Assessing Place Meanings and Management Decision-Making at Aransas National Wildlife Refuge Complex

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Carena J. van Riper, Gerard Kyle, Jee In Yoon, Jennifer Hageman

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Carena J. van Riper
Principal Investigator

Gerard Kyle, Jee In Yoon, Jennifer Hageman
Contributing Authors

Human Dimensions of Natural Resources Laboratory
Department of Recreation, Park & Tourism Sciences
Texas A&M University
2261 TAMU
College Station, TX
(979) 862 - 3068
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Introduction
The Aransas National Wildlife Refuge Survey of Managers Technical Report presents the findings from a social science research project designed to inform Refuge planning and management. Several staff members cooperated with the primary investigator from the Human Dimensions of Natural Resources Laboratory at Texas A&M University. This study was preliminary dissertation research that helped to inform a larger study of protected area management. The data reported herein were collected to better understand management, explore managers’ perceptions of places at Aransas and improve the information, services, and products that the U.S. Fish and Wildlife Service provides to its users.

Research Team
The research team was comprised of associates with the Human Dimensions of Natural Resources Laboratory. Ph.D. student Carena van Riper, along with Dr. Gerard Kyle, Jee In Yoon and Jennifer Hageman from the Department of Recreation, Park & Tourism Sciences at Texas A&M University assisted with various phases of this research.

Methods
Study Context
Aransas is a U.S. Fish and Wildlife Service Refuge Complex located in southwestern Texas along the Texas Gulf Coast. This site was established in 1937 with the primary purpose of protecting and providing habitat for migratory birds. Specifically, the area is vital resting, feeding, wintering, and nesting grounds for migratory birds and native Texas Wildlife including the American Alligator, the Javelina, White-tailed Deer, and Armadillo (Aransas National Wildlife Refuge, 2010). The four units within Aransas encompass approximately 115,000 acres of land, which were initially set aside to protect the whooping crane. After the bird population diminished to a low of 15, Aransas was established within the Department of Interior, thereby marking an important point in the American conservation movement concerning threatened and endangered wildlife.
Although the primary legislative charge for Aransas is to protect fish, wildlife and their associated habitats, opportunities for public use are also considered important aspects of management. The Claude F. Lard Visitor Center is a good example of the ways in which Aransas offers quality experiences for the public. In the visitor center, there are opportunities to view exhibits and enjoy public programs at an indoor auditorium. Interpretive signs and a range of educational exhibits are also present to inform the public of the historical context and on-site resources at Aransas.

Within the larger Refuge, there are nature trails, public spaces and an auto tour loop. One noteworthy destination within Aransas is a 40-foot high viewing platform that towers over the tree canopy near a wetland habitat. Many of the visitors at Aransas stand on the platform to watch the endangered whooping cranes in their natural wintering ground habitat. Additionally, public involvement and community engagement are facilitated through volunteering, outdoor educational courses and a youth environmental training area for organized groups and overnight camping. Both consumptive (e.g., hunting, fishing) and non-consumptive (e.g., picnicking, wildlife viewing, photography) uses are permitted within Aransas.

**Research Approach**

Qualitative data were collected during the spring of 2010 from select managers charged with overseeing Aransas National Wildlife Refuge Complex (Aransas). Semi-structured interviews were conducted on-site and by telephone (see Appendix I). A total of six managers were asked to participate in this research, five of whom agreed to speak with the primary investigator (n = 5). All of the managers of Aransas were considered for inclusion in the study, and the individuals asked to participate were selected based on recommendations from the Refuge manager. Conversations ranged from 39 minutes to 2 hours and 30 minutes, averaging 55 minutes per person. The interview guide consisted of
11 open-ended and socio-demographic questions that were aimed at understanding the meanings managers ascribed to the Refuge and management decision-making. More specifically, about the data collected provided insight on participants’ position descriptions, management experience, involvement in recreation and/or leisure pursuits, places of importance at Aransas, changing conditions, salient management issues, and the decision-making process.

All interviews were conducted by the primary investigator. Participants were provided with background information and asked to sign a consent form (see Appendix II). The consent form provided detailed information about the purpose of the study and the participant selection procedure. The form also elaborated on confidentiality, in that throughout the one year timeline of the study, research records were stored securely and kept private. Participants were asked for their consent to be tape-recorded and it was explained that all recordings would be erased upon completion of the research. There was no compensation for participants to be involved with the study and there was no more risk than would be experienced in everyday life. Each participant was provided with personal copies of the consent form and the interview guide. This study was reviewed by the Texas A & M University Institutional Review Board and approved under exempt status (IRB Protocol Number 2010-0159). All interviews were tape-recorded, transcribed verbatim and thematically analyzed using ATLAS.ti version 4.2.

Additional forms of data were collected to triangulate the study findings and build a stronger and more holistic understanding of the context in which the participants operated (Marshall & Rossman, 2006). A total of 10 hours of participant observation were completed at various places within Aransas, including the visitor center, the auto tour loop and the whooping crane viewing tower. Prior to completing the study interviews, a brief
content analysis was conducted of available public information (e.g., website, media) and historical documents (e.g., reports, manuscripts). The various forms of information mentioned above were synthesized into larger categories that allowed us to build a preliminary theoretical framework.

This case employed a grounded theory approach to develop a preliminary account of managers’ place meanings and decision-making processes by drawing on observations and conversations with managers of Aransas (Glasser & Strauss, 1967). This entailed an inductive method that involved sifting through and analyzing multiple forms of qualitative data, including semi-structured interviews, participant observations, and content analysis of information released to the public (Clark, 2005). The exploratory nature of the study lent itself well to grounded theory because of the process by which concepts and ideas relevant to the study were developed.

The use of qualitative research allows the researcher to gain a more comprehensive understanding of the research context; however, there are several limitations and potential sources of error associated with the approach adopted in this study that should be noted and taken into account when interpreting the results. For example, the academic position adopted for this research was shaped by the intellectual biography and academic training of the primary investigator. The underpinning beliefs about natural resources management and personal value systems contributed to the interview questions that were selected to guide conversations, the progression of ideas and content of the interviews, and the subjective interpretations of study findings. The advantages and disadvantages of this position were recognized and reflected upon throughout the research process in order to respond to preconceptions and preexisting knowledge concerning the study topic, maintain a flexible and receptive attitude, and encourage a critical analysis of various forms of data. This approach was used to gain an in-depth understanding of place meanings among managers, rather than a representative sample used to extrapolate to larger populations.
Executive Summary of Findings
These study findings illustrated how five managers felt connected to the natural environment at Aransas and the process they undertook to make decisions about wildland areas under their jurisdiction.

- Overall, managers’ place meanings entailed the following:
  1. The meanings and values that managers ascribed to places at Aransas were largely shaped by their interests in ecology and the natural world, as well as a desire for solitary experiences.
  2. Recreational activities and professional positions among managers facilitated ties to the natural landscape.
  3. Time in the field was important to all the participants. Managers lamented less time in the field, because interactions with natural resources helped them build and maintain familiarity with places, understand the current status of projects and on-site conditions, and build knowledge about appropriate techniques used to address problems concerning human use and natural resources.

- Managers perceived their roles as custodians of place:
  4. Place meanings among public constituents and the preservation of natural resources were viewed as responsibilities of managers of Aransas.
  5. Community engagement and partnerships with the local community enabled managers to connect the public with the Refuge. These forms of involvement have led to conflicts.
  6. Interpretation and education (e.g., the visitor center, interpretive boards, public programs) helped managers define resources in a specific way and shape how people viewed Aransas according to management guidelines.

- Management of Aransas was a complex and multi-faceted process:
  1. Forms of regulation (e.g., legislation, policies, partnerships, community engagement), scientific evidence, place meanings, and previous experience guided management decisions.
  2. The focal species of Aransas, the whooping crane, helped managers prioritize efforts and protect less charismatic species found within the Refuge Complex.
Detailed Findings

This section of the report presents the detailed findings generated from thematic analyses of the qualitative data, including two sections: 1) Place at Aransas, and 2) Management of Aransas. One table summarizes the frequencies for quantifiable variables and descriptive data are presented with the support of quotations.

Respondent Demographics

The five study participants included more men than women and the average age was 40 years. There was ethnic diversity among respondents, in that nearly half identified themselves as of Hispanic origin. All considered their race to be White. Participants were well-educated, in that all had attained at least a four-year college degree. The average household income ranged from less than $20,000 to $100,000.

Table 1. Socio-demographic characteristics among five managers of Aransas

<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>3</td>
</tr>
<tr>
<td>Female</td>
<td>2</td>
</tr>
<tr>
<td>Age</td>
<td></td>
</tr>
<tr>
<td>Average (SD)</td>
<td>40.4 (9.1)</td>
</tr>
<tr>
<td>Ethnicity</td>
<td></td>
</tr>
<tr>
<td>Hispanic or Latino</td>
<td>2</td>
</tr>
<tr>
<td>Not Hispanic or Latino</td>
<td>3</td>
</tr>
<tr>
<td>Race</td>
<td></td>
</tr>
<tr>
<td>American Indian or Alaska Native</td>
<td>0</td>
</tr>
<tr>
<td>Asian</td>
<td>0</td>
</tr>
<tr>
<td>Black or African American</td>
<td>0</td>
</tr>
<tr>
<td>Native Hawaiian or other Pacific Islander</td>
<td>0</td>
</tr>
<tr>
<td>White</td>
<td>5</td>
</tr>
<tr>
<td>Education</td>
<td></td>
</tr>
<tr>
<td>Less than high school</td>
<td>0</td>
</tr>
<tr>
<td>High school graduate</td>
<td>0</td>
</tr>
<tr>
<td>Vocational/trade school certificate</td>
<td>0</td>
</tr>
<tr>
<td>Some college</td>
<td>0</td>
</tr>
<tr>
<td>Two-year college degree</td>
<td>0</td>
</tr>
<tr>
<td>Four-year college degree</td>
<td>3</td>
</tr>
<tr>
<td>Graduate degree</td>
<td>2</td>
</tr>
<tr>
<td>Annual Income before Taxes</td>
<td></td>
</tr>
<tr>
<td>Less than $20,000</td>
<td>2</td>
</tr>
<tr>
<td>$20,000</td>
<td>0</td>
</tr>
<tr>
<td>$50,000</td>
<td>1</td>
</tr>
<tr>
<td>$80,000</td>
<td>1</td>
</tr>
<tr>
<td>$100,000</td>
<td>1</td>
</tr>
</tbody>
</table>
Place at Aransas

Place meanings were assessed by asking participants to describe an important place and then elaborate on why particular values were associated this place. Two subsections are presented to summarize the themes that emerged in the semi-structured interviews and content analysis, including 1) Place Meanings, and 2) Place Providers.

Place Meanings

Place meanings were shaped by participants’ interests in the ecology and natural values of Aransas. When asked to identify places of particular importance, the natural environment was often referenced: “It’s hard for me to pinpoint one place, because it’s so ecologically unique.” Other individuals emphasized environmental attributes, such as the “barrier island habitat,” “pristine system,” “coast prairie,” and “native vegetation.” In this sense, many of the participants’ descriptions were grounded in natural values. One participant derived satisfaction from “experiencing nature and wildlife,” and further explained “It’s a place that I can get to, where I can reconnect with nature and not have to think about personnel problems or people or just the wildlife and just get back to what got me here from the get go.”

The remote location of Aransas and the associated sense of solitude were important factors that aided in the construction of managers’ place meanings. One participant stated, “Well, I’m kind of reclusive and I don’t seek crowds. I prefer not to be in the presence of crowds and the observation tower is a favorite spot of mine, in the absence of people.” Another participant deemed a place important because “it’s closed to the public and it’s a place that I can get away and I’m not going to run into anybody….Most people and wildlife biologists, they don’t get into it for the people, they get into it for the wildlife. So the chances to actually get out and see stuff, that’s when your best opportunity is going to be, is when there are not many people
around.” Another confirmed, “This place is special to me. It’s unique. Uh, I’ve helped or tried to help every person and every manager in particular who has come to this place. Some appreciate it, some don’t. So I got in it for the resource.”

Participants’ interactions with natural resources were integral to their connections to the natural environment. Several participants pursued environmentally-oriented activities outside of their professional positions: “I bird to no end. I hunt and I fish to no end. Those are the three time consuming [activities].” Another stated, “I love the coast. I love to boat and to fish.” Most participants were affiliated with professional organizations, such as the Wildlife Society, Ducks Unlimited and the Society for Range Management, thereby indicating support for use and preservation of natural resources. This finding suggests that participants better understood and derived meaning from the natural landscape at Aransas through involvement in environmentally-oriented activities.

Interaction with natural resources also helped managers build familiarity and knowledge. According to one participant, “We should not all be slaves to our desks. We should get out there and see it on the ground firsthand. Review the work that the people you supervise are doing. Get engaged.” This participant went on to say, “They know that I try at least once a week to get out in the field. And that is just once a week whereas in the past it was every day. But that’s the most I can afford anymore to keep up with the workload. But yes, I will take the time once a week to get out for several hours to touch base with the crews as they’re working on different projects.” According to another participant, “It can be deadly to the resource if the manager allows himself or herself to get too removed.” However, the time dedicated to interacting with resources was difficult for some to maintain: “I’m not in the field as much anymore…it seems like I’m behind the desk, uh, too much. Uh, and that’s tough on me ‘cause I’m a field-loving outdoor person.” Another participant presented circumstances that prevented interaction with natural resources: “Policy wise, vision wise, objective wise that to really spend a lot of time actually out in the field that for me probably it hasn’t been an option. Probably won’t really be an option. Probably at least through this first year because there’s just too much to learn as far as being able to take responsibility for the Refuge.” Thus, managers of Aransas prioritized experiencing natural
settings firsthand, because it enhanced their ability to make decisions about and be familiar with on-site conditions. This interaction with the environment may enhance the importance of natural conditions at Aransas, and therefore, amplify the meanings that managers associate with the Refuge. However, it should be noted that although managers’ engagement in outdoor activities was important in their professional worlds, constraints were faced to maintain sufficient time in the field.

**Place Providers**

Managers of Aransas viewed themselves as custodians of place. Public experiences and meanings regarding the Refuge were created through community engagement and cooperation with outside organizations. For example, at the visitor center, interpretive boards and educational programs helped to define the resources for visitors to the area. This, in turn, shaped the way that resources were interpreted according to management guidelines and objectives. The agency also engaged the public in activities that would create bonds between people and the natural environment at Aransas. When asked about the importance of place meaning, one participant referenced the Friends of Aransas group: “Most every Refuge has a friends group, because it affords the opportunity to do things that you couldn’t otherwise do. And also it’s a way of reaching out to the community and having the community play a part in the management of the Refuge. Very important, very supportive.” Another participant mentioned a Youth Hunt as an activity that facilitated support among community members: “And my whole, the whole idea behind it is to give them a better appreciation for National Wildlife Refuges. Certainly this Refuge can show them that in this case hunting, not always, but hunting can be compatible even with endangered species if done correctly.” This participant went on to say, “Experience has shown me that compatible public use is good.” The relationship between Aransas and the surrounding community was seen as “Mutually beneficial…they lead to volunteers and potential funding sources.” Thus, community engagement and partnerships helped managers to facilitate connections between the public and places at Aransas.

Although managers of Aransas prioritized providing quality experiences for user groups, it was emphasized that a number of challenges inevitably accompanied public involvement in management: “Every project leader and wildlife Refuge manager has in their position
description the need to maintain those community contacts and be a part of the community, but yet, a lot of us don't, because we are so pulled in the direction of wildlife and habitat management. It becomes a time issue.” Others mentioned “time,” “resources” and “staffing” as limiting factors. Several conflicts emerged in conversations about public involvement. For example, one politically contentious issue was a proposal to open a naturally occurring pass that formed the south boundary of an area at the Refuge (i.e., Matagorda Island), which had silted in over time. “There is a misconception on part of the public that the Refuge is opposed to the breaching of that pass. And they could not be more wrong. We support it. It is just a matter of how they go about doing it.” However, not all participants pointed to conflicts when discussing community engagement. One participant offered a contrary opinion: “You know we protect, conserve, enhance, uh, for the American people. Uh, but I think since we’re doing it for the wildlife first I think it’s. There’s less. I guess there’s less issues with it.”

Management of Aransas
A variety of aspects of management of Aransas were explored in the semi-structured interviews. Participants were asked how they integrated personal knowledge of Aransas into management decisions, their previous approaches to management, and the techniques used to determine appropriate outcomes. Two subsections are listed below to summarize how participants addressed human use and preservation of natural resources existing within the Refuge.

Tools for management
Knowledge application, expert opinion and previous experience provided the foundation for management decision making at Aransas. For example, one participant discussed the process of compiling information for a Comprehensive Conservation Plan for Aransas: “I drew very much on my sense of place and my knowledge of details that most don’t have. I’m talking about even knowing, you know, prevailing wind directions and the impacts it has on the marshes and, uh, the frequency of cold fronts and the impacts they have on the opposite shoreline with those strong winds blowing and stuff like that.” According to two participants, expertise was similarly reported to be useful for management. One
recommended: “Call those that are in the know. Every Refuge has a regional officer to report to and we have experts up there that are in support of the field so call them and challenge them with the questions.” The other participant elaborated on the importance of expert opinion, stating “I think really the main thing that you can rely on and that you do rely on…is just the networking, uh, aspects that you acquire as you’ve been down here.” When asked how to make informed decisions, one participant emphasized the importance of reverting back to previous outcomes and experiences: “I think your past experience. You learn from all your past experiences and you rely on that skill set, uhm. You know, when it comes time to make that decision you revert back to your experiences and what you’ve learned in the past.”

Although place meanings and other subjective techniques were applied as tools to enhance decision-making, it should be noted that the driving considerations for management were policy and legislation. One participant advised, “you have to take into account all of the other rules and regulations, all the code of federal regulations, all of the different acts…Are we operating with that activity, with that question, that decision that needs to be made on a daily basis, is it in conjunction or in adherence with all of those rules and regs. You can’t bend any of those.” Additionally, multiple references were made to “bylaws,” “Service Policies,” “Refuge Improvement Act,” “Refuge Recreation Act,” and “Refuge Administration Act.” Thus, managers operated within the guidelines of regulations. Management of Aransas was explained to be a complex and multi-faceted process that required balancing formal and informal management tactics to bolster management efficacy.

**Focal species**
The focal species of Aransas, the whooping crane, was mentioned throughout the interviews in reference to management decisions. This animal facilitated place meanings among study participants and helped managers to make decisions that aligned with the mission of the Refuge. For example, one participant explained that the bird was a management priority: “This species is duly covered from the perspective of the International Migratory Bird Treaty Act, and the Endangered Species Act. We are required to manage for this species.” Another asserted, “Every Refuge has a primary purpose and
the one here is migratory birds. Very broad. And it says, “…and every other species of wildlife.” But my birds are first and foremost.” This focal species also served as a mechanism to help define management strategies. For example, a structured decision-making process was adopted to “weigh out all the pros and cons associated with supplemental feeding” in response to the declining prey base for the endangered population. Another example was the feral hog outbreak, in which the extirpation of this invasive species was structured around the whooping crane: “They are a menace and a force to reckon with. And I have raged war on them…Next week, we are doing that again [eliminating hogs] just by coincidence. Wildlife services will be here and it is scheduled so that the whooping cranes will be gone so we are not disturbing them.” According to all participants, protection of wildlife (e.g., whooping crane) guided management outcomes.

The whooping crane was used as a conversation mediation tool throughout the interview process. For example, there was a round wooden table overlaid with a thick piece of glass that served as the point of interaction for the primary investigator and study participants during the two on-site interviews. Positioned in the center of the table underneath a slab of glass was a picture of a pair of whooping cranes. This served as a literal and symbolic center of the conversations and was used as a visual cue on several occasions. For example, one participant emphasized that the crane was the most salient management concern. “The biggest problem. The biggest issue, here, is the lack of attention being given to the species [pointing to the photograph]….“You should not shy away from the responsibility that we face…you should challenge yourself to identify how you could get there to address those needs. Increase staff and increase funding. Pursue it wherever possible.” Protection of this focal species further served as a mechanism to generate public support: “The local communities they know this area…the Refuge is a very important place in the local community. Uhm, primarily, I mean they have a big stake in the survival of the whooping cranes, which is the reason that we are here.”
Discussion of Study Findings
This case study explored the perspectives of five managers of Aransas National Wildlife Refuge. Specifically, these data provided insights into the ideas of place and management in the context of Aransas. The study findings suggested that managers developed a connection to Aransas through personal value systems and their roles as custodians of natural areas under their jurisdiction. Findings also illustrated how management of Aransas was informed by a variety of tools and structured around the protection of natural resources such as the whooping crane.

Study participants identified a variety of meanings associated with Aransas. The biophysical environment was highlighted in participants’ descriptions of places, suggesting that the connections between managers and Aransas were rooted in natural values. Along similar lines, solitary experiences were desired by many of the study participants, which potentially provided a temporary release from the rules and pressures of everyday life (Hammitt, 1982). Thus, there is need for human–environment research to include ecological dimensions and aspects of the natural environment in measures of the bonds people have with places (Davenport & Anderson, 2005).

Involvement in environmentally-oriented activities and interactions with the environment contributed to the meanings reported by managers of Aransas. In this sense, the social worlds surrounding managers’ professional positions shaped their attachments to the physical world (Kyle & Chick, 2007). For example, participants engaged in recreational pursuits, such as fishing, hiking and hunting, while also holding memberships to environmental organizations. These affiliations developed and/or reinforced existing value systems and helped managers construct an understanding of their social and professional worlds. Participants also emphasized the importance of spending time in the field, which in turn, contributed to a stronger understanding of the environments managers were charged to oversee.

Participants saw themselves as place providers charged with connecting the local community to Aransas. Public engagement and communication were two aspects of
management that helped managers frame their roles within the agency as custodians of natural areas. Educational opportunities and interpretive exhibits at the Refuge allowed managers to shape public perception. Despite potential conflicts related to issues such as water quality and development, the managers selected for this case study aimed to provide opportunities for public use and enjoyment of natural and recreational resources at Aransas.

Management of Aransas was a complex and multi-faceted process that required balancing formal tactics such as policies, legislation and science with informal tactics such as local community perspectives, political considerations and value judgments. Policies and legislation were driving considerations for management; however, subjective tactics such as place meanings, previous experience and expert opinion were also integrated into decisions. Ties between the local community and the Refuge helped managers frame their roles within the agency and facilitate a symbolic connection with the surrounding community. The focal species of Aransas, the whooping crane, helped managers interpret their professional duties and structure decisions about human use and preservation. Although the crane is a single species, the measures taken to protect habitat and resources associated with the crane factored into decisions about other species existing within the Refuge Complex.

**Conclusions**

Previous research on place meanings has focused on the meanings that public constituents associate with a landscape, and although these insights are important, the perspectives of managers are rarely considered (Downing & Clark, 1979; Hendee & Harris, 1970; Rosental & Driver, 1983). This gap needs to be filled because managers are stewards of natural areas, responsible for protecting natural resources under their jurisdiction and values among their public constituents. Better understanding of the particularities of managers’ relationships with the environment should enable them to more effectively integrate visitors’ place meanings into the decision-making process. This information is also useful to better understand the importance of special places protected by the U.S. Fish and Wildlife Service.
Management Recommendations
The following management recommendations flow from the qualitative data explored in this case study. They are meant as suggestions or areas of consideration for managers to think about future human use and protection of natural resources at Aransas National Wildlife Refuge Complex. The following recommendations are offered for consideration:

1. Utilize the results of this study to identify the level of importance associated with particular places at Aransas.
2. Manage to protect naturalistic values, ecological health and solitary experiences.
3. Aim to maintain a minimum amount of time spent in the field for managers to continue building familiarity with and knowledge of on-site conditions.
4. Utilize interpretive techniques and outreach programs to maintain the connection between public constituents and the Refuge.
5. Provide necessary opportunities for staff to keep-up-to-date with formal and informal regulations.
6. Encourage resourcing and networking to maximize efficacy in decision-making.
Literature Cited


Appendix I: Interview Guide: Assessing managers’ sense of place at Aransas National Wildlife Refuge: A Qualitative Research Approach

Date ____________________________
Interviewee: ______________________
Starting time: _____________________
Finishing time: ____________________
Location: __________________________

INTRODUCTION
Hello, my name is Carena van Riper and I’m a graduate student at in the Department of Recreation, Park and Tourism Sciences at Texas A&M University. I am interested in talking with you about your sense of place and the approach you take to visitor management at Aransas National Wildlife Refuge. I will first ask you about why Aransas is important and explore the meanings and values you associate with the Refuge. I would also like to learn about how you use your judgment and respond to environmental factors to make more appropriate decisions concerning human uses of natural resources. With your feedback, I hope to better understand the relationship between place meanings and management decision-making at Aransas. This is a pilot study for a larger program of research I will be conducting at the Great Barrier Reef Marine Park this coming summer. Our conversation should last for approximately one hour and will be kept completely confidential.

BACKGROUND INFORMATION

1. What is your position at the Refuge?
__________________________________________________________________________
__________________________________________________________________________

2. How long have you been working here?
__________________________________________________________________________
__________________________________________________________________________

3. Did you have previous experiences at Aransas before starting your current position?
__________________________________________________________________________
__________________________________________________________________________

4. What kind of leisure activities do you pursue?
__________________________________________________________________________
__________________________________________________________________________

a. Are you a member of any environmentally-oriented groups (e.g., Sierra Club, Ducks Unlimited)?
__________________________________________________________________________
5. Please describe a place at Aransas that is particularly important for you.

__________________________________________________________________
__________________________________________________________________

a. Why does this place hold special meanings or values?
__________________________________________________________________

b. Have you engaged in activities with other people at this place?
__________________________________________________________________

6. Have your experiences at Aransas changed over time?
__________________________________________________________________
__________________________________________________________________

a. How do you feel about these changes?
__________________________________________________________________

7. Please list the different types of management issues you are dealing with at Aransas.
__________________________________________________________________
__________________________________________________________________

a. Are there similarities and differences that exist between your personal and professional opinions about these issues?
__________________________________________________________________

8. How do you integrate your personal knowledge of Aransas into decisions about human uses of the Refuge?
__________________________________________________________________
__________________________________________________________________

9. What kind of approaches have you taken in the past to managing people and resources at Aransas?
__________________________________________________________________
__________________________________________________________________

10. How do you decide which types of visitor management techniques are most appropriate?
__________________________________________________________________
__________________________________________________________________

11. Are there any important issues I should know about that I have not already mentioned?
__________________________________________________________________
__________________________________________________________________
SOCIO-DEMOGRAPHIC INFORMATION

12. Are you from the United States? ____________

13. In what year were you born? ____________

14. Gender
   a. Male
   b. Female

15. What is the highest level of formal education you have completed?
   a. Less than high school
   b. High school graduate
   c. Vocational/trade school certificate
   d. Some college
   e. Two-year college degree
   f. Four-year college degree
   g. Graduate degree

16. In what ethnicity and race would you place yourself?
   a. Hispanic or Latino
   b. Not Hispanic or Latino

17. What would you consider to be your race?
   a. American Indian or Alaska Native
   b. Asian
   c. Black or African American
   d. Native Hawaiian or other Pacific Islander
   e. White

18. Would you mind telling me your household’s TOTAL approximate annual income from all sources before tax?
   a. LESS THAN $20,000
   b. $20,000-$49,999
   c. $50,000-$79,999
   d. $80,000-$99,999
   e. $100,000 OR MORE

19. Would you mind if I contacted you in the future for further information?

__________________________________________________________________
__________________________________________________________________

20. Would you like a copy of the report?

__________________________________________________________________
__________________________________________________________________
Appendix II: Consent Form: Assessing Managers’ Sense of Place at Aransas National Wildlife Refuge: A Qualitative Research Approach

You have been invited to participate in research concerning place meanings and outdoor recreation at Aransas National Wildlife Refuge, a study conducted by Carena van Riper, Department of Recreation, Park and Tourism Sciences at Texas A&M University. The purpose of this study is to explore managers’ sense of place at Aransas and outdoor recreation management decision-making. Two to three people will be asked to participate in this study. You were selected to be a possible participant, because of your professional position and your experiences making decisions about human uses at the Refuge.

If you agree to participate, you will be asked to be audio taped during the interview and to draw on your experiences as a manager. You may refuse to be audio taped. You may also refuse to answer any questions, request to have the tape recorder turned off or statement removed, and may withdraw at any time without penalty. The interviews will last for approximately one hour.

This study is confidential. This entire study will last for approximately one year, during which time the research records will be stored securely and kept completely private. Upon completion of this research, any recordings will be erased. The risk of participating in this study is no more than experienced in daily life.

There is no compensation for participating in this research; however, your participation will further our understanding of natural resources and recreation management in protected areas. This research has been reviewed by the Institutional Review Board (IRB) for human subjects in research through Texas A&M University. If you have questions or concerns about your rights as a research participant, please contact this organization at irb@tamu.edu or 979-458-4067. Alternatively, you can contact Carena van Riper (cvanripe@tamu.edu) at 979-862-3068 (office) or 802-881-2631 (cellular) with any questions about this research.

Please be sure you have read the above information and clarified any questions you might have. You will be given a copy of this information sheet for your records.

I agree to be audio taped: _____yes _____no

______________________________ date __________________________
Signature of participant

______________________________ date __________________________
Signature of investigator