PLACE ATTACHMENT AND ENVIRONMENTAL CHANGE IN COASTAL LOUISIANA

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This article examines how residents of communities frame environmental change. Specifically, how do respondents from Louisiana's coastal communities understand coastal wetland loss? For this article, the authors rely on 47 in-depth interviews from communities in two coastal parishes (counties). Respondents convey the meanings they give to land loss through constructing a narrative of place. The authors use a phenomenological approach that focuses on how stories are told and the subjective interpretations of societal members. Residents' narratives of place reveal a strong degree of place attachment where ideas of fragility and uniqueness are employed to frame the place in which they live. The authors suggest that the slow onset disaster of coastal land loss forces a constant and heightened awareness of place attachment. The data for this study are collected during 2002 and 2003, and although restoration processes are well underway, for the most part, residents felt shut out. Their alienation increases their sense of fragility about place, and they warn of disasters like those of Hurricanes Katrina and Rita. As major restoration plans are considered, the nature of residents' place attachment can shed light on the role the communities themselves can play in policy and restoration projects. In this regard, the meanings in residents' attachments are important for how and what decisions are made.

Keywords: *place attachment; environmental change; narratives; phenomenology; coastal land loss; community; hurricanes*

Hurricane Katrina arrived in southeastern Louisiana on Monday August 29, 2005. The dire predictions from academics, scientists, and state and local officials had come to fruition. As bad as the devastation was, it could have been much worse. If Katrina had traveled a few miles further west, the eye wall and the most destructive segment of the hurricane (the eastern portion) would have scoured New Orleans much more brutally. Indeed, it is hard to fathom.

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Yet this scenario was imagined and proven to be a likely threat. It was not only professionals who warned of this disaster. Residents of Louisiana's coastal communities were wary of the potential destruction for generations. They have watched coastal land disappear for generations, land that serves as a protective barrier from powerful storms, breaking them down as they move inland. Many respondents report having learned about coastal land loss through their parents, grandparents, and other community members when they were young. Now they themselves watch land disappear into open water. Residents told us about how their parents' and grandparents' complaints about land loss to local officials fell mostly on deaf ears. Then, a couple of decades ago, the state became interested in the issue. Scientists and agencies such as the Army Corps of Engineers began studying land loss and proposing and implementing small-scale projects. However, residents expected to have some input. After all, they lived within the coastal region for generations, and they viewed themselves as possessing an intimate knowledge of the land and waterways. In addition, residents had raised the issue for some time and were promised by their local officials and agencies that they would be a part of restorative processes. Yet they felt largely shut out.

Residents perceived public meetings as condescending and that they had little input. These views by residents are not uncommon (Curry & McGuire, 2002; Edwards, 2006; Kamminstein, 1988, 1996; Rutkowsky & Russ, 1992). Curry and McGuire (2002) show how commons dilemmas arise because of the organizational presumption that the state is the communal vehicle for engaging collective concerns. Yet as the scholars point out, this process alienates communities because it proceeds from universalistic ideals of science instead of valuing the "experiential basis (that) underlies environmental knowledge and wisdom" (Curry & McGuire, 2002, p. 199). Further frustrating residents is that restoration has been slow to materialize. Residents believe that scientists "only want to study the problem," while restrictions have increased on what they, the residents, can do in a place with which they are connected. This process has left many of Louisiana's coastal residents alienated, adding to the anxiety they already experience from continued land loss.

The respondents in this study strongly identify with place, and this attachment and identification has developed from generations where their "livelihood," that is, everything from the social to the economic, has been intertwined with place. Indeed, it is their everyday experience of place and the processes that occur there that built a sense of self embedded in place and community. Thus, their proximity to coastal land loss gives them a certain knowledge about it. Their knowledge of place is a valuable component necessary for successful restoration, and if their involvement is not garnered in a respectful manner, then the restorative process itself is in jeopardy, stemming from lack of cultural and political capital, stalemates, and conflict. Thus, when place is damaged and the people of that place are so attached, it is necessary for them to be at the forefront of the restoration process if restoration and sustainability are to be achieved. Indeed, they deserve to be a leader in the coastal restoration activities.

The respondents in this study are from the communities of Grand Isle, Dulac, Chauvin, and Cocodrie. These communities suffered significant damage but not total annihilation from Hurricanes Katrina and Rita. According to estimates by the Terrebonne Parish Office of Emergency Preparedness (Terrebonne Parish includes the communities of Dulac, Chauvin, and Cocodrie), more than 6,000 homes were destroyed in the area. As a local newspaper reporter, Kimberly Solet from *The Houma Courrier*, told us in an e-mail on October 10, 2005,

> if your home was not elevated at least 8 feet, you suffered some sort of damage from the storm; those closer to the ground are pretty much completely destroyed, although as you know because of their strength and determination, many bayou residents are already rebuilding.

Indicated here is residents' strong attachment to place, and respondents in this article echo this degree of attachment.

Although the land, the place respondents live and work, is fragile, their sense of place is not. Residents trace their roots back to the 18th century. They mark history by where their families were for all the great storms, including the hurricane in 1893 that killed 155 people and destroyed Cheniere Caminada, which had been the original community of Grand Isle, Louisiana. Now their histories have another chapter revolving around the axis of two great storms, Katrina and Rita.

In this study, we examine how residents of two[1] Louisiana coastal communities think about place in light of slow and rapid onset of coastal land loss. Our study contributes to the literature on place attachment and environmental change by revealing how residents understand particular change in relation to their sense of place attachment. Exploring this idea through eliciting in-depth narratives about place from respondents without asking them about the environmental change (we don't directly ask them to discuss land loss) allows us to glean the salience of that change while gaining a nuanced picture of how residents understand their social and natural-physical worlds. Knowledge about how residents relate to places can inform land-use decisions and, in particular, restoration policy for environmentally degraded areas. There is often conflict between communities and government agencies over land-use decisions, and this appears more likely for issues of ecological restoration (Burley, Jenkins, & Azcona, 2006; Curry & McGuire, 2002). As environmentally degraded places are more frequently restored, understanding how communities relate to their places can potentially assist in reducing conflict and giving communities a more active role in restorative processes.

Place Attachment, Landscapes, and Narratives

Most studies attempt to understand attachment to place through surveys (Clark & Stein, 2003; Glendinning, Nuttall, Hendry, Kloep, & Wood, 2003; Hidalgo & Hernandez, 2001; Katlennborn & Bjerke, 2002; Stedman, 2002, 2003a, 2003b; Uzzell, Pol, & Badenas, 2002). Survey methods are a valuable asset in learning about environmental attitudes, including how people are oriented to place. However, surveys only provide one type of knowledge. By using open-ended interviews, our research goes further than surveys in that we aim to obtain representations of self through the "intentionality of consciousness" (Creswell, 1997, p. 52; see appendix for interview guide).

Place becomes a part of how the self represents itself. In other words, the self arises out of the field of experience that develops an identity or core self that incorporates place, a geographic location that includes the people, objects, practices, and meanings of that place (Casey, 1993; Harvey, 1996). Thus, a sense of place develops about a particular location and is reflected in how that place is construed in discourse (Cantrill, 1998, p. 303). In the process of developing a sense of place, meaning is conferred on an environment, encompassing everything from the built to the natural, through learned perceptual practice of intimate

interaction with place shaped by time geography and structuration in a particular historical moment (Pred, 1983; Relph, 1976; Tuan, 1979). Oftentimes, the meaning that is bestowed on place results in a felt connection referred to as "place attachment."

An attachment to place is produced through accrued biographical experience (Altman & Low, 1992). In describing this biographical connection with place, Gieryn (2000) notes that experiences generating attachment are "fulfilling, terrifying, traumatic, triumphant, secret events that happen to us there" (p. 481). These events help to shape identity and so facilitate the social construction of place.

As we conceive of them, environments are socially constructed places. Social relations and the forces of nature interact with the meanings we give to the various elements of place to produce everyday experiences of place and consequently socially constructed places (Sack, 1992, p. 1; Williams & Patterson, 1996, p. 375). Taking this into account, the narratives that emerge out of Grand Isle and Terrebonne reveal how particular places are socially constructed and how they differ according to the self-definitions of the narrators.

Self-definitions cause conceptions of place to vary among individuals. Moreover, it is through these elements of identity that the natural environment is transformed into symbolic environments yielding social constructions called "landscapes" (Berger & Luckmann, 1967; Greider & Garkovich, 1994). The natural environment is independent of our interpretation of it. However, our interpretation transforms the natural environment into "meaningful subjective phenomena" or what we can call landscapes (Greider & Garkovich, 1994, p. 2). In sum, landscapes are reflections of ourselves in that we see place through the characteristics, beliefs, and elements that we see in ourselves.

Landscapes change when changes in the environment occur. Rural sociologists Greider and Garkovich (1994) suggest that as changes to place transpire, conceptions of self also change "through a process of negotiating new symbols and meanings" (p. 2, 4).

The meaning of change along with self-definitions coalesce through discourse, both in texts and social relations, providing what that change means for a group as well as for individuals who are part of a group (Fairclough, 1992; Greider & Garkovich, 1994, pp. 8-9; Hastings, 1999). In short, the meaning of change is complex and involves a mulling through social process.

Part of the complexity of negotiating the meaning of changes to place resides in the fact that these meanings are subject to social structures. Alkon (2004) shows that before changes to place even occur, but where they are thought to be forthcoming, such as with proposed physical changes, different institutional and structural forces play a role in how stories about the anticipated changes to place arise and are contested. Stories are often disseminated along lines of power as accounts about place emerge purposely adapted and changed for specific reasons (Alkon, 2004; Greider & Garkovich, 1994). In brief, stories that give salience to more emotional meanings of place arise for specific reasons. And the meanings in these stories shape how change to place is understood.

In the case of change due to disasters, Philips and Stukes (2003) argue that "disasters bring about a renegotiation of place, throwing location and identity into question" (p. 17; see also Brown & Perkins, 1992). So a disaster occurs and affects the place ties that define the self and community (Philips & Stukes, 2003).

Amends to that disaster, such as restoration of damage or mitigation for future disasters, are then proposed and debated within those disturbed frameworks of place attachment. It is here that the meaning of the disaster is negotiated through elements of identity and thus altering the meaning of place to some degree. This renegotiation of place and identity manifests in larger ways as Alkon (2004) notes that "people's ideas about themselves and their daily lives (here, in relation to place) mediate specific political decisions" (p. 148).

The resident responses in this study illustrate Alkon's (2004) point that people's everyday meanings mediate political discussions. Interviewees convey the tension between conservation of the coastal ecosystem in service of their identification with place and adapting or fleeing place in the service of personal economic concerns. Interestingly, and providing further support for the utility of this study, the public debate over global warming encompasses similar conflicts. There are those who advocate preserving and/or restoring the existing environment by reducing our impact on the global climate, and there are those who support expecting some effects of inevitable warming while making changes to minimize economic interference. In a recursive way, the findings in our study can inform how debates about environmentally degraded places might proceed both locally and globally. Indeed, these debates take shape from various views of place where identity plays a significant role.

Friction caused by changes to place may echo the different ideas we have about ourselves both within and among individuals, which in turn reflect the nature of our attachments to a place (Greider & Garkovich, 1994). Yet the elements of our attachments with place may serve as the basis for taking action toward place. Residents and stakeholders who are familiar with and significantly attached to places are more likely to demand and get a greater say in the specifics of managing the respective areas (Clark & Stein, 2003). Furthermore, Stedman (2002) found that communities act not only on behalf of places they identify with but also in response to threats to those places. Uzzell et al.'s (2002) findings reveal that communities develop and support environmentally sustainable attitudes and behaviors when they draw on a strong social and place identity. In addition, communities are more active and are more likely to affect the change they seek when individuals within those communities believe that others are willing to help solve environmental problems (Uzzell et al., 2002). As a result, collective or group characteristics of place attachment are key ingredients to understanding environmental attitudes and community action (Uzzell et al., 2002).

Group characteristics, individual interpretations, and the action that proceed from these make up the stories we have for places. In the case of stories about places we are attached to, personal memory, which is informed and influenced by different cultural schemas, constitutes much of our stories. Personal stories of place are communicated through the narratives we tell. These narratives about place yield structuration of meaning generated from identity to produce what about place is most salient for us (Alkon, 2004; Greider & Garkovich, 1994; Shanahan, Pelstring, & McComas, 1999).

In general, narratives involve characters that are portrayed in a particular fashion, oriented to a type of structure (drama, tragedy, suspense, humor, etc.), and usually attempt to convey a message or lesson (Shanahan et al., 1999, p. 407). In short, there is usually a point to telling a story. The points of stories generally reflect the narrator's identity. These stories say something about who they are.

Stories vary according to self-definitions derived from elements such as gender, race, class, and occupation, but they also share commonalities based on a common community and/or culture (Cantrill, 1998). An attachment to a place may also be a component of identity that becomes reflected in narratives.

The concept of landscapes, taking on emphasis of the whole environment, becomes a tool for discerning the complex relationships within narratives. How people think about their environment and the changes that occur there can be understood by how they tell their own stories of place. Narratives reveal landscapes and thus the different meanings that are conferred on place. Consequently, narratives let us know what and how people think about place, or landscapes, and allow researchers to derive what is salient about place for the narrator, how that saliency reflects who they are, and how that informs their concerns about place. Getting respondents to give a narrative about place requires a phenomenological methodology.

A phenomenological approach focuses on respondents' subjective experiences (Creswell, 1997; Smith, 2004), and narratives about place serve as subjective interpretations of place-associated experiences. Furthermore, a phenomenological approach to narrative production examines how societal members continually interpret their social order and thus reproduce and construct knowledge (Gubrium & Holstein, 1997). When examining place, phenomenology suggests that our perceptions and interpretations give place meaning for us. Thus, employing a phenomenological methodology, it is from the subjective standpoint of the residents that the meanings of Grand Isle and Terrebonne are obtained.

Research Questions

Thinking about place, landscapes, and phenomenological narratives results in some guiding research questions for examining how people understand coastal land loss:

- Which elements best characterize respondents' landscapes?
- How is change in place conveyed and understood?
- What role does coastal land loss play in their narratives?

These questions are interdependent. The concept of landscapes—transforming the environment into symbolic environments through self-definitions—becomes a tool for discerning the complex relationships within narratives. As mentioned above, getting answers to these questions can assist in more integration of communities into land-use decisions and restoration projects.

Setting

Our data come from individual interviews of Grand Isle and Terrebonne residents in southeast Louisiana. Grand Isle is a barrier island off the southeastern coast, is defined as rural, and has 1,541 residents (U.S. Census, 2000). Grand Isle is located at the end of Louisiana Highway 1 in Jefferson Parish, Louisiana. Currently, the population is more than 96% White. The dominant ethnic heritage is Acadian but also includes a history of French, Portuguese, Spanish, Italian, and Filipino settlers.

Cocodrie, Dulac, and Chauvin's history has been shaped by immigrants from Asia, Africa, the Caribbean, and Spain. But beginning in the 19th century, two groups became dominant: exiled French Acadians from Nova Scotia who came to be known as Cajuns and Houma Indians who had been pushed southwest from Mississippi and Alabama. Chauvin and Cocodrie, 1,723 combined population, are 100% White. Dulac's population hovers around 2,000 and is almost 60% Native American, the other 40% being White (U.S. Census, 2000).

Grand Isle and Terrebonne's socioeconomic development unfold on similar paths: fishing and oil. From the mid-18th century to just before Hurricanes Katrina and Rita, much of the economy revolved around resource extraction, including fishing and other agricultural activities. During the 19th century, a third socioeconomic factor became part of Grand Isle's development—tourism. Summer vacationers from New Orleans's social elite became part of island life chronicled by such authors as Lafcadio Hearn and Kate Chopin. This phase of tourism ends in 1893 with the deadliest hurricane in Louisiana prior to Katrina, which destroyed all tourist structures (Davis, 1990, Meyer-Arendt, 1985; Reeves, 1985; Steilow, 1981).

By 1948, offshore drilling for oil began in the region. Although fishing and the oil economy have changed over time, they continued to define the region's growth. Tourism has been of equal importance to Grand Isle and, although never a part of Dulac and Chauvin, during the past 20 years has become an increasing element of Cocodrie's development. Certainly, Hurricanes Katrina and Rita will be another turning point in the development of these communities.

The fourth factor in the development of Grand Isle and Terrebonne is the focus of this article—coastal land loss. This loss occurs in the nation's largest concentration of wetlands. During the 1950s, Louisiana held 40% of the nation's wetlands. It now has 30%. Louisiana loses 20 to 25 square miles of coastal wetlands a year, and an acre is lost every 15 minutes.

Natural factors, such as storms and erosion caused by wave action, account for some of this loss. Hurricanes Katrina and Rita have further diminished the wetlands. Estimates by the U.S. Geological Survey, National Wetlands Research Center (2006) reveal that "217 square miles of Louisiana's coastal lands were transformed to water after Hurricanes Katrina and Rita." But scientists agree that nearly 70% of coastal land loss is directly or indirectly the result of human action on the ecosystem (Farber, 1996). The Mississippi River was levied off, eliminating seasonal flooding that naturally replenished the sediment deposits that built the Mississippi Delta. Canals dug by oil companies have broken up the wetlands and increased saltwater saturation from the Gulf of Mexico. Furthermore, runoff and pollution from exploration and extraction compound the problem, making oil and gas activity along with the leveeing of the Mississippi River the two major contributors to Louisiana's coastal land loss (American Planning Association, 1997; Hecht, 1990).

Aside from the enormous importance of the ecosystem, the region also has great economic value. One hundred million tons of cargo is shipped annually through the waterways. The area is home to a fishing industry that supplies the nation with about 20% of its seafood, and 27% of the country's natural gas comes from these marshes and just offshore (Dunne, 2001). During the past decade, concern over the ecological and economic importance of the region has spurred conservation and restoration plans at an unprecedented rate.

More importantly, for the city of New Orleans, the coastal marshes and wetlands provide protection from tropical storms and hurricanes. As the land disappears,

these storms retain much of their strength as they move further inland. This does not bode well for New Orleans, which in some places is 17 feet below sea level. Indeed, Hurricane Katrina reaped damage that would have been lessened by an intact coastal wetland system. Storms inflict rapid land loss, and as more land slowly disappears, these storms can wipe away larger and larger spits of land. Weaker storms have a greater impact, and stronger storms prove to be disastrous, opening the door wider for future storms. This cumulative effect increases susceptibility and, as shown below, is not lost on residents.

The Sample

Using a snowball sampling technique, 47 community residents were interviewed during the summers of 2002 (Grand Isle) and 2003 (Terrebonne).[2] Participants were chosen to represent the range of residents, permanent and temporary, native and nonnative, as well as 6 Native Americans from the Dulac area. Although we achieved a sufficient range of respondents, we cannot generalize to the larger region. However, it does provide insight into how people think about environmental change and the effects on their sense of place attachment.

Prior to entering a community, a secondary analysis (academic, history, and media) was conducted. Informants were then accessed, and they provided us with names and phone numbers of residents (Singleton & Straits, 1999).[3] We established a list of contacts for the communities and, from there, compiled lists of possible interviewees. We obtained names of residents, contacted them, and arranged interviews. This marked the building of a snowball sample for interviews. Snowball sampling uses a process of chain referral where members of the target population are contacted, interviewed, and then asked to name others and so on (Singleton & Straits, 1999). We established further contact with residents and obtained other avenues to interviewees through spending time at local establishments such as diners and libraries. This helped to ensure a robust sample that would "represent a range of characteristics in the target population" (Singleton & Straits, 1999, p. 74).

The Interview Schedule

The interview guide is oriented to place through personal history. The instrument asks the respondents two types of questions through an open-ended interview. One type is an inquiry into personal history, and the second is an inquiry into reasoning about change in the respondents' community.

Respondents were told that we were researchers from the University of New Orleans studying life in coastal communities. This did not mislead respondents because gaining their perceptions of coastal land loss was only one objective of the study that sought to acquire a larger picture of respondents' lives. Yet not directly asking respondents about coastal land loss took care of any glaring questions of social desirability, a common validity problem in qualitative research (Silverman, 2001). Using a phenomenological framework, a more accurate portrayal of the meaning of respondents' experience of land loss is conveyed by allowing the participants to broach the issue themselves. Thus, the interview guide does not address land loss; it only asks the interviewee to talk about changes to place. It was reasoned that "if it is important to them, they will bring it up."

The research questions allowed themes to emerge from residents' narratives. Themes follow from the interview guide that was derived from Altman and Low's (1992) theory of place attachment and Greider and Garkovich's (1994) theory of landscapes. Accrued biographical experience that accounts for place attachment and the self-definitions that account for landscapes led to questions about personal history and place.

A limitation of our study, and of much qualitative work, is that it is not generalizable. We cannot, with any scientific accuracy, extrapolate these findings to the population of these communities nor to populations experiencing similar circumstances. Another limitation is that we only ascertain residents' perceptions of their experiences. We didn't garner any measurement of observable behavior or, for example, interactions between residents and agencies involved in coastal land loss. The potential for author bias in finding attachment was also present because of our proximity to the issue and affinity toward the communities. However, in an attempt to offset this bias, we employed intercoder reliability and colleague readings of data and analysis. That being said, for this article, we focus on the theme of place and land loss. Throughout this emergent theme, the elements of uniqueness and fragility characterize respondents' definitions of landscapes. The presentation of responses, or parts of a narrative, will be in the form of a respondent's uninterrupted passage. The most relevant statements of a passage are selected.

Analysis

The elements of uniqueness and fragility are the intended meanings of respondents' narratives. These themes emerged through analysis of the interviews using Atlas.ti qualitative research software.[4] The symbolic meanings of uniqueness and fragility composing respondents' landscapes run across substantive themes to create "horizons of meaning" where different contours of a narrative are meaningfully linked together by life experiences (Gubrium & Holstein, 1997, p. 148). By this, we mean that regardless of the topic, whether speaking about family, work, or land loss, they continually expressed uniqueness and fragility of place.

We focus entirely on interviewees' discussions of coastal land loss for this article. Although these interviews are part of a larger, more ethnographic project across southeast Louisiana, residents' perceptions of land loss are the primary objectives of our study, and it is of particular interest precisely because interviewees are never asked to address land loss. Respondents' discussions of the phenomena take on added significance because (perceptions of) land loss is the likely reason for respondents' heightened sense of place attachment. These perceptions are discussed below, but first, we present a short description of the self-identification of respondents through the lens of place.

The People of Grand Isle and South Terrebonne

Respondents tend to see themselves as inextricably linked to the place in which they live. They view the region and themselves as unique. Furthermore, respondents from Grand Isle view people in the region as Cajuns, while they see themselves as islanders, even though many share the same heritage. Although respondents from south Terrebonne don't mind the label of Cajun, they self-identify more as French.

For most Native Americans, their ethnicity is not physically obvious. However, these Terrebonne respondents, mostly deriving from the Houma Tribe, strongly self-identify as Native American.

Land Loss and Place

As residents see it, land loss is part of their daily lives, and thus, respondents often raised the issue early in the interview. Increased media attention to land loss by the media also played a role in the likelihood that residents would raise the issue on their own.

All respondents notice land loss. It is a continuous, slow-onset disaster that is imperceptible on a day-to-day basis, lending an air of deception to its meaning. Charlie (Terrebonne), a 36-year-old field supervisor in an oil-related industry, attaches a mysterious dimension to land loss as he talks about how his father refuses to drive their boat to the family fishing camp:

> Interviewer: Why won't he get behind the wheel of a boat?
> Respondent: It's because of the erosion there that's accumulated. It's so bad. We took it upon ourselves to mark spots to go through, from here to our camp. Put signs, put PVC pipe with markers. Talking about having 20 feet of land right here. You put the PVC pipe on the end of the point. Come back a year later and that 20 feet is just about gone. It's weird. There's no way of stopping it that I can see.

Charlie gives land loss an eerie dimension as if it occurs like a thief in the night. Land that used to serve as markers for navigation no longer exists. Those, like Charlie's father, who used to have an intimate knowledge of the waterways are now distrustful of their traditional ways of knowing.

Although, like Charlie, many see loss of place as almost inescapable, they often simultaneously express optimism. A 56-year-old elementary educator, Evelyn (Grand Isle) expresses elements of hope along with an inevitable loss of place:

> Well, there's nothing you can do. I mean, nature is nature and it's the strongest thing there is. We've tried the rock jetties which is good. Now it's starting to erode. It can only do so much.
> Interviewer: So when you think about the rest of your life, what do you think of for yourself?
> Respondent: I'm moving to Thibodaux (LA). They still have some French-speaking people there, and they're not going to be beachfront property for fifty years. . . . I was going to move to Lafayette, but it's too far away I think. So Thibodaux.
> Interviewer: But you're not going until it's gone?
> Respondent: Well sure! I'm the history of the island. I have to be here.

Even as Evelyn moves, she wants to carry Grand Isle with her; she carries her attachment to place as a part of identity. When asked about her hopes and dreams for the community, Evelyn responds

> well, we're an island, we're a barrier island, and we're just not going to be here much longer.
> Interviewer: What are your hopes and dreams for the people on the island?

> Respondent: I hope they take all the good things we've taught them and always had on the island. I hope they take those things like trusting and opening your house to everybody and we know how to live with tourists. . . . And integrity. That's the biggest thing I want them to take with them. "I'm from Grand Isle." You know, I want to make that count for something.

Earlier in her narrative, Evelyn says she is preparing her students to leave Grand Isle and enter into a much harsher world. She feels that the fragility of the island, inevitably, will cause it to vanish. Evelyn, viewing Grand Isle as unique even to the region, has hope that her students, as well as others, will take Grand Isle with them. The interaction of the physical and social and then the meaning that results from that has produced what Evelyn wishes the students will take with them. Although the social and communal elements of place may be taken elsewhere as a part of identity, these elements break down without the physicality of place that symbolizes that identity. Consequently, Evelyn symbolically views the physical of place as at least an integral component of the social and communal.

Their identity, their dialect, the challenges of living where they live, the work and pleasure that stems from living in this place, the changing landscape, the unique environment, for residents, all form a symbiotic relationship. Shelly (Grand Isle), a local businesswoman says,

> Living in Grand Isle is my life. You know, it's a challenge everyday. . . . The rocks [jetties to stop erosion] are doing a great job. I think if they [local governments] had the funding to do all the things they wanted—of course, we're a barrier island. . . . We're the only marina that I know of that actually has rock jetties that we purchased ourselves. . . . Yeah, we've got it [a picture of rock jetties] on the wall there.

Slow onset coastal land loss, much like hurricanes, is seen as such a unique part of place that it requires being captured on film, framed, and placed on the wall of her business. Shelly's landscape is framed optimistically. The "good job" that the rock jetties are doing may stem from her view of its impact on her immediate area.

Jesse (Terrebonne) and James (Terrebonne) are transplants who work for state agencies and are more pessimistic than Shelly. They notice the optimistic outlook by some natives who, as James says, "are living with blinders on." The impact of tropical storms and hurricanes increase and illuminate the loss of land that otherwise occurs in such an incremental fashion as to be unapparent on a daily basis. Jesse (Terrebonne), 47, grew up in the Midwest and has lived and worked in Cocodrie for the past 16 years. Jesse approaches the subject of land loss through talking about Tropical Storm Bill in June of 2003:

> It's obvious to us [her and husband James, a fellow scientist] having lived here so long that the erosion of the land and the barrier islands is allowing the water to maybe move faster and come higher. And it's very unnerving. This is our home. My children are here. So it's a very serious concern to us that in years to come, I think it's going to get worse.

Jesse and James (Terrebonne) share a negative outlook for the future of coastal Louisiana. James, 56, has been in Cocodrie for 20 years:

> But the importance of my home has started changing lately with the realization that this area is living on borrowed time. The land underneath my house will not be dry land in the not too distant future. And that affects my whole [life]; it's hard to get attached to something that's not going to be around for long. And that's what's happening to me and my family right now.

James was then asked if he thought the process of land loss could be "staved off." He believes that it can but that Louisiana politics and culture are too shortsighted to make solutions a reality. However, he goes on to reveal his attachment to place through his sense of fatalism:

> I really hope that, I want my son to have some place to come back to when he's older and say, "This is where I grew up. This is my home." But as I told you, I don't think it's going to happen. That's a false hope.

James struggles with his attachment to place as he anticipates what he perceives to be the certainty of displacement.

Most locals are more hopeful than James, but they retain a robust skepticism. Jerry (Grand Isle), a 63-year-old judge who lives in New Orleans but retains a camp (small summer home) in Grand Isle talks about erosion and the importance of sustaining the island and the region:

> It's probably the most unique area of its type in the U.S. . . . It's something that really alarms me because it's not only an ecological disaster, it's a cultural disaster. There's a whole culture, a very *fine* culture that's interrelated and intertwined with that environment. [Asked if it can be saved, he says . . .] we waited *way* too long. Some things have been irrevocably lost. I'm hopeful but skeptical, how's that?

The meanings Jerry gives to Grand Isle and the region are obvious. His hopefulness is connected to his understanding of the uniqueness and fragility of Grand Isle and the region.

Locals are hopeful, but that hope may wane if the inaction they now perceive continues. Rose (Terrebonne), 52, born in Cocodrie and now a chef, sums up residents' mixed sentiments of hope and skepticism:

> If they [agencies charged with restoration] would start doing something with their surveys instead of doing another survey. I'm all for surveys. Don't get me wrong. But once you find out what you need to do, get out there and do it. Don't drag your feet until you need another survey. It's just wasting money and time, valuable time.
> Interviewer: Do you think anything will be done about it?
> Respondent: I don't know. Give politicians something to work with and you know what happens. Because, I mean all these years, they have been talking about it, and they really have not done anything. Nothing has been done. They'll say they are trying something, but it doesn't work. As long as they are trying, I am happy. But then they hold another survey and let it drag on again. So by the time they could do something, things have changed. So they need that other survey to figure out what to do again. It just keeps going.

Rose, like many native respondents, recalls community members discussing land loss as a child and has noticed a dramatic increase in loss during the past 20

years. Although coastal land loss in Louisiana has been a community problem for some time, it was never considered a significant issue by the state or the nation. Thus, residents are suspicious of a process that they feel is out of their hands.

This skepticism is validated as developers are permitted to build expensive sport-fishing camps that remove wetlands, making remaining land areas even more vulnerable. Rose comments on the conflict between economic expansion and preservation: "And they [new homes] are like one on top of the other. Then they wonder why the land is sinking. Look at these things. They are not camps. They are mansions. These things are huge."

Echoing skepticism about coastal restoration efforts, Alfonse (Grand Isle), a 77-year-old retired police officer, also thinks the community has great resiliency and is hopeful that the island will persevere, in part because of the community's long and deep ties to the land. Alfonse's hopes lie with the native communities and their local knowledge. At the same time, he is distrustful of outsiders who claim expert knowledge:

> I see it [land loss] and I see it now. The more they [scientists and engineers] do, the more it eats away. But the engineers, they're too smart. They went to too many colleges and never came and looked at it. [It's] not on the book. No, come and see the climate itself. Come do it. Like, not what you read out of a book. But I guess they get paid not to spend too much money. . . . But they've never been to Grand Isle, and they're going to tell me how to protect Grand Isle.

Alfonse's feeling of holding insider knowledge comes from a strong attachment to place that creates an aversion to outsiders who, he feels, devalue his type of knowledge.

Anna and Sam (Grand Isle), a married couple in their 30s and involved in development on the island, are caught in the conflict and ambiguity of preservation and economic development. They are skeptical about the political machinery revolving around the issue of land loss. Both grew up on Grand Isle, moved out west for a couple of years after marrying, and were drawn back to the island by family. They now run a long-held family business and are investing in a developing marina on the island. Anna and Sam believe that south Louisiana can be saved, but their interactions with those responsible for slowing erosion have left them bitter and resentful toward those organizations that they feel are taking advantage of their unique place. Sam says,

> Like the Corps of Engineers . . . they had an old man for the Corps that oversaw the project out here. . . . This man [from Corps of Engineers] bluntly told him [fellow resident], well the only guy I heard that said it; said it truthfully. He said, "If we do it right the first time, we wouldn't have a job." . . . It's like they don't want to do it right the first time.
>
> Anna: I mean we have a lot of uniqueness about us. I hope my daughter never gets to the time when they're building the campground (house) right across the street from the store.

This sense of uniqueness is characterized by their skepticism of outsiders who would fix the erosion problem. The uniqueness they both confer on Grand Isle and the region is facilitated by the island's fragility caused by land loss and storms. Anna continues, "That's the only thing we can't be in control of." Sam says, "But

that's what makes you appreciate it, is fearing the storms. So you know in the back of your head that it *can* be wiped out. So enjoy it while you can; while it's here."

Residents, as they have for generations, connect themselves to place while remaining aware of the ever looming possibility of its loss. Potential displacement is more likely as the land disappears, thus the salience of place is acknowledged more than in less threatening times. Kyle (Terrebonne) says, "We are sinking. And you have the increasing water level (of the Gulf of Mexico). So we are in a situation where it's going to be an ongoing process to preserve what's here." Kyle, using "we," connects the social and the ecological. Although it is likely that Kyle's intention of "we" indicates himself and his neighbors, the intention of this pronoun use also signifies his community's bond to place. It is through this strong connection that we can understand the skepticism that many, such as Alfonse, Anna, and Sam, heap onto outsiders who would rectify the problem.

Kyle (Terrebonne) is a 56-year-old Native American community activist and pastor. His conviction to hope is framed around amending past human negligence:

> And over time, all kinds of canals were dug to drill [for oil] around there and the rigs were pulled out and nobody thought about sealing it off. You can see all the old channels that were left open; that let the saltwater in and it just killed everything around it. I would say for the sake of the resources and money, people forgot about trying to protect what was there.
> Interviewer: Do you think anything will be done?
> Kyle: I believe something will be done. Now there's a lot of projects. . . . As we are talking to get federal dollars, we have taxed ourselves. The taxes passed a couple of years ago to help match local dollars to get the federal dollars.

Kyle's landscape expresses hope through a conviction that action, such as a local community tax, will pave the way for addressing the vanishing ecosystem. As a town activist, Kyle believes in the community—that action, a revived respect for the ecosystem, and the social attachment to it will lead to coastal restoration.

Kyle believes in a community ability to affect process, but respondents' landscapes are also politicized, producing much skepticism. For the most part, residents view their relationship with the coast as mutually benevolent. However, when they reflect on the coast and the environment as a whole, their landscapes take on elements of societal excess and consumption, the result of political and economic decisions. Residents are wishful for preservation but realize economic and political determinants play an influential role that may leave the land last in line (see Jerry and Rose's comments above).

Respondents vary in their thoughts about the future of what they see as a special place. Nonetheless, land loss is a fact of life on Grand Isle and in south Terrebonne that enhances awareness of place attachment. The slow loss of place produces a sense of fragility among residents whose landscapes of community and the coastal region are nuanced.

CONCLUSION

To reiterate, the questions that guided this research were as follows: (a) Which elements best characterize respondents' landscapes? (b) How is change to place conveyed and understood? and (c) What role does coastal land loss play in respondents' narratives? Land loss is a salient feature of their narratives. All

mention it. Most bring it up during the first third of their narrative and discuss it at length. They come back to it again and again, when talking about childhood memories, their work, storms, and the tenuous future of the place in which they live. Although respondents see the change produced by coastal land loss in varying ways, they all believe it is an issue with much urgency. This sense of urgency about land loss and place, accentuated by the slow and deceptive nature of land loss, is conveyed through the symbolic meanings of uniqueness and fragility. These themes are reaffirmed by disasters such as Hurricane Katrina and Rita that residents warn are worse because of the loss of protective land.

In our study, residents' narratives appear to convey a more constant and heightened sense of place attachment through the elements of fragility and uniqueness. Even nonnatives and temporary residents talk about the region's fragility, and narratives are framed in terms of their communities being unique socially and environmentally. The region's unique quality is not separate from its fragility. As the land erodes and changes, so do the cultural aspects of place. Traditional forms of work change, and it is unknown exactly what will replace it. Neither fishing nor the oil industry can be counted on to sustain life. And because of the recent storms, these industries are even more tenuous. Development and an influx of upper middle-class outsiders also change landscapes. Consequently, there is a sense of cultural fragility as well as fragility of the natural environment.

Although the landscapes of these residents are shaped by the certainty of land loss and the prospect of the "big" hurricane, there are also elements of hope that go hand in hand with the land—they will hold on and sustain community, while never abandoning the idea of moving "up the bayou." The accrued biographical experience that produces place attachment (Altman & Low, 1992) appears to help produce such hope (sometimes expressed waveringly by respondents) about a place that is always at risk to disaster. The respondents and their families have been part of the region for generations. Their experiences are similar to those that generate place attachment for residents of other places, but in Grand Isle and Terrebonne, there is an ongoing traumatic event, coastal land loss, that creates a heightened awareness of their attachment. As indicated by the words of the reporter at the beginning of this article who commented on the strength of residents who are beginning to rebuild, perhaps it is this attachment and awareness of vulnerability that facilitates their resilience. Future study will attempt to illuminate this.

This heightened awareness, together with identification with place, may serve as the basis for action as implicated by this and other current research mentioned earlier (Clark & Stein, 2003; Stedman, 2002; Uzzell et al., 2002). Attachment to places, perceiving them as under threat, and perceptions that fellow community members are willing to engage in environmentally sustainable behaviors mean that residents are more likely to act and demand a greater say in place management (Clark & Stein, 2003; Stedman, 2002; Uzzell et al., 2002). It remains to be seen if Louisiana's coastal residents can mobilize their attachment to affect the restoration of their environment. In light of Katrina, Rita, and the now widespread awareness of coastal land loss, it will be interesting to see whether residents' deep concerns about land loss are heeded, what type of role they themselves will play in any restoration efforts, and if these projects are considered sustainable. One way residents might be able to gain greater access and more direct participation in coastal restoration is to argue that although they are not responsible for the land loss, they are the most affected human communities.

They have watched the land erode and subside for generations and were ignored in the past when they raised the issue. Thus, it is time that their localized expert knowledge be an integral part of restoration. Through an organized voice, residents can argue that if they are not invested through direct participation, then sustainable restoration is unlikely.

Residents' concerns stem from the vulnerability they experience because of the uncertainty about the future of where they live. Understandably, respondents do not trust outsiders who they feel make little attempt at including them in restorative processes. Respondents express deep concern for the issue but feel alienated from inclusion in possible solutions that they suspect are played like a game with multiple competitors. Ambiguity about solutions is heightened because of the almost invisible yet dramatic nature of land loss. It is not just erosion of the land but of stability that is made all the more frustrating by the organizational bureaucracy that for many appears to create conflict and alienation. Furthermore, because many coastal residents believe that the inaction of government agencies has allowed the enhanced destructiveness of storms, it is unlikely that they will blindly accept new or additional proposals from agencies they deem untrustworthy and threatening to their place attachment constructs. This is where there may be a disconnect. If practitioners want residents "on board" for restoration projects and policies, then they must make a connection with communities in a way that is familiar to them. Holding conciliatory community meetings is not enough.

Curry and McGuire (2002) argue that "land and oceans management policy solutions will fail because they are individualistic and fail to recognize the existence of community. The culture and its legal discourse proceed primarily in terms of the individual or corporation and/or the state" (p. 181). These communities already hold a deep relationship with the land. Thus, at the very least, alleviating Louisiana's coastal residents' anxiety and fragility should be a concern or goal because it will reduce the substantial conflict that arises with agencies charged with coastal restoration, and at the most, incorporating their form of expert knowledge into the restoration process is respectful toward groups who are bound to place and thus can create a sense of ownership in process and sustainability.

In the absence of current "in-roads" to the bureaucratic process and as part of our ongoing study of the region, we plan to take the findings of this study back to the communities. This is done for feedback about our findings and to explore whether the communities may find the information useful in establishing a voice that might gain them real access to the restorative process. In light of Hurricanes Katrina and Rita, residents' voices are even more imperative to a process that overlooks them to the further detriment of place.

APPENDIX
INTERVIEW GUIDE

Where did you grow up? Can you tell me about that?

What did your parents do for a living when you were young? Can you talk some about that?

Did you know your grandparents well? What were they like? What did they do?

Where did you go to school? (elementary, high school) What were those years like?

Tell me about the first hurricane you remember?
Did you know the storm was coming? How did you prepare?
Talk about what happened during the storm.
Talk about what happened after the storm. What was recovery like?
What was the first job you had? Talk about life since then?
Are you married? Do you have children? Tell me about that.
What do you like to do when you aren't working?
What places are important to you?
  a. What do these places mean to you? Why are they important?
What hurricane sticks out most in your mind? How old were you and where were you? Tell me about that?
Preparation for you? Community?
Talk about what happened during the storm.
Talk about what happened after the storm. What was recovery like? (Is it different from the storm they remember most as an adult?)
How has this place changed over your life?
Roads (development)?
Oil industry?
Fishing industry?
Tourism (if applicable)?
Are there any other ways the island has changed physically? Tell me about that.
What are your hopes and dreams for the island?
For yourself?
For your family?
What do you think you have learned in your life that has stayed with you?

NOTES

1. There are two communities: One, Grand Isle, is in Jefferson Parish, and the other is actually a small cluster of interdependent communities that are in Terreboone Parish and that we count as a "community" distinct from that of Grand Isle.

2. All interviews were recorded on minidisc recorders. Originals, copies, and transcriptions are stored at Center for Hazards Assessment, Response, and Technology. Most interviews were conducted by a single researcher; however, some were conducted by two researchers because of training of an interviewer or invitation by the interviewee. JoAnne Darlington and David Burley were present for some of the Grand Isle interviews, as Dr. Darlington had entrée into the community prior to Dr. Burley. Traber Davis and David Burley were both present for a few of the Terrebonne interviews, as Ms. Davis was training as an interviewer, and at times, they were both invited by the interviewee.

3. Colleagues that conduct geological or community work in the areas of study acted as informants. Although this was a valuable way of gaining entrée into the communities, it may have colored respondents' perceptions as to why we were there. We attempted to offset this possibility by stressing to respondents that we only wanted to know about life on the coast.

4. All interviewee passages of coastal land loss were coded. Codes included links to place, work, family life, change, politics, restoration, and the damaging consequences of land loss. When talking about land loss, respondents continually spoke about the issue causing fragility to what they see is a unique place. These themes of uniqueness and fragility intersected other themes. Intercoder reliability was employed where David Burley and Traber Davis engaged in separate and specific analysis of the interviews, while the other authors corroborated analysis outcomes.

REFERENCES

Alkon, A. H. (2004). Place, stories, and consequences: Heritage narratives the control of erosion on Lake County, California vineyards. *Organization & Environment*, *17*(2), 145-169.

Altman, I., & Low, S. M. (Eds.). (1992). *Place attachment*. New York: Plenum.

American Planning Association. (1997). Barataria-Terrebonne estuary comprehensive conservation and management plan—American Planning Association 1997 planning awards. *Planning*, *63*(4), 1-5.

Berger, P. L., & Luckmann, T. (1967). *The social construction of reality: A treatise in the sociology of knowledge*. Garden City, NY: Anchor Books.

Brown, B. B., & Perkins, P. B. (1992). Disruption in place attachment. In I Altman & S. M. Low (Eds.), *Place attachment: Human behavior and the environment* (Vol. 12, pp. 278-304. New York: Plenum.

Burley, D., Jenkins, P., & Azcona, B. (2006). Loss, attachment and place: Land loss and community in coastal Louisiana. In A. M. McCright & T. Nichols Clark (Eds.), *Community and ecology: Dynamics of place, sustainability, and politics* (Research in urban policy series Vol. 10, pp. 21-42). Oxford, UK: Elsevier.

Cantrill, J. G. (1998). The environmental self and a sense of place: Communication foundations for regional ecosystem management. *Journal of Applied Communication Research*, *26*, 301-318.

Casey, E. S. (1993). *Getting back into place: Toward a renewed understanding of the place-world*. Bloomington: Indiana University Press.

Clark, J. K., & Stein, T. V. (2003). Incorporating the natural landscape within an assessment of community attachment. *Forest Science*, *49*(6), 867-876.

Creswell, J. (1997). *Qualitative inquiry and research design: Choosing among the traditions*. London: Sage.

Curry, J. M., & McGuire, S. (2002). *Community on land*. Lanham, MD: Rowen and Littlefield.

Davis, D. (1990). Living on the edge: Louisiana's marsh estuary and barrier island population. *Transactions—Gulf Coast Association of Geological Societies*, *XL*, 147-160.

Dunne, M. (2001). Divert a river, save a marsh. *Planning*, *67*(2), 12-20.

Edwards, N. (2006). Public meetings on contamination: Framing harmlessness. *Humanity and Society*, *30*(1), 7-23.

Fairclough, N. (1992). *Discourse and social change*. Cambridge, UK: Polity.

Farber, S. (1996). Welfare loss of wetlands disintegration: A Louisiana study. *Contemporary Economic Policy*, *14*(1), 92-107.

Gieryn, T. F. (2000). A space for place in sociology. *Annual Review of Sociology*, *26*, 463-496.

Glendinning, A., Nuttall, M., Hendry, L., Kloep, M., & Wood, S. (2003). Rural communities and well-being: A good place to grow up? *The Sociological Review*, *51*(1), 129-156.

Greider, T., & Garkovich, L. (1994). Landscapes: The social construction of nature and the environment. *Rural Sociology*, *59*(1), 1-24.

Gubrium, J. F., & Holstein, J. A. (1997). *The new language of qualitative method*. Oxford, UK: Oxford University Press.

Harvey, D. (1996). *Justice, nature, and the geography of difference*. Cambridge, MA: Blackwell.

Hastings, A. (1999). Discourse and urban change: Introduction to the special issue. *Urban Studies*, *36*(1), 7-12.

Hecht, J. (1990, April 14). The incredible shrinking Mississippi Delta. *New Scientist*, p. 1-13.

Hidalgo, M. C., & Hernandez, B. (2001). Place attachment: Conceptual and empirical questions. *Journal of Environmental Psychology*, *21*, 273-281.

Kaltennborn, B. P., & Bjerke, T. (2002). Associations between landscape preferences and place attachment: A study in Roros, southern Norway. *Landscape Research, 27*(4), 381-396.

Kamminstein, D. (1988). Toxic talk. *Social Policy*, *19*, 5-10.

Kamminstein, D. (1996). Persuasion in a toxic community: Rhetorical aspects of public meetings. *Human Organization*, *55*, 458-464.

Meyer-Arendt, K. J. (1985). The Grand Isle, Louisiana resort cycle. *Annals of Tourism Research*, *12*, 449-465.

Philips, B., & Stukes, P. A. (2003, August). *Freedom hill is not for sale: Resistance to mitigation buyouts in Princeville, North Carolina*. Paper presented at the Annual Meeting of the American Sociological Association, Atlanta, GA.

Pred, A. (1983). Structuration and place: On the becoming of sense of place and structure of feeling. *Journal of Theory of Social Behavior*, *13*, 45-68.

Reeves, S. K. (1985). The settlement and cultural growth of Grand Isle, Louisiana. In P. D. Uzee (Ed.), *The Lafourche country: The people and the land* (pp. 108-116). Lafayette, LA: Center for Louisiana Studies.

Relph, E. (1976). *Place and placelessness*. London: Pion.

Rutkowsky, J., & Russ, J. (1992). Forests, water and "public participation." *The New Catalyst*, *23*, 4-5.

Sack, R. D. (1992). *Place, modernity, and the consumer's world: A relational framework for geographic analysis*. Baltimore, MD: Johns Hopkins University Press.

Shanahan, J., Pelstring, L., & McComas, K. (1999). Using narratives to think about environmental attitude and behavior: An exploratory study. *Society and Natural Resources*, *12*, 405-419.

Silverman, D. (2001). *Interpreting qualitative data: Methods for analysing talk, text and interaction* (2nd ed.). London: Sage.

Singleton, R., Jr., & Straits, B. (1999). *Approaches to social research* (3rd ed.). New York: Oxford University Press.

Smith, J. (2004). Reflecting on the development of interpretative phenomenological analysis and its contribution to qualitative research in psychology. *Qualitative Research in Psychology*, *1*, 39-54.

Stedman, R. C. (2002). Toward a social psychology of place: Predicting behavior from place-based cognitions, attitude, and identity. *Environment and Behavior*, *34*(5), 561-581.

Stedman, R. C. (2003a). Is it really just a social construction? The contribution of the physical environment to sense of place. *Society and Natural Resources*, *16*, 671-685.

Stedman, R. C. (2003b). Sense of place and forest science: Toward a program of quantitative research. *Forest Science*, *49*(6), 822-829.

Steilow, F. J. (1981). Grand Isle and the new leisure, 1866–1893. *Louisiana History*, *23*, 239-257.

Tuan, Y.- F. (1979). *Topophilia: A study of environmental perception, attitudes and values*. Englewood Cliffs, NJ: Prentice Hall.

U.S. Census Bureau. (2000). *Census 2000*. Washington, DC: Author.

U.S. Geological Survey (USGS), National Wetlands Research Center. (2006). *Press release: USGS reports latest land change estimates for Louisiana*. Retrieved January, 2007, from http://www.usgs.gov/newsroom/article.asp?ID=1568

Uzzell, D., Pol, E., & Badenas, D. (2002). Place identification, social cohesion, and environmental sustainability. *Environment and Behavior*, *34*(1), 26-53.

Williams, D. R., & Patterson, M. E. (1996). Environmental meaning and ecosystem management: Perspectives from environmental psychology and human geography. *Society and Natural Resources*, *9*, 507-521.

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