

# An Interpretive Analysis of the Relationship between Sense of Place and Perceptions of Landscape Change in a Gateway Community

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## Introduction

A host of land use events and trends over the last two centuries have shaped the Niobrara River landscape. Yet in the next decade perhaps more than ever before, the land use planning and river management decisions of public land managers, local officials, and residents will determine the river's long term legacy and the legacy of its surrounding communities. This is especially the case along a 76-mile stretch of the Niobrara River in north central Nebraska. Here on the Niobrara National Scenic River, the costs and benefits of increased tourism and expanding development are weighed regularly by local communities and public land management agencies. Questions about how to plan for and manage the changing landscape loom large. Diverging, and in some cases, conflicting perspectives on the best solutions exist within the community and even among land management agencies. Where issues are particularly complex and contentious an in-depth understanding of local perspectives is needed.

As community leaders and agency managers plan for the future of a river's natural and cultural landscape, they must contemplate how decisions will affect their communities and their neighbors. This paper presents the spectrum of place-based meanings that local community members—farmers, ranchers, recreation outfitters, business-owners, and others—ascibe to the social and natural milieu of the river and provides an illustration of how those meanings can be used to examine community member perceptions of landscape change, specifically development within the river valley. The latter demonstrates how establishing a place-based meanings framework provides insight into seemingly incompatible attitudes toward river development.

## Study Area

The Niobrara River landscape is embedded in a rich and multileveled cultural context. Although traces of the Native American tribes that once inhabited the river valley, including the Sioux, Ponca, and Pawnee, are still evident, the influence of early European American settlement since the late 19<sup>th</sup> century is most clearly palpable today. Ranches and farms big and small dot the region. The rolling prairies, hearty grasslands, and river draws of the Sand Hills have supported ranching and farming for over 100 years. According to residents, the river long has served as a backdrop to the river community's picnics, catfish fries, and barn dances, but floating the river didn't become popular until the early 1960s. Then, in the 1970s a few entrepreneurial landowners began renting out canoes on weekends. The Niobrara River quickly gained recognition across the region and nation as an exceptional canoeing, kayaking, and inner tubing destination. The river's significance was confirmed by Congress in 1991 as 76 miles of the Niobrara River were designated a National Scenic River. Recreational use of the Niobrara River rose dramatically through the mid 1990s. The U.S. Fish and Wildlife Service estimated that use on one portion of the river increased by more than 75 percent in six years, from approximately 17,000 visitors in 1991 to 30,000 visitors in 1997 (USFWS, 1999). Today, thousands of visitors flock to the river on summer weekends to escape the city and enjoy the river's scenic beauty (Davenport, Flitsch, Thompson, & Anderson, 2002). Many communities along the Niobrara NSR have responded to the needs of these masses. Hotels, motels, resorts and other tourism-related services have sprung up in the area. Approximately 13 different recreation concessionaires outfit and shuttle visitors floating the river. Nine public and private campgrounds and resorts along the river provide visitors with overnight accommodations.

Concomitantly local community members, interest groups, and officials have brought to the forefront concerns about changes in the river's natural and cultural landscape, sparking controversy over appropriate recreation use levels,

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the need for visitor regulations, the rights of riverfront property owners, and public involvement in management. Property ownership and river management jurisdictions within the river valley complicate these issues. While the 76 mile stretch of the Niobrara NSR itself is administered by the National Park Service (NPS), the river flows through several other jurisdictions—the Fort Niobrara National Wildlife Refuge and Fort Niobrara Wilderness Area managed by the U.S. Fish and Wildlife Service (USFWS), Smith Falls State Park managed by Nebraska Game and Parks (NGP) and four different counties. The river within the boundaries of refuge and state park is co-managed by the NPS and USFWS and NGP, respectively. Most of the Niobrara River NSR riverfront however, is privately owned. Two non-government conservation organizations, The Nature Conservancy and Middle Niobrara Natural Resource District, own and manage property along the river. The remainder of the riverfront is in individual landholdings, including farms, ranches, residential estates, resorts, and campgrounds.

### Conceptual grounding

The human-environment connection is complex. How do the 76 miles of water coursing through the hills of north central Nebraska come to represent a spectrum of meanings and emotions to the local community? Perhaps more importantly, what are the implications of these meanings and emotions for river management? While opinion polls or surveys measuring support for management actions provide officials with a snapshot of public attitudes, these techniques do a poor job of explaining attitudes. Furthermore, they tend to simplify complex issues and polarize perspectives associated with the human-environment relationship. Researchers in the field have turned to concepts of place, sense of place, and place attachment in geography, sociology, and psychology in an attempt to answer questions like these. How these concepts have been framed and explored empirically varies across bodies of knowledge. Despite obvious parallels among perspectives, analysis of the human-environment connection has continued fairly independently (Williams, Patterson, Roggenbuck, & Watson, 1992).

Geographers have investigated sense of place across different geographical scales, including home, neighborhood, city, region, and nation (Shamai, 1991; Tuan, 1977) and across various landscape types, such as wildlands, farmlands, and cultural landscapes (Kaltenborn & Bjerke, 2002). According to geographer Sack (1992), places underlie how we make sense of the world and drive our actions. Theories from human geography converge on the idea that places represent not only the physical setting, but also activities conducted in relation to the setting and meanings associated with the setting (Relph, 1976; Sack, 1992; Steele, 1981; Tuan, 1974, 1977). Tuan (1977) asserted, “What begins as undifferentiated space becomes place as we get to know it better and endow it with value” (p. 6). The concept sense of place is viewed as inextricable from the social and cultural context of a place (Agnew, 1987; Buttner & Seamon, 1980; Steele, 1981).

Sociologists focus on the sociocultural context of place and its significance in the formation of a sense of place. Under this perspective, the shared values or belief systems of a group, when applied to a landscape, are believed to create common meanings. To better understand sense of place sociologists examine the shared memories, traditions, symbols, and myths created around places. Greider and Garkovich (1994) explain, “. . .the symbols and meanings that comprise landscapes reflect what people in cultural groups define to be proper and improper relationships among themselves and between themselves and the physical environment” (p. 2). Since places are largely socially constructed, natural environments assume different roles to different groups, depending on how a group defines itself.

Psychologists have applied a cognitive approach to understanding the human-environment connection (Cheng, Kruger, & Daniels, 2003). This approach assumes that humans process information internally about their environment, which subsequently shapes individual attitudes towards and behaviors in the environment. Some environmental psychologists have keyed in on psychological processes, including social identity theory (Proshansky, Abbe, & Kaminoff, 1995; Twigger-Ross & Uzzell, 1996) and attitude theory (Jorgensen & Stedman, 2001) to better understand the human-environment connection.

Contemporary research on sense of place and place attachment in natural resource and outdoor recreation fields has built upon advancements in geography, psychology, and sociology. Current emphasis has been on the development and testing of scales for measuring sense of place and place attachment. In turn, these scales have been used to isolate different dimensions of these constructs, establish their determinants, and link them to other dependent variables. For example, visitor attachments to natural areas have been correlated to a number of sociodemographic and trip characteristics including gender, ethnicity, place of residence, experience type, previous experience, specialization, and group type (Bricker & Kerstetter, 2000; Cantrill, 1998; Johnson, 1998; Peyton, 2003; Rosendahl, 2002; Warzecha & Lime, 2000; Williams et al., 1992) Attachments to natural areas have also been linked to attitudes and behaviors, including attitudes toward development (Vorkinn & Riese, 2001), evaluations of settings (Mowen, Graefe, & Virden, 1998), and environmentally responsible behavior (Vaske & Kobrin, 2001). These lines of research elucidate the

complexity and relevancy of sense of place and place attachment to public land management and planning. Yet, still the question pervades, “How do we manage natural areas as places entrenched in a vast array of human meanings?”

## Methods

An interpretive research design was chosen for this study because this approach enables the researcher to document the subjective nature of real world phenomena, to unearth unanticipated findings, and to embrace the context of the study. Data collection and analysis procedures were designed to capture a broad range of perspectives and preserve the richness and detail in those perspectives. Since the Niobrara River community is not a homogenous group, seeking out diverse perspectives was essential. The network sampling technique was employed to identify potential participants. An original set of key informants was identified through discussions with community leaders. These key informants were asked to provide names of other community members who have a stake in the Niobrara River. A total of 28 people were contacted over a period of three months in the summer of 2002. Of those initially contacted, 25 community members with varying backgrounds agreed to participate in the study (Table 1).

**Table 1** - Study participants’ profile

Participant characteristics	
Gender	Male = 16 Female = 9
Age	Range = 28 – 80 Mean = 55
Residence	Born in area = 15 Moved to area more than 15 years ago = 7 Moved to area less than 15 years ago = 3
Occupation	Recreation-based = 6 Agriculture/timber = 7 Recreation and agriculture = 3 Retired = 1 Other = 8

An interview guide consisting of open-ended questions was used to elicit talk about three main themes: connections to the river, perceptions of river conditions and river management, and vision for the river’s future. Under this format, participants were first, asked broad questions related to the themes and second, asked follow-up or probing questions to encourage further detail. The interview guide enabled the interviewer to frame the topics and keep participants on track, while giving them the liberty to express their own observations, perceptions, and attitudes. Charmaz (1991) terms this strategy “directed conversations.” Each interview was tape-recorded and transcribed verbatim.

Data analysis involved both organization and interpretation. The techniques used were adapted from Strauss and Corbin’s (1990) grounded theory analysis procedures. Individual interviews were coded and summarized to organize the data. Specific topics embedded in the narratives were given a representative name and then grouped into categories and subcategories. For example, descriptions of litter on the riverbank were labeled “litter” and then later grouped with other subcategories like “erosion” or pollution” under a broader category termed “river impacts.” Since the strengths of qualitative assessment, as well as this study’s underlying goals, are depth and breadth of meaning; words, categories, and themes were not counted or quantified in any way.

Once the data were coded and categorized, the interpretation phase began. In qualitative analysis, the goal of interpretation is to generate a framework or structure for understanding the data. To achieve this goal, categories and subcategories were analyzed for common themes, patterns, and relationships. Strauss and Corbin’s (1990) tools for enhancing theoretical sensitivity, such as making comparisons, questioning, and single word analysis were used to stimulate creativity and help uncover meanings in the text. Tables and concept maps were generated to display the underlying data structure. The entire analysis process was highly iterative and reflexive; it benefited from copious note

taking, an array of credibility checks (e.g., collaborating with a team of researchers and the study participants themselves), and negative case analysis (i.e., examining the data for cases that challenge the researcher’s interpretations).

### Study Findings

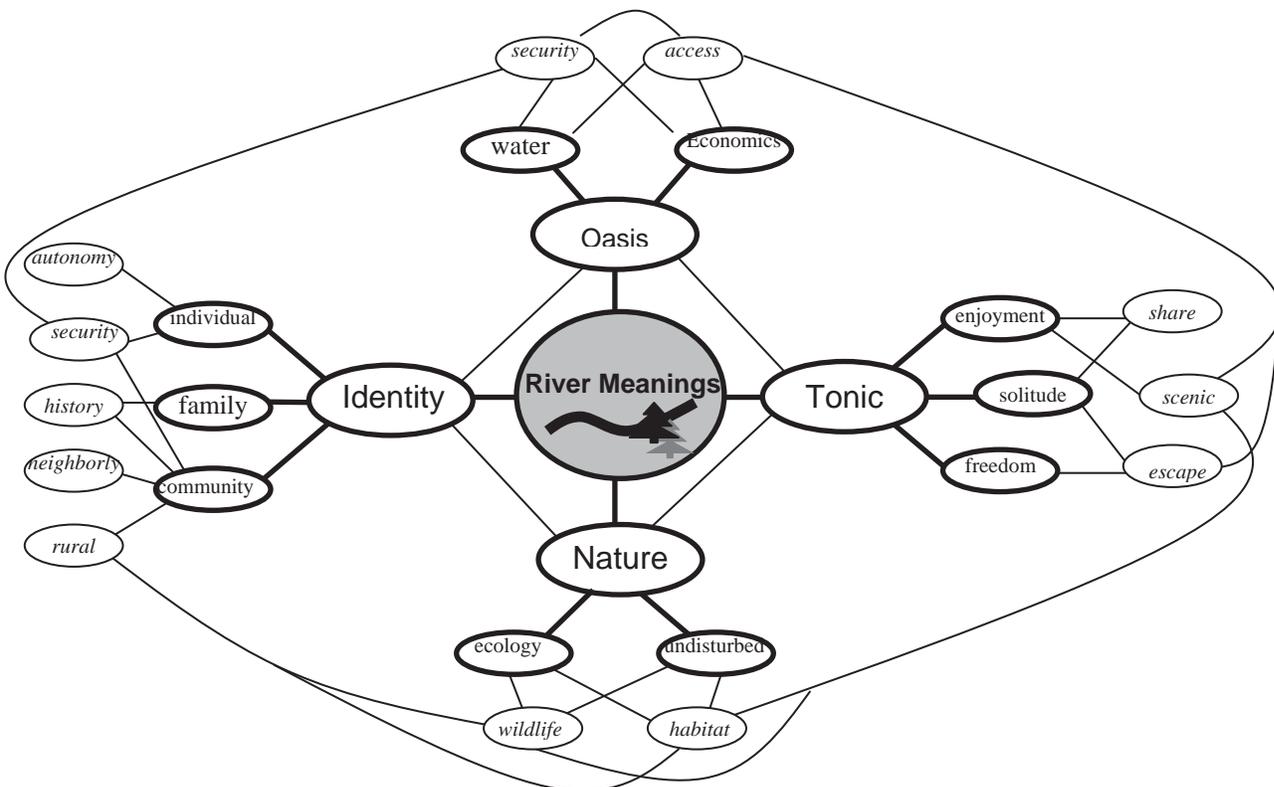
Study participants expressed river meanings through storytelling, by the use of rich metaphors and detailed imagery, and in the knowledge shared about the area’s natural and cultural history. The web of river meanings that emerged comprised four dimensions of meanings and several categories and subcategories within those dimensions. A diversity of perspectives of landscape change and in particular, an array of attitudes toward and perceptions of river development were also identified.

#### Niobrara River meanings

The river embodies a diversity of meanings to its community members. Participants were asked, “How did you come to know the river?” “What does the river mean to you?” and “What do you value about the river?” Participants’ connections to the river were diverse and the meanings they ascribed to the Niobrara River spanned specific personal meanings, family meanings, interest group or organization meanings, and broader community meanings. Participants offered a variety of metaphors and rich images in their descriptions of their connections. The Niobrara River was called “a special place,” “a unique area,” “a dream,” “an oasis” “a resource,” “a tourism draw,” “our livelihood,” “a source of enjoyment,” “an escape,” “a town identity,” “my life,” “a way of life,” “part of our blood,” “our heritage,” and “home.” Overall, the meanings articulated by study participants converged on four broad dimensions (Figure 1): river as oasis, river as tonic, river as identity, and river as nature.

The first dimension of river meanings, river as oasis, establishes the river as a scarce and highly coveted source of water and economic revenue amidst the often challenging and demanding character of life in rural Nebraska. Under this dimension of meanings the river is a resource for tangible goods and services. For example, one participant asserted,

Figure 1 - Web of River Meanings



“Water is a great play medium. It’s a source of irrigation. It’s a source of entertainment.” River-based tourism has given a few farmers and ranchers financial security: “...It’s what’s kind of helped hold the ranch together. A lot of times, you know, there’s not much money in ranching and so with the canoes, we’ve been able to hang on and keep it going.” Another participant noted that the river has helped stabilize the economy of the area: “I think for a small town Valentine is very lucky to have some kind of resource like that for its own vitality and economy.”

The second dimension of river meanings expressed by study participants is river as tonic or river as “good for the mind, body, and soul.” These intangibles reflect a range of recreation experiences significant to participants, especially the restorative and inspirational benefits of the river, including freedom, solitude, and pure enjoyment. Some participants related these meanings to just being near the river or viewing its scenic beauty: “What the river means to me is peace. ...There’s just a certain tranquility sitting at the water’s edge.” “There’s a freedom of being here on the river, just the beauty of it. I don’t know if I can put it into words really.” Many conveyed these meanings through descriptions of float trips with family members and friends.

River as nature, the third dimension that emerged in the analysis, reflects the participants’ appreciation of the undisturbed ecological features and processes of the river landscape:

“I like the fact that a large chunk of what I’m closely associated with is really pristine. I certainly wouldn’t say it’s like it was 100 years ago because the wildlife has changed, but there is little development; little access. There are times still when you can go down the river and not see anybody. I like the idea that it...attracts and or nurtures lots of species that wouldn’t really exist here if it weren’t for the river. The birds, the neotropical migrants. The plants that are here. The animals that are here, that wouldn’t be here otherwise. I mean we get bald eagle.... It’s just wonderful.”

The fourth dimension expressed by participants, river as identity, encompasses a set of meanings that ties the river to their own sense of who they are as an individual, a family member, and a member of the community. For instance, several participants described the river as being part of their blood: “It’s very important. It’s part of our blood. I think that this is kind of our calling...” “It’s all part of our lives and has been since the beginning of time.” “It’s something that gets in your blood and it stays.” When asked what the river means to him, one participant replied, “Home, probably. Yeah, it’s just my home. I can’t think of any place I’d rather live...” Similarly another said, “Well, the river is really important.... We’ve always lived along the Niobrara River. I’d sure hate to live anywhere else.”

A few acknowledged the river as a family legacy. One member of a family interviewed called it his heritage, “See it’s our heritage, I guess. One hundred and some years [it has] been in our family.” His mother added, “Yeah, it was our homestead way back in the 1800s, about a hundred and some years. We got the plaque up there, a hundred year plaque.” A second participant hopes to keep river traditions alive in her family. “It’s just really a special place. ...I guess I hold really strong feelings toward not losing it or being shut off from it, because it’s been so much of our life and our kids’ lives.”

### Perceptions of development within the Niobrara River valley

Participants were asked to describe what they like and dislike about the Niobrara River and to explain their vision for the future of the river. Development within the river valley, including commercial and residential development, was a common topic in their responses. No clear consensus in perceptions of development as a problem or in support for restrictions on development was discovered, and in fact many participants seemed to grapple with the issue: “They’re developing more all the time in some places you know. I don’t mind seeing a little bit of development, but I wouldn’t want to see it completely developed.” Another participant considered the population explosions and heavy development in other parts of the United States and stated, “I guess I’ve seen some things happen in the last few years that I didn’t entirely agree with with the development and stuff on the river. Not that I’m not for some development on the river, but I think some of it has gotten out of hand in a few areas. ...But I’m not against development. I guess there’s a fine line between preservation and development.”

Participants’ management solutions were just as multifarious. When asked who should be responsible for managing the Niobrara River, one participant said, “Well, that can be answered two different ways. I think the landowners should manage it. It’s been their land. If they hadn’t taken care of it for a hundred years, why would somebody else want it now? But they’re going to need somebody to stop the development of it or it won’t be like that.”

While several underpinning themes surfaced, participants’ characterization of the issue and imagery used varied. Descriptions relating to development were organized into four categories: the extent to which development is a problem, nature of development, impacts of development, and management suggestions. A few participants deemed current

development as a serious problem, some forecasted that development trends could be a problem in the future, and others portrayed the river valley as pristine and well protected. For example, one participant was dissatisfied with current development along the river and added that she knows others in the community share her sentiment:

I haven't heard any person say that they're glad to see the house built down there along the river or the concession stands or the signs. I have not heard that comment from anybody in the last five years... It's been just the opposite... "Why are they there?" and "How is that allowed?"

Another participant believed that recent surges in development have been particularly bothersome. He explained, "It seems like it hadn't really changed that much, per se, for the river over the years. But yet, the last few years there has been some new development going on and that is kind of disturbing." On the other hand, some participants appreciated the lack of development on the river and compared the Niobrara River to other rivers they had visited. When asked what he liked about the river this participant said, "The lack of a lot of buildings.... Even though there's a lot of outfitters, it's not a real commercialized place, like some of the rivers that I've been on [that] are just businesses pounded on the riverbanks all the way along."

Participants characterized the nature of development within the river valley in terms of the types of materials used, location of the development, the purpose or function of the development, and who was developing. Several participants stressed the importance of using screening techniques and building materials that blend in with the environment to protect the scenic qualities and "frontier character" of the river valley. One participant explained, "The whole idea behind this river is maintaining it visually." When asked if he would like to see changes on the river, another replied, "Yeah, to see the development go away. I don't mind it up on top, but down next to the river...I mean they're just raping the land when they do that. It's not right." For some the function or purpose of development was a key concern. Distinct attitudes toward commercial development exist: "I like the river just as it is and I don't think it needs any more development.... I wouldn't want to see a big water slide down there for recreation or a carnival on the bank or...t-shirt sales." Similarly, a second participant criticized alcohol sales, buildings, and campgrounds on the river avowing that he is against "the exploitation of recreation for economic gain." A third participant was philosophically opposed to recreation development that precluded the agricultural value of the land. He explained, "Use the land as it was supposed to be used.... It was meant for grazing. It was meant to keep cattle on it. It was meant for the game to be on it. It wasn't meant for all these campers to be down there disturbing them and running them out." In contrast, another participant admitted that while he doesn't want to see it "completely developed," he doesn't mind a little bit of development, especially if it is to accommodate visitors.

We do need accommodations to accommodate the people, you know. I know I'd like to build some more cabins, but it'd be back away from the river, so you can't see it from the river. But everybody that looks out the windows here admires what a beautiful view we got and I think most of the people coming down the river don't mind it.

Some argued that informational signs on the river are needed, but commercial advertising is not.

I think the signs...that direct [visitors] to the bathrooms are great. I think that has helped because before people were just stopping and going everywhere and in the river. And maybe they still do, but I don't see it as much. ...The other signs to let them know the names of the bridges are good. The names, like Berry Concession or Smith Falls State Park, Sharp's Campground, right at the place, is fine. But they don't need it four or five miles up river. They don't need billboards as you go down the river.

Who was developing was a theme in some of the interviews. Some participants did not appreciate outsiders coming in to subdivide and develop the riverfront: "Bigger ranches have come in. More or less what really has come in here in the last few years is people from out of state. They came in here and bought up tracts of land along the river for their own hunting and fishing. That's something that I have seen change in the last thirty years...." Another asserted, "There's a lot of people moving from California to Colorado; there's a lot of people moving from Colorado to here. ...You can go out in any direction out of town and it just seems like every quarter of a mile there's a house. And it didn't used to be like that." One participant surmised, "Maybe people that have lived here and worked the place, have more respect for it and maybe aren't going to go off and exploit it for the dollars. That's kind of what I tend to see that some of these new people are doing."

Three major categories of impacts emerged in participants' discussions of development: economic impacts, recreation impacts, and impacts to the community's rural character. Some of the economic woes of local landowners, especially ranchers and farmers, were attributed to new subdivisions and elevated property values. "You have people from wherever buying little properties up away from ranch ground. You can't raise cattle anymore, because they've got this five acre plot that they put their house on." Another participant explained, "...The taxes are raising up, you know. And you can't live on the land or off the land because of the taxes." One participant described feeling forced into recreation development, because ranching became unprofitable.

Well, for several years I could have sold acreages along the river, but I didn't want to see my place developed that way. But you know the way times are getting, the way taxes are going up. There is a lot of money; people coming and paying four or five times what the land is worth. We can't afford to run cattle on it anymore. We've got to develop it in a way for recreation to make it pay.

A few participants were concerned that recreation development along the riverfront, like billboards and cabins, might detract from recreational experiences. "You lose that sense of timelessness down there." Another stated plainly, "I don't have any need to see any more houses or cabins or beaches or roads in or bars beside it. I don't have any need to see any more of that. And I don't think any of the people who come here to visit the river here do either." While some did not directly fault development, they believed that the rise in "commercialism" has meant more stress for residents. For instance, one participant said that the locals who live in the river valley do not "necessarily appreciate the commercialism, the tourism, the traffic, the hassles that go along with it." Increased traffic and an influx of "outsiders" also have affected some participants. "The traffic is a lot heavier by here. It's not like it used to be. The kids can't ride their bikes up the county road, because people come roaring by and the corners are kind of blind." A second participant added, "When we first came down here, if a car went by, there was a 90 percent chance of knowing who it was, they lived around here. Now it's a 10 percent chance of knowing who it is."

The management prescriptions suggested to stop or curb development also were wide-ranging. Participants mentioned zoning regulations, conservation easements, education, and "common sense" land management practices as possible solutions. Overall, participants praised the local landowners for doing "about as good a job as most anybody could do or else it wouldn't be a scenic river." Several shared the sentiment that the locals are responsible for protecting the beauty of the river over the years. Yet, many participants agreed that since the river has been "discovered," it needs some level of protection from development: "If it's a scenic river, then it's a scenic river. Something should stand out and something should protect it." At the same time, several participants were wary of being "told what I can and can't do on my own ground" and emphasized that the federal government should not be "calling the shots." One participant shared an insight that echoed many of the study participants' vision for river management:

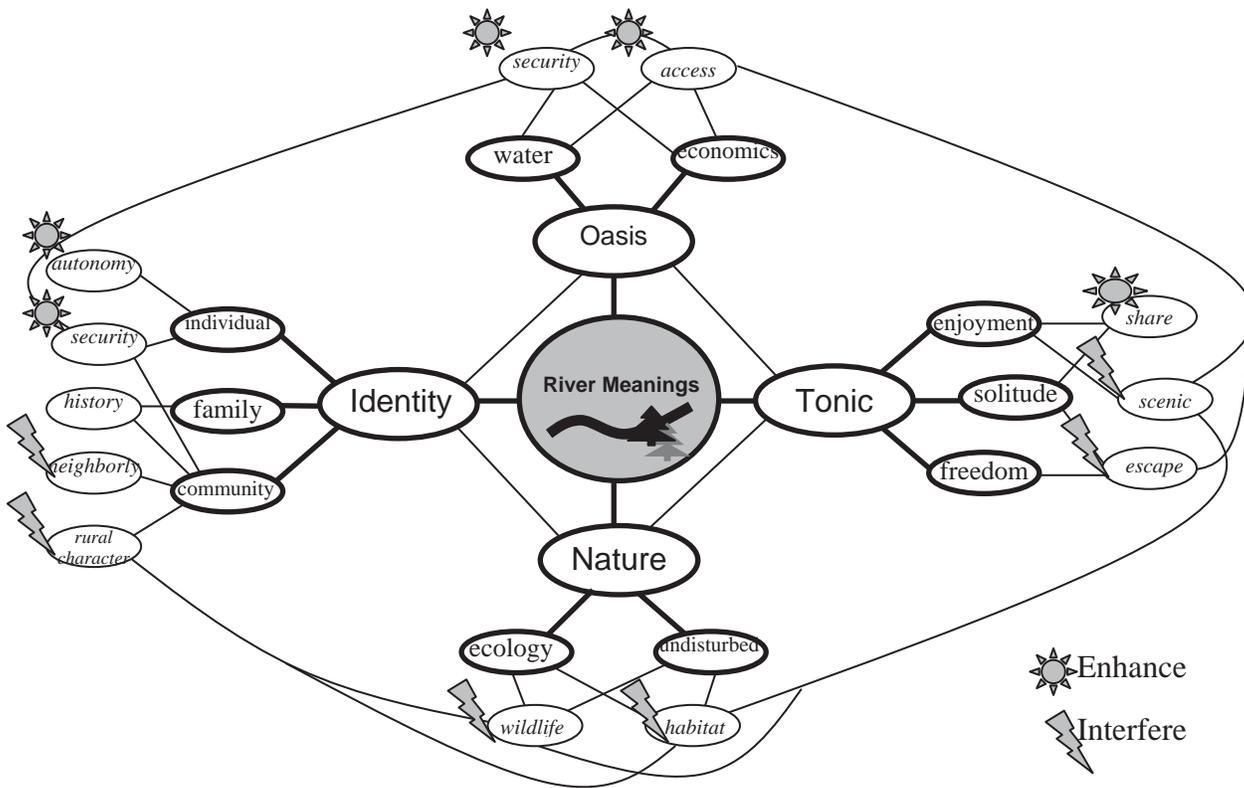
One thing I do hope that does stay here is local control. We do need local control. We should have a say in how the river is developed, how the river is kept and managed, because that is very important to the people here in the state of Nebraska and this region. I really do hope that does stay here. I think that so far we do have a lot of local control over it and I hope that we can keep it. The people here really know more about the river and the way it should be kept, than if you take it back to Washington or somewhere else and let them try to develop the river....

## **Discussion and Implications**

Although participants expressed an array of connections, perceptions and visions for management, four underlying dimensions of river meanings were revealed: river as oasis, river as tonic, river as nature, and river as identity. One topic that received a great deal of attention was development within the river valley. This issue proved to be extremely complex and participants clearly struggled with it on many levels. Perspectives ranged as to whether development was a current problem and what the appropriate management actions are for addressing development. What seemed more relevant to many participants than the types of management tactics used was who would control (i.e., create and enforce) development regulations. Local control was revered. Descriptions of the nature of development and the impacts of development also varied. Participants characterized development in terms of what the nature of the development was, where it occurred, why it was needed, and who was developing. The potential impacts they described touched on all four of the underlying dimensions of river meanings.

Perhaps the most insightful message from the Niobrara NSR community is that development within the river valley is not a simple issue or merely a matter of being either for or against development. This finding has implications for both

**Figure 2** - Web of River Meanings with potential impacts of development in the river valley.



management and research. Depending on the nature of development (i.e., who, what, where, and why) the structure may enhance or interfere with the four dimensions of river meanings (Figure 2). For instance, a rental cabin built in the valley may interfere with recreation meanings related to scenic beauty and escape; nature meanings related to wildlife and habitat; or identity meanings related to the neighborliness or rural character of the community. At the same time the rental cabin development may enhance other meanings, such as the identity meanings of an individual related to economic security and autonomy of an individual or the oasis meanings related to economic security and recreation access. Managers and planners must carefully examine management strategies and how certain tactics might impact the community, as well as the landscape. For example, zoning standards might require a certain setback from the river, vegetative screening, and the use of materials that blend in with the environment. While the Web provides a solid starting point, managers and planners should work alongside community members on the details to build trust and foster a sense of ownership within the community. The linkages between meanings serve as a valuable resource to managers and planners striving to establish common ground with their constituents.

The study's contribution to research is twofold. First, the findings expand on current research and support the need for an integrative perspective on the human-environment connection in natural resources. Current models of place attachment (e.g., place identity versus place dependence) and natural resource values (e.g., anthropocentric versus biocentric or ecocentric) tend to simplify and polarize these complex issues. One reason may be that most of the place attachment research in the field has focused on visitors' attachments to recreation areas (Beckley, 2003). Visitors' connections to natural resource areas may be less complicated or at least fundamentally different than those of local community members as the following quote from a study participant describing what the Niobrara River means to him suggests, "The people that live here it's their home and their livelihood. For the people in the city it's a place to play. And there's nothing wrong with recreation, there's nothing wrong with play. It's just different." As this study shows, many of the place-based meanings that community members ascribe to a natural resource area overlap.

Second, the study design provides an alternative approach to exploring complex and contentious issues, such as attitudes toward river development. Study participants' discussions of river development indicated that survey instruments measuring support for or opposition to river development would fail in fully capturing the many layers inherent in the issue and in turn, results may be misleading. Today, many natural resource management problems are equally as "messy" or "wicked" (Ackoff, 1974; Lachapelle, McCool, & Patterson, 2003; McCool & Guthrie, 2001) as issues like development within the Niobrara NSR valley. Interpretive research into the place-based meanings that people ascribe to natural areas and their perceptions of landscape change imparts an in-depth and integrative understanding of these problems.

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