25 explains that trust was an integral component of the process and that frequent personal contact allowed for and promoted trust and a sense of understanding about the motivations of others in the group.

> One of the things that happened in this project, and we hear about this all the time in collaboratives, and sometimes it's true and sometimes it's not, this was a case in which I would say it was true, trust developed and grew. By having that face-to-face personal, frequent contact, the people came to understand -- the people at the table came to understand some things about each other's motivations and desires and mandates, and the dues they had to pay to their constituencies that they did not understand going into the project. With the understanding, we saw the breeding of trust and it rose

> at times palpably to the project. One of those ideas was that trust had to be there (P25 Clark Fork 24).

The environment that Northern Lights Institute provided instilled a sense of trust which had implications not only for drafting the Upper Clark Fork River Basin Management Plan but also provided a forum for discussions about other subjects.

> You'd be surprised at how many times we got into discussions about elk and about other issues that the Department [DFWP] was heavily involved in, in that upper basin. And they'd end up coming on the table and we'd talk about them, or we'd talk about them over coffee at the breaks and stuff like that. And I think by my being able to develop some level of trust with these people, I think that also then transfers into other dealings the Department has ...It really provides a good forum for discussing anything. The Steering Committee has been a forum for a lot of different issues that have come up (P24 Clark Fork 64, 70).

P22 explains that trust was established because funding came from a non-profit organization and not from a government entity.

> Had we [the Steering Committee] been funded by State Government, I don't think we would have developed the trust level, because money and power go together in most people's minds. The golden rule is, he who has the gold rules. And most people, I think, assume that at least a little bit. There was no money from State Government involved in supporting Northern Lights. Northern Lights did not have a clear agenda with respect to these issues one way or the other (P22 Clark Fork 193).

Respect

The flexible environment that promoted dialogue and trust within the Clark Fork process related to feelings of mutual respect. P23 articulates this notion in that an air of respect enabled people to not only discuss ideas, but to champion the opinions of others.

> In the end, [committee member name] was there arguing for our side and we were arguing stuff for [committee member name] too. It's the people stuff. I don't think it's any secret that's generally the best thing that comes out of here (P23 Clark Fork 215).

P20 explains that during one open meeting of the Clark Fork process, dissenting insinuations were made at various committee members by members of the public. Members of the committee who had traditionally been adversaries were now supporting each other.

> And at that meeting, I watched those two [committee members] being advocates to each other, and being team spokesmen for each other, that I am sure that moved into many, many other discussions and debates in other forms ...[there were] numerous times that I could see that occurring in public forums where people who traditionally had been enemies, actually became the strongest supporters of each other, and each other's interests (P20 Clark Fork 592, 601).

Creativity

P25 suggested the idea of creativity that resulted from dialogue. He implies that flexibility led to innovation in that the committee had the flexibility that allowed innovation and creativity to take place. He explains that individuals meeting in this process offered a way,

> ...to come up with solutions through some kind of generative struggle, a struggle that bred creativity. And I think the power of that creativity is a very hopeful thing. It makes me optimistic that if people can be given some room, some latitude, to operate in the collaborative vein, that the one thing we hoped of collaboration would indeed come true, and that is, these are not arenas of compromise. These are best thought of as arenas of innovation ...Innovation implies that you really have some freedom to move, to experiment, and to think up initiatives without somebody saying, "Well, we can't do that because of, 'name your favorite US Code Annotated Statute.' " Innovation requires flexibility (P25 Clark Fork 36, 206).

Learning

It can be inferred that the previous narratives are linked to shared learning. P20 provides evidence that learning took place as a result of the group field trips. These

shared learning experiences created an environment where information that was necessary for the drafting of the plan became accepted instead of disputed.

> So with this type of process, the fact that these people see each other every day, they're able to sort of do shared learning. They take each other on tours. They bring forward issues. They share visions. That sort of shared learning process opens doors that otherwise never get opened. It's never put on the table. ...instead of watching the study take place, it was more of a shared learning experience where you went out and did a tour on the ground looking at irrigation. So it became sort of learning tours together, watching and looking at things together. And then when we started writing the plan itself ...they [committee members] had been introduced to the topic. It [information] was generally accepted, and it [the plan] went together real fast ...So when the plan was assembled, we weren't seeing that [contention over information] issue (P20 Clark Fork 92, 445, 475).

4. Blackfoot River Recreation Management Plan

Overview

An overall description of the Blackfoot River Recreation Management Plan is the most difficult of the four study areas to present and summarize. While the process appears the least contentious of the study areas in this research and has yet to reach fruition, an overview of the process at its current state can be made. Three dominant themes were present in the data and include, 1) procedural obligations, 2) inflexibility and 3) goal identification and agreement.

The process is contained spatially in a relatively small geographic area and is affecting comparatively fewer stakeholders than any of the other study areas. In addition, the probability for litigation appears low. Several planners identified the difficulty in analyzing the data collected at the scoping sessions that were held and questioned whether the issues brought forth were representative of the general public. Inferences were made that the amount of time and funding that was necessary to insure an adequate

product was misjudged. Several planners commented that the lack of agreement or inability to identify goals was problematic and affected the utility of the consultant in the early stages of the process, thus resulting in a product that was inadequate. Goal identification and agreement was, according to some of the planners, a priority of the newly-formed Recreation Steering Committee.

The outcomes of the Blackfoot process are undetermined since the process is still evolving and progressing toward the objective of producing a management plan. The present Recreation Steering Committee meetings appear to incorporate many characteristics of a transactive process including two-way dialogue, social learning and the recognition of the legitimacy of many forms of knowledge. Several planners commented on the potential of the Recreation Steering Committee and the positive aspects of the environment in which the plan would be written including identifying and including all stakeholders, scheduling meetings at regular intervals, allowing the meetings to be informal and open to the public and willing to solicit public information and scrutiny throughout the process.

Dominant Themes

Procedural Obligations

The first dominant theme relates to constraints from procedural obligations. In this first excerpt, although a scoping meeting was held to identify issues and problems, the process was difficult because according to P15, the planners had difficulty trying to condense the information and "regurgitate" it back to the public. This excerpt implies a

problem with the agency's ability to discern public sentiment and future goals using a scoping process.

> After we had completed those scoping meetings, I had a good feeling about where we were headed and what was going on, and I felt that we had captured a fairly good feedback from the public. I think the public really came out and said, "here's a problem, here's a problem, and here's a problem." And they weren't bashful in telling us that. I thought that was great. The part that was maybe hard was then trying to condense that information and to get that information into something that we could regurgitate back out and say this is what we heard. And you know when you do that, again it's a person's interpretation. So did we truly capture the essence of what was being told to us, or didn't we. You always worry about that (P15 Blackfoot 112).

The next planner also implies a difficulty with using the public meetings process to solicit information and expresses concern with the procedure as to the overall representation of people who attended.

> We kind of found that out in scoping meetings, but there again I'm first to admit that we weren't really getting a real good coverage of the overall population that uses that river. Those public meetings probably were biased towards some groups of users over other groups which weren't represented at all. Yeah, like any type of natural resource planning process, the planner finds out right off the bat that there's those extremes in the public (P4 Blackfoot 54).

Inflexibility

This planner observes that the Department of Fish, Wildlife and Parks seems to have run into problems with its commitment to seeing the process through to fruition and that projections of funding, timeframes and necessary personnel committed by the agency were inadequate. Further, the planning process was not a priority to the agency and was "shuffled to the bottom of the pile a number of times."

> This particular project, it seems to go in spits and spurts and stutters. It will see quite a bit of activity at certain times, and then, for instance, this summer, its been almost nothing happening, and that's been pretty frustrating for some people, who were involved early on and were pretty

> intensely interested and are willing and wanting to participate, that they've kind of felt like, what's happened to it ...And I think the Department people are focused on recreational issues on the ground, on the river, at the access points. And they don't have the time to deal with all this, and they are understaffed in the sense that -- there have been a couple of things that have happened that I feel have had an impact on the process itself. We've had some pretty major changes in leadership in the region and in Helena, and that's definitely had an impact on how this has progressed, as it moves through the various levels. Particularly this particular draft. God, it took forever to get this thing up to Helena and then back to the Region and it made that trip two or three times, and I guess that's part of the process ...On this particular process, I think the thought of doing this, the ideals that were behind it, kind of got ahead of the practical realities of funding, timeframes, personnel, particularly in the Department. They have a lot on their plate to deal with, and I think this got shuffled to the bottom of the pile a number of times. On this particular process, I don't think they had enough money to carry it forward the way they had anticipated they wanted to do it, and I think they got kind of what they paid for, and I think they ran into some real problems. They had to shift gears and back up and move forward, and move around, and in some places it just flat stalled out because they did not -- apparently did not -- have it that well planned out and committed to early on and so it ran into some troubles (P6 Blackfoot 121, 162, 338).

P15 explains that the agency was naive regarding the budget to produce the management direction. He explains that the funds ran out and the agency was left with an unfinished project.

> I think we were a little naive and when I say "we" I guess I'm kind of saying the agency, and somewhat myself, a little naive on the amount of money that it would take to do a really thorough, full job. You always try to scrimp and save and in the process of doing that, you don't get a full project. You don't get the end product that you're looking for. And I think that's part of what happened here, is that we weren't adequately funded for doing the job and so the consultant came along, did what he perceived he needed to be doing, and then we ran out of money and the project still wasn't done (P15 Blackfoot 36).

Goal Identification or Agreement

P6 discusses the issue that specific goals were generally not agreed upon and believes this issue in the future will be a great obstacle for the DFWP.

> I'm not sure we even could agree on specific detailed goals. We kind of agreed on the fact that we wanted to protect the natural amenities of the river and the environs, the habitat. We wanted to protect the experience that most of us have had at certain times in our lives on the river. Exactly how that was going to be done -- we threw out or took in, I guess, alternatives from various members of the public and various members of the committee as to issues that were of concern. And there was a tremendous variation as to perception as to what could or should be done. Amazing, in my opinion, how you could have outfitters -- sincerely have totally opposite opinions as to what the problems were and what should be done about them. I think the Department has its work cut out for it (P6 Blackfoot 37)

P15 believes that some of the problems associated with the consultant were a result of not knowing "where this thing was going" and recognizes that the perception of the agency is not necessarily the perception of the "world." He states that the agency was uncertain as to the direction of the process and the definition of the problem.

> We had good communications [with the consultant], but I think it was more of a matter of not knowing where this thing was going, and not knowing exactly what we needed. ...and maybe that was part of our weakness, is that we didn't really up front say, "this is the problem and here's the proof that we've got the problem." Although I think we tried to capture the essence of what was going on out there, and obviously that was probably our perception, not necessarily the world's perception (P15 Blackfoot 65, 97).

ANALYSIS OF WORKING PROPOSITIONS

This next section presents the analysis of the working propositions and is divided into two separate segments. The first segment describes the categorization of each planner as either a synoptic or a transactive planner and presents excerpts from several of the interviews to support the classifications. The next segment provides evidence of planners who either agree or disagree with the commencing statements in each of the

working propositions. Again, excerpts from the interviews are provided to support the classifications.

I have categorized all of the planners as either being a "Synoptic" or "Transactive" planner. These categorizations are based on an overall interpretation of the planner's desired model of planning. However, in ten of the twenty-eight interviews (32.1%). it was not possible to categorize the planner as strictly synoptic or transactive because of contradictory or ambiguous statements in the transcripts. In these cases, the planner was categorized as "Undetermined." Details of the rationale for the categorizations are presented below. Table 5 presents a breakdown of planners by study area categorized as either "Synoptic," "Transactive" or "Undetermined."

Table 5. Breakdown of synoptic and transactive planner by study area.

	Grizzly	**Glacier**	**Clark Fork**	**Blackfoot**	Total	% of Total
Synoptic	5	0	0	0	5	17.9
Transactive	3	1	7	3	14	50
Undetermined	1	6	0	2	9	32.1
Total	9	7	7	5	28	-
% of Total	32.1	25	25	17.9	-	100

The working propositions that are supported are discussed and interpreted relating to the study areas and to planners who favor either synoptic or transactive planning models. Examples of each of the planning models are given to illustrate the definition of either model. In the examples below, the desired model is either a model that is favored for some future process or a reference to the current process that the planner is engaged in and supports.

Description of Synoptic Models of Planning

The first set of examples involve the synoptic model as the desired model of the planner. Here, the planners relate perspectives of a desired model of planning that stresses periodic engagement with the public, a top-down power structure, one-way dissemination of information, and relies on technology, objectivity and pluralism to achieve goals.

In the first example, P7 implies that his desired model involves having the agency "checkup" on the public and have the public "react" to plans.

> Once you've got some issues identified, I think it's worthwhile to go back to the public at kind of an intermediate stage and it seems to me that often doesn't occur, especially in big federal EIS processes. It's important to go back at kind of the intermediate phase and show the public what you think you've captured, ask them, "this is what we think we heard from you, these are the issues that we were able to compile from our meetings and surveys, and whatever, did we get it right?" So that's a little different role than the initial scoping phase. Kind of a checkup. Then again, the public plays a different role again when you're further down the road and you've got a draft plan for people to react to (P7 Blackfoot 88).

In the next example of a synoptic model, P12 of the Grizzly process explains that the scoping method was an appropriate approach that allowed the planners to "consider" the concerns of the public and to "reinforce" the planner's own issues associated with the process.

> I think the scoping was an adequate way to get the public involved. We got lots of comments from people. The purpose of scoping is not to hammer down all the final issues. It's to let people have the opportunity to make sure that we consider their concerns, and I think that we did consider their concerns. I mean, public safety was a big issue. Economic impacts was a big issue. We could have figured that without going on scoping meetings, but it's good to have that reinforcement by listening to people and getting their concerns. So I think the scoping process was very valuable in letting us know what the public wanted in this document. It also allowed us to get those alternatives from groups that were pretty well

> organized and I think they were pretty shocked that we took their alternatives and just put them in the document (P12 Grizzly 69).

The next example of a synoptic model is presented by P3 from the Glacier process, who criticizes [upper management] as the cause for the problems with the General Management Plan. The implication here is that the planner is concerned with an incidental-level perception of a problem (i.e. the personalities) and does not comment on the inability to incorporate a social learning model with the public.

> I am not sure I would have done anything differently. It was the personalities involved more than anything. If I could change anything at all I would have changed [upper management]. I think [upper management] didn't work with the team. I don't think they were able to express ideas. This sounds like a pretty bad condemnation of [upper management] but they just weren't effective. I think they were pretty domineering. I don't think they utilized the rest of their management team effectively or allowed their use effectively. But, overall I think the process was the right one. We went to the public, we formed some groups, we held scoping. I just think we didn't have good guidance, from [upper management]. The process was confused as I said initially. We weren't sure of the steps (P3 Glacier 94).

The last example of a planner favoring the synoptic model is P1 who explains that the most desirable process is a "hybrid" type that incorporates public participation "more efficiently" yet still allows the Park Service to maintain "control."

> So, if we had to put together some sort of a management group, like they did with the Bob Marshall, I don't believe it would be possible. I understand what they're trying to do and I understand people's resistance to it, but I think there's probably a third way that combines the interested involvement rather than just the shouting matches that occur at public meetings. You're not going to get anything from the guy that says "the federal government should be abolished," who is anti-government. So there's probably some middle ground that's some hybrid of using public participation more effectively at certain points, but retaining the right to control how it goes (P1 Glacier 324).

Description of Transactive Models of Planning

The next set of examples illustrates a planner's view of a transactive model. In these examples, planners are oriented toward methods that promote two-way dialogue, mutual learning and that recognize the legitimacy of multiple forms of knowledge.

In this first example, P24 explains that a model that allows for the development of relationships is necessary in order to establish trust and thus solve problems because "it takes time" to understand "the different players."

> One of the things that I think we learned, I say "we" because I was the representative for the agency, is that it really takes one-on-one contact, one-on-one discussions and deliberations to solve problems in a community like the Upper Clark Fork community. It takes a lot of time to first of all just to get to know the different players and the different individuals in that community. What their interests and their needs are. It takes quite a while to develop trust ...But I think probably the most important thing we learned is that you can't really solve these problems without first developing some sort of relationship with the people that you're having to deal with (P24 Clark Fork 20, 27).

The next planner defines a process that he was involved with in the past that emphasizes "getting to be a part of that community and build up some relationships" as being a desirable method for future planning efforts.

> What's worked best for us is when we've had some kind of guidance and we're essentially sorting out how to do it and so forth, and we involve the public on an informal manner ...it was a matter sitting down and having coffee with people, and going to every meeting that they had in their neighborhood associations and things like that, and going on hikes with people, or canoe trips. Just essentially getting to be a part of that community and build up some relationships and friendships with the people there and do it that way. I think in retrospect that's probably what an area like Glacier really needs ...I would say those kinds of almost informal types of contacts work very well here. Where you have an open house instead of a public meeting, and you go on an activity like a float trip or something like that, and you might talk a little bit about some planning issues or some resource issues. It's not a meeting where people have got to take a number and stand up and talk into a microphone (P10 Glacier 237, 250, 254).

In the last example of a transactive planning process as a desired model, P26 explains that a method incorporating two-way dialogue would have allowed for "meaty, substantive-type" issues to be brought out and debated as well as being able to provide information on agency mandates. Using this type of process would "bring the frustration level down" and show that "we really do care about the local public."

> It [two-way dialogue] gives the Fish and Wildlife Service an opportunity to ask questions. If somebody comes in and is angry or upset, you can sort of work with that person a little bit and bring the frustration level down a little bit, and actually talk to that person. Ask questions -- how do you feel about this? What do think about that? What did you mean by that? -- And draw them out and actually get meaty, substantive-type concerns, issues, whatever. And at the same time provide them information and provide them with an idea that the Fish and Wildlife Service is not some government agency sitting in some building cooking up an EIS, that we really do care about the local public and want to build something that works for them as well. I just think that's a much better way of doing business (P26 Grizzly 155).

Description of Support for Working Propositions

The chi-square test statistic is based on a comparison of observed and expected counts. Since a fundamental assumption of the chi-square test was violated (more than 20 percent of the cells with expected counts less than five) for each of the tests of the seven working propositions, the Kolmogorov-Smirnov Z test was used. While the Kolmogorov-Smirnov Z test is not as powerful as other tests of significance (i.e. not as good at finding differences when they exist in the population), the advantage is that this test requires fewer assumptions regarding normality. The tests for Working Propositions 2 and 5 were significant and therefore tables are presented. Although many of the tests were not significant, excerpts are nonetheless presented to exemplify insightful details regarding the commencing statement of the working proposition.

Working Proposition 1: Procedural Obligations

Working Proposition 1 states: A planner who perceives the planning environment as impeded by procedural obligations is more likely to prefer models of planning other than synoptic. An overwhelming majority of planners (92.9%) felt that the process of planning was constrained in some way by procedural obligations. The working proposition was not supported since a significant association between the variables was not found and thus offers no evidence to suggest that planners who feel constrained by procedures are more likely to prefer models of planning other than synoptic. The first two excerpts below illustrate planners who do not feel constrained by procedure. The remainder of the excerpts in this section illustrate planners who do feel constrained by procedure.

This first planner lauds the content analysis procedure performed after the release of the Draft Environmental Impact Statement of the Grizzly process as one that was effective and able to "reflect" public sentiment. Thus, the planner does not feel constrained by procedural obligations and appears to have faith in the public comment process as an appropriate method for deliberating about and dealing with issues.

> ...we took all of the issues. We spent over a week, the team did, going through the analysis of public comments. Reading the comments, taking the issues, and we listed them. We had flip charts of the issues. And then we said, "Okay, how do you deal with this issue?" We brainstormed it, came up with a way, it's in the Final [EIS]. It's reflected. So if a person is going to look through the Final, they're going to say, "Hum, they dealt with my issue." It's difficult to deal with all of them, but we dealt with just as many as we could so that it will reflect how the public commented on the draft (P14 Grizzly 216).

This next planner also appears not to feel constrained by procedures explaining that the United States already has an "established public process" and that going "beyond the process" may be "unhealthy."

> You can be innovative, but you also have to be in compliance with the way the laws currently exist, not the way you want them to exist and are in the process of changing laws. It's basically that you get both houses of Congress to sign off on it, and the President signs it into law. Anything less than that is not legal. So we have an established public process for the way we make the laws, the way we amend laws, the way we rescind laws. And then we have a court system that rules over it. We have separation of powers and that's the process. Some people would like to go beyond the process. And we don't think that's healthy. As imperfect as it may be -- we have a democratic process -- we have a system of government that's well established for how we resolve disputes, how we make or amend or rescind laws. We're comfortable with that system as it is. As I say imperfect as it is, we're all subject to that same system. Whenever we try and get around the system or go under it, that's unhealthy for the process and we would not be supportive with any such efforts. So innovation yes, but only if it's consistent with our established process (P27 Grizzly 243).

This next group of excerpts provides examples of planners who perceive the planning environment as impeded by procedural obligations. Below, P7 explains that the procedure prescribed by "the old traditional style" public meeting allows people to get "up on their soapbox," and seems "inherently confrontational."

> Clearly, the old traditional style of public meeting -- seems like you see less and less of that, with public officials up there in suits and ties on stage and people have a chance at the mike, 10 or 15 minutes to blast their opponents, blast public officials. It seems like in many cases there's little value to that.
> Q. Why don't you think that works?
> A. I think it doesn't work because it mainly provides an opportunity for people to get up on their soapbox and try to get their view across. There doesn't appear to be a lot of opportunity for interchange -- people really trying to learn from other people's perspective -- and it seems inherently confrontational (P7 Blackfoot 464).

P12 explains that planners are constrained by NEPA and details the example from one of the public meetings of the Grizzly process mandated by NEPA that turned violent.

This planner notes that the procedure was not a "functional" process to elicit public opinion because of a lack of dialogue.

> The whole NEPA process is basically, you walk up to a hornets nest and you hit it as many times as you can with a stick to get every last hornet out, and the only people that come to public meetings are people that are against what it is you're proposing to do. People that are in agreement with what you're going to do, aren't going to go because they figure you're going to do it anyway. ...We're constrained by NEPA. The law is very restrictive as to what we can and cannot do by NEPA, and that's the process. That's the vehicle that gets us down the road. We don't have another vehicle. This whole idea that we don't have any way to get the opinion of the average person out there, is a huge flaw in the system. ...The whole idea of having public meetings is a disaster. It should be avoided at all costs. The idea where you get people to stand up at the front of the room and say whatever it is they're going to say, even though it has no relevance to reality. We [government officials] can't even respond and say "well, that's not proposed," or "we're not trying to close all the roads." You get 250 people in a high school auditorium in Salmon, Idaho, and you get somebody up there that says "they [the government] are going to close all the trails." We can't even say "no, we're not going to close all the trails." And everybody there believes that that's the case, and they get more excited. The next guy gets up and says "what he said," and then on and on from there. Then you have people charging the stage and threatening each other. Somebody gets up to say "I think grizzly bears are okay" and somebody charges the stage and has to be tackled by the police and dragged back. I mean, this isn't a functional way to do business in a civilized society (P12 Grizzly 123, 232, 253).

This next excerpt describes a public hearing from the Grizzly process and provides evidence that this procedure was intimidating for certain members of the public who were coerced or interfered with. P18 speculates that certain members of the public may not have commented because of this contentious setting.

> A couple of the people that did speak for it [in favor of grizzly bear recovery] that were from the local community kind of got booed-down and there was some agitation from the public. The mayor had to actually intercede and try to calm the locals down -- he made a plea that "this is America and we have free speech and we have to allow people the right to say what they want to and it shouldn't be coerced or interfered with." But still, it was very intimidating, and I'm sure there were people that wanted

> to say something there that maybe did not say or follow through with a comment because of the way the crowd was acting (P18 Grizzly 77).

P8 describes the procedural obligations that certain federal agencies must perform as overwhelming and producing "inactivity" and "gridlock."

> ...they [government planners] are trying so hard to follow the letter of the law, that they just get swamped and overwhelmed. Some of the people I've talked to in the BLM say, "it's terrible, but we're spending all our time doing drafts, reviewing drafts, making sure that our public notices are done at the right time and published correctly." They almost get to the point of inactivity. It just gets gridlocked in this kind of endless loop of worrying (P8 Blackfoot 142).

The majority of planners in this study recounted problems with procedural obligations. Most of these issues relate to problems with the NEPA process which is intimidating for the public to participate in, suppresses two-way dialogue and can lead to civil disobedience and even violence. The procedural obligations associated with NEPA were described by one planner to be "inherently confrontational" where people do not learn, but rather "get up on their soapbox." Issues also emerged relating to agency personnel becoming "gridlocked" and worrying about following "the letter of the law."

Working Proposition 2: Scientism Inadequate

Working Proposition 2 states: A planner who perceives scientism as inadequate is more likely to prefer models of planning other than synoptic. For this working proposition, 71.4% of the planners surveyed felt that scientism, the belief that science is inherently capable of solving almost all human problems, is inadequate when conducting or participating in a planning process. Table 6 illustrates the significant association between a planning model and planner's perception that scientism is inadequate. The first three excerpts below illustrate planners who feel that scientism is adequate. The

remainder of the excerpts in this section illustrate planners who feel that scientism is inadequate.

Table 6. Synoptic and transactive planners who feel scientism is inadequate.

	Planners who feel scientism is inadequate	
Planning Model	*Agree % (n=20)*	*Disagree % (n=5)*
Synoptic	0	80
Transactive	60	0
Undetermined	40	20
Total (%)	100	100

Kolmogorov-Smirnov Z = 1.732, p≤ .005

In this first excerpt illustrating a planner who feels that scientism is adequate, P12 explains his frustration in dealing with "rational resource decisions" that have become politicized and based on emotion.

> Whether we like it or not, people do make decisions based on emotion. They don't make decisions based on fact. That leaves us in the difficult position of trying to propose a complex issue and faced with a majority of the public who doesn't read what it is we're proposing. ...It's nothing more than making politics out of rational resource decisions. There's no sense in that. ...I can't express to you enough the frustration that I have dealing with politicians. ...All they're interested in doing is manipulating the system to get themselves votes. They're not interested in the big picture and the good of the country, or in any kind of environmental issue in any way. The politicians we have will strive at every length to prevent environmental progress. And they're very effective at it (P12 Grizzly 151, 278, 320).

P27 explains that the preferred alternative in the Draft Environmental Impact Statement is politically-based instead of being based on "what's best for the bear."

> I don't think they [USFWS] have probably the best available science in this case. I think they've developed a preferred alternative that's based more on political considerations, and for political expedience rather than what's best for the bear. And some of the endorsements of the preferred alternative, even state things to that effect -- has referred to the conservation biology alternative as the best biological alternative or based on the most scientific information for bears . The preferred alternative -- I

> think it's something that's based more on the politics of the matter than science in my view, and that's pretty clear (P27 Grizzly 135).

In the last example of a planner who feels that scientism is adequate, P6 explains that science is necessary to "get this thing sold socially and politically" and criticizes the DFWP in that they may be more inclined to follow public opinion than the authority of science that will "tell us we're right, or it may tell us we're wrong."

> Well, I think the motivation for the process is more an emotional perceptive, seat of the pants kind of thing. The science has got to be there to support your off-the-cuff feelings or to not support them. I think that's what's really critical. Some people think the river is overcrowded and is having an impact of a negative sort on water quality, fisheries, wildlife habitat, and the science has got to come in and tell us if that's so or it's not so, or as is probably the case, it's a mixed bag. We're not going to get this thing sold socially and politically unless we've got science to back up whatever we come up with. And the science may tell us we're right, or it may tell us we're wrong, or as I suspect, you're right in some places and wrong in others and completely screwed up in some other area. But I think that's really critical. I think when we start talking numbers and the possibility, the possibility of controlling numbers, limiting the numbers of people, whether they be commercial users or the general public, we're not going to get that sold unless we can show that there is a definite problem being created, and the only way to do that, to show that, is for science to come in and take a real hard look at some of these areas. ...And I'm a little concerned that the Department [DFWP] may be guided more by what people think and what people want and sort of follow that instead of maybe taking the lead and saying, "okay, maybe folks don't see there's a problem here, but our scientists say, our biologists say, or surveyors say, there is a problem." We need to respond to that so we're going to have to go out and convince the public by showing them that data, the surveys, studies, those conclusions and trying to get them to respond to that (P6 Blackfoot 172, 247).

The next group of excerpts illustrate planners who feel that scientism is inadequate. In this first example, P18 admits that the federal and state planning officials working toward grizzly bear recovery do not "have all the answers" and should not be so guarded on information they hold.

> We certainly don't have all the answers, and we need to submit we don't have all the answers. We had some pretty good information in the Bitterroot about the quality of the habitat there. ...We need to say that we just don't know the answers on all this stuff and not pretend that we do, and not be so guarded on a lot of the information we have (P18 Grizzly 216, 227).

P25 elaborates on how science should be used and that often, science tells us the "whats" but not the "shoulds." P25 recognizes that ultimately, decisions are based on values and that science should only help to make those decisions.

> It's in the nature of scientific inquiry that the last chapter never is written because all the original chapters are in constant revision. As long as science has integrity and remains the thing we call science, that will always be so. ...I'm a person who quibbles with the sort of nothing-but-science aptitude and attitude of many people in the environmental community. I don't think that scientific information tells us what to do. I think it's extremely rare when science is normative, when it dictates the "shoulds." It tells us the "whats" -- it tells us the likelihood of certain changes of things we might set in motion. It can be a great tool for beginning to predict outcomes that might come with certain kinds of changes and on and on, but I don't think science of itself is normative, nor should it be. The normative has to come from somewhere else. We have to make decisions based on values, based on the way we've constituted centers of power and responsibility in society, and we have to be courageous about those decisions and willing to live with the consequences of the decisions. Of course, scientific information can help us and it should, but to say somehow that we can only do things that are within the realm of "what the science says" I think is a complete misapprehension of the nature of scientific information (P25 Clark Fork 319, 338).

P22 explains that often, natural resource controversies do not involve "black and white" solutions and thus science can inform but not provide answers in value-laden conflicts.

> What tends to happen is, that people whose values are being supported by the science, tend to want a scientific solution. The people that don't, whose values are not being supported apparently by the scientific community, don't want a scientific answer. They say "this is not science." The science in my experience doesn't give you answers in value-laden situations. I think the basic currency of politics is values, and what

> politicians are good at is figuring out how to deal with value conflicts. Science doesn't do that, it's not good at it, it doesn't have any expertise at it, but it can help inform people about what their choices are. That's the role that I think science has to play. Most controversies involving natural resources do not have black and white solutions. This is not the case of arguing about whether two plus two equals four (P22 Clark Fork 300).

This last excerpt provides evidence of a planner who feels scientism is inadequate by explaining the notion that planning occurs in a political world without "black and white" answers.

> All national parks are, are values and one value against another value. Values of natural and wilderness versus values of historic and national landmark. And, unfortunately, the Park Service mission says, "to conserve the scenery and the natural and historic objects therein." It doesn't say, "and the historic objects in historic parks, but not in big western national parks." ...management of public entities is politics. ...we are not in a society in which you turn around and have some scientist say in a black and white world, "here is the answer that's black. What you want to do is white and it doesn't fit this black, so therefore, you're wrong and we can only do it this way." We're in a political world. ...Research will never come up and tell you that one way is right and one way is wrong. It ends up becoming a public policy issue, and public policy issues are dealt with by the public, not by scientists. You can't have agency staff that says "we're right, you're wrong" (P11 Glacier 260, 280, 360, 368).

Nearly three-quarters of the planners in this study felt that scientism is an inadequate paradigm from which to base natural resource planning. Further, the test of significance provides evidence that a synoptic planner is more likely to espouse scientism than a transactive planner. Synoptic planners who felt that scientism is adequate related narratives on the frustrations of basing decisions on emotion and political expedience and using science to convince the public. In contrast, transactive planners who felt that scientism is inadequate related narratives recognizing the need to base decisions on values and that while working in a political world, solutions will not be presented as "black and white" (P22 and P11) answers.

Working Proposition 3: Planning Environment Inflexible

Working Proposition 3 states: A planner who perceives the planning environment as inflexible is more likely to prefer models of planning other than synoptic. No statistic could be generated because all of the planners perceived the planning environment to be inflexible to varying degrees. Various examples of the extent to which planners feel the planning environment is inflexible are presented below.

This first excerpt provides an example of a planner who perceives the planning environment to be inflexible because of the organizational structure. P16 notes that the problem regarding innovation is not financial but rather is engrained in the organization in that there are too many "layers" and inappropriate allocation of funds.

> There has not been a constraint I think financially at all. I think they've [USFWS] had more than -- whatever. I'm not sure the agency has ever had a limit in terms of people or funding. I think its had an inability to change and apply the funds where it should be. I'm not sure that limited funds or people would really be the issue. It seems like there's a message there that maybe we have too many layers in the organization, maybe too many people in some layers and there should be more money to co-op with industry, conservation groups, consultants, whoever, to assist with this kind of work. But I'm not sure that the limits per se, in terms of people or money, are there. I think the limits are pretty much engrained into the organization itself (P16 Grizzly 259).

P17 of the Grizzly process explains that NEPA is expensive because it "burns up the resources," and fails to build consensus while a more collaborative approach may prove to be less expensive in the long run.

> Resources [time and money] are definitely an issue, but part of it is, we burn up so much, so many resources. Polarization is what burns up the resources, where agencies go through these lengthy processes of trying to make a decision and to the extent things don't get resolved, they've spent all their money doing the NEPA process and then haven't really built any consensus for where they can make a decision that sticks. Somebody goes to the courts and may find a way to overturn that decision or the agency gets held up, and meanwhile expends more resources defending itself. I

> mean, people think collaboration is expensive, but when you look at the long-term and what you can avoid when you are able to knit together broader constituencies in terms of the staying power of the decisions, it doesn't look so expensive after all. ...Agencies are really strapped for funds to move these things forward and I just think they need to recognize that for big restoration programs like this, it takes some commitment of funds on the front end to meet and greet and explain to people your programming and get past the sloganeering end of it to the specifics (P17 Grizzly 127, 262).

P28 feels that personal resources are inadequate in that the "human dimensions expertise" is lacking within federal agencies.

> I think all of those, time, money is always an issue -- and personnel. I really think that we're lacking in human dimensions expertise, and the ability to moderate large public meetings. People tend to be pretty poorly trained, and we tend not to use those moderators very effectively or very often (P28 Grizzly 150).

In the next excerpt, P20 explains that a collaborative process, such as the Clark Fork process, tends to come up with better solutions but are "expensive in time."

> When an agency looks at its budget, I think these processes [collaborative] actually are cheaper in terms of hard cash, often. They come up with better solutions, but they're expensive in time. They're expensive in a lot of time, and if you're not serious about getting into it, and you're not serious about giving up a certain level of control and participating, and if the land owners aren't serious, it isn't going to happen, because it's a huge time commitment. The Upper Clark Fork Steering Committee worked for five years to get from the concept to a plan. That's a lot of meetings (P20 Clark Fork 232).

P21 explains that time was necessary in the Clark Fork process in order to share information, perspectives and interests, and allow for attitudes and positions to change and eventually build trust.

> I did see a lot of this posturing and suspicion and a lot of these folks all sat together on one side of the table early on. And at breaks they would go in the corner and huddle and talk to each other and probably try to present unified positions on certain issues and things like that. And over time -- and it took time and I think this is one of the big lessons that we learned, is that if you're really going to strive for consensus solutions and

> understanding, you have to be able to accommodate the time factor. And it really does take time. I bet it was a year and a half and we started out by saying, "okay, let's share information, let's get some background here. Let's try to define the problems that we're dealing with. Let's try to share perspectives on these problems. Let's try to understand each other's position and interest in coming to the table here." It probably took a year and a half and there were heated arguments, there was kind of some mudslinging going on. ...But certainly when you're dealing with something as complex as watershed management, you know, in a large geographic area, that's got many different land ownerships, many different land uses, many inter-related issues, you need that time. We saw attitudes change. Positions change over time -- just as they had a chance to ponder this and to evaluate different alternatives and things like that. It's hard for me to imagine that that would have been possible if it was condensed into a short time period. I don't know how that would be possible. And I think it pays off in the long run. I think you do a much better job of getting the word out, building the trust. I think that we had an improved credibility over time (P21 Clark Fork 86, 125).

A frustrating issue, according to P5, is that time and money limits must be predicted early in the process and do not allow for "a process of discovery."

> I think where we get particularly frustrated with money and time constraints is that we are expected to predict the time limit and the money limit so early in the process. One of our guys describes planning as a process of discovery, and you really don't understand what you're doing in a plan until you're well, well into it. We would probably all be happier if we could do a time and cost estimate at the beginning of the plan and then really be free to re-evaluate that six months into the plan. The fact is, we don't have that freedom. That's probably where those limits get frustrating (P5 Glacier 404).

According to P9 of the Glacier process, planning must allow for mistakes while recognizing that planning is not "an exact science" and thus must accommodate the individuality of each National Park.

> You have to allow for things not to work, and you have to be willing to come up with some other ways to maybe accomplish things. And I think in the beginning we tried to stick very much to, "they did it like this in Arches, this is the way we're going to do it in Glacier." And for those of us who were less familiar with VERP, it was an easy track to fall into. ...You know, because it was a new process, because it had never applied to the GMP, you had to allow for mistakes. And yet this project was also

> being touted as, "we're going to get this GMP done for less than a million dollars and we're going to do it in less than three years." You can't throw all that together. You can't allow for mistakes to happen and say, "we're going to do this really fast and cheap." ...I think in the end, planning, like I said, it's not an exact science. It doesn't have a process that you follow without deviating. You don't follow the same process, the same steps, at every planning -- at every project. What works for Glacier probably won't work for Yellowstone and whatever works at Yellowstone is not going to work for Pipestone National Monument. Every planning effort at a National Park has to be individualized, and part of that is based on people and the publics and the resource and all of that. Everybody wants a cookbook. Everybody wants something that can be done quickly and cheaply, and by its very nature planning is neither quick nor inexpensive (P9 Glacier 58, 74, 417).

This last excerpt provides evidence that a lack of time and money "burned some people out" because of prior expectations that the planning process would be "fairly straightforward."

> For the General Management Plan, we were thinking a real small amount of money to start with and it wound up being a lot more, a lot more time, a lot more staff involved. Just a lot more of everything. But I think we really burned some people out doing it, myself probably one of them. I think we had an expectation this was going to be fairly straightforward and easy to start with and it was anything but that (P10 Glacier 267).

Planners explained to varying degrees the frustrations of operating in an environment that was inflexible. This inflexibility resulted from the inappropriate allocation of funds within the organization and a lack of human dimensions expertise. Many planners explained that planning simply takes time. One planner explained that planning is a "process of discovery" and that every plan must be individualized and allow for things not to work. Several planners explained that a more collaborative approach, while more time consuming, can actually be less expensive in the long-term, can lead to trust-building and lead to better outcomes.

Working Proposition 4: Innovation Rewarded

Working Proposition 4 states: A planner who perceives the planning environment as one that rewards innovation is more likely to prefer models of planning other than synoptic. A test statistic was not able to be generated for this working proposition because the proposition proved problematic for several reasons. First, certain individuals were not involved in an institutional setting (i.e. members of the public, members of NGO's, ranchers or other landowners) in which reward for actions taken was a significant issue. Second, in many cases with the remaining planners, it was not possible to determine whether they perceived the planning environment as one that rewards innovation because of ambiguous or unclear statements. Thus, with a small sample size, the statistical test was not performed. However, results from several of the planners are presented below in order to illustrate the range and diversity of opinion regarding the reward structure of various organizations.

In this first excerpt, P26 describes the organizational structure of the Forest Service as oppressive and that there is not only no reward structure but that employees are chastised for stepping outside the way business is done.

> The Forest Service was a whole different ballgame. The Forest Service blew my mind, that's why I left. It was a paramilitary-type organization and people who stepped outside of the way business was done and had been done for years and years and years were chastised. It wasn't a good deal. I was not rewarded in that agency for being somebody that tried to be innovative and visionary.
> Q. How did that affect the way you went about business when you were there?
> A. It was horrible. It was oppressive. I came into the Forest Service with all kinds of brilliant ideas about ways to change things and do things better, integrate new science, and I lasted [number] years. My last year there, my productivity was zip, my morale was zip. It was pretty demoralizing (P26 Grizzly 224).

P6 of the Blackfoot process explains that he has participated on committees where members are thanked but then all of the hard work is "stuck in a drawer."

> I've been on a few of those kinds of committees [similar to the RecSteerCom] where you work like the dickens and put a tremendous amount of time and effort into it and then you get thanked and it gets stuck in a drawer and that's the end of it (P6 Blackfoot 369).

P5 jokingly reports that there is no reward structure in the NPS for him and that satisfaction comes from knowing that the mission of the Park Service has moved forward.

> ...there's no reward [laughs]. Our rewards are internal and the fact that we have moved the parks forward. I think in the agency, you are rewarded if you don't make anybody uncomfortable. Making people uncomfortable is something that we do in planning a lot, and so I think our rewards have to come from first of all, surviving a meeting (P5 Glacier 357).

P15 unenthusiastically laments that occasionally, employees are "tapped on the shoulder and presented a plaque" suggesting a more cursory approach to rewarding innovation.

> I guess you get a sense of that [being rewarded] by comments people make to you, like after that meeting, maybe your supervisor coming up and saying, "jeez, I think that was a good meeting, I think we got some good information." I guess in my mind, I take that as, "we were successful tonight." So I guess I kind of see it as a team sort of thing. Our agency does have award recognition sort of stuff that occurs periodically and there are individuals that get kind of tapped on the shoulder and presented a plaque saying, "here, you did a really great job" and all that business. I guess there's things in place (P15 Blackfoot 285).

Most of the planners in this study who commented on the reward structure of their respective organizations suggested that employees are presented with only cursory acclamation for their work within the agency or for trying innovative approaches to planning.

Working Proposition 5: Public Participation Encouraged

Working Proposition 5 states: A planner who feels that public participation should be encouraged is more likely to prefer models of planning other than synoptic. Planners were evenly split (50%) into categories of feeling that public participation should or should not be encouraged. Table 7 illustrates the significant association between the variables and provides evidence that a planner who feels that public participation should be encouraged is more likely to prefer models of planning other than synoptic.

Table 7. Synoptic and transactive planners who feel that public participation should be encouraged.

	Planners who feel that public participation should be encouraged	
Planning Model	*Agree % (n=14)*	*Disagree % (n=14)*
Synoptic	0	35.7
Transactive	100	0
Undetermined	0	64.3
Total (%)	100	100

Kolmogorov-Smirnov Z = 1.919, p≤ .001

The first three excerpts in this section provide examples of planners who feel that the public should not be encouraged. The remainder of the excerpts in this section are examples of planners who feel public participation should be encouraged.

In this first example of a planner who feels public participation should not be encouraged, P2 doesn't believe there was "anything wrong with our attempts to involve the public" even though the process was mired in contention. The planner feels that a process that allows for intermittent participation by the public is adequate when planning. In addition, P2 notes the public is "fickle" and information provided to the public must be "simple."

> Dealing with the public, as you probably know, they're very fickle. They don't understand the issues that we do. Some may, but the majority don't. They deal with sound bites. ...We had focus groups. We had scoping meetings. We had public meetings on the Draft EIS. We had received comments from the public all throughout and the newsletters went out. So I don't think there was anything wrong with our attempts to involve the public, and even our attempts to listen to the public. ...I think when you ask the public to react to something, you better make it simple. Not overly simple, but it better be something -- it better be important, it better be simple (P2 Glacier 104, 235, 389).

In this next example of a planner who feels public participation should not be encouraged, P16 sees the role of the public as identifying what they expect from the land, but not providing "information." The public comments would then be "weighed" by the decision maker.

> So I'm not sure that they [the public] would bring information. Rather, identifying what do they expect out of land they own is how I would really see their role. Obviously, whoever the decision maker is in each situation, is going to have to weigh that against the requirements of the Endangered Species Act, Clean Water [Act], Clean Air [Act], and the Forest Service's own regulations. So I look at it more as not bringing information to the table, unless it's just their own collective personal history and views, which I guess would be information, but I think it's [public participation] more of an opportunity to guide, suggest, formulate, and not so much bring information (P16 Grizzly 184).

The last example of a planner who feels public participation should not be encouraged, P27 states that the public "fulfilled its role" by simply commenting on the Draft EIS. The perception of the role of the public to only critique documents instead of being intimately involved throughout the process is an indication that the planner does not espouse a public participation process based on social learning.

> I think the public needs to comment, and their comments need to be fully assessed. The agency [USFWS] needs to explain how they incorporated public comment and public input into their decision-making process, so the public role is -- the public fulfilled its role (P27 Grizzly 155).

This next set of excerpts provides examples of planners who feel public participation should be encouraged. P4 believes the public should participate at the beginning to set goals and objectives.

> Well, the obvious answer of public participation is to start at the very beginning. Bringing them [the public] in at the beginning. We're trying to do it with a survey questionnaire. We're trying to do it through an advisory committee, the RecSteerCom. ...I think it's obvious, if you didn't bring them in at the beginning and you've waited until the end, that would make it [planning process] even longer. So you bring them in at the beginning and set your goals and purposes right at the beginning, and objectives, which I'm not sure we've done yet (P4 Blackfoot 101, 152).

P19 explains that public participation must begin before the project is designed and thus creates "ownership" and an informal setting where people are not "ostracized" for speaking.

> I think when you really need the interaction and the public involvement is before the project is even really designed. If you want meaningful input into it, it seems a little late when you've already got a proposed alternative, and then you're taking it out there and basically asking for their blessing. That doesn't work. I mean, if you have people involved in the design of something, they have some ownership in it, then you can design your NEPA process to accommodate that. The way it works now, it's not that meaningful to me. The other thing is, you can sit down -- it's not as formal a process, you're not ostracized for standing up in front of a microphone by some other group. But, you can have a group come together, sit down and discuss it. ...That takes time up front, a lot of time, but I still think in the long run it leads to a lot better decisions (P19 Clark Fork 257, 275).

P22 believes that a "safe" environment where self-interests can be exposed is most appropriate to encourage public participation. He explains that Northern Lights Institute was a neutral entity and provided this safe forum where people could get to know each other. Further, P22 states that this safe environment implies the group should have no legal authority and where compromise does not involve giving up something you care about.

Northern Lights had no clear objective. It had truly behaved in a neutral manner. And the experience of writing the report about the "State of the Clark Fork" gave some of these people -- well, first of all, they got to know each other a little bit. And it gave them some experience in the ability to work together and their ability to do that. ...Basically -- I don't know where I learned this -- but this process has helped to affirm in me the belief that the key to developing agreements, issues of natural resource, and public policy, is self-interest. If you can get people to focus on what their interests are and create a situation that's safe enough for them to expose what their self-interests are, you can begin to look at all these interests and see if they fit together in any way. This is not about compromise. Compromise implies giving up something you care about. That's not what happens. It isn't compromise. People don't give up what they care about. They might be tricked into it for a little while, but then they resent it afterwards when they try to find out how to get back what they really care about. So, in the case of this, agriculture finally figured out their core interest was protecting water which they already had, because in fact, there wasn't a lot of extra water to get anyway, and they knew that. And Fish, Wildlife and Parks had the same -- their core interest was, they didn't want the situation to get any worse and they wanted a way to participate in water-related management activities. So NLI created a way for them to do that as well. And I started talking with you before about the initial climate that existed when the water leasing statute was passed. It was very difficult for anybody in agriculture to do business with Fish, Wildlife and Parks because they were viewed as a traitor. One of the things that NLI affected is that environment. ...If you enter a room and the people in the room have the ability to decide something that affects you, and it looks like your interest is under represented, in other words, the bad guys can "out vote" you and they can make something happen, that's not safe. So these processes work best when the group that's formed has no legal authority. The only legal authority that we have really wasn't authority, it was a mandate. We had to produce that plan. But nobody had to pay attention to it, legislature didn't have to do anything, it was all voluntary. My experience is, you don't want the group to have any legal authority, because if there's legal authority it's not safe because that authority gets used against you. You also want a decision rule that doesn't allow interests to gang up on each other. What I think works is a form of consensus, a decision rule in which anyone at the table, anyone of the interests can veto the outcome. But they have a responsibility that goes along with that, that if they want to exercise their veto, they have to explain why they do and make a suggestion as to what would help resolve their problem. ...The rule that I use about who should be there is, who has the ability to block implementation of any agreement that you reach. If there are people like that, then you want them there (P22 Clark Fork 158, 208, 265, 365).

P25 articulates that litigation erodes certain positive social qualities and that a collaborative process such as the Clark Fork process was able to solve short-term environmental problems and promote long-term social capital.

> I think contested case proceedings again, in their nature, are rarely constructive as matters of social construction, of building a sense of forward movement and aptitude in society to come up with things collectively or come up with plans, policies, ideas, strategies for implementation. I think that contested case proceedings, litigation, even the water reservation proceeding, tends to be erosive of certain social qualities. My guess is, and I never talked to any people in the agency about this, either of the agencies, Natural Resources or Fish and Game, but I'm going to have to guess that there was a recognition on the part of those people through the Clark Fork project, that it's possible to do two things at once. That you can in fact build social capital while you try to address, constructively address, environmental policy. In other words, you don't have to be tearing apart social capital or social capacity while you're moving towards some environmental good. I myself would take that one step further and say probably as a long-term proposition, you're not going to do the environment any good by tearing up social capital. It's possible to have a series of short-term gains, win the battles and lose the war, if you will. I think the Clark Fork project opened the possibility that you can gain in two places simultaneously (P25 Clark Fork 62).

In this last example of a planner who feels public participation should be encouraged, P20 elaborates on the elements that make for successful planning that include building dialogue in which stakeholders become part of the process.

> You meet the requirements of the law, you hold a dialogue, you incorporate the public in it, but you never do in a meaningful way where they're actually part of the process. When I was in school, we learned you had these public involvement stages that came at critical key points. Comment, interject, feedback. There was always this flow chart, but the public was never in control of it. The public theoretically came in, their time was valuable, they take a look at what you did and critique it, and then you honestly took that critique and went and made changes. You do your best under that situation, but the elements that make that plan successful and make that plan part of the other stakeholders who are going to be affected by it aren't there. ...You've got to build that dialogue in so they [stakeholders] become, in my mind, they become part of the process. You just have to be much more open to giving those folks access to the table as you move forward (P20 Grizzly 287, 304).

The test of significance for this working proposition provides evidence that a synoptic planner is more likely to prefer models of planning that do not encourage public participation. One of the synoptic planners who felt that public participation should not be encouraged explains that the public is "fickle" so the information presented should be "simple." Other synoptic planners felt the role of the public should be limited to "suggesting" information or merely "commenting" on the process.

Transactive planners who felt that public participation should be encouraged explained that the public should participate at the beginning of a process in order to set goals and objectives and create ownership in the process. One transactive planner explained that in order for the public to make self-interests explicit, a "safe" environment was a necessity to developing agreements. Another transactive planner explained that by encouraging public participation, both social capital and environmental policy can be promoted.

Working Proposition 6: Goals are Contested

Working Proposition 6 states: A planner who recognizes that goals are contested is more likely to prefer models of planning other than synoptic. No statistic could be generated because all of the planners perceived that goals were contested within the natural resource setting in which they were working. However, as with Working Proposition 3, elements of this working proposition contain rich text and diversity of opinion and thus examples are provided below. In this first example, P2 explains that perceptions of how Glacier National Park should be managed differed among the planning team and thus planners had difficulty working as team members.

> I think there's some very different feelings about how the Park should be managed. There's people in this Park that think it should all be wilderness. There's other people in this Park that think we should be developing hotels and putting in new roads, upgrading existing facilities, adding rooms, adding wings to hotels, hardening trails, scaling back on wilderness. But the Park Service, one of the things that opened my eyes, it's not a tremendously green organization. So there was a lot of dissension amongst the [planning] team -- a lot of very different feelings amongst the team. Whenever you get into, and I fall into this category, whenever you get into a team situation, you want to make sure that your point is recognized and represented and people fight very strongly for that. It's difficult to take your hat off and say, "now I'm a team member. While I'm an individual and I have strong personal beliefs, on the team I look at what's best for the Park, not necessarily what I think is best." That's difficult for people to do (P2 Glacier 178).

In this next example, P25 explains that with the Clark Fork process, members of the Steering Committee recognized that certain goals could not be altered and had to remain secure and thus, members devised ways that would not negotiate away goals and avoid "goal protecting behavior."

> We had to build into discussion explicit references, explicit mechanisms to recognize that certain goals simply couldn't be overcome. One of the principal goals of the agricultural interests in the Upper Clark Fork Basin, was to protect their water rights. That's one of the oldest, most trustworthy goals among Westerners. Protect your water rights. People in the project had to have assurances that this was not a project that attacked water rights, that eroded them, and took them away. ...I think the public agency people, Fish, Wildlife and Parks in particular, had a goal that was maybe not held with exactly similar force, but it was certainly central to their ends and that goal had to be recognized, and that was that they took very seriously their legal mandate to manage the fisheries of the Upper Clark Fork Basin, and to try to manage them well. They were in it for keeps and there were certain things that they just simply were not willing to negotiate away or trade away or set on the table for negotiation, because they thought their mandate had to remain secure. Again, I think people at the table had to recognize that those goals were in place and that they were honorable and that they meant something. Those are just a couple of examples about what I would say is the goal protecting behavior that goes on. I think in most collaborative groups and it's one of the things that comes up time and again, people will say, "well, all the collaborative group is trying to do is bring a bunch of people together to compromise. They have to give something in order to gain something. So you have to

> compromise away and we're not willing to do that. Our goals are fundamental, either based on values -- my constituency holds the same values, we're not here to negotiate them away." Well, I think what we learned in the project and other projects is, that you can maintain very certain and definite goals, not negotiate those away, not make those open to negotiation, because there's a lot of room, there are plenty of other things to negotiate (P25 Clark Fork 107, 116).

P24 recognized that litigation was the probable course of action had the Committee not formed and because of the possible expense of court hearings, the collaborative effort of the Steering Committee was a better route to go.

> I think what they [Upper Clark Fork Steering Committee] learned was that it was probably going to be better for everybody to go about it this way rather than the other way, which almost undoubtedly would have ended up in court. ...But I think it was just that the outcome was so uncertain when you go down the path of litigation, that I just think everybody felt it was going to be so expensive, number one, and I don't think the irrigators were all that interested in having to raise the money to do it, and I don't think the Department was either. And the outcome is so uncertain in those situations that they felt that maybe this, as an experiment, would be a better route to go (P24 Clark Fork 47, 149).

Since factions were polarized, P19 states that a unilateral decision-making process would have exacerbated the polarization and adds, in order to avoid having one group "torpedo" the project, the type of process that stakeholders in the Clark Fork basin initiated was more appropriate.

> ...there, you've got a polarized faction that are going to do everything possible to torpedo the project. And if you do not have all the parties together, full understanding, informed decision-making at least, granted you're still going to have opposition, but it's not going to be the kind that's out there to destroy you. I think that's one example right there of why we should be looking more at these consensus groups, and utilizing that method over just a unilateral decision (P19 Clark Fork 57).

In this last example, P20 explains that because the goals of various stakeholders were different, if litigation had been the chosen course of action, shared learning and dialogue would have never taken place.

> ...it would have been handled by attorneys and concepts and framed in legal work, and in my mind, you'd probably never get into real dialogue of how people work and live on the land or their needs. It would be an expert opinion here and an expert opinion there and a decree here. So you don't have a dialogue. As a consequence none of the issues of what really happens on the ground or the concerns or the commonalities of concerns, never come forward. So this type of process, the fact that these people see each other every day, they're able to sort of do shared learning (P20 Clark Fork 88).

All of the planners in this study recognized that to some degree, goals were either not identified or not agreed upon by various stakeholders. One planner explained how difficult being a team member was in a situation where goals were contested. Several planners with the Clark Fork process explained that the collaborative process showed that stakeholders could maintain goals and not negotiate them away, that opposing groups could function and not "torpedo" the project and that shared learning could take place even though stakeholders held differing goals.

Working Proposition 7: Systemic-level Problems

Working Proposition 7 states: A planner who perceives problems as existing on a systemic level is more likely to prefer models of planning other than synoptic. The majority of planners (92.9%) feel that problems exist on a systemic level. The Kolmogorov-Smirnov Z test was not significant and thus, there is no evidence to suggest that planners who feel that problems exist on a systemic level are more likely to prefer models of planning other than synoptic. Examples are provided below of both planners who feel that problems exist on a systemic level and the one planner who does not.

This first and only example of a planner who does not perceive problems to exist on a systemic level explains that the delays with the Final EIS are not a result of systemic-level problems, but rather because planners "have a lot on their agenda."

> Q. What frustrations have you had working internally within the agency?
> A. Going through the process of review, making the necessary changes, and dealing with the folks in the Director's office, who essentially, you know, they have a lot on their agenda. Their plates are full and this is not a priority as I would like to see it be. So from that aspect, with these delays I think we really look like we're bumbling bureaucrats that are unable to get a job accomplished, when in reality I think the team, the EIS team and the other members have worked very hard. We've done our work, but it's outside of our hands (P14 Grizzly 17).

The following examples provide evidence of planners who feel that problems exist on a systemic level. P12 explains that in the smaller communities surrounding the grizzly bear recovery area, there exists xenophobia which has undermined a sense of trust.

> But what they're [residents of communities near the recovery area] seeing now is that the things that they thought were beneficial, things like exploitive timber harvest, are not happening any more, and the things that are now happening [grizzly bear recovery] are things that they can't see as beneficial at all. It's like wolf reintroduction and grizzly bear reintroduction. It's to them being fostered by somebody who's not a community member, and there's this xenophobia about anybody that's not from Salmon and not from Challis, or not from Darby or Hamilton, is not to be trusted. And they think we [local residents] should be making these decisions on what happens around our community. There's a huge issue there, and when we talk to these communities, we represent the federal government, which to them is people from Maryland and Virginia who have never seen a grizzly bear and never been to Idaho or Montana. And they feel this is being inflicted on them and they've forgotten the issue, that these are public lands, they're national forest lands. Many of these people look at these lands as their personal lands (P12 Grizzly 187).

P6 states that the public is not interested in problems until they become a "crisis" and explains that the public needs to become actively involved in natural resource issues.

> The general public is usually not aware of or too interested in these things until there's a crisis of some sort and many times the crisis for them comes when you start talking about and publicizing management plans, regulations, controls, limitations, and then people get excited and usually that's what it takes. ...For the general public, I think it takes a crisis, either in an individual or in general before they begin to really respond to these things. ...I think most people are very busy, are very preoccupied with their own personal problems, but I think here in this state and probably many places, they take these things for granted, and it's a terrible shock to them when all of a sudden, for whatever reason, the opportunities that were there for them are no longer there, or are threatened. And then the tomatoes hit the fan, big time. And they're going to blame somebody, they're going to nail somebody for it, when it's really their own damn fault because if it was that important to them to start with, they should be interested enough to focus on it and learn about it and maybe disagree violently about what the situation is or how to resolve it, the problem. But they should be actively involved (P6 Blackfoot 77, 134, 273).

This next planner explains that the public does not have time because of all of the problems in their daily lives and thus the political landscape is controlled by special interests.

> You know, I don't think the public has the time, quite frankly. We're one agency. But, they [the public] are dealing with the county commission, they're dealing with city government, they're dealing with the Forest Service, they're dealing with the Corps of Engineers, Bonneville Power, the Bureau of Rec, plus they've got their daily lives and problems with their jobs and kids and everything. I don't think that you can spoon feed the public anymore than we have. I really don't. I think to some degree they've got to come to us when they've got a question, and they've got to interact with us civilly. ...They don't have time to understand the depth of what we're trying to do. I think that's a very important concept. People just -- the majority -- don't have time. That's why Washington is run by special interests. That's why Congressman and Senators get lobbied by very narrowly defined special interests. ...One of the things you've got to understand is, the public has limited time. They're going to deal with sound bites (P2 Glacier 350, 379, 583).

P26 feels that the culture within the agency tends to be run by "control freaks" and the people who question that authority are "chastised."

> I think it's institutionalized. From what I saw in the [National Forest name], it's sort of culture. I mean it's a culture within the agency, and it is

> pretty much widespread and institutionalized. I look at the Regional Office. I was there for a while. And it's the same thing. Same thing. A bunch of folks that are control freaks and very happy to do the paramilitary thing and people that step out of line are chastised and not rewarded, and eventually pushed out of the system. But there are pockets out there that were creative folks at districts and forest levels that try to do things differently. If they're lucky enough to have a Forest Supervisor that's a little more liberal and forward-thinking then you're allowed to do good things (P26 Grizzly 251).

Problems are systemic in nature because, according to P16, information does not come from the direct supervisors and decision-makers do not match scale with issues and information.

> Q. What do you mean that limits are engrained in the organization?
> A. You have a Chief and then a Deputy Chief, and Regional Forester and so on. Very few people get their information from the person they work for. I mean, we live in a very fluid world in terms of information. Secondarily, you often, for example with the Interior Columbia River basin, will take an immense amount of information and try and use that to make decisions at a scale which they should not be making decisions at. It's a very broad basin ...Again, I'll use the Columbia River Basin as an example. You have four or five Regional Foresters, a couple of State Directors, debating whether a buffer along a stream should be 295 feet or 300 feet, and shouldn't they be arguing about the role of the Selway-Bitterroot, the role of the Bob Marshall, the role of the greater Yellowstone ecosystem, the conservation, the fauna for the Northern Rockies. They're not doing it. So they're not matching scale with issue and information. So until the organization changes in its thinking, I think it will remain bogged down in a very slow and cumbersome process (P16 Grizzly 276, 286).

P1 explains that a problem with natural resource planning is that management and planning is not performed at the "ecosystem" scale and there is little consultation and coordination between public land agencies that share management responsibilities in similar regions.

> As far as science or total resource use, we said we wanted to do regional planning. Or we said we wanted to do ecosystem management but there are few examples of that and less concrete success stories. That is something that is beyond the scope of a GMP but the critical issues, at

> least for some species, particularly grizzly bears or other large carnivores is going to be ecosystem-wide and we don't have a handle on that. You could say you want to do that all you want, but if they build that gold mine in southern B.C. it's going to have tremendous impact on grizzly bears; more than if we built another wing on the hotel on Lake McDonald or something like that. So you're talking about putting these threats in perspective and there is one tendency to say, "I want to work on things that I have under my control," but then there is a whole other tendency to say, "we need to really solve the problem." ...In reality, whether that road is repaired or not isn't going to address the bigger issues like wildlife conservation or other issues like spread of noxious weeds, external threats from pollution. And that is one of the frustrations that people on my staff said, "this is all about the facilities, this isn't about everything else." ...The Forest Service, they'll consult with us on certain things, but there's no overall plan. And they have a different mandate. They're managing for all these different things and, they don't have any more control over private land than we do, so that gets frustrating because there can't be a common goal totally because we're a National Park and a National Forest, and that's still a frustrating thing (P1 Glacier 188, 195, 237).

This last example of a planner who feels that problems exist on a systemic level is illustrated by P15 who explains that the public must realize that "they too, in essence, are government" and must become involved with government.

> I wish the public would realize that they too, in essence, are government, because government's created for the public, and the public seems to be really quick to say, "jeez, the government, what are you guys doing?" Well, we're doing what you guys have asked us to do. You've asked us to provide a service for you so we're trying to move forward to provide that service for you, but yet then you're very critical of that service we provide (P15 Blackfoot 153).

Systemic-level problems, according to the majority of planners, exist to varying degrees and are affecting or impeding the planning process. Planners explained that these systemic-level problems include the xenophobia that exists in rural communities, a lack of public interest in natural resource issues, the institutional culture of land management agencies acting with a specific agenda, a mismatch of scale with information and issue and the lack of ecosystem-based management and interagency coordination and

cooperation. Ultimately, according to one planner, the public must realize that "they too, in essence, are government" (P15).

Summary of Working Propositions

Table 8 summarizes the results of the seven working propositions used in this study. Working Propositions 2 and 5 are supported, Working Propositions 1 and 7 are not supported and Working Propositions 3, 4 and 6 are not testable for various reasons.

Working Proposition 2 is supported and provides evidence to suggest that a planner who perceives scientism as inadequate is more likely to prefer models of planning other than synoptic. In addition, Working Proposition 5 is supported and indicates that a planner who feels that public participation should be encouraged is more likely to prefer models of planning other than synoptic.

With regard to Working Propositions 3 and 6, I determined that to varying degrees, all of the planners (100%) perceived the planning environment as inflexible (WP 3) and recognized that goals were contested (WP 6) and thus the test statistic could not be run because the variable was constant. For Working Proposition 4 (Innovation Rewarded), the proposition was not relevant to certain planners that I interviewed because these individuals were not involved in an institutional setting in which reward for actions taken was a significant issue (i.e. landowners, members of NGO's). With many of the remaining planners, it was not possible to discern whether they perceived the planning environment as one that rewards innovation because of ambiguous or unclear statements. Thus with a small sample size, the statistical test was not performed. The tests for Working Propositions 1 and 7 were not significant because the distribution of

planners who perceive the planning environment as impeded by procedural obligations and who perceive problems as existing on a systemic level was not commensurate with the distribution of synoptic and transactive planners. Thus, these data did not present convincing evidence to support the two working propositions.

Table 8. Summary of Working Propositions.

Working Proposition	Result
WP 1: A planner who perceives the planning environment as impeded by procedural obligations is more likely to prefer models of planning other than synoptic.	Not Supported
WP 2: A planner who perceives scientism as inadequate is more likely to prefer models of planning other than synoptic.	Supported
WP 3: A planner who perceives the planning environment as inflexible is more likely to prefer models of planning other than synoptic.	Not Testable
WP 4: A planner who perceives the planning environment as one that rewards innovation is more likely to prefer models of planning other than synoptic.	Not Testable
WP 5: A planner who feels that public participation should be encouraged is more likely to prefer models of planning other than synoptic.	Supported
WP 6: A planner who recognizes that goals are contested is more likely to prefer models of planning other than synoptic.	Not Testable
WP 7: A planner who perceives problems as existing on a systemic level is more likely to prefer models of planning other than synoptic.	Not Supported

CHAPTER FIVE: DISCUSSION

Findings

This research reveals that perceptions of the institutional environment of sampled planners involved in several large-scale natural resource planning processes vary according to the process in which planners operate and include themes relating to mistrust, power, the practical utility of the final product (planning document), and constraints relating to time and funding. Other more positive themes that emerged relate to dialogue, creativity, trust, respect and learning. In particular, the majority of planners in this study perceive the natural resource planning environment as one where procedural obligations constrain the process (92.9%), goals are not identified or agreed upon (100%), institutional arrangements are inflexible (100%) and where problems regarding natural resource planning and management exist on a systemic level (92.9%).

I interviewed twenty-eight individuals involved with four natural resource planning processes in the northern Rocky Mountains and found that several distinct themes became evident from the examination of the data. The analysis of the study areas focuses on the categorization of comments made by planners that relate to dominant themes that emerged from each of the planning processes.

With regard to the Bitterroot Ecosystem Grizzly Bear Recovery Process, the dominant themes relate to the perception that the working environment was impeded by procedural obligations and that there existed problems associated with goal identification or agreement. The process is based in a large geographic area possessing a great deal of variety from both a social and biophysical standpoint. In addition, the process includes a national interest that seemed to have added to the complexity and controversy. Only two

of the nine planners interviewed in the Grizzly process felt that the process was not constrained by procedures. Several of the planners who felt that the process had been constrained by procedural obligations explained that the mandatory public hearings were not only unhelpful, but were in some cases dangerous because of threats of violence. In addition, some planners explained that the content analysis process conducted after public meetings, hearings and scoping sessions was problematic illustrating the difficulty of quantifying value-based, qualitative information and introducing emotional information into a synoptic planning process. Every planner with the Grizzly process felt that goals had not been identified or agreed upon and thus, made for a contentious planning environment. While the groups who worked together (ROOTS) in this process to submit an alternative for grizzly bear recovery established that trust could be achieved by certain stakeholders with seemingly dissimilar objectives and represents a positive step forward in complex natural resource planning situations, a dominant theme regarding all of the various stakeholders of the process is mistrust. Planners described the elements of mistrust both at public gatherings required by the process and in non-work settings. Trust presumably fomented as a result of the mandate of the ESA to recover bear populations stressing the "how" rather than the "if." The inability to challenge the goals of the plan (i.e. to focus on if bears should be reintroduced) was not an option after the Interagency Grizzly Bear Committee endorsed the area for recovery in 1992 and presumably led to the resulting mistrust.

The dominant themes of the Glacier National Park General Management Plan include power, goal identification or agreement, the practical utility of the final product and mistrust. As with the Grizzly process, the Glacier process is based in a large

geographic area possessing a great deal of variety from both a social and biophysical standpoint and includes a national interest that seemed to have added to the complexity and controversy. Several of the planners in this process explained that they felt controlled and expressed frustrations associated with working in an environment where decisions would be made regardless of their input. Other planners discussed the notion of wanting to control the process because the public doesn't "have time to understand the depth of what we're trying to do" (P2). Power as a dominant theme was present only in this process. The power held and used by these individuals produced a grievous working environment and caused several of the planners to drop out of the planning process. Correspondingly, planners who chose to exercise power and "temper" (P3) public opinion with their management skills caused strife because of this air of omniscience. Every planner in the Glacier process discussed the inability to identify or agree upon goals as a constraining factor. Most notably, this was directed toward upper management who some planners claim would dictate goals that were not widely held by planning team members or would change the goals throughout the process. Several planners questioned the utility of the General Management Plan and Final Environmental Impact Statement that resulted from the Glacier process and whether the plan would just "rubber-stamp" (P3) what has been or what will be done in the park. As with the Grizzly process, mistrust was a significant issue that planners discussed regarding relationships with the public and relationships with other planners on the park planning team.

Planners involved with the Steering Committee of the Upper Clark Fork River Basin Management Plan discussed issues relating to dialogue, trust, respect, creativity and learning. It appears that many of the outcomes are components that characterize the

fundamental tenets of social capital. The Clark Fork process is spatially-based (recognizing bioregional constraints) and focused explicitly on the riparian corridor of a watershed. In addition, all interest groups reside within and are intimate with the planning area. According to many of the planners, these interest groups were able to share both experiential (indigenous) knowledge and technical (science-based) information and more importantly over time, were accepting of both types of knowledge. The process was inclusive and allowed for complete control by stakeholders in both the methods and outcome of the plan. The Steering Committee produced a management plan that was ratified by the 1995 Montana legislature and continues to meet to the present. While the Steering Committee was not able to address the complex issues associated with Superfund cleanup of the Upper Clark Fork River basin, members appear to have developed trust and mutual respect that allowed for and promoted discussions of other natural resource issues in the basin. Questions relating to the implications for the fish and other biotic components related to the Upper Clark Fork River basin remain unanswered since a drought has not occurred in the region and the leasing component of the management plan has yet to be used. However, relationships cultivated during the writing of the Upper Clark Fork River Basin Management Plan could translate into the ability to initiate actions and collectively solve related natural resource problems in the future.

Planners associated with the Blackfoot River Recreation Management Plan identified issues relating to procedural obligations, inflexibility due to time and funding constraints and goal identification or agreement. As with the Clark Fork process, the Blackfoot process is focused on the riparian corridor of a watershed and includes all of

the interest groups that reside within the planning area. All of the planners interviewed in this study area commented that the process has been constrained to varying degrees by procedural obligations. The adequacy of scoping meetings was discussed by several planners both in questioning the agency's interpretation of issues that resulted from the scoping meetings and the overall representation of the general public. Several planners also discussed time and money constraints and the naivete in judging the funds necessary to complete the project. All of the planners in this study area recognized that goals were either not adequately identified or were not agreed upon and some expressed concern over trying "to capture the essence of what was going on out there, and obviously that was probably our perception, not necessarily the world's perception" (P15). Since the process is on going at the time of this study, it is not possible to comment on the outcome of the process. However, planners appear to have recognized the above-mentioned constraints to planning and are taking specific actions to mitigate the issues early in the process. For example, many of the planners in this study area agreed that the creation of the Recreation Steering Committee provided an exceptional opportunity for involving all interested stakeholders in a deliberative manner. In addition, many planners explained that the Recreation Steering Committee would recognize many forms of knowledge and diversity of opinion and thus would confront issues associated with goal identification or agreement.

It is interesting to note that several of the dominant themes were common to particular study areas. For instance, the common dominant theme of the Grizzly, Glacier and Blackfoot processes was goal identification or agreement; the common dominant theme of the Grizzly and Blackfoot processes was procedural obligations and; the

common dominant theme of the Grizzly and Glacier processes was mistrust. Yet, these themes were not dominant in the Clark Fork process. It is also interesting that several of the dominant themes were exclusive to only one of the study areas as was the case of power in the Glacier process and dialogue, trust, creativity, respect and learning in the Clark Fork process. It appears that there exists some association with a process that allows for two-way dialogue to take place and flourish as perhaps allowing for goal identification or agreement to be discussed and resolved and promoting a sense of trust among stakeholders. Similarly, if issues relating to procedural obligations were resolved, then perhaps dialogue and the resulting characteristics of social capital could exist and flourish. Another distinguishing characteristic of the Clark Fork process is the fact that stakeholders initiated the process and were not subject to the rigid procedural obligations that accompany the NEPA process. In the case of power issues present only in the Glacier process, it is perhaps a function of the institutional structure of the National Park Service (and not the U. S. Fish and Wildlife Service or Montana Department of Fish, Wildlife and Parks) in which the Park Superintendent and Division Chiefs control much of the park decision-making process.

Another component of the results of this study are the relationships between the numerous themes that emerged from these data. Regarding funding, several planners commented that when goals are not agreed upon or identified early in the process, total costs of the planning process can be greatly increased. In addition, several planners explained that procedural obligations, such as the public hearing process mandated by NEPA, can actually become a greater liability in terms of the total costs, the creation of an exclusionary atmosphere and the potential for litigation. One planner commented that

funding could be related to trust in that stakeholders may be suspect of a process that is funded by an agency that has a mandate. Another planner explained that total funding was not a barrier to planning but rather the allocation of funds within the organization.

Dialogue or communication is another subject that is interrelated to different themes is this study. Several planners discussed issues related to procedural obligations affecting dialogue because the "documents are not intelligible to a lot of people" (P17). These data also show that mistrust and power appear to either cause or become inflated due to a lack of dialogue. In addition, inflexibility within the organization was discussed as not allowing dialogue to take place on a regular basis. The last interrelated theme includes the identification that time was necessary to allow for goal identification or agreement because "you don't really understand what you're doing in a plan until you're well, well into it" (P5). It appears that when dialogue is suppressed, goal identification or agreement becomes a moot objective. Thus, the promotion of dialogue appears crucial toward resolving "wicked" problems.

The resulting synthesis of the working propositions is a more conceptual way of approaching a planner's perception of the planning environment. This research shows that a planner who feels that public participation should be encouraged and a planner who views scientism as inadequate is more likely to prefer models of planning other than synoptic. Systemic-level problems associated with natural resource planning were described by nearly every planner and include public apathy toward natural resource issues, xenophobia that exists in rural communities, the current dysfunctionality of ecosystem-scale management, poor interagency coordination and the structure of the agency that does not match scale with issues and information. In addition, nearly every

planner perceived the planning environment to be constrained by procedural obligations, inflexible to innovative approaches, and contentious due to a lack of goal identification or agreement. Since five of the seven working propositions were not supported, it can be inferred that the worldview of the planner is not predictive of the type of planning model preferred by the planners and tends to obscure the accurate characterization of a planner as being strictly synoptic or transactive. Ironically, while most planners recognize that they are constrained by various issues, they continue to apply synoptic models that are ill-suited to dealing with "wicked" problems.

Recognizing that broad generalizations are often neither accurate nor legitimate in inherently complex and heterogeneous natural resource planning processes, interpretations are based on the group of individual planners involved in the particular process within which they are operating. The interpretations are not meant to reflect the entire population of natural resource planners or prevalent paradigms that exist in natural resource planning. However, several comments and interpretations consistent between the study areas may provide valuable insight into the intricacies of other planning processes, therefore several broad generalizations will be made. In summary, most of the sampled planners recognize the following:

1. The planning process tends to be constrained by various limitations and impediments associated with procedural obligations,
2. The planning environment tends to be inflexible toward accommodating innovative approaches,
3. The planning environment tends to be adversely affected by a lack of goal identification or agreement,

4. Scientism, the belief that science is inherently capable of solving almost all human problems, is not an appropriate foundation from which to base natural resource decisions,
5. Many of the problems that adversely affect natural resource planning exist on a systemic level,

More broadly, this research provides evidence that,

1. The recognition by planners that the planning environment is impeded by procedural obligations, institutional inflexibility, goal identification or agreement or systemic-level problems is not necessarily predicative of the type of planning model espoused by the planner (i.e. a planner's worldview is not indicative of behavior),
2. Synoptic planning models used in agency-led, landscape-scale planning processes tend to contain many constraints and lead to a contentious planning environment and,
3. A process that allows for two-way dialogue, the recognition of the legitimacy of many forms of knowledge, a decision-making process based on consensus, meetings that are regular and open to all stakeholders and based on a bioregional approach (that incorporates a community of place in contrast to a community of interest) will tend to produce a planning environment that promotes trust, respect, creativity and learning.

Therefore, planners who recognize these themes are more likely to accommodate a diversity of stakeholders and produce an outcome with less potential for dispute and litigation.

The research exposed details regarding the planner's perception of the situations in which they operate by identifying the aforementioned themes. More tenuous, however, is the understanding of the relationship between the perceptions of these situations and the choice of planning model. While this research does suggest a correlation between worldview and desired planning model in the case of the role of the public and the use of science in natural resource planning, as exemplified by a lack of support for the majority of the working propositions, a planner's perception of the planning environment is not widely commensurate with his/her desired model of planning. Thus, this research illustrates that there is no clear, linear, cause and effect relationship between a planner's desired model of planning and the planner's worldview and that an intricate and complex amalgam of variables are present regarding the planner's perception of the planning environment and the choice of planning model and include power relations, systemic-level problems and the multiple legal, political, institutional and social barriers that are perceived to exist in contemporary natural resource planning.

Limitations

The limitations of this study concern the following three items; nomothetic-level conclusions from the working propositions; tautological implications of comparing the

variables regarding public participation and scientism with the desired planning model and; the total number of sampled planners.

As mentioned in Chapter Two: Conceptual Framework, the testing of working propositions provides for a limited understanding of these data. By classifying a planner as only "transactive" or "synoptic," rich detail regarding the nuances and idiosyncrasies of what it means to be "transactive" or "synoptic" are lost. Similarly, categorizing an individual as wholly "encouraging public participation" diminishes and obscures richness of detail regarding *why* an individual feels the public should be encouraged and *what* is meant by "encourages." While generalizations can consequently be made regarding *all* of the "transactive" or "synoptic" planners who feel that "public participation should be encouraged," these results tell us little about the substantive idiosyncrasies that are so crucial in understanding the planner's paradigm toward natural resource planning. As Patterson and Williams (in review) assert with regard to tests of hypothesis or propositions, "(T)he fundamental tension underlying this methodological decision reflects a tradeoff between relying on knowledge generated by prior research versus remaining open to what is new, unique, or unexpected in the current research context. ...the cost is that the potential insights from a given study are limited to the rigid boundaries defined by the operational model or the hypotheses/propositions being tested." Thus, the quantitative methodology that provides for a more statistically generalizable description of natural resource planning has in this study been juxtaposed with a qualitative, interpretivist approach to understanding the complex environment in which natural resource planners operate. In this regard, I also recognize the limitations of this qualitative approach but assert that what is impaired in the interpretation of data that are

not statistically generalizable, is made up for in conveying a message that represents a range and diversity of viewpoints that carries with it richness of detail.

Second, there exist certain tautological implications associated with the testing of several of the working propositions. This issue concerns Working Proposition 2 (Scientism Inadequate) and Working Proposition 5 (Public Participation Encouraged). After reviewing the literature more thoroughly, tautological implications with comparing these two variables to the "Desired Model" variable were noted. For instance, a planner who feels scientism is inadequate yet exhibits qualities of synoptic planning is contradictory. Likewise, a planner who feels that the public should be encouraged throughout the planning process is a quality of a transactive planner. In instances when these contradictions became evident, a planner's desired model was categorized as "Undetermined," thus decreasing the sample size.

Lastly, while the sample size of twenty-eight planners provided adequate coverage of a diversity of opinion for the analysis of the study areas and working propositions, a larger sample could provide even greater diversity of opinion and richness of detail and could have contributed more evidence to generalize to the population of natural resource planners. However, due to time constraints of this research, increasing the sample size was not possible.

Implications and Recommendations

While there is little research that has specifically tested or analyzed planner's perception of the planning environment, planners associated with these study areas and planners operating in related natural resource planning processes could benefit from

examining and applying these data when constructing a planning process or reforming a process that is already in progress. Planners should be encouraged to learn from the "mistakes" and "lessons" of others by incorporating the results from this research in the following three ways.

First, realizing the issues that have constrained the natural resource planning processes in this study, planners could avoid many of the frustrations and conflicts that have preceded them by understanding issues that result in similar planning processes and applying new techniques that encourage a deliberative and inclusive atmosphere with the public. In addition, realizing the issues that have constrained other natural resource planning processes could provide for greater communication and functionality with other planners.

Second, planners could benefit from the results of this study by realizing that in many cases, investing in additional time necessary to involve interested stakeholders using deliberate and meaningful methods may actually lead to long-term financial savings. In addition, procedural obligations such as those associated with FACA or NEPA that simply "go-through-the-motions" of including stakeholders, can actually increase the amount of money and time spent on a planning process or potential for litigation. Planners should be cognizant that promoting public involvement could advance a sense of community solidarity and social capital and lead to improved environmental policy in the long-term.

Lastly, planners will still have to realize that since systemic-level problems underlie the contemporary natural resource planning environment, a transactive planning approach will not work in all natural resource planning processes under the present public

land management and planning system. Planners should realize that deficiencies and constraints exist within the planning environment (such as those outlined in this research), including the scale of various planning processes and the institutional dysfunctionality of many contemporary planning processes. In addition, planners should take deliberate steps toward improving the planning environment and promote more functional methods that account for both the biotic and social components of natural resource planning. Ultimately, all of the stakeholders involved in various natural resource planning processes that exhibit "wickedness" will have to examine the current paradigmatic assumptions that control the processes and the scale at which analyses are conducted and decisions are made. Recognizing these three issues, I recommend the following course of action.

First, federal, state and other public agencies involved in natural resource planning should build mechanisms that promote learning into existing processes. This learning should focus not on the compartmentalization of problems and issues but rather on interdisciplinary and holistic understanding of social and biotic interactions and involve systems-thinking that recognizes the interrelatedness of external forces and the operationalization of issues as an interfunctional group. Cooperating agency agreements should be sought that encourage interagency collaboration and mutual learning and institutional structures should be designed that recognize and encourage innovation and provide rewards and incentives to managers and planners who attempt innovative approaches to natural resource planning, especially those that involve multiple constraints. Financial support and effective utilization of funds at all levels of natural resource planning should be sought and would only strengthen long-term planning,

conservation and restoration efforts. The devolution of authority and decision-making power to local communities in certain natural resource planning situations should be attempted on a trial basis as "case studies" and "pilot projects" to gauge or illustrate the effectiveness of new forms of planning including collaborative, consensus-based approaches. More effective training of managers and citizens in citizenship techniques should become a priority not only of civil servants working in the public interest but should also begin early in childhood development and involve the entire citizenry. The demarcation and reauthorization of public land administrative boundaries and management districts based on a bioregional approach should be investigated as an appropriate action toward more effective natural resource management. Lastly, the definition of success should be more than simply the implementation of a plan. Success can and should be defined as the ability to control the future in which setting goals and achieving them are part of the same process and should include the increased potential for social capital, trust and a sense of collective identity and solidarity. These issues are also measures of success and should not be discounted.

Ultimately, changes will have to involve a convergence of both top-down reform and grass-roots populism in order to address the more systemic-level issues that pervade the foundations of western culture including the institutional structures that underlie education, politics, economics and general social welfare in order to instill a sense of civic responsibility, community solidarity and altruism among the populace.

Future Research

Individuals involved in future research should recognize the inherent complexity of natural resource planning and the unpredictability of cause and effect relationships when attempting to analyze the perceptions that planners hold of the planning environment in which they operate. Moreover, future research should favor and focus on qualitative methods and interpretivist paradigms that are context-based and focus on the holistic understanding of the phenomenon seeking to represent the diversity of viewpoints in rich detail instead of utilizing a reductionistic or multivariate approach. Since the data presented in this study show that there is not a predictable relationship between the worldview (perceptions of procedural constraints, role of the public, etc.) and the behavior (planning model chosen by the planner) of the planner, future researchers should recognize that this phenomenon is far more complex than can be represented by quantifiable variables that assume a stable, predictable and pre-determined relationship between causes and effects.

Future research that could add to these findings include further analysis of natural resource planning processes at various spatial and temporal scales and under diverse decision-making arrangements. Most notably, future research could analyze a greater diversity of natural resource planning situations (in both spatial and temporal scales) in order to determine whether similar themes are present and the dimension and depth of the similarities and differences. Analyzing additional study areas and comparing various planning scales including other terrestrial and riparian planning processes, could strengthen the discussion presented in this study and expand an understanding of the paradigms of natural resource planning. Further expansion of this type could include

county-level planning, urban greenway planning, rural community problem-solving and diverse recreation-related planning issues and would add to the paucity of research on this subject. Further research regarding the recovery of endangered species at various scales and using various planning models including a transactive approach could also expand the discussion in this study.

Furthermore, questions and issues relating to the devolution of power and decision-making authority for the people who are intricately linked to their proximal environment will be paramount in the future. Further research into the emerging literature and phenomenon regarding bioregionalism would strengthen the argument that planning based on watersheds and other geographical characteristics tends to be more inclusive of stakeholders and may reduce the potential for conflict.

Ultimately, future research must address the intricate relationship between spatial and temporal scales of analysis and the social and biophysical context of the process including questions relating to the scale at which natural resource decision-making is best accomplished. Recognizing the dynamic, stochastic and often conflicting social and biophysical processes inherent in most natural resource planning situations, fundamental questions regarding the mechanisms that promote a more transactive approach in natural resource planning appear to be most relevant in the future.

APPENDIX A

Interview Guide

1. Can you describe the process used to develop this plan thus far? How have you arrived at the current situation?

2. Can you review your role in this planning process? How long have you been involved? Have you been involved since the beginning of the process?

3. Was there general public acceptance about the goals at the start of the plan? What kinds of people disagreed with the objectives of the plan? How much power did they hold? To what extent did definitions of problems exist in the beginning of the process? Did people generally agree on the definitions of these problems?

4. In what capacity do you feel the public should be involved in the planning process? What kind of information can they contribute? How do you know when there has been enough public involvement? How does including the public affect the planning process?

5. Did issues come up during the planning process that you were not expecting? How did you deal with these issues? Do you generally feel that you are constrained by deadlines or money? How did these constraints affect the outcome?

6. What should the role of science in planning be? Were there disagreements among scientists (both within or outside the agency) about cause and effect relationships? How did this affect the process?

7. Can you describe what happens when you personally do something different, unexpected or innovative during the process? Do you have incentives to try new or innovative approaches during the planning process?

8. Did regulatory or procedural issues affect this planning process? What aspects of NEPA contributed to positive aspects of the process? What aspects of NEPA made the process more difficult?

9. How do you treat the issue of decisions made in the present on future generations? How would you refine or correct issues relating to your planning situation if you could?

APPENDIX B

Acronyms

BE	Bitterroot Ecosystem
BLM	Bureau of Land Management
CFR	Code of Federal Regulations
CMC	Citizen Management Committee
CIG	Citizen Involvement Group
DEIS	Draft Environmental Impact Statement
DFWP	Department of Fish, Wildlife and Parks (MT)
DSC	Denver Service Center
EA	Environmental Assessment
EIS	Environmental Impact Statement
ESA	Endangered Species Act
FACA	Federal Advisory Committee Act
FEIS	Final Environmental Impact Statement
GMP	General Management Plan
GNP	Glacier National Park
MCA	Montana Code Annotated
MDFWP	Montana Department of Fish, Wildlife and Parks
NEPA	National Environmental Policy Act
NFMA	National Forest Management Act
NGO	Non-Governmental Organization
NLI	Northern Lights Institute
NPS	National Park Service
P	Planner
RecSteerCom	Recreation Steering Committee
ROOTS	Resource Organization on Timber Supply
USC	Unites States Code
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
VERP	Visitor Experience Resource Protection
WP	Working Proposition

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