BEYOND THE BEAR NECESSITIES: A MIXED METHODS ANALYSIS OF THE CONFLICTS ARISING IN HUMAN–BLACK BEAR ENCOUNTERS

by

Kathryn Mazaika
A Dissertation Submitted to the Graduate Faculty of George Mason University in Partial Fulfillment of The Requirements for the Degree of Doctor of Philosophy Conflict Analysis and Resolution

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Date: ________________________________ Spring Semester 2013 George Mason University Fairfax, VA
Beyond the Bear Necessities: A Mixed Methods Analysis of the Conflicts Arising in Human–Black Bear Encounters

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Spring Semester 2013
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DEDICATION

This document and research are dedicated to human spirit and hope as it was embodied in my sister, Terry, and good friend, Sheila. Both Terry and Sheila fought personal battles with grace and dignity. Sheila was a great supporter throughout my graduate studies and as an animal lover and ravenous reader eagerly awaited the completion of my dissertation. Sadly, she and my sister didn’t live to see that day. I love and miss both of you.

This research is also dedicated to the bears and other wildlife gripped in human conflict while they are just trying to survive. May their adaptability inspire reflection and adaptation in the communities whose space is increasingly shared.
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Completing a dissertation requires a great deal of individual drive and endurance, but it is also a project whose success would not possible without the support and contributions of many others. And so it is only appropriate to share that success by acknowledging the many contributions.

Early on when we were newly minted doctoral candidates, Agnieszka Paczynska provided the sage advice to choose a topic we really cared about because that care would carry us through the times when we were ready to be finished, but still had a long way to go. Through the hours and months of coding, analysis, and writing that care has indeed made a world of difference. Caring about the rise in human–wildlife conflicts and the communities struggling to deal with them made it easy to keep working. Thanks, Agnieszka!

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ABSTRACT

BEYOND THE BEAR NECESSITIES: A MIXED METHODS ANALYSIS OF THE CONFLICTS ARISING IN HUMAN–BLACK BEAR ENCOUNTERS

Kathryn Mazaika, Ph.D.
George Mason University, 2013
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Human–black bear conflicts have been increasing over the last 25 years in the western United States. Conflicts arising in human–bear encounters involve both those between people and bears, and between people about bears and how to address them. Research focusing on the interactions between people and black bears is extensive, but few studies have focused on the conflict, or the progression from encounter to problem to conflict.

Using concurrent mixed methods, this study examined the conflicts arising in human–black bear encounters in the Lake Tahoe Basin of California and Nevada. Through 70 semi-structured interviews and 119 surveys with community members and agency employees, and legal, policy, and document reviews, this research sought to learn more about the factors that influence the views participants formed about bears, and the alternatives they considered when an encounter became a problem. The interviews and background survey were administered concurrently, analyzed separately, and compared.
and integrated in a final interpretation. Background survey and Potential for Conflict Index (PCI) results supplemented the interview findings and created context and connections with earlier studies.

Five themes organized the 12 findings that emerged from the semi-structured interviews through open and focused coding. Background survey analyses identified significant differences based on gender, and significant differences and highly mixed opinions on the importance of engaging an impartial facilitator. The research also found at least three distinct communities sharing the same physical space, but functioning for the most part independently until a problem black bear encounter occurred. Bears as provocateurs were both troublemakers and the catalysts for understanding the fractured community, how it addresses problem situations, and how their troublemaking could help to build a more connected community.

Acknowledging the partitions in the larger community can create incentives to tailor conflict resolution systems that will reach individual communities based on their foremost needs and interests. It can also provide opportunities to explore areas most likely and fruitful for building bridges between the communities. These findings also provide insights into ways that existing systems for addressing problem encounters can be improved for greater harmony between people and bears and people about bears.
1. INTRODUCTION

1.1 Introduction

Human–wildlife conflicts set a 10-year high in 2002 according to the U.S. Department of Agriculture’s Wildlife Services program (Clayton, 2004). Although no one seems to agree on the precise combination of situations that produce these encounters, few debate the individual influences of land use and human population changes and the shifting characteristics of rural residents. Some suggest the reasons for these increased encounters include suburban sprawl and easy, new food sources for deer, black bears, and coyotes. Few of these encounters involve injury, yet animals continue to bear the brunt of these demographic and landscape changes.

The goal of this research was to learn more about human–black bear encounters that become problems or conflicts. Its aims were to increase our understanding of the intra- and interpersonal and social-structural dimensions that influence the conflicts, and explore possibilities for more peaceful approaches when they occur. The research focused on learning more about what influences (1) the ideas people form about black bears and (2) the role these ideas play when deciding on ways to address problem human–black bear encounters.

Using concurrent mixed methods this study examined the conflicts arising in human–black bear encounters in the Lake Tahoe Basin of California and Nevada.
Empirical, scientific, and response data for the Tahoe Basin mirror national trends indicating that human–wildlife conflicts are on the rise (Beckmann & Berger, 2003; Cristancho, 2007). Conflicts arising in human–black bear encounters can occur intrapersonally, interpersonally, and between a variety of groups. They may manifest individually as confusion or anger in response to damage, between neighbors about how to address damage, or between first responders over their choice of interventions.

This chapter begins by discussing the nature of human conflicts, emphasizing that human–wildlife conflicts include not only those between people and wildlife, but also between people about wildlife. The background and context for the study describes the variety of ways human–wildlife conflicts have been studied, but there is a notable absence of research focusing on the conflicts between people about wildlife. This background provides the basis for formulating the problem statement, the purpose for this research, and the research questions for exploring the intra-, inter-, and social-structural sources of conflict arising in encounters. The research approach briefly describes the methods and types of data collected, the study area and participants, and the process used for analyzing the data and drawing conclusions from it. A brief description of the researcher’s background and assumptions brought to this project convey the professional and personal paths that helped in framing the study. The final section of this chapter discusses the rationale for selecting this topic and some thoughts on its significance.

1.2 Nature of Human–Wildlife Conflicts

Human–wildlife conflicts include a complex mix of social, cultural, economic, political, historical, biological, and geographic influences (Madden, 2004). While some
view conflicts involving natural resources as competition for scarce resources (Homer-Dixon & Blitt, 1998), others emphasize their human dimensions: That conflicts are not merely between humans and wildlife, but also between humans about wildlife. Developing a way to understand these influences—which often include perceptions, culture, values, and other less tangible dimensions that characterize many conflicts—can strengthen our understanding of and create more options for addressing them.

Solutions must be equally multifaceted as well. Practical approaches to address these conflicts need to be adaptive and embrace the needs for empowerment (Laue & Cormick, 1978), consider monetary resources (Madden, 2004), and determine how and when to intervene with third parties. They can neither follow cookbooks (Chase, Siemer, & Decker, 2002) nor recipes (Todd, 2002).

1.3 Background: Context of the Study

Black bears and people are coming into contact with each other with increasing frequency. Bears are an especially interesting research topic because of the curious, dichotomous wild/tame messages we receive about them (Lawrence, 1990). These messages seem key to understanding and addressing the conflicts, as well as influencing the demise of a bear labeled troublesome. The bears involved in these conflicts often suffer the preventable consequences of uninformed, intentional, or unintentional human actions. Moreover, the dominant subject–object relationships assumed over wildlife can further exacerbate the likelihood of a bear’s demise when encounters become a problem.

Personal observations, experience around animals, and a review of the literature suggest that a variety of factors influence and mediate how we respond when we
encounter black bears. Few studies have focused on the conflict, however, or the progression from encounter through problem to conflict. Direct experience with animals as well as a variety of cognitive, cultural, and emotional factors can influence how we respond and the decisions we make personally about what to do next (Ajzen, 1991; Fulton, Manfredo, & Lipscomb, 1996; Gore, Knuth, Curtis, & Shanahan, 2007a; Kellert, 1983; Siemer, Hart, Decker, & Shanahan, 2009; Zinn, Manfredo, Vaske, & Wittmann, 1998). Wildlife policy, law, and regulations, and differences in orientations toward wildlife—whether influenced culturally, or by myth or other learned behaviors—can also shape the nature and paths of these conflicts. The potential for conflict is great, both intra- and interpersonally and socially. Individuals facing these situations often struggle with these factors and decisions personally and within their communities. The conflicts may surface between ideologically opposed and polarized parties, or through a confused, emergent framework of tangled factors that influence the conflicts at all levels, from intra- and interpersonal, through the community and society at large.

Once an encounter is deemed a problem, or a conflict, the possibilities for addressing it vary as well. State wildlife laws, policies, and public safety procedures create a few of the frameworks for making these decisions. A number of communities have devised approaches to address problem black bear encounters in non-lethal ways. Variously known among its supporters as non-lethal bear management or aversive conditioning, these communities\(^1\) assume that it is easier to change a bear’s behavior than it is to change human behavior. The model for addressing human–black bear encounters

\(^1\) Whistler, British Columbia, Yosemite National Park, Mammoth Lakes, and the Lake Tahoe Area.
is used in numerous mountain communities and ski resorts, including the communities in this study. The Human–Bear Conflict Management Plan in Whistler, BC includes elements for: (1) interagency cooperation to reduce conflict, (2) human–bear conflict education program, (3) bear-proof waste management system, (4) waste management bylaws, (5) green space management strategies, (6) community planning strategies, (7) human–bear conflict monitoring system, (8) annual reports, (9) research priorities, (10) implementation plan, and a (11) program budget (Human–Bear Conflict Management Plan, 2006).

Understanding the progression of experiences, or escalation, from encounter through problem to conflict can help in imagining situations and responses that would lend themselves to tolerance and peaceful intervention versus removal of the wildlife. Understanding the development and emergence of conflicts including the intra-, interpersonal, or social frameworks most vulnerable along the continuum can also provide the basis for examining interventions.

1.4 Problem Studied

Human–black bear conflicts have been increasing over the last 25 years in the western United States. Complaints in the Lake Tahoe Basin reflect this trend in more than a 10-fold increase observed between 1990 and 2000 (Beckmann, Lackey, & Berger, 2004). Understanding the conflicts arising in human–bear interactions can emphasize two main approaches or themes. The first approach emphasizes understanding interactions between people and bears or other wildlife; the second approach emphasizes understanding interactions between people about bears or other wildlife. Research
emphasizing the conflicts arising in human–bear interactions include at least three distinct approaches: (1) understanding bear behavior around people and modifying the bear’s behavior or the environment in which the interaction occurs; (2) understanding perceptions or attitudes about wildlife or bears, or wildlife value orientations, to anticipate and avoid problems arising when people and bears or other wildlife interact; (3) modifying people’s behaviors (primarily through education) to prevent potential problems in human–bear interactions. While there is a growing recognition that research to understand the interactions between people about black bears or other wildlife is needed, studies taking this focus are few (Peterson, Birckhead, Leong, Peterson, & Peterson, 2010).

1.5 Statement of Purpose and Research Questions

The purpose of this study was to explore the frameworks in which black bear–human encounters that become problems or conflicts are situated in the individuals, communities, public agencies, and states that encompass the Lake Tahoe Basin in California and Nevada and inform the processes intended to address these situations. To learn more about these frameworks and ideas the research explored intra-, interpersonal, and social dimensions of the participants and community and how they connect to provoke or moderate the progression toward conflict. The research explored this progression through five questions:

(1) What sorts of messages do the participants receive about bears?

(2) What role(s) do these messages play in forming ideas about black bears?
(3) What role(s) do these ideas play when making decisions about intervening in black bear encounters?

(4) What is a problem black bear, and what is the bear doing that makes him or her a problem?

(5) What factors will contribute to more peaceful coexistence with black bears?

1.6 Research Approach

Following review and approval of the research protocol by George Mason University’s (GMU) Institutional Review Board, this research used partially mixed concurrent dominant status (Leech & Onwuegbuzie, 2009) approaches to study human–black bear encounters in the Lake Tahoe Basin to understand the nature of encounters that became problems or escalated into conflicts. Through 70 semi-structured interviews and 119 surveys with community members (full-time residents, part-time residents, and transient visitors) and agency employees, and legal and policy document reviews, this research sought to learn more about the factors that influence the views participants formed about bears, and the alternatives they considered when an encounter was something more than a bear simply passing through their property. Qualitative semi-structured interviews along with a supplemental background survey were administered concurrently, analyzed separately, and compared and integrated in a final interpretation. The background survey and Potential for Conflict Index (PCI) data supplemented the interview findings and created context and connections with earlier studies that used similar quantitative approaches. The conclusions and recommendations stemming from
the analyses of these data apply foremost to this study area, and may have relevance for other mountain resorts addressing human–black bear encounters.

1.7 Assumptions

As I began this research I was mindful of the assumptions I was making not only about the situations in this study, but others involving human–wildlife conflicts. One, most people want to coexist peacefully with wildlife. Two, the messages we hear about bears leave us with the simultaneous feelings of wanting to see a bear, and not wanting to see a bear. Three, the troubles that surface around “problem” bears stem from a lack of positive encounters and experience with bears, and if there were opportunities for more positive encounters, these situations would evolve differently. Four, these assumptions are not shared by everyone. Five, the social-structural frameworks in which encounters occur could function more constructively to address the conflicts that arise when encounters with black bears become a problem.

1.8 The Researcher

The capacity of my values, experiences, and assumptions to influence the vantage points that I bring to this research can present limitations, and for these reasons I discuss them. As an environmental professional immersed in natural resource and land use issues through work in enforcement, environmental impact assessment, and the legal frameworks guiding these processes, I bring a strong sense of what is possible and probable in decisions that affect our environments, whether “natural” or built. Also, as a long-time volunteer working to protect and restore native habitat in city, state, and national parks, I feel a strong commitment and connection to my community. Work in a
public agency and a desire for these organizations to welcome community experience, and my love of being outdoors, also influence my perspectives. Studying, working, and recreating in natural environments and understanding the things that affect them give me a keen sense for balance in these systems. Lastly, 25 years living with animals, caring for them, and learning how they communicate with us suggest that these experiences can also make a difference in the way we respond to both situations and animals involved in a conflict.

To acknowledge the influences of my professional and personal experiences and guard against any limitations they may present, I took a number of measures over the course of the research. Through field notes and a reflective journal kept throughout the research it was possible to record and revisit not only my observations, but the observations and feedback of participants about the research. These reflections included grappling with boundary issues as a researcher/participant observer as well as my roles as a catalyst or instigator of ideas in the research, and even my demeanor as an interviewer (i.e., the expert, or the Columbo approach). These notes provided the basis for adjustments and modifications over the course of the study in how the interviews and background surveys were administered.

1.9 Rationale and Significance

Much of the motivation and rationale for this study stems from this researcher’s concern about the growing incidents of human–wildlife encounters where wildlife needlessly pay a price when sorting out a solution. Past studies rarely found public support for lethal means of addressing problem wildlife (Reiter, Brunson, & Schmidt,
yet these approaches persist as ways to address human–black bear encounters. Understanding more about the ideas we form about bears and the progression from encounter to problem to conflict is intended to shed light on opportunities for more peaceful coexistence and to promote less lethal ways to address these situations when they occur.

This research has both interdisciplinary and practical benefits. This study integrates ideas from wildlife management, human dimensions of wildlife studies, cultural anthropology, and conflict analysis and resolution. It differs from other research in that it seeks to understand the meanings and experiences of individuals and communities facing problem black bear encounters and use this information to explore less lethal, more peaceful ways to address problematic encounters through conflict analysis and resolution. On a practical level, this research also offers the potential for developing bridges between research and practice through the dual processes of conflict assessment and qualitative research coding. While the former process seeks to identify and understand issues, the later process notes patterns and relationships in how parties are making sense of things. While similar processes, they are different in practice, but offer the possibility for researchers and practitioners to collaborate.
2. LITERATURE REVIEW

2.1 Introduction

Wildlife and people encounter each other with increasing frequency as we move further into their habitat and they adapt to our presence in their space. These encounters involve a host of animals (e.g., bears, coyote, mountain lion, and deer) and reflect the types of habitats and edges that we encroach upon.

Evidence of communities around the United States struggling to deal with animal human encounters abounds in newspapers and other periodicals. Encounters with black bears are no exception. From Aspen (Simon & Herring, 2009) to the New York Adirondacks (Foderaro, 2009) and North Carolina (“Editorial: Bear Encounters on the Increase: Our Voice,” 2009) back to the West (Cooke, 2008; Howard, 2009), stories recounting encounters with bears occur regularly in the news. The responses to these rising situations range from adaptation to elimination. Over the past 10 years New Jersey has battled over the idea of reinstituting bear hunts. Even though alternatives like contraception were considered, hunting continued to resurface (December, 2005) as the best way to stem increased damage and nuisance reports. Over the four intervening years the governor continued to support non-lethal approaches and education to address the problems (Samuel, 2009). Then, after a series of lawsuits and appeals—all the way to the state Supreme Court—and a change in the governor’s office policy, bear hunting resumed.
in 2010 ("New Jersey Officials Ignore Public Sentiment and Approve Bear Hunt," 2010). While some communities lean toward hunting for relief, others believe that any program is doomed without public education that includes securing trash and teaching communities how to deal with nuisance bears (Holl, 2005). In cities across the country there are similar calls for public education, but not everyone is convinced of its effectiveness (Baruch-Mordo, 2011; Simon & Herring, 2009). Communities have approached wildlife entries as encroachments, and habituation as behavior changed for the worse. Attempts to limit animal attractants (pets, pet food, garbage) through education were deemed limited. While admitting the emotional character and difficulty of dealing with these situations, the best outcome in their view was elimination of the animals (Korosec, 2007). Still others believe the inevitable urban interface encounters call for a different approach – one that requires people to adapt to animals as they have adapted to suburbia while simultaneously keeping a comfortable space between them (Park, 2004).

Understanding the conflicts arising in human–bear interactions can emphasize two main approaches or themes. The first approach centers on understanding interactions between people and bears or other wildlife; the second approach emphasizes understanding interactions between people about bears or other wildlife. This literature review is organized according to these two approaches. Within each approach, it is also possible to identify distinct perspectives to creating this understanding.

Studies emphasizing the conflicts arising in human–bear interactions have a long history, and include at least three distinct perspectives. They have included
understanding bear behavior around people and modifying the bear’s behavior or the environment in which the interaction occurs. A second perspective has focused on understanding perceptions or attitudes about wildlife or bears, or wildlife value orientations as a way to anticipate and avoid problems arising when people and bears or other wildlife interact. A third, and more recent, perspective has emphasized modifying people’s behaviors (primarily through education) to prevent problems.

A second approach can focus on understanding the conflicts between people in problem people-bear interactions. Studies taking this focus have occurred much less. When these studies have occurred they primarily focused on “upstream” approaches such as policy and planning processes. Community participation in wildlife planning is a good example. Endangered species planning as in habitat conservation planning is another example of an “upstream” process that focuses on the interactions between people about wildlife. The environmental conflict resolution (ECR) field offers additional possibilities for understanding problem encounters between people about wildlife, but wildlife management and ECR have largely followed independent paths. ECR, meanwhile, has focused on distributive-type situations, or ones that have been provoked by a community’s need to figure out how they will share a limited amount of water, land or how much of a pollutant or pesticide they will tolerate in their environment. They have not focused, in large part, on community efforts to explore levels of tolerance for wildlife activity and intrusions.

With a focus on understanding more about the conflicts that arise in human–black bear interactions, this research extended into the realm of emphasizing and understanding
the human side of the interactions. The literature review attempts to map the progression towards understanding these encounters. Although ECR has emphasized public participation processes, assessing the actual problems arising between people and their sources were not evident in this search. While this study’s initial focus emphasized the intra- and interpersonal dimensions of these interactions, it became clear that these situations were also greatly influenced at the broader community level in this study area. The review concludes with some thoughts on the dynamics within communities in the development, escalation, and perpetuation of problems between people in black bear interactions.

2.2 Organizing the Literature: Themes for Studying Human–Wildlife Interactions

Examining conflict and assessing resolution possibilities requires an integrated approach. Social psychology and sociology provide one means for examining human behavior at the micro- and macro levels. Explicating and understanding how individuals and communities come to find meaning and make sense of things can provide further insights into these behaviors. One way to integrate these varied influences is through a three-worlds framework, or the premise that all conflicts take place in three worlds (material, social and symbolic) (Docherty, 1998).

The desire to understand human interactions with bears, both black and grizzly, is great and evident in the enormous body of materials that includes journal and newspaper articles, documentaries (Bertran, 2005; Herzog, 2005); (De Graaf & Cissell, 2001; Rubin, Sechler, & WNET, 2006), nonfiction (Shepard & Sanders, 1985), children’s stories (Mazur, Jepsen, & Sarina, 2008; McCloskey, Teller, & Dorner, 1948; Ward & Riverside,
1952) and even poems (Magarrell et al., 2000) and songs (Geisel (Dr. Seuss), 1967). The literature also supports a search for understanding and addressing conflicts that arise from human–wildlife (or bear) encounters through the three worlds (material, social, and symbolic) framework (Docherty, 2001).

2.2.1 The Material World: Studying Bear Behavior

Early studies centered on the material world and focused on understanding bear behavior. They examined attacks (Herrero, 2002; Rogers, Garshelis, & Chell, 1988), injury (Floyd, 1999; Herrero & Higgins, 1999, 2003) and the consequences of improper food storage (Townes, 2000). A recent study examined and compared the circumstances, age and sex of black bears involved in 59 fatal attacks over more than 100 years (1900-2009) (Herrero, Higgins, Cardoza, Hajduk, & Smith, 2011).

In recreation areas and parks, researchers proposed a model for assessing bear-human encounters in parks (Kerr & Wilman, 1988), studied patterns of interactions based on bear habitat, season, and location (frontcountry versus backcountry) in Denali National Park (Albert, 1991), types of attacks and season/location in Glacier National Park (DeChano, 2002), planning and redesigning campgrounds in grizzly habitat to reduce interactions (Creachbaum, Johnson, & Schmidt, 1998), hiker and grizzly behavior during encounters in Glacier National Park (Jope & Shelby, 1984), grizzly bear use and distribution relative to hiking and camping areas in the Jewel Basin Hiking Area in Montana (Mace & Waller, 1996), the circumstances of aggressive black bear behavior in Yosemite (Hastings, Gilbert, & Turner, 1986), and the risk of bear-human interactions at river campsites (MacHutchon & Wellwood, 2002). More recent studies examined brown
bear dispersion relative to approaching people (Sundell, Kojola, & Hanski, 2006) and bear densities (Smith, Herrero, & DeBruyn, 2005) to understand bear behavior and minimize problem interactions with people.

Others studies examined the effectiveness and costs of relocating grizzly bears (Blanchard, 1995), the likelihood of relocated black bears returning based on age, sex and distance (Landriault, Brown, Hamr, & Mallory, 2009), and black bear activity patterns in national parks (Matthews, Beecham, Quigley, Greenleaf, & Leithead, 2006) and where cities meet public lands (Lyons, 2005).

Recent studies expanding the focus on understanding bear behavior include ecological-based inquiries such as foraging behavior (food conditioning) (Breck, Lance, & Seher, 2009; Breck et al., 2008; Mazur & Seher, 2008), ecology of edges, climate effects (El Niño) and conflicts (Zack, Milne, & Dunn, 2003), bears and garbage dumps (Peirce & Van Daele, 2006), bear distribution and population studies (Beckmann & Berger, 2003), bear relocation studies (Beckmann & Lackey, 2004), spatiotemporal studies in urban areas/ terrain, (Baruch-Mordo, Breck, Wilson, & Theobald, 2008; Merkle, Krausman, Decesare, & Jonkel, 2011), and diversionary/ supplemental feeding studies (Partridge, Nolte, Zieglertrum, & Robbins, 2001; Rogers, 2011).

These studies primarily seek ways to address conflicts by understanding bear behavior and manipulating or adjusting the environment to prevent and avoid harmful encounters.
2.2.2 The Social World: Studying Human–Wildlife Interactions

As the influence of human dimensions and behavior on encounters became more clear (Madden, 2004), social scientists joined biologists in their efforts to understand human–bear or other wildlife interactions (the social world). Early research emphasized hunter satisfaction, non-consumptive uses of wildlife like bird watching, the economic values of wildlife tourism, and studies to support legal and political decisions (Manfredo, 1989). In the ensuing 10 years, human dimensions research and approaches remained limited in most wildlife management agencies, but the needs to embrace these approaches became evident as a more vocal public expressed a desire to participate in wildlife decisions (Bath, 1998, p. 350). Human dimensions research increasingly measured attitudes and perceptions as a way to gauge support for management actions and target education. Three main approaches are evident in these quantitative studies, which sought to learn more about attitudes and behaviors (theory of reasoned action), wildlife value orientations (Bright, Manfredo, & Fulton, 2000; Fulton, 1996), human perceptions of animals (Kellert, 1983), and normative beliefs (Zinn, Manfredo, Vaske, & Wittmann, 1998), as a way to gauge public opposition and support for a variety of wildlife management decisions (Harris, Shaw, & Schelhas, 1997).

According to the theory of reasoned action, behaviors result from the behavioral intentions produced under the dual influence of attitudes and subjective norms toward a behavior (Fishbein & Ajzen, 1975). In an effort to predict how individuals and communities might respond, studies applying the theory of reasoned action examined the effects of social influences and the source of information on backpacker behaviors in
grizzly bear country (Braithwaite & McCool, 1989), and attitudes toward wolf reintroduction (Pate, Manfredo, Bright, & Tischbein, 1996) and hunting (Teel, Krannich, & Schmidt, 2002). In another study the differences in attitudes between seasonal and permanent residents toward managing wildlife on public lands were compared in an area rich with lakes, mountains and forests (Clendenning & Kapp, 2005).

Building on the ideas of Ajzen and others, wildlife value orientations derive from the patterns and intensities of basic beliefs, which strengthen and define more general values. These values are not considered among fundamental values that define basic human needs. Rather, wildlife value orientations create consistency between the hierarchy of beliefs, attitudes, and behaviors toward wildlife (Fulton, 1996). Fulton reasons that this is why two individuals with the same first order value of universalism (equality and respect for others), but different basic beliefs could ultimately feel differently about hunting (p. 28). Studies focusing on these dimensions examined the influence of situational specifics and wildlife value orientations on normative beliefs toward wildlife management decisions (Zinn et al., 1998), how value orientations influence wildlife planning (Bright et al., 2000), how values change as a function of sociodemographic characteristics (Manfredo, Teel, & Bright, 2003), and how value orientations compare cross-culturally (Teel, Manfredo, & Stinchfield, 2007).

Studies including qualitative approaches to further understand wildlife value orientations are becoming more common. They have explored determinants of value orientations (DeRuiter & Donnelley, 2002), and the influence of wildlife media on value orientations (Champ, 2002). More recent studies included the development of an
interview instrument (Dayer, Stinchfield, & Manfredo, 2007) to test and extend the wildlife value orientation model to cross-cultural settings (Raadik & Cottrell, 2007; Tanakanjana & Saranet, 2007; Zinn & Shen, 2007). Not only did preliminary research using the instrument have utility in examining cross-cultural wildlife value orientations, it also detected differences in orientations (Zinn & Shen, 2007), needs for fine-tuning (Jacobs, 2007), and generated comments on the scope of its applicability (Kaczensky, 2007). Although the goals vary, most studies imply, or state explicitly, the hope for helping with wildlife conflicts by predicting both the potential for controversy (or conflict) and the need for ways to avoid or reduce it (Teel, Krannich, & Schmidt, 2002).

Early studies examining human perceptions of animals integrated attitudes, values, and beliefs through three components (Kellert, 1983). Human perceptions were distinguished by affective (feelings and emotions), cognitive (knowledge and factual understanding of animals), and evaluative (beliefs and values) components. The distinctions between these components illustrate not only the varied ways we think and feel about animals but also provide a way to consider how these components operate separately and together while influencing our stance toward animals. Unlike Ajzen who studied attitudes to predict behaviors, Kellert emphasized attitudes as one component of basic perceptions, which can change through later life experiences. This interpretation is evident in the way the three components relate to four additional concerns: basic attitudes, attitudes toward specific animal-related issues, knowledge, and symbolic perceptions of animals (Kellert, p. 242). The evaluative, affective, and cognitive
components each variously influence attitudes, knowledge and symbolic perceptions of animals (Kellert).

Research, both past and present, has described methods for and created typologies to understand our stance toward animals. Kellert presented one such typology of 10 basic attitudes (Kellert, 1983). His descriptions (See Table 2.1) offered a systematic way to conceptualize the many possible dimensions at work in a conflicted situation (p. 248).

Further studies and analyses found 4 of the 10 attitudes most prevalent among Americans: humanistic, negativistic, moralistic, and utilitarian (Kellert, 1983).

Table 2.1 Attitudes Toward Animals (Kellert, 248, 1983)

<table>
<thead>
<tr>
<th>Attitude</th>
<th>Brief Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Naturalistic</td>
<td>Primary interest and affection for wildlife and the outdoors</td>
</tr>
<tr>
<td>Ecologistic</td>
<td>Primary concern for the environment as a system, for interrelationships between wildlife species and natural habitats</td>
</tr>
<tr>
<td>Humanistic</td>
<td>Primary interest and strong affection for individual animals, principally pets</td>
</tr>
<tr>
<td>Moralistic</td>
<td>Primary concern for the right and wrong treatment of animals, with strong opposition to exploitation or cruelty toward animals</td>
</tr>
<tr>
<td>Scientific</td>
<td>Primary interest in physical attributes and biological functioning of animals</td>
</tr>
<tr>
<td>Aesthetic</td>
<td>Primary interest in the artistic and symbolic characteristics of animals</td>
</tr>
<tr>
<td>Utilitarian</td>
<td>Primary concern for the practical and material value of animals or the animals habitat</td>
</tr>
<tr>
<td>Dominionistic</td>
<td>Primary interest in the mastery and control of animals typically in sporting situations</td>
</tr>
<tr>
<td>Negativistic</td>
<td>Primary orientation toward an active avoidance of animals due to dislike or fear</td>
</tr>
<tr>
<td>Neutralistic</td>
<td>Primary orientation toward a passive avoidance of animals due to indifference</td>
</tr>
</tbody>
</table>
Gore et al. expanded the focus on perceptions and examined notions of risk related to black bear encounters (Gore, Knuth, Curtis, & Shanahan, 2006b; Gore, Knuth, Curtis, & Shanahan, 2007a, 2007b).

Gore’s research compiled nine constructs (See Table 2.2) based on literature reviews and appropriateness to black bear encounters, and examined their capacity to influence risk perceptions in campers and campground hosts. Although study participants generally considered the risk of a conflict in a bear encounter to be low, eight of the nine constructs were found to be salient (Gore, 2006b, p. 40). These constructs were further classified into two groups based on camper-participants interviews. The first group, agency capacity/responsiveness, included: volition, trust, and responsiveness of wildlife managers; the second group, individual capacity/knowledge included: perceived certainty, dread, and frequency of an encounter, capacity to control risks, and the intensity of exposure to risk. Subsequent analyses refined the nine constructs, initially renaming three (Gore et al., 2007a), and then reducing the nine to six by eliminating environment, dread and control (Gore et al., 2007b). Gore et al.’s analyses broaden the idea of perceptions to include risk related to human–black bear interactions, and offer yet another array of factors and level of analysis for understanding these situations including both intra- and extra-personal (agency response) feelings about risk.
Table 2.2: Constructs Related to Human–Black Bear Conflict Risk Assessment (Gore et al., 33, 2007a)

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Brief Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volition</td>
<td>How deliberate or accidental one feels the exposure to black bear risks are</td>
</tr>
<tr>
<td>Trust</td>
<td>Belief in the ability of a wildlife manager to manage risks from black bears</td>
</tr>
<tr>
<td>Responsiveness</td>
<td>Feelings about how quickly and to what degree a wildlife manager would react to one’s exposure to risks from black bears</td>
</tr>
<tr>
<td>Agents</td>
<td>Degree of certainty one feels about the causes of exposure to risks from black bears and how to prevent them</td>
</tr>
<tr>
<td>Dread</td>
<td>Feelings of anxiety, worry, fear about exposure to risks from bears</td>
</tr>
<tr>
<td>Frequency</td>
<td>How chronic one feels the exposure to risks from black bears is</td>
</tr>
<tr>
<td>Seriousness</td>
<td>How severe one feels exposure to the risks from black bears is</td>
</tr>
<tr>
<td>Control</td>
<td>Degree of one’s ability to prevent exposure to risks from black bears</td>
</tr>
<tr>
<td>Environment</td>
<td>How much environmental and human-induced factors affect risk</td>
</tr>
</tbody>
</table>

2.2.3 The Symbolic World

Studies of the material and social world share a common practical or applied theme and goal of understanding or predicting behavior to address human–wildlife conflicts. Studies examining our symbolic relationships and experiences of nature and wildlife, however, while also numerous, focus more on the symbolic (Lawrence, 1990) and mythical perceptions and roles (Gelo, 1987) and philosophical understandings. Animals, and bears in particular, have provided many ready symbolic and mythical functions and references in our society, from the vicious beasts we conquer in search of Manifest Destiny (“D Boon cilled a BAR on this tree 1760”) (Gelo, p. 144) to the helpless creature needing protection (drawing the line) and ultimately the cuddly teddy bear that provides both comfort and relief from stress in times of crisis (Lawrence, 1990).
Studies that examined symbolic perceptions of animals focused on likes, dislikes, attractions, subjective feelings, and their function as “metaphorical devices to enhance communication and thought” (Kellert, 1983, p. 260). Animals have been used in children’s stories as metaphors to differentiate psychosocial issues and dilemmas, to confront fundamental human conflict, and linguistically in the use of profane or vulgar language (p. 261). Kellert found most empirical research focused on likes and dislikes of particular species. One of his earliest studies found the factors most important to influencing symbolic perceptions included: aesthetics, presumed intelligence of the animal, size, perceived danger to humans, predatory tendencies of the animal, its skin texture and morphology, and relationship to society (companion, work, game, pest, etc.) (p. 262).

Understanding the nature of the relationships we form with animals and wildlife can also provide insights into the conflicts that may or may not result in human–wildlife encounters. One study examining memorable wildlife encounters across a range of attributes within social, behavioral (wildlife-caused), environmental and human dimensions (Chapman, 1999) created a typology for these encounters and examined park visitor knowledge about wildlife and its protection (Chapman, 1999). This study and three other studies examining how we experience nature, wilderness, and wildlife (Farber & Hall, 2007; Patterson, 1998), and levels of tolerance around bears (Green, Masters, & Higley, 2004) support the possibility for positive outcomes. The potential for reciprocal bonding between people and black bears during research (Burghardt, 1992), cultural influences on the way we develop relationships with animals (Lawrence, 1995), and the
spectrum of relationships we have with animals we call pets (Lawrence, 2003) also support the notion that human–wildlife encounters can have multiple and varied endings.

2.3 Wildlife Interventions

Wildlife conflict interventions share a similar long history with studies intended to understand behaviors or cultural influences on human–wildlife interactions. Initially viewed as animal damage control and problem wildlife management, the names and activities associated with these approaches have evolved from wildlife damage management to human–wildlife conflict management (Messmer, 2000).

2.3.1 Changing Bear Behavior in Human–Wildlife Interactions

Efforts to address situations involving wildlife problems have generally focused on understanding or changing wildlife behavior. Simple deterrence (Breck, Lance, & Callahan, 2006), relocation (Beckmann, & Lackey, 2004; Blanchard, 1995; Clark, van Manen, & Pelton, 2002; Landriault et al., 2009; Spencer, 2007), and active non-lethal aversive conditioning (Beckmann, Lackey, & Berger, 2004; Mazur, 2009; Rauer, Kaczensky, & Knauer, 2003; Spencer, 2007) are among these efforts. Addressing problem bear behavior has also included measuring the acceptability of (Agee & Miller, 2009; Reiter, 1999) and use of lethal damage control (Reiter, 1999; Wittmann, 1998). While state managed hunting programs are also used indirectly to address problem black bears (Hristienko, 2007), questions remain as to the efficacy of hunting in dealing with the actual cause of a nuisance situation (Treves, Kapp, & MacFarland, 2010). Finally, even using environmental cues (El Niño and La Niña) can help to forecast the needs for additional resources to plan for increased bear incidents (Zack et al., 2003).
2.3.2 Changing Human Behavior in Human–Wildlife Interactions

While efforts to change wildlife behavior or remove the wildlife were most common in the past, the interest in and desire to change human behavior and to monitor those changes is ever-growing. Education programs represent the main focus of these efforts. How education programs are communicated and heard (Lackey, 2003) and ways to measure their success (Gore, Knuth, Curtis, & Shanahan, 2006a) seek to understand and improve upon the effectiveness of these efforts. Though target populations confirm hearing and learning from messages (Lackey, 2003) and are supportive of behaviors to reduce human–bear interactions (Campbell, 2012), they do not respond with the same rates of compliance to reduce interactions suggesting other factors at work. Moreover, the success of education programs in addressing human–bear conflicts has most often been determined by measuring the decrease in bear-related complaints to wildlife authorities (Gore et al., 2006a). The variability in complaints (black bear-residential human conflict, black bear-visitor human conflict, lethal control, misperceptions about bears, conflict which counteracts conservation efforts and preventable access to garbage and unnatural food) masks the accuracy of the situations addressed, however. Including explanatory variables such as human dimensions, weather, availability of natural food, and numbers of bears “harvested” as additional measures, which also affect the occurrence of bear-human conflicts, could provide a more accurate understanding of the role education programs play in addressing these situations (Gore et al., 2006a; Howe, Obbard, Black, & Wall, 2010)).
Four recent studies have expanded efforts to evaluate the effectiveness of bear education programs by monitoring for changes in human behavior (Baruch-Mordo, Breck, Wilson, & Broderick, 2011; Campbell, 2012; Gore, Knuth, Scherer, & Curtis, 2008; Merkle et al., 2011). These studies whose results suggest that Bear Smart/ Aware educational programs have mixed (Campbell, 2012, Merkle, 2011) to little effect (Baruch-Mordo, 2011) on changing behavior were collectively based on examining attitudes, knowledge and behaviors before and after exposure to bear education programs. Gore et al. (2008) examined black bear knowledge, experience with residential human–black bear conflict and willingness to change behavior in two treatment and reference towns, and did not find any short-term evidence (over a one-year period) of changes in behavior based on survey responses. Baruch-Mordo et al. (2011) used three approaches to evaluate changes in behavior following (1) on-site education in housing complexes and construction sites, (2) Bear Aware education in four residential areas, including two treatment neighborhoods, and (3) increased enforcement of unsecured dumpsters in four alleyways of a commercial area. This study found that enforcement effected changes in behavior more than educational approaches. The authors concluded that education alone had little impact on the neighborhoods studied adopting bear prevention measures. Merkle et al. (2011) and Campbell (2012) examined both attitudes and behavioral changes in their studies using residential surveys and property audits. Merkle et al. used a self-reporting approach to examine changed behavior while Campbell and Baruch Mordo conducted property audits. Merkle found increased support over a four-year period for management interventions overall, with the greatest support for capture and
relocation and the least support for lethal removal. In addition to increased support for management interventions, the study found a decrease in outdoor garbage storage. Campbell examined both attitudes and behaviors in two communities before and after implementing a Bear Smart program. While the author found positive attitudes toward Bear Smart advocated preventive practices, including decreases in three attractants (garbage, pet food and BBQs) in one of the communities, he considered these effects small. Campbell noted, in particular, that despite positive support of preventive measures in the survey, property audits indicated no change in behavior with respect to bird feeders especially—a known attractant that is also addressed in Bear Smart materials—and in proper storage of BBQs.

These studies provide insights into both the potential for positive impacts from bear education programs as well as the weaknesses in how the programs are received. Together these studies begin to create a framework for understanding the distinctions between supporting prevention in theory versus practice and offer suggestions for ways to further explore the factors not fully understood that prevent educational approaches from exerting a greater effect.

The parallel development and rare union of both wildlife intervention and environmental conflict resolution approaches meant a “second” literature capturing the insights and experience of assessing and addressing environmental conflict largely escaped the eyes of wildlife professionals. With the distance between these two approaches only beginning to narrow, a call for integrating the ideas most hopeful for addressing wildlife encounters peacefully is an obvious next step (Dickman, 2010;
Peterson, Birckhead, Leong, Peterson, & Peterson, 2010). While cases of joining wildlife intervention and conflict resolution approaches are evident, conflict resolution approaches, including those focusing on environmental conflicts, remain largely untapped.

2.4 Interactions Between People about Wildlife and Black Bears

2.4.1 Environmental Conflict Resolution: Past and Present

Environmental dispute resolution grew out of the field of industrial relations (Susskind, 1986). Early research and practice focused on environmental mediation (Buckle & Thomas-Buckle, 1986; Moore, 1996), and included six categories of mediated environmental disputes: land use, natural resource management and use of public lands, water resources, energy, air quality, and toxics (Bingham, 1986). The practice now also includes consensus building, collaboration, collaborative planning, collaborative natural resource management, and community-based conservation, among others (Dukes, 2004). Environmental conflict resolution (ECR) has focused on negotiated rulemakings (reg-negs), waste management mediations, watershed collaboratives, multi-stakeholder watershed partnerships, land use mediations, and evaluations of these processes. Studies have examined settlement rates, evidence of change in participants’ relationships and conflict management skills, participants satisfaction with the process, third parties and outcomes, the comparative savings of an ECR process, and the differences between employing an independent third party or not. Areas identified as ripe for research include the influences of public versus private sponsorship of an ECR process, comparisons between upstream (planning and policy efforts) and downstream (placed-based efforts)
ECR processes and how well ECR processes produce positive results for the environment (Dukes, 2004). Emerson et al. (2004) further elaborated the needs for ECR research by calling for systematizing the analyses through consistent and uniform data collection using the most recent technological tools so that data are decentralized, accessible to all, and collected longitudinally (Emerson, O'Leary, & Bingham, 2004). Scarce among the cases discussed in the environmental conflict resolution literature are practices focusing on wildlife species. Collaborative processes, often involving an endangered species, are the notable exceptions (Yaffee & Wondolleck, 2003).

2.4.2 Wildlife Management Incorporating ECR Approaches

Environmental conflict and dispute resolution practices are evident in wildlife settings over the past 10 years or so, most often for public involvement in wildlife management and planning. Decker et al. characterized the evolving range of approaches in public involvement as: authoritative, passive-receptive, inquisitive, transactional, and co-managerial or delegatorial (Decker & Chase, 1997). Public involvement studies examined both the processes and the relationships between the parties. Developing strategies to involve stakeholders in wildlife management conflicts (Chase, 2002), measuring the differences and attendant benefits between active and passive involvement in collaborative bear management planning (Lafon, 2004), and conducting workshops between wildlife managers and animal activists to improve stakeholder analysis by understanding activist views and philosophies (Thompson & Lapointe, 1995) illustrate a few of these cases. Chase (2002) and Treves’ (2006) studies are examples of instances where traditional wildlife management strategies included co-management as an option.
for involving stakeholders in decision-making (Treves, Wallace, Naughton-Treves, & Morales, 2006). More often studies examined ways to obtain public input because it is necessary, and assume that wildlife agencies will remain the sole decision-makers. While legal mandates may have prevented agencies from sharing decision-making (Chase, 2002), the need to engage the public in management decisions at some level continues to grow.

As environmental conflict resolution approaches have been increasingly incorporated into wildlife management decision-making processes, research reported in the peer-reviewed literature has focused on the analysis and engagement of local communities in human–wildlife conflicts as well as several instances of case studies in which some range of an ECR process has been employed. Early analyses used decision analysis in conjunction with conflict resolution approaches to address a public policy dispute over the captive breeding of an endangered species (Maguire & Boiney, 1994) and to measure the acceptability of management options for overlapping game and protected bird species (Redpath et al., 2004). Studies examining approaches for public involvement in wildlife management have included discussions of participatory intervention planning (Treves, Wallace, & White, 2009) and the important components for a successful collaboration (Raik, Lauber, Decker, & Brown, 2005), especially building capacity in the participants (Raik, Decker, & Siemer, 2006). Instances of communities engaging in wildlife decision-making processes are diverse and include a range of ECR approaches. Among them are a mediated wolf management planning team representing points of view versus organizations (Todd, 2002), problem-solving
workshops (Clark, Begg, & Lowe, 2002), Q methodology with participants involved in large carnivore conservation in the U.S. Rocky Mountains (Mattson, Byrd, Rutherford, Brown, & Clark, 2006), a grizzly bear recovery outreach project (Morgan, 2004), and even a bear management simulator developed to promote education and test drive three bear management scenarios (Siemer, Decker, Otto, & Gore, 2007). Some of these efforts also included evaluation phases (Morgan, 2004; Todd, 2002).

2.5 Bridging Human–Wildlife and Human–Human Interactions in Wildlife Interactions

While the call for interdisciplinary collaborations to study not only human–wildlife conflicts but also conflicts between people about wildlife is supported, evidence of these partnerships in the literature are few (Dickman, 2010). As this research observed, these studies are needed to understand the interactions at both the individual as well as the community levels. Examining these dimensions in a resort community engenders the added need to understand the interactions of distinct communities within a resort.

2.5.1 Assessing Problems Arising Between Individuals and Wildlife

The literature reflects a long history of studying residents attitudes toward tourism development in resort areas (Hao et al., 2011), but the emphasis on impacts to wildlife is often folded into environmental criteria (Kaltenborn, 2009; Seremba, 1991). Clendenning’s study is a notable exception with its focus on comparing the attitudes of permanent and seasonal residents toward wildlife management on public lands (Clendenning, 2005). Patterson et al., expands these concepts by emphasizing the need to embrace collaborative approaches in decision-making as wildlife management is
increasingly urbanized (Patterson, 2003). While Patterson’s study areas are not located in resorts, the intersection of local and newcomer communities in an urbanizing rural area mirrors a resort community dynamic.

Patterson makes a case that urbanization and urbanizing rural environments have created needs for new approaches in wildlife management (Patterson, Montag, & Williams, 2003). These needs are evident in two ways. First, residents of urbanized environments are less connected to and experienced with wildlife, and instead view wildlife increasingly through emotional and symbolic lenses. Second, urbanizing rural environments face changes in the voices brought to wildlife issues, and wildlife conflicts are not simply about managing wildlife, but include larger socio-political concepts (p. 171). He illustrates the knowledge generation and “social problem mapping” he advocates through two case studies and distinguishes these approaches from collaboration viewed as an “improved version of public involvement” (p. 174). Responding to concerns that collaborative decision-making could replace science in a decision-making process, the authors suggest bridges between the two by (1) integrating science into decision making so that all parties can access, evaluate and comment on scientific claims, (2) using science as a research tool to map the nature and extent of the problem and express it in ways accessible to all parties, and (3) acknowledging the political nature of knowledge and decision making to enhance the capacity of traditionally underrepresented or voiceless parties to participate, understand, and contribute to decisions (p. 175). The collective bridges and interdisciplinary approaches in Patterson’s collaboration reflect the
blending of wildlife management and environmental conflict resolution envisioned to both understand and engage parties in conflict about wildlife, including black bears.

2.5.2 Assessing Problems Arising In Communities about Wildlife

In addition to the differences that earlier literature and Patterson highlight regarding a transition and/or juxtaposition of utilitarian versus conservation-minded vantage points toward wildlife and the environment, resorts or urbanizing communities face the added challenges of fractures within the community itself. Halseth refers to the multiple communities functioning separately, but sharing the same space (Halseth, 1993) in a Canadian cottaging area. Slemp found these fractures contribute to social fragmentation and a decay of a sense of community (Slemp et al., 2012). The capacity of communities to address problems or challenges is greatly compromised through these fractures and loss of civic capital (Potapchuk & Crocker, 1999). Coleman adds “extraordinary measures are needed to integrate” newcomer and native communities that are distinctly separate. Otherwise they can remain separate and distinct groups “for as long as a hundred years” (Coleman, 1957).

Wondolleck provides insights in recognizing these separations through the use of identity and characterization frames (Wondolleck, Gray, & Bryan, 2003). Identities can be descriptive (I’m a student), draw connections (I’m a volunteer.), or make distinctions between people and draw boundaries (I’m a full-time resident. I.e., I am not a seasonal visitor.). This distinction can also lead to boundaries between “us” and “them” or “insiders” and “outsiders”. Characterizations can be similarly descriptive without judgment (She’s a landscaper.), or include positive or negative attributions. Wondolleck
(2003) adds that negative attributions can deligitimize others (They don’t live here.), or can be used to assign blame (Tourists are the biggest problem.). Biased judging, according to Wondolleck, functions to hold others accountable when problems arise while exempting ourselves (p. 209). Over time these attribution errors can lead to increasingly negative views of them, or outsiders, and conflict.

Coleman (1957) suggests another way to recognize the dynamics of an emerging community conflict is through changes in issues and social organization in the community that occur. Issues, especially where differences in values exist, tend to change in three ways. Specific issues give way to general issues. For instance, the occurrence of problem bear encounters is blamed on an increasing bear population with demands to reduce it. Original issues also morph into new and different issues. Problem encounters with bears now also include problems with the systems for responding to them. Finally, initial disagreements turn into antagonism. Parties seeking relief from a bear break-in fear the real and perceived threats of retribution when requesting a depredation permit to remove a bear. These changes are also evident in the identity and characterization frames Wondolleck describes. Changes in social organization in the community are recognizable through polarization of social relations (friendships break off, communities break into clusters, i.e., insider/outsiders, us/them), formation of partisan organizations, the emergence of new leaders (who are rarely moderates), the neutral public positions in community organizations whose members lack consensus, and the increasing use of word-of-mouth communication, including distortions, rumors and inflammatory remarks (pp. 12-13).
2.6 Summary

Our interest and desire to understand bears and their behavior in the human environment are well supported by the many approaches found in a literature review. From material to social and symbolic references it is possible to gain a sense of how these subjects have been studied and where we can look to learn more. Wildlife biologists and ecologists first studied bear-human encounters. Over time, research priorities grew to include human dimensions. This progression is evident as one searches the literature for possible insights, but there are limits. Still, the call and need for advancing these queries are evident in the diversity of situations where people and wildlife increasingly encounter one another and conflicts between people result.

As I embarked on this research through an initial literature review I followed my hunches about what I thought might be pointing encounters toward conflict. Despite the literature’s extensive characterization of how people view and value animals and what has been done to prevent or address encounters, it was still not fully clear what transforms an encounter to a conflict. Moreover, it was not clear what things would work best to address these encounters, especially in non-lethal ways. The research paths already explored have informed these situations a great deal; the paths ahead will hopefully induce and support those individuals exploring the edges of new ideas.
3. METHODOLOGY

3.1 Introduction

The goal of this research was to learn more about human–black bear encounters that become problems or conflicts. Its aims were to increase our understanding of the intra- and interpersonal and social-structural dimensions that influence the conflicts and explore possibilities for more peaceful approaches when they occur. The research focused on learning more about what influences (1) the ideas participants form about black bears and (2) the role these ideas play when deciding on ways to address problem human–black bear encounters.

Using simultaneous mixed methods the research explored five research questions:

(1) What sorts of messages do the participants receive about bears?
(2) What role(s) do these messages play in forming ideas about black bears?
(3) What role(s) do these ideas play when making decisions about intervening in black bear encounters?
(4) What is a problem black bear, and what is the bear doing that makes him or her a problem?
(5) What factors will contribute to more peaceful coexistence with black bears?

It was through these broadly stated research questions and more focused interviews that the researcher sought to understand more about the participants’ ideas and beliefs about
black bears and the roles those ideas play in mediating or facilitating a problem encounter.

The rationale for adopting a mixed methods approach was to blend the strengths of approaches used in conflict analysis and resolution with methods used to study human–wildlife conflicts. Emphasizing qualitative methods through semi-structured interviews, supplementing the interviews with survey research that included significance testing, and evaluating the potential for conflict between participants accomplished this goal. This research design included exploring how participants made sense of encounters and problems with black bears and provided a simple and brief way to express opinions about black bears and problem solving through the background survey.

The sections that follow describe in detail the methods and rationale employed in this research to accomplish the stated goals. These sections include descriptions of the mechanics of the research, the approaches that encouraged reflection, and the adjustments that were made to best understand the nature of the conflicts that develop in black bear encounters and the circumstances that contribute to addressing them peacefully. The rationale for the research design restates the motivations for using a mixed methods approach and its benefits. Describing the research study area includes an emphasis on four dimensions or environments as a way to not only describe the area, but to create context. These dimensions included the human environment, the natural/terrestrial environment, the built environment, and the legal/political environment. The research sample included interview participants, survey respondents, and numerous documents collected and reviewed to understand frameworks or to support the research as
memoranda, notes, or summaries of meetings. The design overview serves as an introduction to the approaches used to frame the research and the methods to collect and analyze data. The sections on data collection and analysis and synthesis address and discuss each of the qualitative interviews and quantitative background survey methodologies separately. A section on ethical considerations discusses concerns about confidentiality and the approaches taken to protect the privacy of the participants. Sections addressing the trustworthiness of the research acknowledge and discuss the differences between the credibility, or validity, of the research from both qualitative and quantitative perspectives as well as issues of reliability and transferability for a largely qualitative research project. The chapter concludes with some thoughts on the limitations of the research and a chapter summary which recaps the chapter and provides a transition to the following chapter on the research findings.

3.2 Rationale for Mixed Methods Research Design

The rationale in the design for this research was to emphasize and adopt an approach that would bridge conflict analysis and resolution approaches with other human–wildlife conflict research. Adopting a mixed methods approach in the research employed and emphasized ethnographic methods best suited for understanding how parties in conflict make sense of their worlds and the processes they use to navigate and reconcile the conflicts while acknowledging and expanding on quantitative methods employed in human–wildlife conflict research. The use of mixed methods has been adopted by researchers in numerous disciplines including education, sociology, and nursing, among others (Leech & Onwuegbuzie, 2009).
In keeping with the numerous typologies described for a mixed methods research design, this research embraced the three dimensions most often referenced: (1) level of mixing (partially versus fully), (2) time orientation (concurrent versus sequential), and (3) emphasis of approaches (equal status versus dominant status) (Leech & Onwuegbuzie, 267). The partially mixed concurrent dominant status design used in this research reflects the dominant use of qualitative ethnographic approaches in semi-structured interviews concurrently with a quantitative background survey and significance testing, each of which were conducted and analyzed separately, and then compared and interpreted (i.e., in a partial mixing). Utilizing this blending of qualitative and quantitative approaches in data collection and analysis will hopefully prompt more interest in research that bridges the largely socio-, anthropological worlds with the wildlife/ecological worlds to more fully understand and address the growing concerns around human–wildlife conflicts.

3.2.1 Mixed Methods Approaches and Terms

The mixed methods approaches used in this research meant that there was also a mixing of the terms typically used in either a solely qualitative or a quantitative approach. The goal here is to create consistent, understandable terms and organization that both quantitative and qualitative researchers will recognize and translate to the terms used in their respective research environments.

Quantitative studies typically refer to the “study areas” which encompass the physical, ecological, and geographical environments of their research areas. Qualitative studies most often refer to research settings, which encompass similar dimensions but emphasize an overall context for the research. This research refers primarily to the study
area, but includes dimensions of the human, anthropological environments to create context as well.

The samples in this research included both participants in semi-structured interviews and respondents to a background survey. In most cases the actual individuals were one and the same, but both terms are used here as they refer to the particular methodological approach discussed. The specific use of these terms is especially evident in the chapters discussing the outcomes of the research. Findings stem from participant interviews while results stem from the respondents’ responses to the background survey and subsequent significance testing and potential for conflict analyses.

Issues of trustworthiness include validity (Creswell & Plano Clark, 2007) or credibility, reliability, or dependability, and generalizability or transferability. Tashakkori and Teddlie suggest the term inference transferability as a way to encompass the settings and populations of quantitative external validity and the context or thick descriptions of qualitative transferability (Tashakkori & Teddlie, 2003). This project retained the use of the traditional quantitative and qualitative terms, validity and transferability, but attempted to simultaneously address the concerns of a mixed methods approach by providing thick descriptions, contexts, and audit trails of the processes used throughout the research and analysis. Details of these approaches are more fully discussed in the sections that follow and especially Section 3.9 Issues of Trustworthiness.

3.3 Research Study Area

Describing the human, the natural/terrestrial, built, and the legal/political environments helps to create an understanding of the multiple and intersecting
environments in which encounters occur and that participants must navigate when attempting to address a black bear encounter that becomes a problem.

3.3.1 Introduction

Located in the Lake Tahoe Basin (Basin) of California and Nevada, the research study area encompassed the communities that circle Lake Tahoe. The Sierra Nevada in California bounds the Basin on the west and the Carson Range in Nevada bounds the communities on the east. Multiple jurisdictions intersect in the Basin resulting in a fairly complex environment in which to navigate problem encounters when they arise. They include approximately 63 distinct neighborhoods and communities, and four counties in two states, as well as federal and state public lands that were established for both resources (U.S. National Forests) and recreation (California and Nevada State Parks). South Lake Tahoe and Carson City are the only incorporated cities within the Basin; Reno is nearby to the east. The Basin supports a year-round population of about 55,000 mainly along the lakeshore. Lake Tahoe is a popular resort area and promotes both winter and summer recreation. Recreational activities within the Basin include casino gaming in Nevada, alpine and cross-country skiing, golfing, water sports, hiking, fishing, camping, and bicycling. The rich amenities of this mountainous area attract a diverse crowd, both permanent full-time and part-time seasonal residents and visitors, which creates a continually changing human environment. In addition to the communities surrounding the lake, the Washoe peoples have been long-time residents, fishing and hunting the area for centuries before explorer John C. Fremont first came upon the area in 1844.
3.3.2 Human Environment

The communities that comprise the study area’s human environment are related by geography, residency, employment, and visitation. The human environment includes full-time residents and both new and long-time part-time residents, visitors, and seasonal workers. It also includes a variety of public agency employees who are also full-time or part-time residents, seasonal workers, or non-residents. The state of the human environment constantly evolves through these predominant groups that the participants comprised.

Tahoe’s full-time population is just under 55,000 with an annual visitation of 3 million (Tahoe: State of the Lake Report 2012). North Shore populations totaled around 19,500 while South Shore populations totaled 36,000 (Regional Plan Update, Draft Environmental Impact Statement, Affected Environment, Population, Employment and Housing, 2012). Around 87% of North Shore employees come from outside the area, while 62% of South Shore employees are from outside the area (Regional Plan Update, Draft Environmental Impact Statement, Affected Environment, Population, Employment and Housing, 2012). Fourteen neighborhoods or communities in California and 15 neighborhoods in Incline Village comprise the North Shore (Incline Village Board of Realtors MLS Map, n.d.) while 19 neighborhoods or communities comprise the West Shore (North Tahoe/Truckee Neighborhoods, n.d.). The Southeast Nevada Lakeshore includes 11 distinct communities and neighborhoods (Stavinski, 2013), while South Lake Tahoe includes three distinct areas (L. Lovell, personal communication, 2013) in addition to several other communities in El Dorado County. In 2010, owner-occupied homes
were estimated at 27%. Renter-occupied units accounted for 22% of the housing stock and seasonal rentals and vacation homes accounted for 51% of the housing units for the same year (Regional Plan Update, Draft Environmental Impact Statement, Affected Environment, Population, Employment and Housing, 2012). The Tahoe Metropolitan Planning Organization (TMPO) estimated that 44% of all housing regionwide was used seasonally as vacation homes. Second homeownership varies around the region and ranges from 65% in Placer County to 55% in Washoe and El Dorado Counties, and 49% in Douglas County (Regional Plan Update, Draft Environmental Impact Statement, Affected Environment, Population, Employment and Housing, 2012)). With over 50% of the housing used for seasonal or vacation rentals, and a relatively small owner-occupied community, the turnover in occupancy based on residency alone means the human environment constantly evolves.

Recreation opportunities and destinations abound in the Tahoe Basin, especially with 85% of the land in the Basin in public ownership. While the scenic beauty of Lake Tahoe alone would attract visitors, the many developed destinations and activities create further incentives to visit. Planned recreation encompasses three broad categories: dispersed, developed, and urban (Regional Plan Update, Draft Environmental Impact Statement, Affected Environment, Recreation, 2012). The federal national forest’s Lake Tahoe Basin Management Unit (LTBMU) manages over 75% of the public lands. California State Parks manages nine parks and recreation areas within the Basin. Nevada Division of Parks collectively manages five separate management areas as the Lake Tahoe–Nevada State Park, and jointly manages the Van Sickle Bi-State Park with the
California Tahoe Conservancy. Four local jurisdictions also manage beaches, campgrounds, day-use areas, lakeside parks, and boat launch facilities while private recreation destinations include golf courses, swimming pools, playgrounds, and community facilities.

A 2009-2010 US Forest Service visitor use survey for the area estimated over 5.5 million visits to the LTBMU, while an earlier survey for 2004-2005 estimated nearly 8 million visits. In both cases, the top reasons given for visiting the area included downhill skiing, viewing natural features, hiking/walking, viewing wildlife, and driving for pleasure (2005 and 2010) (Regional Plan Update, Draft Environmental Impact Statement, Affected Environment, Recreation, 2012). Other popular recreation activities and destinations included (during the summer): beaches, boat launching facilities, day-use areas, developed camping, golf courses, marinas, participant sport facilities, recreation centers, riding and hiking trails, paved multi-use trails, and visitor centers; winter destinations included cross-country skiing, downhill skiing, and snowmobile courses, among others. Through the Tahoe Regional Planning Agency (TRPA) and the TMPO’s housing distribution data and US Forest Service visitation surveys it is possible to imagine the wide and ever-changing range of visitors who enjoy Tahoe’s many recreational destinations.

3.3.3 Natural/Terrestrial Environment

The natural/terrestrial environment of the Lake Tahoe Basin encompasses the Lake Tahoe watershed, which includes state park lands and U.S. National Forest lands in California and Nevada, private lands primarily rimming the Lake Tahoe shoreline, and a
diverse community of aquatic, plant, and wildlife. The natural lands that both people and terrestrial life share in the study area are described here.

The Tahoe Basin, composed primarily of U.S. Forest Service lands (75%), is part of the Sierra Nevada ecoregion. The Basin includes portions of 6 ecological subsections within the 21 that define the Sierra Nevada ecoregion (Regional Plan Update, Draft Environmental Impact Statement, Affected Environment, Biological Resources, 2012). Among the predominant plant communities are Jeffrey Pine, mixed conifer, white fir, and red fir. At higher elevations primary communities are mixed subalpine forest, subalpine meadow, and red fir series. TRPA’s RPU (2012) listed 22 different vegetation communities and wildlife habitats totaling nearly 332,000 acres. Urban acreage accounted for 6,725 acres of that total, or a little over 2%. Sixty percent of the Tahoe watershed forests were clearcut beginning in the mid-19th century (1859). The forests of today are less than 150 years old and even-aged, and former fire-dependent trees species such as pines have been replaced by less fire-tolerant firs (Murphy, 2000; Regional Plan Update, Draft Environmental Impact Statement, 2012). Residential and commercial development has also altered species composition through landscaping and the introduction of non-native species. Moreover, urban development has filled and paved 75% of marshlands and 50% of meadowlands (Murphy, 2000). The Tahoe Keys development filled and fragmented 750 acres of fully functioning wetlands in Rowlands Marsh, which totaled 1,300 acres and extended 2.5 miles along the south Lake shoreline.

Despite the fact that there are a majority of non-urban, undeveloped lands in the Tahoe Basin, the urban development and its interface have clearly affected plant
communities and suitable habitat for wildlife. Among the potential impacts of further development are: the loss or alteration of sensitive habitats such as wetlands and riparian areas, native tree removal, short-term impacts to fish and aquatic habitat, disturbance or loss of habitat for special-status and common wildlife and plant species, and the introduction of invasive weeds and aquatic species (Regional Plan Update, Draft Environmental Impact Statement, Affected Environment, Biological Resources, 2012). Given the cumulative losses already noted elsewhere, it is reasonable to expect that alteration and conversion of additional lands designated for residential land uses could result in the further loss of vegetation communities and wildlife habitat. While assessing the impacts of past activities in the Tahoe Basin on the biological resources is beyond the scope of this project, the conversion or loss of terrestrial and natural resources including forests (Raumann & Cablk, 2008) and Lake Tahoe water quality (Murphy, 2000) is well documented.

3.3.4 Built Environment

The built environment includes long-time housing structures that date to the turn of the last century, newer and developing housing structures, commercial enterprises that support residents and visitors, recreational development such as campgrounds and ski areas, and the edges between the built and natural environment.

TRPA designates lands in the Tahoe region into one of five classifications for land uses: conservation, recreation, residential, commercial and public service, and tourist (Regional Plan Update, Draft Environmental Impact Statement, Affected Environment, Land Use, 2012). Of the nearly 202,000-acre land area comprising the region, 10.3% or
20,651 acres are designated for residential development, most of which occurs along the Lake shoreline. Twenty-two percent (45,208 acres) and 65.7% (132,326 acres) are designated for recreation and conservation land uses, respectively. Recreation lands differ from conservation lands primarily through their use as designated or developed recreation destinations. Federal, state, local, and private parks and recreation areas are examples of lands with this classification. The remaining 1.5% of the developed area is designated for commercial and public service and tourist land uses. TRPA estimates there are approximately 47,400 residential units in the region; a little more than 4% of these units (~2,000) were built in the last 10 years. Many of the commercial and tourist developments date to the 1950s and 1960s’ building boom. New development is regulated through an interim system that allocates allowable residential units annually. A second system allocates tourist accommodation units. The planning document used here as a reference for existing conditions provides some insights into how the region may change. Alternative intensities of development range from decreased development to maintaining the status quo through a variety of incentivized levels of development or redevelopment. Despite the growing interface between natural and urbanized environments overall, TRPA projected that “the overall land use pattern and amount of new development would not create barriers to wildlife movement locally or regionally.” Nor did it consider common wildlife species “limited by the availability of habitat in the Region” (Regional Plan Update, Draft Environmental Impact Statement, Biological Resources, Mitigation Measures, Alternative 1, 2012).
3.3.5 Legal/Political Environment

The legal/political environment encompasses two states (California and Nevada), four counties (Placer and El Dorado in California, Washoe and Douglas in Nevada), and two cities (South Lake Tahoe and Carson City). Land uses are dictated and shaped by the Tahoe Regional Planning Agency (TRPA), federal (U.S. Forest Service Lands and campgrounds) and state laws and regulations (California and Nevada State Parks), and county, local, and general improvement district community plans. While individual homeowners associations (whose membership is not always mandatory) can also influence land use practices, most communities are unincorporated and rely on county services for other environmental and planning needs. California Department of Fish and Game and Nevada Department of Wildlife manage wildlife on these lands, including black bears, and each city and county provides law enforcement services that are based locally, but administered at distant county seats outside the Basin. Each of these jurisdictions includes either formal or informal laws, ordinances, or policies for managing black bears, containing trash, and responding to these situations. These laws and requirements are discussed in greater detail in the Findings chapter and appendices.

The Tahoe Regional Planning Agency (TRPA) is the only organization with Basinwide jurisdiction. Its mission and vision is, “for a Lake environment that is sustainable, healthy and safe for the community and future generations” (TRPA Strategic Plan, 2012). While TRPA includes wildlife as one of its environmental threshold categories around the Lake, their purview focuses primarily on the water quality and clarity of the lake and activities that affect water quality such as changes in the amount of
impervious surface, non-point source runoff from soil disturbance, automobiles, and influents of that nature. TRPA’s Regional Plan and its land use element direct the intensity and location of development to address these issues.

3.4 Research Sample

3.4.1 The Research Participants

Research participants and respondents were identified and selected primarily through purposive, criterion-based sampling and supplemented by snowball sampling (Schensul, Schensul, & LeCompte, 1999). The goal in selecting a research sample was to include a representative or a typical cross-section of individuals (using US Census demographics for the area), settings (communities circling the lake), and groups/activities (residents, campers, public agency personnel, vacationers) across the study area. In addition to representativeness, other important criteria included identifying and selecting potential participants with key roles in the community related to black bear encounters and responding to them, and making decisions about situations that became a problem.

Using public documents such as local newspapers and websites and statements therein, the research identified an initial group of potential participants who represented the criteria and various interests of parties across the study area. Through recommendations from this initial group contacted and time spent in the study area, additional parties were identified to encompass the research sample. The participants included community members and public agency employees who make decisions about human–black bear encounters. Members of this mountain resort community included long-time, year-round residents; retired second-home to permanent residents; seasonal
residents, including those who support the resort areas; and vacation visitors with permanent residences outside the Basin. Participants from public agencies included those directly authorized to oversee human–wildlife interactions, those who are pressed to handle the same encounters on lands over which they have jurisdiction, and other county and local public agencies that oversee land uses, educational resources, and signage in the study area. These participants included employees of state wildlife agencies, state parks, county law enforcement agencies, and county and local environmental management agencies.

Most potential participants were contacted either by telephone and/or email; the remaining participants were contacted in person. Potential participants were introduced to the research and invited to participate using a script reviewed and approved by George Mason University’s Office of Research Subjects Protections (Appendix 10). Campers were contacted in person in two state park campgrounds during the 2007 high season between Memorial Day and Labor Day with the support and authorization of the California Department of State Parks. The researcher registered as a State Parks volunteer and received a volunteer vest, which was worn during all interactions in State Park campgrounds. The vest, along with a State Parks letter of support, helped to increase the legitimacy and verify State Parks support of the research. Additional visitors were contacted at local and state beach recreation areas around the Lake. Interviews and survey administration occurred from Memorial Day 2007 through March 2009.

Seventy-five of the 89 individuals contacted (84%) participated in the semi-structured interviews, and included 51 individuals, eight married couples, and four pairs
of participants. Among these participants were 42 full-time residents (56%), 15 part-time residents (20%), 11 seasonal employees/residents (14.6%), and seven non-residents (9.3%) (campers, public agency employees). Twenty-six (34.6%) of the 75 participants were public agency employees, including 19 full-time residents and seven non-residents.

Thirteen additional individuals were contacted to participate in the research. These individuals either did not reply to the invitations or were unavailable.

One hundred and nineteen (119) respondents completed surveys out of the 127 surveys distributed, or 93.7%. Of these respondents, 62 were female (52.1%) and 57 were male (47.9%). Respondents’ ages ranged from 23 to 84 with the greatest number of respondents in their 40s (30, or 26.5%) and 50s (32, or 28.3%) and the least number of respondents in their 20s (2, or 1.8%) and 80s (3, or 2.7%). Most respondents (106, or 89.8%) identified their ethnicity as White, non-Hispanic. Six respondents (5.1%) identified their ethnicities as Hispanic or Latino/a, two respondents (1.7%) identified their ethnicities as multi-racial, one respondent identified their ethnicity as Native American or Alaska Native, and three respondents (2.5%) declined to state their ethnicity (See Figure 1.1, Appendix 1 Sociodemographic Data).

The highest education levels for the 118 respondents were fairly evenly distributed. Thirty-one (31) respondents listed their highest education as Some College (26.3%), 35 listed as bachelor’s/4-year degree (29.7%), and 36 listed as Graduate or Professional degree (30.5%). The remaining 16 respondents listed their highest education levels as Some High School/HS or GED (6, or 5.1%) and Some Graduate (10, or 8.5%) (See Figure 1.2, Appendix 1 Sociodemographic Data).
Childhood residences of survey respondents were also fairly well distributed across seven potential categories drawn from the U.S. Census Statistical Abstracts of the United States. The greatest number of respondents (27) identified their childhood communities as a larger town or small city, while the least number of respondents (7) identified their childhood community as an exurb or outer suburb. Figure 1.3, Appendix 1 illustrates the distribution of the 118 respondents.

In general, the distribution of survey respondents compared similarly or was slightly higher than statistics reported in the Census 2000 Demographic Profile Highlights (American FactFinder, n.d.) for communities in the Tahoe Basin. Slightly more females than males responded to the survey overall compared to census data where women and men were typically in a 52.3 (to 56.2):47.7 (to 43.8) male to female ratio. Respondents’ ages were also slightly higher than 2000 Census statistics, which reported most people in the 35 to 44 year age range, but reflected a consistency with an aging population that tends toward residents aged 45 to 54 years (The State of the Sierra, 2007). The ethnicities of survey respondents compared similarly or were slightly higher (89.8% white, non-Hispanic) than 2000 Census data (75.1 to 95.3%). Respondents also reported higher levels of education for those with a bachelor’s degree or higher (68.7%) compared to 2000 Census statistics (16.8 to 44.6%).

3.4.2 The Documents

Over the course of the research a broad variety of documents were collected and reviewed to gain a continuing understanding of the research setting. These documents included relevant laws, regulations, ordinances, and policies related to black bear
management, trash containment and food storage, and addressing human–black bear
encounters. It also included information related to black bear incident reporting that
attempted to characterize the scope and extent of problem human–black bear encounters.
In addition to these documents, three local newspapers produced around the Lake were
regularly scanned and read for information about incidents, the parties involved in them,
and any statistics or quotes from the community about black bear activity.

One goal of these searches was to identify the laws, regulations, and ordinances
that create the legal framework for preventing and addressing problem black bear
encounters (See Appendix 4 for a discussion of these laws and citations for them). Most
public agencies with an interest in or jurisdiction over black bear activity provided copies
of policies and laws pertaining to black bear management and interventions, and
ordinances pertaining to trash management and containment. Legal research into state
and county laws, regulations, and ordinances provided the rest. In addition to these
documents, attempts were made to identify homeowners associations around the Lake
and access any relevant rules related to trash management and containment. Public
documents were readily accessed, while private ones were far less available and limited
to those available through website postings. Homeowners association rules are a good
example of this limited access.

Another goal of these searches was to gain an understanding of how black bear
encounters in the community are documented and tracked in an effort to assess the nature
and extent of problem encounters. These searches produced a variety of information and
documents primarily at the county/local level. Both state wildlife agencies acknowledged
collecting statistics of this nature, but in neither case was this information directly available. Three of the four county law enforcement offices provided statistics, and one of the four county environmental management agencies provided statistics. Two additional local communities provided information on trash violations, including those involving wildlife. The information received ranged from very detailed (in the case of the local communities and one county law enforcement office) to simple tallies (in the case of one county law enforcement office and state wildlife agency). As the scope and availability of the information varied greatly, the research did not seek or include statistics from the remaining law enforcement or environmental management agencies. In addition to statistics collected by public agencies, the research learned of a few sources of private information generated within communities. Details of information collected through informal surveys were largely unavailable.

3.4.3 The Memoranda

The research employed numerous processes to note insights, reflections, and all other meetings in the study area whether through participant observation or other preliminary appointments to acquaint potential participants with the research. These documents provided opportunities to reflect and adjust strategies as the research progressed, and captured field situations as they occurred.

Three separate notation systems documented observations, conversations, and a variety of phone calls, email exchanges, and meetings. The first approach included two methods for documenting observations and reflections. One approach included a running file on thoughts and reflections throughout the research from initial scoping of the study
area, through interviews, coding them, and while writing the dissertation document. These reflections were periodically reviewed and used to adjust data collection approaches or techniques, and to recall and include insights made over the course of the research. These notations captured insights as they occurred and memorialized them to include later when writing. This approach also included memo writing (Miles & Huberman, 1994), which again captured thoughts and reflections on meetings and observations as they occurred, or as soon as possible thereafter. The second approach used a formal “Contact Summary Sheet” (Miles & Huberman, p. 53) to document meetings, visits, and phone calls. This form noted the site of a meeting and other logistical information, and included four questions to summarize and focus the nature of the conversation and reference any further questions for future contacts. The third and final notation system used a series of spiral notebooks to capture other meetings, phone conversations, and logistical information, and track data collection, coding, and transfer to a personal computer. Altogether, 84 of these contact summary sheets (47), field memoranda (32), and other notes (5) were coded and included in the interview data.

3.5 Research Design Overview

The research used a mixed methods design that emphasized qualitative over quantitative approaches. Qualitative semi-structured interviews along with a supplemental background survey were administered concurrently, analyzed separately, and compared and integrated in a final interpretation (Leech & Onwuegbuzie, 2009). Qualitative data derived from semi-structured interviews, participant observation, and document reviews were primarily responsive to the research questions; quantitative data
supplemented this information through survey research and measuring the potential for conflict among the participants about black bear beliefs and attitudes, and approaches for addressing problem black bear situations.

A literature review examining previous research focusing on human perceptions of wildlife and black bears as well as human–wildlife or black bear conflict studies created connections and context for this research. Earlier research examined wildlife value orientations (Bright, Manfredo, & Fulton, 2000; DeRuiter & Donnelley, 2002), perceptions of animals (Gray, 1993; Kellert, 1983; Teel, Krannich, & Schmidt, 2002), wildlife management planning efforts (Anthony, 2002; Chase, Schusler, & Decker, 2000; Chase, Siemer, & Decker, 2002; Lafon, McMullin, & Steffen, 2003) and wildlife interventions (Peine, 2001; Reiter, Brunson, & Schmidt, 1999; Spencer, Beausoleil, & Martorello, 2007). Searches of the literature for collaborative or conflict resolution processes and wildlife studies produced some studies (Clark, Begg, & Lowe, 2002; Morgan, Davis, Ford, & Laney, 2004), but the emphasis largely focused on changing wildlife behavior (Beckmann, Lackey, & Berger, 2004; Breck, Lance, & Callahan, 2006; Fall & Jackson, 2002; Rauer, Kaczensky, & Knauer, 2003) rather than human behavior and emphasized conflicts between wildlife and people rather than between people about wildlife (Madden, 2004; Messmer, 2000). Ongoing literature reviews continued to broaden the scope and context of these connections (Peterson, Birckhead, Leong, Peterson, & Peterson, 2010).

GMU’s Office of Research Subject Protections reviewed and approved the research protocol, informed consent forms, and instruments for both the semi-structured
interviews and the background survey. Research participants were identified through preliminary site visits and reviews of local newspapers, and contacted by phone, email, or in person about their interest in participating in the research. Potential participants were selected based on key roles in the community as a first responder, decision maker, or individual experiencing problem encounters with black bears. Interviews and background surveys were conducted concurrently with 75 participants. An additional 44 individuals participated in the research solely by completing background surveys after experience showed that short-term visitors to the study area were less able or willing to participate through interviews. The research also included reviewing documents that would create an understanding for how problem black encounters are prevented, defined, and addressed when they arise. These documents included state and local laws focusing on black bear management and trash containment and management. Each of the three data sets were reviewed and analyzed separately. Semi-structured interviews were manually coded from digital recordings to identify patterns and themes related to the intra-, interpersonal, and social-structural dimensions of encounters with black bears that became problems. Background survey data were analyzed in three ways: (1) to obtain overall frequencies, (2) to test for significant differences between respondents based on sociodemographic categories, and (3) to test for the potential for conflict between and within respondents based on sociodemographic categories. Analyses of the interviews and background survey were conducted separately, and then compared and integrated in a final interpretation. The sections following this overview discuss each step in the research in further detail.
3.6 Methods of Data Collection

This research used mixed methods encompassing three separate approaches for collecting and analyzing the data. The primary means for collecting data was through semi-structured interviews. A brief background survey and an analysis of these quantitative data using descriptive statistics, significance testing, and a potential for conflict index (Vaske, Beaman, Barreto, & Shelby, 2010) supplemented the interviews.

3.6.1 Interviews

Developing the questions for the semi-structured interviews employed several strategies. These strategies included deriving questions based on the research goals and research questions (Maxwell, 1996), reviewing the literature on human–wildlife/bear encounters and conflicts to create context (DeRuiter, 2002; DeRuiter & Donnelley, 2002), initial site visits to familiarize myself with potential parties and the landscape, reviews of local newspapers to gain an understanding of the sorts of problems that occurred in black bear encounters, and reviews of the conflict resolution practice literature for problem-solving approaches and important conditions (Pearson d'Estree, Fast, Weiss, & Jakobsen, 2001). The goals of the research were to learn more about participants’ ideas about wildlife and black bears and the conflicts that sometimes result when they encounter them, including the situations that both mediate and facilitate these conflicts. The research and interview questions were designed to explore these ideas and the roles they played in the decisions participants made when addressing problem encounters, which included an emphasis on non-lethal approaches. The interview questions stemming from this focus queried participants about the sources of their ideas
about wildlife and bears; their encounters in general and problem encounters with black bears, in particular, what constituted a problem and the things they did to address them; their knowledge about black bear management and non-lethal approaches; and their attendance and involvement in community meetings that focused on black bears and problems with them.

The initial research instrument submitted for Office of Research Subject Protections review and approval included broadly written potential questions for conducting the interviews. It included 22 main questions with as few as two or as many as five subquestions for each question. The questions were reordered twice as the interviews progressed to coalesce four broad themes (ideas, encounters, problems, problem solving) that were emerging and prioritized to manage the length of the interviews to around one and a half hours. The second instrument included 14 questions, which was further reordered and focused to 12 main questions, including a set of questions specifically for resource and regulatory agencies. See Appendix 5 for a copy of the interview questions.

All of the interviews were conducted similarly, including the way appointments were made and how participants were introduced to the research through an initial conversation and then an informed consent form. Interview appointments were set in deference to the participants’ wishes for the best time and location. In some cases, particularly with public agency personnel, this meant waiting for the off-season when they were not as occupied with seasonal duties or responding to black bear situations. Locations typically included participants’ homes, offices, and occasionally public places
such as a café or park. All participants reviewed and signed an Office of Research Subject Protections approved consent form, which included an agreement to record the interview or not, and to disclose their name in published or publicly presented results or not (Appendix 11). In conformance with the consent form, the research included the use of a coding system to identify the recordings, consent forms, and any other data collected from a participant. These codes were used throughout the interview coding process and in all other documents, when needed, to secure the anonymity and confidentiality of the participants. No one but the researcher ever had access to this coding system.

All but one individual agreed to recording the interviews. Seventy recordings were made using a digital recorder with 75 participants totaling a little over 103 hours. The digital recorder included software to transfer the recording to a PC for later review and coding. The interviews ranged from three-quarters of an hour to as long as four hours, but were typically 1¾ hours long. In a few (three) instances it was necessary to schedule more than one appointment to complete the interview.

3.6.2 Document Reviews

The primary goal of the document reviews was to gather information considered important to understand the nature and extent of human–black bear encounters, the formal frameworks for defining problem encounters, and the range of alternatives for addressing those situations requiring intervention. Identifying relevant laws, regulations, and ordinances through legal and Internet research was the most obvious way to gather these documents. Later, in meetings, public agency personnel either offered relevant laws, policies, and ordinances or they were requested through the research. During the
research numerous policies (wildlife and state parks) and ordinances (local organizations) were amended and revised in what appeared to be a response to an especially heightened year (2007) for problem black bear encounters. Research reviews included all of these documents to understand both the frameworks and their evolution. These documents included policies and laws pertaining to wildlife and black bear conflict management and public safety (state wildlife agencies), and food and trash containment (state parks and county ordinances). See Appendix 4 for a discussion of these documents and citations for locating them.

Requests for information and/or statistics on black bear sightings, problems, and/or responses were made to wildlife agencies, law enforcement agencies, and a local bear advocacy group under the assumption that an accounting system of some sort existed. As a result, queries were general and somewhat informal. The information varied greatly in detail and availability resulting in a partial data collection effort.

3.6.3 Background Survey

Including a background survey made it possible to collect information that would supplement the interviews and provide opportunities for comparisons between the two modes. The survey collected demographic information (age, gender, residency, education, ethnicity, length of time in the study area) and brief sources of information about attitudes and orientations toward wildlife, bears, interventions, and community processes. It drew upon previously conducted human–wildlife conflict surveys (Anthony, 2002; DeRuiter, 2002), literature evaluating conflict resolution processes (Pearson d'Estree et al., 2001), and public policy statements on re-energizing local
community involvement (Fairfax, Huntsinger, & Adelburg, 1999) to develop individual questions that would create connections and context with earlier research (Kellert, 1983), and included design strategies and question construction to optimize flow and clarity (Dillman, 2007). The survey used two Likert-type scales: a bipolar 7-point scale for questions relating to black bears, black bear management, and community, and a 5-point unipolar scale for the questions related to conditions in a community decision-making process. These scales were also compatible and the most stable for conducting analyses using the Potential for Conflict Index (PCI²) (Vaske et al., 2010, p. 250).

The final background survey was the result of four drafts, which included three rounds of pretesting. Comments in the first pretest of the survey with National Park Service habitat restoration volunteers helped to solidify the position of the questions. Volunteers found some of the questions pointed (use of “non-lethal”), which was intentional to create a clear position against which a respondent could reply. A second pretest with San Francisco Recreation and Parks Department volunteers led to changing an environmental quotation focusing on a community land ethic to one that was more clear (Rodes & Odell, 1992). Undergraduate students in a restoration ecology class in the third pretest provided helpful comments along three different avenues. One student commented that the background survey seemed to lean toward preservation of bears. As in Park Service volunteer comments, the bias in direction in some of the questions was acknowledged and noted as intentional to identify a respondent’s position. A second comment regarding the scales prompted revising them to include a neutral response (neither agree nor disagree) and further gradation (slightly agree/disagree) in the scale. A
third and final comment clarified the word “bear” to specifically state “black bear” to avoid any confusion and exclude other species of bears such as grizzly or polar bears. See Appendix 6 for a copy of the background survey.

Originally individuals participating in the research completed background surveys just prior to the interviews. They typically took 10 to 15 minutes to complete. As the research progressed it became clear that visitors were less willing to participate in interviews, but would complete surveys. A desire to include visitors and campers in the research prompted an amendment to the research protocol to allow people to participate solely by completing a background survey. These surveys were administered in two California State Parks visitor centers, or in person in two State Parks campgrounds, two local recreation areas, or public agency offices. This adjustment explains the larger number of respondents for the background survey (119) versus interview participants (75). Most surveys were filled out and returned in person. A number of them (8) were completed and returned by mail.

3.6.4 Other Considerations

Data collection extended over two seasons when unexpected circumstances in the study area complicated the availability of interview participants. A major fire (Angora Fire) in South Lake Tahoe in late June 2007 and additional fires due to the especially droughty year meant that many key agency personnel were unavailable to meet. Exceptionally high black bear activity in 2007 also complicated meeting with first responders. The seasonal nature of visitation to Lake Tahoe as a mountain resort destination also meant that transient members of the community were largely available
only in the high season between Memorial Day and Labor Day. Winter weather complicated access and travel to the study area during the off-season, prompting additional extensions of the field research to a second season in 2008.

3.7 Data Analysis and Synthesis

3.7.1 Interviews

The researcher used Excel spreadsheets to organize the interviews, monitor progress of conducting them, and later examine and code them. A Sony ICD P320 digital recorder and accompanying software assigned a unique code to each interview, which was correlated with the code assigned to participants’ consent forms. The spreadsheet documented the date of the interview, its length, whether multiple meetings occurred, and the date that manual coding began. It also documented the participant and his or her gender, residency, affiliation, and source location around the Lake. A second spreadsheet monitored the progress of the coding, including the date when coding was completed. Through these spreadsheets it was also possible to compile demographic statistics on the interview participants as a whole.

The manual coding process used to examine the interviews blended a combination of template and editing approaches (Bloomberg & Volpe, 2008; Crabtree & Miller, 1992). The template approach acknowledged a priori (descriptive) categories stemming from the research questions, but used them flexibly (editing approaches) so that other emergent codes (or grounded theory open coding) were also recognized and included in the process (Strauss & Corbin, 1998). As is typical of qualitative coding (Bloomberg & Volpe, 2008), together these approaches captured issues that were both responsive to the
research questions as well as open enough to include other issues of importance to the participants.

While the intent was to code interviews during the fieldwork, the logistics of identifying potential participants, setting up interviews, and conducting them precluded this effort. Consequently, reviewing and coding the interviews began after most of the interviews had been conducted. The strategies for sequencing the interview coding evolved over time. Initially, interviews were coded in the chronological order in which they had been conducted. Initial coding did not include participant codes in order to protect anonymity of issues and concerns, but rather captured broad categories/codes and the details beneath them. With time and growing experience, the benefits of examining and coding the interviews by participant affiliation and residency were recognized. It also became clear that including a unique identification code and time stops from the recorder were necessary to retrieve quotes because of the large volume of data in hours (103), interviews (70), and the number of participants (75). These approaches were used as an alternative to fully transcribing the interviews as separate documents. Seasonal campers were among the first group interviewed, reviewed, and coded. Residents, both full- and part-time, followed chronologically. The coding strategy was sharpened a final time to sequentially code all remaining interviews with part-time residents, followed by full-time residents, and then public agency employees. The goal of this strategy was to sharpen the contrasts between parties, based on affiliation, which included creating a separate coding document for public agency employees to reflect both the differences in categories/codes and the issues of importance.
First level coding used descriptive codes (or template codes) acknowledging a priori codes stemming from the research questions, as well as simultaneous codes, and in vivo codes to capture quotations (Saldaña, 2009). It used these codes flexibly (editing approaches) so that emergent codes (or grounded theory open coding) were also captured by the process. The first level coding was intended to capture simple descriptive responses to questions posed in interviews as well as other topics raised coincident with the process. These codes also noted “particular phrases” and quotes (in vivo codes) used as well as how participants responded to questions, i.e., emotion codes (Saldaña, 2009). A combination of narrative and simultaneous codes captured both individual issues as well as the overall narrative describing a process a participant observed (Saldaña). Initial open coding using a combination of the template and editing approaches produced approximately 600 pages of codes, subcodes, and details. Interviews with residents and visitors, and public agency employees each produced 32 pages of codes and subcodes. Among the main codes for all participants were: ideas, vantage point/perspectives on nature, conflicts between people about bears, suggestions for prevention, Tahoe (community), changes in Tahoe, living peacefully with bears, about bears/knowledge/perceptions of bears, encounters, measures taken, attractants, deterrents, problem bears, damage, break-ins, incidents, damage due to wildlife, when problems arise, likely reasons for problems with bears, measures to seek help (outside intervenors (party perceptions of other)), community gatherings, bear management, interventions (conflicts between people about interventions, appropriate intervenors, transition from non-lethal to lethal), organizations, and interviewer effects (teaching in the moment). In
addition to the categories/codes emerging from interviews with residents, public agency personnel also included codes for identity, human–bear conflict, participant notions of conflict and conflict resolution, break-ins (responding), measures to seek help (outside intervenors (coordination/interaction among intervenors)), policies/policymaking to address bear situations, and regulatory. A category unique to interviews with residents included residents/weekenders, which captured the notions of transience, insider/outside tension, and how weekenders communicate, among other things.

Second level coding included multiple goals and strategies. The first goal was to consolidate and reduce the first level of coding categories to identify patterns and themes (Saldaña, 2009). Subsequent goals of this review included coalescing those categories that were specifically responsive to the research questions and integrating the categories that emerged through open coding. Framing for the coding process also reflected the researcher’s background and studies in land use planning, environmental law, and conflict analysis and resolution and work as a professional in environmental impact analysis (Biklen, 2007). A final strategy reflected a focus on those categories that emphasized the larger intra- and interpersonal, social, structural relationships that frame the encounters between people and institutions governing the Tahoe Basin. It was during this round of coding that the significance of community and the evolution of the research to encompass a whole community study became more clear. Through this lens attributes of community came into focus. Among those attributes were: what individual members conceived of as a problem (in black bear encounters) and addressing them, how the
community communicated (or did not), and the structures that either bound them together or served as barriers to effectively addressing problems when they arose.

Participants’ ideas about wildlife and black bears and the role these ideas played in the decisions they made in problem encounters were also emphasized in the final categories and themes. Five broad themes united the 12 nested findings gained through the second level review. They included: (1) Ideas about Bears, (2) Problems Arising in Human–Black Bear Encounters, (3) Community Problem-Solving: Encounters, Deterrents, and Interventions, (4) Support Systems, and (5) Community.

3.7.2 Background Survey

Background survey analyses provided information about the sociodemographic categories (age, ethnicity, highest level of education, childhood home, and years spent in study area) of the survey respondents as well as their opinions and attitudes on four subject areas: ideas about wildlife and black bears, black bear management, community, and important conditions in community problem-solving processes.

A combination of an Access database, Excel spreadsheets, and the statistical software package SPSS/PASW were used to organize and analyze the background survey data. Initial survey data management used an Access database to code background survey responses using two 7-point bipolar scales (strongly agree to strongly disagree) and one 5-point unipolar scale (very important to not important at all). Each survey form was assigned a unique identification number and was used throughout all of the quantitative analyses. Quality assurance (QA) of the data entry for responses showed
minor typographical errors, which were corrected. Data entry from the surveys were otherwise coded and entered without any problems.

Despite instructions to skip categories that did not apply for the variable on “time spent in the study area,” or residency, over half (N = 68) of the respondents filled out multiple categories. QA of this variable required a more thorough review as a result. Data sorts using Excel spreadsheets began to identify patterns where respondents had checked off all possible residency categories (full-time, part-time, seasonal, vacation visitor). Dual goals of identifying a single residency status for each respondent and associating this residency status with the dependent survey variables prompted the use of a secondary system and review. This review involved examining each survey entry for “years spent in the study area” and designating the entry as a primary, secondary, and so on response. Assigning a 1, 2, 3, or a “?” if the priority was uncertain began to establish a priority. Where errors occurred the reviewer assigned a 0. To determine the effectiveness and clarity of the priority assigned for each respondent’s residency, a set of rules reflecting the strategies noted were written, given to an individual outside of the research, and used to QA the consistency in the assignments. The rules were read and applied as follows:

Rules for Determining Residency Priority

1. Assign a 1, 2, 3, and 4 as appropriate, or 0 (if you consider the entry an error) to establish priority in a respondent’s residency.

2. Consider how respondents checked off the residency categories that apply to them. If every time frame is checked off, and there are clear distinctions
between the < 1 year category and a different time frame for another type of residency, the priority rests first with the larger of the numbers.

3. Read responses received anonymously in a park visitor center or campground with the following assumption: Read responses in all columns of the same time length with a vacation visitor priority.

4. Assign 1, 2 priorities, respectively, for responses in both part-time and vacation visitor time lengths unless the vacation category is a larger number of years.

5. Entries that include responses for seasonal workers may list themselves as either full-time or part-time residents as well. Prioritize seasonal workers as (1) seasonal worker, (2) part-time resident, (3) and vacation visitor.

Residency data sorted using these rules resulted in data sets that included: 44 survey entry errors, 115 primary residencies, 58 secondary residencies, 21 tertiary residencies, and 2 quaternary residencies. From these sorts and assigned priorities, only primary residency designations were used as correlates to survey responses.

As the QA for these data sets were complete, a combination of Excel spreadsheets and data files in SPSS/PASW ("SPSS Inc., Version 18.0," Released 2009) were created from the Access database to calculate the frequencies (in percent) for each survey response question in the background survey overall and each sociodemographic variable (gender, age, residency, highest level of education, ethnicity, and childhood home). These SPSS/PASW data files were later used for significance testing using the parametric
Compare Means function with Independent Samples $t$-tests and one-way ANOVAs and the Nonparametric function with Kruskal Wallis and Independent Samples tests.

It became clear through the interviews that creating a new sociodemographic category to use in significance testing would sharpen the analyses of the background survey data. The new variable (Affiliate) acknowledged the multiple dimensions, or roles, of survey respondents. The categories in this variable included resident (conflated full-time and part-time), public agency (no distinction), vacation visitor/camper (for all seasonal visitors), and seasonal worker. All full-time residents who were public agency employees were recoded as “public agency” even if they worked in a public agency (park) seasonally. All seasonal (part-time temporary residents) public agency employees were coded as seasonal workers. In order to distinguish between full-time and part-time residents in significance testing, another variable called Residency Status (RESSTAT in SPSS) included the categories full-time resident, part-time resident, vacation visitor, and seasonal worker. Lastly, respondents aged 20s and 30s, and 70s and 80s, were each grouped together for analyses (“20s-30s” and “70+”) to create larger $N$s in these categories.

In addition to descriptive statistics for the overall survey, SPSS analyses using an independent-samples $t$-test for gender and the response variables, and one-way analysis of variance (ANOVA) tests for the remaining sociodemographic (residency, affiliation, age by decade, education) and response variables tested for significant differences between the means. Gender was the independent, dichotomous variable; the response to the survey question was a continuous, dependent variable in the $t$-tests. Levene’s test for
equality of variances determined whether the variances of the means were equal or unequal, and thus significantly different from one another, or not. From this information the correct \( t \) statistic and its significance at \( \rho = 0.05 \) were read and reported. The sociodemographic categories were independent, categorical variables and the responses to the survey questions were continuous, dependent variables in one-way ANOVAs. As in the independent-samples \( t \)-test, the Levene’s statistic was used to determine the choice of a post-hoc test when the \( F \) statistic was significant at \( \rho = 0.05 \) (Vaske, 2008). When equal variances were assumed (i.e., Sig > 0.05) least significant difference (LSD) comparisons, the Bonferroni correction, or Scheffe’s S were used following one-way ANOVAs to identify where significant differences between sociodemographic subgroups occurred. Similarly, where equal variances were not assumed in the Levene’s statistic (i.e, Sig < 0.05), Games-Howell or Tamhane’s T2 post-hoc tests were used to locate where significant differences occurred following a significant \( F \) statistic.

Where skewness (>1.0 or < -1.0) or kurtosis indicated a strongly asymmetric distribution (Vaske, 2008, p. 275), non-parametric one-way Kruskal-Wallis analysis of variance tests and successive Mann-Whitney \( U \) tests, where indicated, were used to identify where among the groups significant differences occurred.

### 3.7.3 Potential for Conflict Index

In addition to using significance testing to examine the background survey data, the research included analyses using the Potential for Conflict Index (PCI). The motivations for including this tool in the research were twofold: (1) to brighten any
conflict analysis stemming from the survey data, and (2) to introduce this tool to the broader practice of conflict analysis and resolution.

The Potential for Conflict Index (PCI) is a tool that can enhance the understandability of survey results (Manfredo, Vaske, & Teel, 2003). It expresses the range of differences (or ratio) in responses across a survey group with respect to its neutral point such as “neither agree nor disagree” or “neither support nor oppose.” The authors assume that the greatest potential for conflict occurs with a bimodal distribution between the two extreme responses on the scale (e.g., when half of the respondents strongly agree and the other half strongly disagree). This situation produces a PCI equal to 1. Conversely, when responses are distributed solely on one side of the neutral point, a PCI of 0 will result suggesting no conflict.

The PCI’s specific focus on projecting the potential for conflict in resource management decisions dovetailed well with the desire to supplement the findings of the interviews as well as gain a sense for the potential for conflict in this research setting. PCI also provided an alternative approach to using effect sizes or confidence intervals when supplementing the significance tests of the survey results (Vaske, 2006). The PCI was used here to illustrate the differences among participants by sociodemographic variable (age, gender, residency, affiliation, highest level of education) using the sorted survey data.

The PCI creators developed enhancements to the tool (PCI2) while this research was in progress, which these analyses included. The enhancements make its use more widely available because it accommodates most anyone using fixed-length scales in
survey research (for scale widths 2 through 9, inclusive) whether unipolar or bipolar scales. It includes the flexibility to experiment with the impacts of including or excluding “neutral” or “neither” responses in a survey analysis, allows for differences in non-linear distances in responses through a power function, and also offers flexibility in how the statistic is calculated, whether directly from statistical software, an Excel spreadsheet or a standalone version of the program. Finally, PCI\textsubscript{2} includes a simulation that allows for testing for significant differences between PCIs (Vaske et al., 2010, p. 251).

Preparing the data for PCI analyses involved drawing the responses for each survey question from the Access database into separate Excel spreadsheets, and sorting them by response level (-3 through +3 for bipolar, 1 through 5 for unipolar) to obtain frequencies for each level. These frequencies were used to calculate PCIs in two ways. One set of files was used to calculate PCIs for each question in the background survey overall. A second set of files included survey responses and sociodemographic information. These files included additional sorting for each sociodemographic variable (gender, age, residency, affiliation, education) to determine the frequencies at each response level for each subgroup within the variable. These data were used to calculate PCIs for each survey question and sociodemographic variable. As in the significance testing done in SPSS/PASW, respondents aged 20s and 30s, and 70s and 80s, were grouped together for these analyses (“20s-30s” and “70+”).

PCI analyses were also conducted using two versions and methods. Early analyses used Excel spreadsheets and equations supplied by PCI developers. Frequency
data entered into these PCI spreadsheets came from the individual files that were created for each survey response variable overall, and the response variable and sociodemographic variable. The results of these analyses produced two data points: the PCI and the mean. The second set of analyses following enhancements to PCI used the PCI standalone program on the Colorado State University’s website (Vaske, 2009). In all cases the PCI standalone version for overall PCIs produced PCI⁺s greater than earlier runs by about 0.04 to 0.06. The parameters used in the standalone PCI⁺ version of these analyses included a neutral value (neither agree nor disagree), power of 1, 120 repetitions for the simulation for the 7-point bipolar survey responses, and 120 repetitions for the simulation for the unipolar survey responses without 0 values. These routines produced four data points: an observed PCI, a simulated PCI, the mean, and a standard deviation. All four values were subsequently used in PCI⁺ difference tests using an Excel spreadsheet calculation provided by PCI developers (Vaske, 2009).

Illustrating the PCI results graphically using bubble charts provided a way to visually differentiate the levels of agreement or disagreement among respondents, and hence the potential for conflict among parties about a particular idea or management decision. The bubble charts used to illustrate the PCI visually display dispersion (standard deviation, variance, range), central tendency (mean, mode, median), and form (skewness). The size of the bubble indicates the potential for conflict (i.e., the larger the bubble, the greater the dispersion among the group). The bubble’s location on the Y-axis reflects the mean score (central tendency) across the group, and its position relative to the
neutral point also indicates the degree of skewness. Bubbles situated at either end of the graph indicate high levels of skewness (Manfredo et al., 2003).

PCI difference test calculations used the formula (Vaske et al. 2010, p. 249)

\[ d = \frac{ABS(PCI_a - PCI_b)}{\sqrt{(PCI_{aSD})^2 + (PCI_{bSD})^2}} \]

where \(d\) is considered to be N(0,1)

Where ABS = absolute value, PCI\(_a\) = the observed PCI\(_2\) for the first sample or group, PCI\(_b\) = observed PCI\(_2\) for a second sample or group, PCI\(_{aSD}\) = standard deviation of the simulated PCI\(_2\) distribution for the first group, and PCI\(_{bSD}\) = standard deviation of the simulated PCI\(_2\) distribution of the second group. These calculations produced difference test \((d)\) results that are statistically significant at \(\rho = 0.05\) when \(d > 1.96\). Calculations for all survey response questions and sociodemographic categories (gender, age, residency, affiliation, and education) produced difference test values that provided further insights into the dynamics between and within sociodemographic categories. These values and their consequences are discussed further in the chapters on findings and results and their interpretations.

3.8 Ethical Considerations

Prior to beginning the research the Office of Research Subjects Protections examined and approved the Research Protocol, two Informed Consent Forms, and all of the instruments used to collect data (See Appendices). All interviewed participants reviewed and signed an Informed Consent Form, which included permissions to record the interviews and use their names in published or presented studies, or not. Those who responded only to the survey reviewed a separate Consent Form and verbally consented
to participate. Each participant received a copy of the relevant consent form when he or she met with the researcher. Each consent form for an interviewed participant, which was securely stored in a home office, was given a unique code to maintain the participant’s anonymity throughout the research. Recordings of all interviews retained these codes for both tracking and confidentiality.

While the research study area experiences a steady turnover in its residents, it remains, as one participant put it, “a really small community.” In both meeting with participants and writing about their stories, this research remained sensitive throughout to protecting confidentiality and anonymity, which meant in a few instances excluding information that would have otherwise identified a participant. Similarly, when drafting the dissertation document participants, communities and locations within the study area were referred to generally, or in general classes (e.g., full-time resident, part-time resident, law enforcement officer).

3.9 Issues of Trustworthiness

Quantitative and qualitative research have each adopted terminology to measure how well research captures the phenomenon it is studying (validity) or how well the research has guarded against bias in its interpretations and representations of its research participants perceptions (credibility). These issues, along with reliability (or dependability) and generalizability (or transferability), encompass issues of trustworthiness of the research. Each methodology section attempted to address these issues through transparent and detailed discussions of how the research was designed and
conducted. The sections that follow below outline specific strategies and how they were used to ensure the trustworthiness of the research.

3.9.1 Validity/Credibility

Validity in the traditional (positivist) sense has to do with how well the researchers capture the phenomenon they describe in their results (internal) and how well this translates to other populations, i.e., generalizability (external). Construct validity relates to how well the instruments in a study (questionnaires, surveys) evaluate the things they purport to measure (Schensul et al., 1999, p. 275). Validity in qualitative studies has more to do with how well a researcher addresses the threats or the ways they may be wrong (Maxwell, 1996, p. 88) or its credibility or believability (Rudestam & Newton, 2001; Schensul et al., 1999). Transparency and self-reflection on researcher bias, length of time spent in the field engaged in the community studied, the use of multiple methods, and multiple sources of data all contribute to the credibility of the research (Bloomberg & Volpe, 2008). In a mixed methods study, validity or inference quality refers to how well meaningful and accurate conclusions have been drawn from all of the data, whether inductive or deductive (Creswell & Plano Clark, 2007, p. 146).

Some of the ways in which a mixed methods concurrent research design can address threats to validity in data collection include: drawing quantitative and qualitative research samples from the same population, using large qualitative samples, and following up on contradictory results. Ways to minimize threats arising in data analysis include: using matrices for quantitative categorical data and qualitative themes, and transparency in addressing quantitative and qualitative validity and approaches (p. 147).
The mixed methods nature of the research and the multiple materials (surveys, interviews, policies, agency and organization records, and news stories) and populations it drew upon attempted to capture broadly the concerns participants held with respect to problem black bear encounters. This approach was strengthened by the number and diversity of participants contacted and interviewed in the research, and through the overall time spent in the study area that included time spent in the area two years prior to the research meeting and engaging with the community to build relationships and trust. Through field notes and a reflective journal kept throughout the research, it was possible to record and revisit not only my observations, but the observations and feedback of participants about the research. These reflections included struggles with boundary issues as a researcher/participant observer as well as my roles as a catalyst or instigator of ideas in the research, and even my demeanor as an interviewer (i.e., the expert, or the Columbo approach). These notes provided the basis for adjustments and modifications over the course of the research in how the interviews and background surveys were administered.

3.9.2 Reliability/Dependability

Providing an audit trail or way for others to track the approaches used in the research to collect and analyze data lends dependability (or reliability) to a qualitative study (Bloomberg & Volpe, 2008, p. 78). Every effort was made to provide a transparent description of how the interview participants were identified and selected, how they were interviewed, and the subsequent coding and analysis of those interviews. The same detailed descriptions of how the quantitative data were extracted from the background
surveys, organized, and analyzed using statistical programs provided the same audit trail for the quantitative data. Reliability or reproducibility is less of a concern in this study than is the consistency and clarity of methods. For this study I attempted to create a clear record of the procedures used for sampling, coding, and analyzing the data, and provided as much detail as possible on the contexts (settings and relationships) in which data were gathered.

3.9.3 Generalizability/Transferability

Transferability, or generalizability, was not an expected goal of this research, but the insights gained in this study may be useful to others in similar settings. For that reason, every effort was made to provide thorough details about the context (settings and relationships) so that others have a reasonable opportunity to assess how relative the findings here may be to their situations. The detail and depth of the descriptions this study provided (i.e., thick descriptions) means some transferability may be possible, but these generalizations are fairly limited to similar settings and the individuals studied (Rudestam & Newton, 2001, p. 99).

3.10 Limitations of the Study

The main concerns for this study were to reach adequate numbers and representatives of the various parties that were important and have a role in how human–black bear conflicts arise. To that end, every effort was made to represent the entire Tahoe Basin in the study area and all of the nuances in the population. Addressing these concerns meant attempting to meet with members of both a full-time, and a diverse, transient part-time population, which also included a seasonal service community. Every
effort was also made to meet with parties in each of the counties within the Lake Tahoe Basin. A known Latino community was not contacted despite having translated all of the research instruments and consent forms into Latin Spanish. Funding to support this effort did not materialize, and as time and expenses mounted, interviews focused primarily in California and those areas of Nevada that were known for the most bear activity and problems. Although it was not possible to meet with individuals in all counties or ethnic groups, repetition in the issues raised in interviews suggested saturation.

As one dimension of a representative sample, the logistics in reaching adequate numbers of parties and diversity of opinions in the community provided challenges. Snowball sampling, in addition to purposive sampling, was labor-intensive and might have been better facilitated by conducting the survey well in advance and asking parties to indicate their interest and willingness to participate in another part of the study. The research intended, but did not include, a seasonal service sector and Latino/a community, a broader range and number of part-time residents who had suffered damages from bear encounters, and law enforcement officials representing a broader diversity of opinions across a department. Including these parties may have broadened the research’s understanding of how problem black bear situations arise, and the interventions considered acceptable for addressing them.

Finally, identifying potential participants was complicated, in general, by the resort setting and the fact that both interviews and surveys were administered by a single individual. Transient visitors were less willing or able to participate in the interviews than full-time residents or seasonal residents who were in the study area for longer
periods than a few days or a week. This sampling approach may have emphasized gaining information from participants who were experiencing problem black bear encounters over those who may be unintentionally instigating problem encounters.

3.11 Chapter Summary

This chapter described the research design and the rationale for using a mixed methods approach—to blend the strengths and approaches of conflict analysis and resolution and human–wildlife conflict research—and described the qualitative and quantitative methodologies used to learn more about the ideas participants formed about black bears and the roles those ideas played when they made decisions about problem black bear encounters. The research emphasized qualitative semi-structured interviews in its partially mixed concurrent dominant status design. A quantitative background survey with significance testing and the potential for conflict index supplemented the interviews and created context and connections to previous research. The survey assessed 119 purposively selected respondents’ opinions about wildlife and black bears, black bear management, community and community decision-making processes, and differences between and within them through five sociodemographic categories while semi-structured interviews with 75 participants provided insights into their ideas about wildlife and bears, encounters, problems with bears, and problem solving.

This chapter also described the process used to create the survey and interview instruments, and pretest, administer, and analyze the information they produced. These processes included literature reviews to create context, institutional review board approval to protect the confidentiality and anonymity of the research participants, and
qualitative and quantitative analyses to produce findings and results that provided a deeper understanding of not only how individuals and organizations experience and address problem black bear encounters, but also the community’s role in facilitating or exacerbating peaceful co-existence with black bears. The chapter concluded with considerations of the research’s limitations and thoughts for ways the scope might have been more inclusive, and described how issues of credibility, dependability, and transferability had been addressed in the research and its relevance to other similar settings and communities.
4. FINDINGS

4.1 Introduction

The goal of this research was to learn more about human–black bear encounters that become problems or conflicts. Its aims were to increase our understanding of the intra- and interpersonal dimensions that influence the conflicts and seek ways to promote more peaceful interactions when they occur. This research focused on learning more about what influences (1) the views participants develop about black bears and (2) the role these views play when seeking to address human–black bear encounters that are a problem. Using simultaneous mixed methods the research produced findings and results from interviews, document reviews, and surveys.

This chapter discusses the findings of the three approaches used to collect and analyze the data. The findings stem from 70 semi-structured interviews exploring participants’ ideas about wildlife and black bears, problem encounters, and addressing them. It also includes reviews of laws, regulations, and ordinances that form the legal frameworks for preventing and addressing problem black bear encounters in the study area, and analyses of 119 background surveys. These analyses included significance testing of selected background variables on ideas about wildlife and black bear management, community and community engagement, and important conditions in
community decision-making processes, and six (6) analyses using the Potential for Conflict Index with five sociodemographic variables.

4.2 Key Findings from the Interviews

This research was designed to focus on the conflicts arising in human–black bear encounters. I set out to learn more about how participants formed ideas about bears and how those ideas might influence what happens following an encounter. What the research became, though, was a study of the community in which the research occurred. The bears and encounters with them served as a catalyst to explore and explicate the characteristics of a community that both loves and loathes bears, and knows a lot about them, whether based on personal experience or learned through trusted sources such as family, media, or formal education. The research put an unintentional spotlight on the community, which surfaced again and again as the most significant factor in how encounters with black bears unfold when someone needs help.

The research with its evolving focus as a whole community study encompassed two main focal points: understanding more about (1) human–black bear encounters, especially how participants formed ideas about bears and how those ideas might influence the decisions they made when an encounter became a problem; and (2) the larger interpersonal, social, and structural relationships that frame the encounters between people and institutions governing the Tahoe Basin. This dissertation discusses both of these dimensions, but focuses most intently on the social-structural dimensions at work in this community and how they influence the paths that the human–black bear encounters take.
These findings, illustrated with verbatim quotes, reflect the outcome of 70 semi-structured interviews with 75 participants, and 85 informal interviews. The semi-structured interviews included 51 individuals, eight married couples, and four pairs of participants. Only one interview participant declined to have the interview recorded. Among the interview participants were 42 full-time residents (56%), 15 part-time residents (20%), 11 seasonal employees/residents (14.6%), and 7 non-residents (9.3%) (campers, public agency employees). Twenty-six (34.6%) of the 75 participants were public agency employees, including 19 full-time residents and seven non-residents.

Five broad themes emerged from using an open coding process, followed by a more focused coding process. The focused coding winnowed the larger body of open codes and emphasized those categories related to the intra- and interpersonal, social, and structural relationships surfacing in human–black bear encounters. The five themes organize the nested set of findings that conceptually capture both the initial research questions as well as the research’s evolution into a broader community study. These themes are: 1) Ideas about Bears, 2) Problems Arising in Human–Black Bear Encounters, 3) Community Problem-Solving: Encounters, Deterrents, and Interventions, 4) Support Systems, and 5) Community.

4.2.1 Ideas about Bears

Finding: Without the opportunity for firsthand encounters to learn about black bear behavior, participants are left largely with ideas about bears that stem mainly from trusted sources such as a family member, a college professor, or a documentary.
Participants “know” a lot about bears, and they are committed to these ideas as they stem from “trusted” sources. What they know varies widely, however. A trusted source can range from personal experience to formal education, a family member’s word, or a documentary. The stability of these ideas seems related to trusted sources even in the face of new information. Firsthand experience with bears, however, is unmatched in transforming these otherwise enduring ideas.

Participants form ideas about wildlife and bears broadly. Although many participants had not thought much about how they formed these ideas, they readily knew what they were. Bears were “like people”—a kid needing discipline, subject to sanctions like people because they are “criminals and vandals,” “graceful,” “intelligent, thinking creatures—they know what refrigerators and freezers are,” “They know on Friday, it’s trash day,” and “food machines.” Some participants were concerned about their strength and danger, “big, strong and dangerous if they wanted to do something to you,” and the inevitability of an attack, “a hazard to little kids and your property,” and a “wild beast that can change at any time.” Often, their ideas stemmed from what appeared to be trusted sources such as a family member, a professor in college, or a documentary. Ideas also stemmed from a variety of media such as hunting or fishing magazines like *Field and Stream*, books, and nature programs like *Wild Kingdom*; educational programs that addressed camping in bear country such as Yosemite or Yellowstone; and visits to zoos. Participants were also informed by a wide range of personal experiences such as living in and/or working in Tahoe, while camping as both children and adults, and through damage
suffered. For some participants ideas formed through a combination of these influences, while for others the thought of bears was not on their radar at all.

Firsthand experience gained through work as a first responder to a black bear encounter was by far unmatched as the best source of ideas about bears. One law enforcement participant related,

You can’t get that [understanding, appreciation] from an article in a newspaper or a magazine or a story told by somebody else, or an exposé on National Geographic on a segment on bears or anything else. You don’t get the same as when it’s firsthand knowledge and you get to see things in their natural . . . . Can’t go to the zoo, can’t go to wildlife parks. It’s not the same.

One wildlife official illustrated this point:

Bears have a personal space. It may be 10 feet, may be 100 feet. [You know] based on [a] bear’s behavior, and trial and error. If you get a little too close they’ll stomp their front feet, woof at you, make vocalizations, body posture. And a lot of how [we] deal with bears is [by] trial and error over several years and learning.

Experience has also taught first responders many things about the best approaches,

It’s . . . [it] really is one of those dynamics that most people are not very aware of. They think they’ll [bears] take the first open exit. In my experience, bears will come in the same way, time and time again, and they’ll go out the very same point that they came through. So as long as you leave that avenue of escape for them open, they’ll go out that. You can shrink a perimeter inside a house to force them back into that area. They’ll just go out. They’ll leave. You gotta provide that opportunity for success. If you challenge the bear, block its avenue of escape, you can expect bad things to happen ’cause they’re fighting for their lives.

It [the bear] might huff and puff and do its false little charges, and everything else that is very common. Once you’ve seen that and experienced it a few times, you get a little more comfortable with that behavior, not to where you’re panicked and make bad choices.
4.2.2 Problems Arising in Human–Black Bear Encounters

Finding: What participants perceive as problems with black bears and how to address them varies widely, including when problems began.

Residents and second homeowners view human–black bear problems through very personal lenses and include both short- and long-term factors, such as how human–black bear problems began in the community in the first place, what is a problem bear, who is responsible for problems that arise, how readily and/or easily one can report and seek assistance when a problem arises, and what are acceptable processes for addressing problem situations. Public agency personnel are somewhat more considered in their views about the jobs they perform as first responders and environmental health officials.

4.2.2.1 Problems with Bears Developed Over Time

Participants express and view human–black bear problems through multiple lenses and time scales. They attribute the problems that arise in human–black bear encounters to people, environmental conditions, and the bears themselves, and view the problems as a progression that has developed over time. Garbage and bears’ access to it is also a recognized source of problems. Depending on where a participant lived or worked, the first signs of problems varied. One participant acknowledged, “watch[ing] the bears go into trash at Granlibakken 20 years ago—Shame on us. We didn’t know.”

In campgrounds in the area, wooden food boxes worked from around the 1950s to the 1980s; not now. A 30-year resident described a progression in which bears had plenty of natural forage and years ago, talking pre-1960s . . . . Now we went into the period where man started building here, restaurants, living here in the winter time especially. Then the garbage dump became . . . . There were a lot bears living up there eating our garbage in the landfill. So then that was the next
stage, and I heard during the that stage there was some, and this is . . . never confirmed this information, but I’ve heard it from a number of people, including Fish and Game. During the mid-1960s, to early ’70s when they had problem bears in Yosemite, they were bringing them up into Desolation and cutting them loose. So the bears, they were garbage bears and they had plenty of garbage to work on around here. I don’t know. That’s neither here nor there now. That’s generations ago from the bear population that’s here now. But then the latest thing that happened was that a lot of bears were feeding on our garbage, and everybody, well not everybody . . . . A lot of people stepped up and started containing their garbage. I used to drive to work in the morning, on garbage day I’d see 10 trash cans completely strewn all over the road. Obviously a bear, not a dog, and it was just normal. So now people have gotten the bear boxes. So the bears have populated according to the amount of food they were able to forage on and my feeling is now they are over populated and because the bear boxes have closed off that food source, they still know that that’s where they get their food. They’ve taught their offspring that. So that’s where the breaking into houses is coming from.

4.2.2.2 Problems with the Black Bears Themselves

**Damaging Property, Entering Houses**

Bears were considered a problem by residents when they break down doors, damage property, charge people, enter houses for food or target them, cause fires from standing on stoves, and when there are repeat entries by a known bear. A California State Parks Ranger considered bears a problem when they get food from visitors in a campground. By their account,

If it’s just getting the food, the human piece is that it is detracting from visitors’ experience because they’re having this conflict with wildlife, that their food got all eaten, and they have, at a minimum have to drive back into town and buy more food, at a maximum they are so scared of being killed by this wild, ravaging animal, and we had this happen the other night. The bear comes into the campsite, they freak out, get up, get in their car, sit in their car panicking until the bear leaves and then drive to a motel, and rent a motel room and don’t come back to the campsite until they come during the next day to move out and they left four days early. So, that is a negative . . . terrible situation for them.
Bears getting into houses or killing livestock were also considered problems by agency participants. For law enforcement personnel, the

[b]iggest problem right now is when the bear starts becoming a bear who has learned that he can get into the house. That’s the biggest problem that people are going to encounter here. Yes, they mess up your garbage. “Oh well, we kinda got to see the bear. It was kinda neat. They tore our garbage up and that’s a problem.” But, when they start ripping into people’s houses, then the people start to think, “Well this bear has broken my door down three times now and I’ve had to pay this amount of money and ruined this and ruined that.” People don’t think they’re so pretty anymore. When there’s money involved, “Okay, this is a nuisance bear.” So that’s probably, those bears are probably our biggest problem bears, are the ones that have learned that “I’m not afraid. I know how to get into houses.”

4.2.2.3 Anthropogenic Sources: People and Trash

A participant’s affiliation greatly influenced their perceptions of who was responsible for human–black bear problems that arise, however, most participants acknowledged a human, anthropogenic dimension (laziness, complacency) and a food source (unsecured garbage, intentionally or unintentionally feeding bears). While residents and agency personnel regularly pointed to the “tourist industry,” “transients,” “vacation rentals,” “weekenders,” and “second homeowners,” others attributed problems to trailer parks, construction sites with open dumpsters, or workers and “this macho thing about how close they can get to a bear, even feeding it from their hand.” Still others attributed problems to a person’s perspectives rather than habits. One agency participant offered,

It’s just like people that buy a house around an airport and then complain about the airplanes. You bought it. You thought it was so neat to see these bears walking up and down the streets. Why are you whining about what comes with it?

These perspectives extended to land uses as well. Another agency participant observed,
people [c]ome from the big city, they buy this lot, they build their million-
dollar home on an acre or five acres right into the forest. They assume because
they built their home there, around all the trees, all the trees are still there, that the
bears are going to go away, the wildlife is going to go away. At the very same
time, they’re leaving their trash out, they’re feeding the birds, they’re feeding the
deer, which draws the mountain lions down; they’ll plant fruit trees, and you plant
fruit trees in a forest, you’re going to . . . and they’ll put in urban ponds, put in
their little koi pond for aesthetics purposes in their backyard. That’s a water
source, you live in a desert.

4.2.2.4 Problems Arising in Interventions

Seeking Assistance when Problems Arise

In some participants’ minds, the problems extend to how readily they can report
and seek assistance when a problem arises. Second homeowners especially, but full-time
residents as well expressed a need for improved support systems. These participants
expressed the feeling that there is nowhere to turn when needing assistance. One resident
felt,

The problem is, who do you call? If you call Fish and Game, it’ll take three
weeks before they show up. The Sheriff won’t come out. And, the BEAR
League sold all this stuff that doesn’t work.

A part-time resident who had suffered multiple break-ins

has looked at it; [we] need to secure our place, do what we can to protect
ourselves, ’cause if we don’t do that, and the bears break in, it’s our fault, nobody
else’s. We’re not looking for a lot of support from anyone else at the moment.

Others expressed a need for public agencies to “do something,” that it “takes an act of
God to get Fish and Game to do anything unless there’s a catastrophic break-in.” One
second homeowner was, “just stunned that there aren’t public agencies that can do
something about it [the bear situation (2008)].”
I really feel let down by the agencies that we pay a lot of taxes to . . . and the longer they take to get to the point where they’re taking some workable, useful action, the longer they take, the bigger the problem [will get].

**Acceptable Approaches for Addressing Black Bear Problems**

**Prevention**

Appropriate approaches for addressing problem black bear encounters included preventive measures, the kinds of support and response systems they hope to access, and who is the most appropriate party to intervene. Residents and second homeowners expressed a willingness to use a wide variety of direct deterrents and interventions before seeking outside assistance. Among the deterrents commonly expressed and recommended by the BEAR League, a local bear advocacy group, were using Pine Sol or ammonia around windows and doors, leaving on lights, playing the radio, and closing doors and windows when away. Others secured trash by placing it in a metal bear box, and did not store it near a door inside their houses. Several second homeowners indicated that they haul all garbage home when leaving, while residents noted they removed trash from compactors when going out of town and separated paper trash from “bear”/food trash. In more extreme circumstances a few residents and second homeowners expressed a willingness to use “nail carpets” by the door, electric fencing, and to even shoot a bear, if threatened. When bears were present, most residents and second homeowners indicated they made noises by yelling, and banging pots and pans. A few used projectiles such as a garden hose, fire extinguisher, or a paintball gun to get a bear moving.

Agency efforts also reflected a desire to prevent problem encounters before they arise. They included the desire to address situations promptly, implementing measures to
promote safe food and trash storage in state parks, and participating in inter-agency meetings on bear issues despite budget and resource limitations. One wildlife official expressed the desire to “resolve issues in a prompt manner that is conducive to the situation” to prevent

creat[ing] an anti-bear sentiment . . . . You can vilify these animals to where people in places, if they don’t feel like they’re getting resolution or if the problem’s not getting solved, . . . . They’ll take matters into their own hands, and they do that with wildlife issues quite often. We find shot bears in areas all the time. We find people who are, . . . . people put out poisons.

The campground reservation system in California identified campsites with bear resistant lockers and their dimensions (prior to reaching 100% placement), and state parks prioritized efforts to install them in every campsite in the Basin. A state park official in Nevada noted

. . . [w]e spent about $60,000 on modifying all of our dumpsters with heavy bear-proof lids and we purchased all of these commercially constructed bear-resistant, . . . . By the way, any time I say, “bear-proofed,” there’s, we all know there’s no such thing as bear-proofing. It’s become bear-resistant is the best we can hope for.

Law enforcement officials in Nevada, “participat[ed] in the Sierra Front Working Group to try to come up with strategies to reduce those conflicts” despite budget constraints, and noted it “shows our commitment to reducing these incidents.” Their mission and their “primary focus is law enforcement and dealing with people, . . . . This [bear issue] is sort of a secondary issue.”

Residents and second homeowners needing assistance were somewhat mixed in whom they contacted for help, not only because of response time, but also because of
uncertainty related to their widely varying understandings of intervention possibilities and outcomes. Wildlife law enforcement officers observed,

Generally you’ll get . . . four citizens in the Basin, one will call 911, one will call the BEAR League, one will call his buddy, one might call Fish and Game, one might call the PD [police department]. They all have different avenues to get there. We give wildlife pamphlets [and leave it up to them] . . . . Information is going to be disseminated one way, or another [to Fish and Game] . . . . It’s all based on their perception. What we deem as a sighting in their mind is an absolute threat . . . but you can’t negate those things until you . . . .

Relocation and Misunderstandings About Policies

Both second homeowners and residents alike expressed a preference for relocating a problem bear, unaware of policies in both California and Nevada that prevented such a procedure. Although many of these participants expressed this preference, wildlife and law enforcement agencies were fairly unanimous in their views that relocation is not an acceptable option. Among the reasons given were that an agency is “legally liable for whatever a bear does from the point it is moved,” “the bears are back before you’re home,” “it’s cruel to the animal because it has to compete with other animals already in the habitat where it is left,” and “studies have shown that lions and bears will travel hundreds of miles to go right back to the habitat they were in.” One law enforcement officer related an experience from his childhood,

Back in the ’70s they were still trapping bears and trying to relocate them thinking that that was still a viable way to take of bear problems . . . . They would pick the bears up from Yosemite and take them over to the Eastside, and then of course those same bears would be back in the same campground two or three days later because they knew exactly where they were going.

Perhaps part of the confusion on the part of homeowners with respect to relocation arises from the differences in how California and Nevada addressed problem bears. While
Nevada will trap and release a bear in place with aversions, California would trap and destroy a bear. During the field research California’s approach was beginning to change to include the same aversion approaches that Nevada already used. But some California wildlife counterparts still had concerns about the efficacy of Nevada’s trap-and-release programs, relating

My sense of that approach is that it isn’t working and the reason why I say that is California is now receiving all those tagged Nevada bears. They’re staying out of Nevada—good for them, but now they’re coming into the Basin and becoming our community’s problem.

We’re working with Nevada on kind of tailoring their program ‘cause we’re getting a whole mess of bears with red ear tags that have been killed under depredation . . . because they were captured because they were a nuisance and then they’ve come across the state line . . ., or they’ve been released or what have you. So we’ve had to work with them on . . . “Can you reconsider where you’re releasing them?”

*Non-Lethal Approaches*

In the absence of relocation as an option, most participants preferred non-lethal approaches. Residents, largely second homeowners, had very little knowledge of the range of possibilities, however. Many participants, but especially second homeowners, considered timing a greater issue than the type of intervention. One long-time second homeowner related that,

[to] scare them off? If you can see ’em [the bears]. That’s not the major concern. It’s when we can’t see ’em and you’re not here.

I would say [I’ve had] one or two maybe opportunities to do that [use paint ball gun, mace, or rubber bullet (non-lethal approach)] in the last 40 years of being up here.

Whether prompted or already knowledgeable about non-lethal interventions such as paint ball guns, noisemakers, rubber bullets, or bean bags, most resident and second
homeowner participants supported using paint ball guns either themselves or by a third party such as the BEAR League or a law enforcement official. A few individuals supported a non-law enforcement third party using rubber bullets as an intervention, but only with proper training and certification. Those participants who opposed the use of paint ball guns or harsher projectiles tended to oppose owning or using any sort of gun. Participants mentioned and supported the use of a variety of non-weapons-based non-lethal interventions such as education and amped up compliance programs, incentives such as “Bear Safe” logos for restaurants, supplemental feeding, birth control, and creating bear rehabilitation and sanctuary programs. Campers volunteered creative ways for gauging camping experience and monitoring food attractants such as including a quick five or six pertinent questions about the camping area where people are going to be when making a reservation and even . . . things like vehicle inspections. Just random. How you’re packing . . . . If you have ten bags of dry food . . . “Well, that’s not going to fit in our locker. How do you plan to store it?”

**Transition from Non-Lethal to Lethal Approaches**

When queried about the transition from non-lethal to lethal approaches, resident and second homeowner participants still largely opposed killing bears, and for some there was never a reason. Under certain extreme circumstances some participants relented that there was not any other option. Those included, “if a human is harmed, but not for damage, even if a house burns down because it is an accident, lethal approaches not justified for damage”; “immediate threat to life: bear is on top of you and face is in its mouth”; and
if there was a bear attack in my neighborhood I would feel I was being threatened, also if it wasn’t a provoked attack . . . go after someone, maul them, . . . if there was a bear breaking down people’s doors and eating their ice cream on a regular basis, but not if one time, wouldn’t worry about it (X times, but really don’t know). It would be okay to crate it up and euthanize it if they have to, in a humane way, if it was a habitual thing.

Law enforcement officials, who can use lethal force on a bear, considered this approach with similar reluctance.

It’s not my spot nor the men or women working for me to use lethal against the bear unless that bear is providing an imminent and direct threat to human life, be it one of us or someone else and that’s the only time we’re going to kill a bear. And, unfortunately, every few years that might happen where you have a bear inside a home who is being aggressive toward human beings and is failing to respond to noise, aversion, anything else in order to get it to leave.

It’s only when the bear is actively aggressive towards people that we have to take a lethal intervention. And that’s just a real rarity.

The decision is made once all other options have failed and/or there is an imminent threat to public safety. That’s when the decision is made. And when all other options have failed and it’s determined that nothing else is going to work and the bear needs to be removed because it is a threat to public safety at some level, or it has destroyed so much property or continues to destroy property, again that’s a depredation issue. That is a Fish and Game issue.

A county law enforcement official emphasized that when a bear is killed because we had those voices of the BEAR League and Lake Tahoe Wildlife Care saying, “The Deputies did the right thing. It was just a bad situation.” When the community supports, when you have to make a call you don’t like to make, that’s the difference between having a conflict in your community and having a success.

**Appropriate Intervenors: Boundaries and Challenges**

When a situation arises staff in some public agencies in the Basin emphasized the ways that they coordinate and form partnerships with other agencies and organizations, including the BEAR League, to respond, but there are distinctions in the roles public agencies consider appropriate. While some first responders viewed citizen intervenors as
appropriate as long as they were not “plac[ing] themselves into a situation where they’re
going to get hurt,” others viewed their role most appropriately as “eyes and ears,”

“educational compound,” a “rehabilitative source,” and a

funding source for us to have the tools that we need to do our job and probably
more than that, anything else, they become a voice in the community to educate
on how to deal with bears at the lowest level . . . . They do 10 times more
education than we’ll ever do ’cause they’re out there doing it all the time. So, that
is their role. Their role is not to be the enforcers. It really isn’t. In my mind that
is where the line in the sand is drawn.

This sentiment was equally shared by all participants in law enforcement roles. Among
the concerns raised were that private citizens lack training, acuity, and experience using
weapons.

Police officers are inherently well-trained. We go through police academy. We
go through recurrent training. We go through advance officer training. We have
quarterly range qualifications with different types of firearms. And we have to be
absolutely cognizant of our backgrounds. If I’m going to shoot something over
here. What’s behind it? If I miss what I am shooting at, where is that projectile
going to go? There’s a golf course, there’s a grocery store, there’s cars parked,
there’s traffic, there’s pedestrians. Myself and the men and women that work for
me are pretty cognizant of that fact. It is built into our training
day after day after
day. We live that every single day of our careers. If I have to use this firearm to
defend myself against someone else . . . ? If I have to shoot somebody over there,
what happens if I miss? Again, a volunteer, unpaid in an organization such as the
BEAR League, I have no idea on what kind of training they have got, what kind
of recurring training they might have, the actual knowledge of the operation of the
firearm and/or weapon or delivery method of whatever the projectile might be . . . .
It might a situation where if I’ve got to shoot a bear right here and I’ve got all that
behind me. Boy, there’s a big dirt mound right over here so if I just move 30 feet
it’d mitigate the danger downrange significantly. So, a peace officer will look at
that and evaluate the situation. I don’t know that I would be comfortable having
an unpaid citizen volunteer with a limited amount of training, if any, making
those same decisions.

Moreover, another county law enforcement officer emphasized that,

Doesn’t matter [if a citizen has the kind of training that law enforcement does in
weapon deployment]. They don’t fall under that scope. Peace officers are
exempt when it comes to deploying those firearms . . . . You’re exonerated . . . . These other folks aren’t peace officers. They [citizens] don’t have those same protections, civil and criminal protections that we [law enforcement] have when we’re doing our jobs.

Law enforcement officers also point out that it is unlawful for a citizen to discharge a firearm in a public place.

Despite these reservations, public agencies were fairly unanimous in their support and commendations for the educational role that the BEAR League provides.

**Complications in Interventions**

These constraints create a bit of a conundrum, however, as numerous county law enforcement officials point out.

From my personal experience, I don’t think Fish and Game plays a big enough role, probably a lot of it has to do with the fact that they have limited resources and people to deal with the problem, which leaves us stuck having to mitigate the problem temporarily. As you can tell, we’re the first point of contact. They’re going to say, “I need help, I need this.”

That question [of an appropriate intervenor] is sort of difficult because it’s a wildlife issue, it should be a Fish and Game call. And, the thing is, there is no Fish and Game here [in the Basin]. The nearest Fish and Game guy might be hours away. They don’t have somebody that is assigned, and that works this area, who lives locally, who is here all the time. They have Fish and Game wardens that cover hundreds of square miles so he might be hours away.

The issue is we don’t have a full-time warden up here, yet a huge region, so who’s going to get the call. We are.

A wildlife enforcement official related,

In dealing with wildlife it’s a no-win, really. You know, it’s either there’s going to be those that want a predator-free zone. They want you to come in and wipe everything out, and there are those who don’t want you to touch anything. “Animals were here first. Leave them alone, they’re doing what they do.” Well, somewhere in the middle we come in and we try to make our best and most well-informed decision about how we’re going to deal with these situations. It can be precarious . . . . I have been there a number of times, a couple of times pretty
high-profile wildlife incidents, and you gotta make decisions.

Besides differing opinions about what interventions are acceptable, wildlife officials face complications themselves in implementing them,

As long as he [the bear] hasn’t been trapped you have the trap as the last resort, but when you trap him, you should do away with him. Because if you turn him loose he’s going to go right back to his old tricks again because that’s his career. He’s become a career criminal, basically. So he’s gonna go right back and start getting in houses again, but then he can’t get caught. Because he’s scared of the trap.

Law enforcement officials address the public’s apprehension to an aversion with education.

Occasionally we get a weekender, a part-timer, a second homeowner that wouldn’t have a clue and would get upset—“Don’t shoot that bear.” It’d simply be a matter of diverting attention. “It’s non-lethal ammo. We’re running it out of the neighborhood,” and then they were fine with it . . . . Told all my people that were doing it, “Stop, take the time” because word of mouth, . . . they’re going to tell somebody else. Word’s going to get all over. Little community like this . . . .

One deputy on the West Shore talking to the right person . . . .

Other law enforcement officers have a less optimistic view on the efficacy of less-than-lethal aversions,

Far as the bear aversion practices, we have been doing this for over eight years now in this area, and for the most part, the numbers just keep getting higher and higher. So clearly it is not having a positive effect and that’s one of the reasons why I said, “We’re not going to be using the bear rounds anymore,” just ’cause we’re just asking for trouble.

Still another state park law enforcement officer thinks “that bear aversion is not successful for a long-term fix, but that it does address the immediate situation,” adding, “the long-term answer is food storage and education.”

First responders have also had to adapt their interventions over time as the situations have evolved. One law enforcement officer reflected,
I think that the program we have in place now tends to work. Unfortunately, the overall design of it, and the theory behind it was originally developed to deal with bears outside . . . . Now we’re dealing more and more with situations where we are encountering bears that are inside, in the process of going inside or outside the structure. Use an aversion, you have a bear in a living room and you go in and shoot it in the butt with a rubber slug, you have to have an exit point for it. Otherwise you’re just going to create more damage by now having a bear who’s scared . . running around inside of an enclosed structure. And so, quite often what we will try to do is identify an exit point, use whatever techniques we can, usually noise, banging on the doors, pots, pans, horns, sirens, noisemakers, whatever. Just get the bear out of the residence, and then we can deploy the aversion techniques we’ve had and have used and have trained for outside such as noisemakers, rubber buckshot, pepper spray, those kinds of things to then scare the bear away from the structure completely. But we have had to adapt our techniques over the last several years from mainly being designed to be utilized outside, to a situation where now quite often we’re responding to calls with bears inside structures.

Depredations and Problems

Finally, obtaining depredation permits and trapping bears was and still is clearly considered a contentious issue by many participants. County intervenors note there is a bit of self-filtering that takes place,

Granted the people that are calling us have probably had some contact with either the Sheriff’s Department or Fish and Game and are aware of our role and that it is a role in which bears are euthanized, and so I think there’s a significant number of people that don’t call us because of that. So the properties we see are owned and operated by people of a certain viewpoint. So that does, it is biased just by the nature of, by the time we actually get up to the Basin with a trap, it has gone through some certain filters, if you will.

And while the wildlife agency,

Generally . . . feel[s] that we are capturing the right bear the vast majority of time. Personally I would like to improve that through genetic testing not just by gathering evidence at the scene and comparing it to the bear we end up killing, just to validate my assumption.

Other law enforcement officers acknowledged, “Unfortunately, they don’t always get the right bear. That’s the problem.”
It’s none of this “go back a week later and trap it,” and hope you get the right bear because in most instances they don’t.

A lot of times “they” tell us we caught the wrong bear, and probably sometimes we do. We always try and catch the right bear, but . . . . Usually when we catch one [a bear] the damage stops for a while. You’re pretty well assured that it’s the right one.

No one would rather be more sure that I had the right one [bear] every time, than I. But, . . . traps are indiscriminate and until they can come up with some technology that won’t let anybody in except the right one, I don’t know what the answer is there.

4.2.2.5 Institutional and Structural Frameworks

Finding: The Lake Tahoe Basin is comprised of multiple jurisdictions and governed by overlapping laws, regulations, and ordinances, but bears seek food and shelter without regard to these geopolitical boundaries and frameworks. Structural sources and gaps found in laws and regulations contribute to human–black bear encounters and complicate efforts to address them.

Multiple Jurisdictions and Legal Frameworks

The Lake Tahoe Basin is comprised of two states, four counties, and two cities, and includes the federal national forest lands within the Lake Tahoe Basin Management Unit, multiple state parks in both California and Nevada, as well as numerous state, local, and private beaches, parks, and picnic areas. A review of the laws, regulations, ordinances, and homeowner’s association rules governing these jurisdictions is detailed in Appendix 4, Legal and Regulatory Frameworks Governing the Tahoe Basin. This discussion focuses on those structural frameworks that contribute to, or exacerbate, problems arising in human–black bear encounters.
One participant who had visited the Basin part-time and then became a full-time resident and homeowner reflected,

Since living up here. It’s very, very complicated. You’ve got five counties, the Basin itself, two states, five counties, and there’s only one place that’s incorporated that has control of its own destiny. And then you got utility districts. Like Incline Village has their general improvement district. So they formed a special district to handle certain things, but it’s not like a general government. It just makes decisions about capital improvement dollars and so forth, and you pay into that. So we have the North Tahoe Public Utility District that does recreation, water and sewerage . . . . And then Tahoe City Public Utility District, I think they do the same thing, those three things. And then on the West Shore and parts of North Shore you’ve got these little enclaves that have their own private water companies, for example, that service them. So the Tahoe City PUD may handle their sewerage, but not their water. So it’s all these little, . . . . It’s very provincial in a lot of respects, but it’s carved up in a way from political will or enforcement of anything on a broader scale, it’s very difficult . . . because different jurisdictions want to handle things differently. So you’ve got this corner that’s Placer County, and in some cases with respect to bears, for example, there might not be a lot of disagreement from county to county or jurisdiction to jurisdiction on how it gets handled, but when you go to enforce things. That’s when you run into TRPA. It’s the one agency that’s sort of Basinwide, and so everything comes up against, wherever you’re coming from, everything comes up to them, but this [bear issues] is the type of thing. This isn’t really in their charter or their mission.

**Innovation in Approaches Stifled**

The inability or lack of flexibility to innovate solutions was evident in several situations participants discussed when attempting to address problems that arise in human–black bear encounters. Participants working in public agencies acknowledged concerns especially around trapping and killing the wrong bears, the inability to relocate bears to suitable habitats, and funding constraints that prevented collaboration among agencies. A number of participants, including residents and some public agency personnel, raised concerns about depredations that kill the wrong bear because of indiscriminant traps. One county official noted,
based on a couple things, it’s out of our ability to release [the wrong] bears for one thing that have been caught. We just don’t have the regulatory authority to do that based on Fish and Game regulations and for liability concerns, . . . and there’s no way to do targeted trapping, so it’s really . . . . That part is somewhat unfortunate in certain circumstances.

A law enforcement official in Nevada reflected,

There are political dimensions to that such as, . . . The Ruby Mountains out by Elko is suitable habitat, however, it is ranching country. And the ranchers feel that the bears will eat their calves, etc. So he [NDOW] is legally prohibited from doing it [relocating bears] by sta[tute] . . . . The feds could probably do it because on federal lands they don’t have the political dimensions . . . . Because he’s a state employee and the ranchers have more voice within the state, he can’t do that.

A staff person with a local environmental management organization reflected,

If we could have all come in and said, “Yeah, we’d each spend $10,000 from our agencies” then maybe the group could have continued to function. But if you can’t fund a group, you can’t, you can only go to a certain point . . . so . . . .

To Regulate or Not? Policies and Law

Feeding Bears

Feeding bears, intentionally or unintentionally, created anger and concern both for doing it, and for not being able to legally do it in times of drought. In some instances county law enforcement officials received complaints about people intentionally feeding bears to see them, but related their inability to respond to calls.

We get calls on people who are actually putting food out so they can attract them so they can see them. That happens a lot with second time homeowners. It’s not a huge thing, but it happens.

Have gotten a couple maybe this year [calls about feeding bears] this year [2007], but it is always, “Is it happening right now?” And even if it is, I don’t know what we can do about it.

But then, there were also rumors of providing supplemental food to bears through back-country food drops to deter them from homes during especially droughty years, such as
2007 when much of the field research occurred. The California Department of Fish and Game explicitly stated,

State and federal regulations prohibit the feeding of wildlife. Even if a food drop effort were to be entertained, an environmental assessment complete with documented impacts would need to be presented to the appropriate agencies according to California Environmental Quality Act standards . . . . This is a bad year for bears and bear problems. In fact, the drought-related climatic conditions across much of the West are detrimental for most mammals. During such time, it is best to let animals stay wild and adapt to changing environmental conditions as they have been doing for millennia.

Participant support for supplemental feeding despite its legal status was mixed. On the one hand, it was “the craziest idea ever, but seems to be working,” “seems like a stopgap,” “It’s a joke,” “ridiculous because it’ll make the problem larger—can’t feed wild animals. Bears will have more babies and population is out of control.” Others wondered about the bears’ welfare,

I don’t really like that idea . . . because then you’re feeding the bears. You might be feeding them somewhere else, but you’re still feeding them. I think the goal is to make them a wild species again. They should be 300 pounds and mean and out in the woods, as opposed to 900 pounds and can barely walk. [laughing]

Others not only supported the idea, but supported exploring its legal status,

. . . heard about in Summer 2007 from . . . homeowners association who heard through community; numerous people contributed money to support this effort—hopefully it helped.

I know they were talking of trying to lure bears back by planting food sources, which to me, I don’t know the science of it well enough, but that sounded like a great idea, but until you eliminated the food source down here . . . .

I largely attribute the fact that 2008 has been so much quieter than 2007 to that because I don’t really have anything else to attribute it to . . . . There’s gotta be a reason this changed or this is happening, apparently maybe that’s part of the reason. So I would want to talk to somebody who knows how these things work, about whether these food drops actually are effective. If they are, why they’re not legal, and maybe we should make them legal.
Relocation

Although numerous agency personnel believed that relocating bears was an ineffective practice, a few law enforcement participants within state parks and the county also referred to legal precedents that prevented relocating bears. Neither participant could pinpoint the exact details of the case, but knew the outcome.

The minute we touch that bear, by law we have to put an identifying mark on it (ear tag or whatever). We are legally and financially responsible for whatever that animal does for the rest of its life. So, if we move it somewhere, and it breaks into something else . . . whoever moved it, whether it’s Fish and Game, or State Parks or whoever. It breaks into something, we bought it. All the damage, all the problems, we are responsible, once we touch it, and move it, we are responsible.

That is case law . . . .

There’s a lawsuit where the Fish and Game moved a mountain lion to another part of the state and it killed somebody. So they got sued and so they ended that practice of relocating wildlife. Yeah, it was over a mountain lion, so they applied that to . . . .

Gaps in Regulation: Trash Collection, Building Codes, Feeding Wildlife

Participants also pointed to instances where the lack of regulation exacerbated or contributed to problems arising in human–bear encounters. One homeowner observed,

So for example, in Kings Beach, on the beach itself, it’s a state beach recreation area. There are garbage receptacles and they are bear-proofed, but along the main street there aren’t any public garbage receptacles. There is no mandatory garbage collection up here. People burn their garbage in their fireplace. People put their own garbage in neighbors’ garbage [chuckling]. So there are pretty fundamental issues just around garbage in general . . . . Well, there has been discussion about mandating for every property that you just automatically get set up on and you are charged with garbage collection, but that is very controversial subject. (May 2008)
Another resident called for building codes that require structural upgrades such as
double-paned windows and solid-core doors. Short of passing a law at the state level, a
wildlife agency participant called for conditioning permits for new developments,

We tell, when we get . . . . The county or developers will solicit our input on
these developments. We say, “Mandate, tell people that they can’t be feeding
wildlife.” It never gets put in. We’re just blowing hot air . . . . We need a law . . .
at the state level, . . . need ordinances that mandate that all new development must
have this law.

because Nevada state law (unlike California) does not prohibit feeding wildlife.

Agency Policies Create Personal Risks

Agency policies also exacerbated problems on a personal level.

Wildlife management people tend to say that they won’t respond to the
homeowners association as a collective and that if you have an individual
complaint, you take care of it through us. But to the extent it gets aggressive, for
example, efforts to trap the animal, they warn you that people who are so-called
eco-terrorists or bear huggers will potentially damage your property, so you better
lie low and do this in a very [inaudible] way. That’s a lot of unresolved stuff.

I felt like we were put in a position of becoming vulnerable, when it should have
been a public service because the wildlife management person identified the fact
that once the bear has broken in, he’s a dangerous bear, and he’s going to
continue to break in.

I think it’s an irrational expectation that individuals like [us] would take a permit
to have a bear problem mitigated, like us doing something to kill the bear. That’s
a non-starter as far as I’m concerned.

I think that’s a state legislature issue.

Another homeowner reflected,

That gets back to that fear of someone . . . . It’s a small town, and there’s a fear of
being the one that traps the bear and getting your name in the paper or something.
“Oh, this bear, oh . . . .” So that’s where that hand-wringing . . . . That’s where if
maybe if it’s a government agency doing it for a group and it’s not an individual,
have to be the guy that traps the bear . . . . We ran into that problem, actually,
here in the neighborhood. There’s a homeowners association, and the
homeowners association wanted to have the homeowners association tell the Fish and Game they need to come up and trap a bear, and the Fish and Game I think said that one person has to be the one that makes the complaint. That’s the way the rules go, and everybody didn’t want to be the one that makes the complaint. “It’s gotta be somebody who’s not a local because they live in this town” . . . .

Another homeowner who had suffered multiple break-ins added that he,

hoped that the Department of Fish and Game would have had something, uhh, a little more relevant, more appropriate they would have within their powers to do. I.e., I heard that in other states as soon as there is a report of an incident, and they can reasonably identify the bear, they tag the bear, they move the bear, if the bear comes back they tag it again with a different color tag, and if it comes back a third time, it’s finally eliminated. But, umm, they apparently don’t even have that power from what they told me in California to relocate. It goes directly to, if you can prove which bear and that it was in the last X number of hours, we’ll give you a depredation permit, and you can hire a private hunter to kill the bear [laughing]. There seemed to be nothing in-between.

4.2.2.6 Problem Human–Black Bear Encounters Are Synergistic

Finding: Black bears and people are inextricably tied together in this mountain resort community/study area both in how they interact among themselves and with each other. Human–black bear interactions are synergistic.

Black Bear Adaptability to Human Responses

One resident described his conversation with another resident about Rex barkers,

I said something to somebody the other day about the bear figuring out the bark tones and realizing it’s no longer a threat and this person said, “Oh, you’re giving the bear way too much credit.” I said, “I don’t think we give the bears enough credit. They’re figuring this out faster than we are.”

There’s a synergy in black bear and human encounters. For every adaptation that people make to stay ahead of problem encounters, black bears in Tahoe adapt in kind.

The synergy in encounters is evident in the physical changes the community makes in direct deterrents and in how black bears overcome them. As in synergistic relationships,
the combined efforts of people and black bears in the Tahoe Basin result in a level of adaptability and effort that exceeds what would likely occur without the encounters. They spur each other to be better.

*Barking Dog Boxes*

As the community adapts to address problem human–black bear encounters, so too do the bears adapt. This phenomenon is especially apparent with respect to deterrents and interventions. Both residents and public agency staff described situations in which they adopted new approaches to deter the bears, and the bears responded in kind. Second homeowners reflected,

... their answer to the problem is buy a recording of a dog barking, ... and a lot of them have been broken into. The opinion is, anyway, they may be good for a little while, but as soon as a bear recognizes the recording [laughing], it’s all over with.

I don’t think that works. It didn’t work for us. Yeah, after the first break-in we had it out, it didn’t even slow the bear down. Yeah, radios inside the house didn’t appear to work. We’re not even sure the barking dogs worked because we had two of them installed downstairs and the bear still came in the house.

We adopted both of those immediately. I bought two of the dog barkers. They ain’t worth a hoot. The bears know it. Fact is, the people who live there tell me the best thing to do is have the radio go on on a timer about 6 in the evening and have it going, either talking or music, have it going till midnight, and if you can, leave a light on. That’ll stop them more than the barking dogs. The barking dogs ... that doesn’t do anything.

*Refrigerators*

Numerous participants, including full- and part-time residents, also referred to a bear’s capacity to see and know refrigerators.

Both times they went right to the refrigerator. Any of the cabins that the bear can see a refrigerator, this is the local lore anyway, the bear is in. If they can see a
refrigerator, they put it together, and they’re pretty smart, and that’s what they did at . . . . First thing the bear went for was ice cream.

It actually got to the point where we think about bears every day because we don’t leave the house without putting a, called Rex, which is a motion-detector dog that barks. We put our curtains up so the bear can’t see in. Apparently bears can see refrigerators so you put curtains up. So we basically live our life based on when we leave the house worrying about bears getting in and making sure that we do stuff so bears don’t get in.

They’re breaking into houses because they recognize the refrigerator, for example. The same way where Yosemite people camp more, they recognize coolers. They just have those associations. And I think if food is scarce and with drought . . . . It’s not getting any better.

Participants from public agencies recognized this evolution as well.

If you go back to the trash bears, and not all of them, but they start out . . . . Then, next thing you know they’re breaking into, a lot of people up in the Basin and El Dorado County have freezers on their porches. So then they start breaking into freezers on the porch. Then they learn that box [freezers, houses, refrigerators] means food. “Oh, I see a box through that window.” Then they start breaking into homes to get to that box where there’s food.

**Metal Bear Boxes**

Participants even reported problems with bears breaking into metal bear boxes and the need to retrofit and modify them as well. One homeowner, “used a carabineer, but a bear threw it aside, then a combination lock, but the tumbler froze in the winter, and finally a locking padlock.” A second homeowner related,

I’ll show you the garbage enclosure. We had a clip on the top and the bear managed to get the clip off where the two doors shut where you open them up and dump things in and take them out the front. On two occasions the bear got the clip off. I didn’t think they had that kind of dexterity or whatever . . . . apparently the next morning it was on the ground, the doors were open . . . . We’ve had both doors . . . . In fact it just happened again. Son says, “I’ll get a carabineer and put it on there.” Well guess what? Carabineer’s gone and the door on the left . . . . No, no, ’cause the door is bent back on top which is what happened before. I replaced one of the doors because he got the clip off one other time and just bent the hell out of the door. Now I’ve got a bolt, and so far [knock on wood], so good
. . . . I’m waiting for him to rock it off the foundation . . . . He put 8 or 9” concrete piers that are maybe 2’ high into a 4- or 5”-thick slab underneath.

Another second homeowner related,

Once we put in the $1,000 allegedly bear-proofed box which he’s broken into twice . . . in order to release the latch you stick your hand up in this little cup up there. Well, the bear figured out how to get his tongue up there and open. Then the bear box people came and put an intermediate metal piece so you have to spread your fingers like this. Well somehow the bear is now getting in again. He figured out how to get claws in, so they have to get fix #3 in . . . . We did have our garbage all over the driveway about two weeks ago.

State Park officials also acknowledged that a bear had “figured out how to pull up on the lock and get into the food lockers.”

. . . unfortunately last summer, the Summer of ’07 in the DL Bliss campground where we had a mother teaching her two cubs how to break into cars. And they were not necessarily aggressive towards people, but they were very insistent that they were going to get to where the food was. She was teaching them how to break into bear-resistant food lockers. They were breaking windows into cars. They were peeling doors off of cars, and she was getting, and the cubs were getting very in tuned to where the food was and I actually spent a great deal of time getting called out in the middle of the night with this very specific problem bear.

_Aversive Conditioning_

Law enforcement officials in state parks and the counties bordering Lake Tahoe related that bears have also adapted to aversion methods involving the use of projectiles shot from rifles. In state parks,

We’re doing an active bear aversion on it right now. We’re shooting it every chance we get with rubber pellets, but it’s figured out that the spanking is worth the groceries and it’s coming back fairly regularly. We’re shooting it in the middle of the night . . . . Uhhh, almost on a nightly basis [we’d see it back].

The bear aversion is usually a short-term solution to the long-term problem of people equal food. People generally don’t store their food properly even after a great deal of education. “Therefore, I know where to get the food. I’m going to go back even if I’m going to get a rubber slug in my rear end.”
Law enforcement officers in each of the counties related,

The more exposure a bear has, the more brave they will be. The first time you shoot a bear with a rubber bullet, they’re outta there, but the next time they go, “Oh, okay I heard the gun shot. I felt the impact. Yeah it hurt, but you know my hunger hurts more.” So bears will, I’ve seen ’em. I’ve witnessed it personally, where a bear will turn in to take a rubber bullet. They’ll turn their butt into you. “Shoot me here, officer.”

He [the bear] certainly runs when he sees that green-and-white car pull up ’cause they’re pretty smart. Oh, they figure, “this is kinda like bad guys. Bad guys don’t like cop cars.” Bears that have been shot by cops with rubber bullets tend to recognize the car. They’re incredibly sharp . . . whether it works in the long-term or not, the jury is still out for me on that ’cause I’ll see the same bear over and over again that I know has been averted over and over again.

Our experience with the bear rounds, is that it works temporarily, but it doesn’t keep them away. They’ve learned. They hear our shotgun rack and they run off ’cause they know it’s coming. Oh yeah. You can go, “Shh, shh” [making sound of rifle]. A lot of times if the bear’s been hit before he knows what that sound is, and he takes off. And the moment he’s out of sight, we drive around the corner he goes back to the trash.

Intervening wildlife officials have found,

There’s been times when you show up and the bear sees you coming and they’ll put their shoulder out like, “Go ahead, give me my shot so I can get on with my meal.” That bear knows he’s going to get hit, and says, “I’m going to take that.”

4.2.3 Community Problem-Solving

Finding: The community addresses problems arising in human–black bear encounters through a wide array of direct deterrents and an informal network of community and escalating public agency interventions.

Community members address problems arising in black bear encounters independently through a mix of direct deterrents. They come to know about these deterrents through a local bear advocacy group, the media (print, television), personal
research, and word of mouth. When the problems reach a frequency or severity beyond their capacities, they seek assistance from a host of third parties, including a local bear advocacy group, local law enforcement offices, and state fish and wildlife agencies. The experiences and feelings about implementing direct deterrents and their effectiveness varied widely across the participants as did their preferences for whom to contact for assistance.

4.2.3.1 Learning about Direct Deterrents

A community living in a mountain resort that includes bear habitat faces both challenges and privileges. How its members embrace these challenges and privileges is evident in the peaceful coexistence versus problem encounters that arise. Community members, primarily full- and part-time homeowners, described a wide variety of deterrents they use to prevent problem encounters with bears. They come to know about these approaches largely through the educational efforts of the local bear advocacy group, the BEAR League whose mission is “People Living in Harmony with Bears.” The BEAR League works in the community in a variety of ways, but its educational efforts during the field research included operating a 24-hour hotline, producing and circulating a variety of educational literature, hosting Wildlife Wednesdays during the tourist season, attending homeowners association meetings, publishing a weekly Bear Report in the local newspaper, and working with young people and engaging them in variety of bear-related education through games, storytelling, and projects such as the Kids for Bears posters and Memorial Wall.
4.2.3.2 Transferring Education to Practice

Despite the extensive ways the BEAR League and public agencies work to reach the public and provide information, some find it, “an uphill battle.” In state parks,

This sounds cruel to say, but we can do all the education that we can and there is still going to be people that are really freaked out about bears, but if we do all that education I think we’ll have less of those people coming here and that will minimize that conflict.

A county law enforcement officer felt at some level,

It’s an uphill fight because unless somebody actually takes an interest of learning the information you’re providing, you can hand out all the pamphlets and put up all the billboards you want and they’ll go, “Well, that’s never gonna affect me,” until it actually happens.

One local organization described its educational efforts and progress,

. . . In my experience, I would guess residential customers are easiest to get the message through to, and then businesses and then homeowners associations cause we talked to a couple of homeowners association managers and they’re having a really hard time even getting the message to their tenants. The tenants don’t have a lot of incentive to care to lock up their dumpster because the bill or the fine goes to the property owner. So, I would guess as far as repeat offenders, homeowners associations are the hardest ones [to reach].

Responders in another county concurred,

Part of it too is an education process with the transient population that come through here, the vacationers, second homeowners. It’s kind of “out of sight out of mind” when they’re not here. So they forget that they left a week’s supply of God knows what in their refrigerator or their cupboard or whatever. They don’t remember to clean it out.

Another county law enforcement officer observed,

They put out all kinds of information in the summer about, the newspapers and the BEAR League and pamphlets and flyers and educational things on television, everything else about how to make your home less attractive, and yet you have people who come up here and vacation at Lake Tahoe who might see that information, might read it, but they also realize if we put food out on the deck
there’s a pretty good chance we can get a really great photo of BooBoo and the kids. Their deal is they just don’t care.

Still, a wildlife official believed education campaigns are more effective than ordinances. One participant felt “that most [education] is geared to tourists and renters; residents need something more.” A public agency staffer expressed the need for multilingual educational materials. Since the field research occurred, Spanish-speaking flyers are available and circulated.

Media, conversations with friends, personal experience, and research provided other avenues for learning ways to deter bears. One wildlife official added,

The media is the main outlet because the media gets to everybody. Only a handful of people get it in meetings. You get it in the paper, you get it on the radio, you get it on TV. You’re reaching thousands of people as opposed to just 40 . . . . The message is always consistent, but it can be delivered in a different way. If they’re doing a segment on a bear release, you talk about the release, and why you caught the bear in the first place. Trash cans, we talk specifically on the benefits of having a bear-proof trash can-type issues.

4.2.3.3 Direct Deterre

Participants described a variety of deterrents they use or rely on to prevent problem encounters. They included: wooden garbage houses prior to increased bear activity, then metal bear boxes, securing dumpsters, ordinances and homeowners association rules, cleaning barbeques after use, dogs, barking dog boxes, a variety of security systems, double-paned windows, boarding up windows and doors, a variety of things that make sounds and noise, changes in food storage, offshore grates at doors, treating decks like drawbridges, things thrown and projectiles (rocks, hoses, fire extinguisher, slingshot, paintball gun), things that smell (Pine Sol, ammonia, male urine), bear spray, nail boards at doors and windows, and electric fences.
Finding: Preventing and addressing problem human–black bear encounters is dependent on participants’ support for and willingness to implement these approaches.

4.2.3.4 Deterrents: Effectiveness and Frustrations

Participants’ dispositions toward implementing these deterents provided insights into both their outlooks and the potential effectiveness of these approaches. One resident felt,

The habits [of using deterents] become regular; for some people it’s extra. You learn how to change your living habits in the mountains. For example, [you think about] recycling, dog food, barbeques, and your trash can. Don’t leave food in the car, keep windows rolled up, and take food wrappers out of it. It’s not a big deal.

Another resident suggested the self-reflection: “What am I doing to attract bears? Not: They shouldn’t be here.” A county law enforcement officer echoed this sentiment,

You just gotta be a little inconvenienced to avoid any encounters with wildlife . . . . Yeah, this is inconvenient but what would you rather have done . . . the bear is only looking for food.

Some participants felt deterrents were, “Easy to implement, so why not?”, and that the community “had not exploited securing garbage nearly enough.” Others expressed frustration, lacked confidence about their effectiveness, and felt they were useless against a determined bear. Some flatly felt they did not work. Others felt vulnerable because they “could do everything just right, but because there are a lot of other houses who may not be taking the same precautions the problem will persist.” Law enforcement officers in two separate counties related, “he had this sprinkling device that would come on to blow water onto the bear. It had no effect whatsoever”; “We have certainly gotten more of that [frustration] this year [2007], of people ‘What can I do? This isn’t working, or
whatever . . . ,’ tells me, ‘or whatever the BEAR League tells me isn’t working.’”

Another county law enforcement officer reflected,

“Bear-proofed” containers, [so said because] for the most part the designs work if people use them properly, but you have people that will not latch them properly, will stack trash all around because they’re too lazy to open them up and put the stuff inside, and I’m sure there’s probably some of the earlier designs the bears have figured out.

One second homeowner described the extreme situation of securing his home from problem bears like a war,

. . . the facts are . . . . What can I say? Any of these things that are “deterrents,” in my mind, aren’t. And the only thing is steel. You’re going to just have to have a war atmosphere. You’re going to have to have barbed wire fence, electric fence, or steel bars or something that will override his [the bear’s] strength if you’re going to say “I’m going to do my best to fortify your home against attack.”

Budget constraints in public agencies create limitations outside of interest or desire to use deterrents. A state park official noted,

For years we did not have the money to properly bear-proof our enclosures, and so we just didn’t, and we suffered the consequences of all these human–bear contacts. From a funding perspective, you can only do as much as you can do . . . . There’s not too much that we won’t do to try to safely get a bear out of the park and to ensure that any attractant for them to return is removed. There’s not a whole lot we won’t do because we do put a high priority on it, but there are certain budget limitations in terms of how much you can do . . . .

When implementing deterrents, participants expressed resentment about the costs, felt they “had no choice because the downside is if you don’t do them you’re broken into,” and said they “don’t mind the pain in the butt, the expense if we can be assured that it will be successful. That’s why I am looking for other things, because I’m not counting on any help from ‘authorities’—period.” And, it was clear in conversations that some felt that implementing deterrents was not a simple adjustment,
People put nails on boards and stuff. . . . No [I don’t use them], ’cause I’m afraid I’d forget about it, and walk right over the top of it [laughing]. That’s the . . . . It’s so hard to come in and out of the house. That’s the frustrating part. You have to change your whole lifestyle to deal with it.

Law enforcement officers understand this sentiment, but emphasized,

I don’t think it’s our responsibility to tell . . . . You can tell people “this is what you can do” if they call for advice, but ultimately it’s up to the citizen or the individual out there to exercise some sort of responsibility, common sense, and they are ultimately responsible for their own safety. We can’t babysit them 24 hours a day. Some of the concerns they want us to address are unrealistic. So, ultimately, they have to educate themselves, primarily, to figure out how am I going to deal with the situation without upsetting whatever natural balance exists. There’s lots of people willing to give advice, the BEAR League, us, Fish and Game, but it all depends on whether or not they utilize that.

**Learning as You Go**

Through the interviews it also became apparent that what some participants viewed as deterrents and implementing them changed over time. A few participants indicated that you “sort of learn as you go”; others had been “ratcheting up over the years.” A state park enforcement officer conceded,

And, I had to go through the progression, even me as a professional biologist. I had to go through the progression because I didn’t want to spend money. Okay, I’m going to try this. I’m going to beat this bear. I’m going to try this. I’m going to beat this bear. I’m going to try this. I’m going to beat this bear. Finally at the end, I couldn’t beat the bear. I beat him by putting in something he can’t get into. And, he beat me.

Others admitted a seasonality to implementing deterrents,

once somebody sees a bear in the spring, the word is out and everybody starts locking things, and tries to shore everything up and then we go “Okay it’s bear season again.”, which lasts until another 3 or 4’ of snow again in December.
4.2.3.5 Community Initiatives

Incentive Programs

One local agency created an incentive program to help residents with the costs of placing a bear-resistant container. The incentive program covered 50% of the costs to buy and install bear boxes for 40 boxes a year. The first year (June 2005 to June 2006) money held. From July 2006 to June 2007, money for the program ran out. The success of the program is reflected in the numbers: 15 new people requested bear boxes in July compared to the same number of requests in the previous six months. One county environmental manager acknowledged the need and support for a subsidized program,

There has to be some sort of subsidizing program or something to be able to get these people on a more economical basis. Most people cannot afford to buy a $100 garbage can. So, I would love to see some sort of program where we could provide at a lower cost in bulk or something.

Community Watches

Besides implementing deterrents, some community members have taken it upon themselves to help keep the peace with bears through personal initiatives. Several full-time residents kept an eye on their neighborhoods through watches. One full-time resident walked the property every day checking on houses following an incident in their community. Another drove the neighborhood daily to look for problems around houses. A third resident described hearing the noise of a window breaking at night, investigated, and found a bear had entered and was still in the house. A resident and business owner who employs seasonal workers instructs and reminds them at start of the season to bring garbage to the dumpster rather than leaving it inside their dwelling, and to never leave any food outside. One lodging staff person instructed guests not to leave too much food
in their cars, or leave food on a first floor deck, and suggested circling the car itself to
check for bears that might be present in early or late hours. Another lodging facility gave
visitors flyers about not feeding the animals.

4.2.3.6 The Right Intervenor for Me

When residents encountered problems with black bears that went beyond their
capacities, they turned to a circle of first responders for assistance that included the
BEAR League, county law enforcement officers, and fish and wildlife agencies in either
California or Nevada. In state parks, camp hosts and law enforcement rangers provided
assistance or intervened. Both full- and part-time residents sought assistance equally
from the BEAR League and the Sheriff. One county law enforcement officer observed,

She [BEAR League] has her fingers on the pulse of the bear community up here
. . . . And, I think that their educational efforts have been very successful in
helping people come up with plans and solutions to try to deal because her
absolute goal is for bears and humans to live in as much harmony as they can.

A second homeowner who’d suffered multiple break-ins said,

We have been very diligent about calling [the BEAR League] . . . and just
reporting in to her, and I don’t see her as any kind of enemy or on the other side
of the issue. She was very helpful to us in pointing out some things that we could
do to protect themselves, which we tried to do. She was the one that put us on to
these bear devices, which seemed at least to make ——— feel better.

Another second homeowner remarked,

Some people have very, very negative attitudes about the BEAR League because
they’re all for protection, but second homeowners need their help because we’re
not in the Basin. So the BEAR League is helpful in enabling both second
homeowners and bears to live together.

And a full-time resident added,

. . . with respect to bears, I really think of the BEAR League, and I know they’re a
volunteer-based organization but I sort of think of them as the first line of
response who does the most immediate, local work . . . . I think they’re [BEAR League] very responsible to the needs and welfare of bears and so I trust them in that respect. I would love it if we had paid professionals that were available and on call but like a lot of those types of services up here, the response time is very slow especially during high season because we have limited staff.

A resident noted that if a bear was breaking down the door, they’d call 911 and the Sheriff will respond, but if a house is already broken into, the Sheriff advises them to call Fish and Game. Another resident qualified that if a bear is not leaving and appears threatening, they would call 911 and retreat into another part of house, and would not confront the bear any more than having to, particularly if there was a child in house. A lodging owner related that they called the Sheriff because it was the middle of the night and a bear was in a dumpster. The Sheriff averted the bear by shooting it twice with rubber bullets. Although it did not seem to faze the bear a bit by the lodging owner’s account, eventually the bear did give up, and left.

But parties in need also expressed reservations about calling either intervenor. One resident noted, “BEAR League education and report are helpful and welcome, but they constantly spin everything as peoples’ fault for problems; never a problem with the bears.” Another full-time resident felt, “I’ve talked to the people at the BEAR League and they have a lot of good ideas for things to do, . . . but I think they protect the bears at all costs.” A second homeowner who’d suffered multiple break-ins found,

Everyone involved from a governmental position has been incredibly unhelpful [laughing] . . . right up the chain. I had called the Sheriff’s Department prior to Fish and Game and they said, “We don’t do anything about that unless there’s imminent bodily harm to a human. So we can’t touch them. Call Fish and Game.” So that’s how we went to Fish and Game and they said, “How many hours has it been?” I said, “I don’t know.” So they said, “Call us when you know it’s been, whatever it is, not 12 hours.”
And a full-time resident added,

A lot of the problem up here with Fish and Game is that all of sudden we have a bear problem, but we have no Fish and Game people because of the budget. We have very few up here, and they’re the old school, where it’s like, “Hey you got a problem, shoot ’em.”

**Are Partnerships Possible?**

It is clear from the interviews that there are multiple paths for addressing problems that arise in bear encounters and those needing assistance have preferences and priorities among the possible options, yet the potential for formally combining resources remains unexplored. One county agency may provide some insights into the obstacles,

I really admire a lot of the work the BEAR League does. You can’t talk about bears in the Basin without talking about them because they are such a large organization, and very successful and well-organized, and I think they do a tremendous amount of good to educate people on how to avoid those conflicts and stuff. But at the same time, they have one perspective, and that doesn’t include . . . . There’s some real animosity which I think is historical in the large part and I think is improving to some extent. I hope it is significantly improving with Fish and Game and that relationship, but it has been very, uh, confrontational or just really not very friendly relationship. And as a result there’s basically, if a citizen calls the BEAR League they’re never going to be told, or very, very under the extreme circumstance where the BEAR League will even mention going to Fish and Game or seeking a solution from them, and because of that I think the citizen who calls them doesn’t get the full range of options and I know that can be frustrating for somebody’s that had their cabin that they’ve worked hard for many, many years to afford to have up there for their vacation torn up, “Well you should have done this, that and the other thing.” And they may have already done it and they’re not offered another option.

A county law enforcement officer offered,

They never supported the aversion. They, Fish and Game. They think [a neighboring self-taught bear expert] is an idiot. They have tried to arrest him on numerous occasions for different things because there are codes involving harassing wildlife, although if you’re harassing wildlife that’s causing property damage, there’s no law against that.
Echoing reservations about Fish and Game’s role, another county law enforcement officer added,

Fish and Game pretty much has one, well, perso . . . . I’m grossly underestimating what they do, but what we see them do is the one thing, they issue depredation permits. I’m sure there’s little more studies and stuff they do behind, but as far as contact, we don’t even see them around . . . . So it comes upon us and the BEAR League to do aversions for the bears.

Despite or because of these differences of opinions or worldviews between first responders and the wildlife agencies, some partnerships do exist. Another county law enforcement officer offered, “And both [Lake Tahoe Wildlife Care and BEAR League] of those have been very, very helpful and good partners to us in law enforcement in dealing with some of our bear issues.” County environmental health staff similarly echoed this sentiment,

I so respect what those [BEAR League] ladies do. I back them up. If they call me and tell me there’s a problem area with a bear and I can help with maybe the trash issue, then I’ll get my guy out first thing in the morning. I’ll coordinate with them if there’s a problem, and there’s something I can do on that end with an agency action, with the system if you will, then I’ll be there.

While other working relationships do exist, they are largely informal.

**Necessity or Default?**

As the immediacy of the need for a response grows, first responders and those in need are pressed to reconsider the boundaries of traditional roles. Unlike the boundaries someone feels personally in who they turn to for third-party assistance, these boundaries relate to the ones established between organizations and the roles they fulfill. County law enforcement agencies are especially familiar with this demand, whether the threat is imminent or not. In their minds,
it should be a Fish and Game call. And, the thing is, there is no Fish and Game here [in the Basin] . . . . They have Fish and Game wardens that cover hundreds of square miles so he might be hours away. And they are not necessarily as well equipped at times as we are with aversion rounds and things like that. People call all the time and say, “My God, there’s a bear walking down the street.”

The issue is we don’t have a full-time warden up here, yet a huge region, so who’s going to get the call. We are. So we have to take a proactive stance in what we’re going to do.

A participant with a local agency, thinks

it [diversionary methods] has to be consistent. I think the diversions, the negative reinforcement that has been done here in town is done few and far between because it’s done with a trapped bear . . . . I would like to see everybody who’s involved with a city agency with a shotgun with rubber bullets, and whenever anybody sees one [a bear], you stop and shoot it.

Intervening local citizens groups challenge those boundaries as well. A former law enforcement officer believed innovations are possible with caveats,

They have to be well acquainted with each other before they try and share that space because their goals are different . . . . They [citizen’s group] would probably be the protection of the bear, and the peaceful living of the bear in the community. The Sheriff’s goal would be eliminating the problem of the bear because they can’t stay there and babysit the bear, and make sure it doesn’t come back and threaten these people. And, if they [citizen group and Sheriff] don’t interact and [inaudible] that it’ll be more of a conflict between them than with the bear and that’s why we get this stuff in the news.

Second homeowners raise the bar even higher so far as immediacy is concerned,

“Probably nobody [can intervene appropriately] if the bear is in the neighborhood. By the time you call an appropriate party, the bear’s not going to be there.” And so, the calls for innovation are clear.

Finding: While the community gathers in a variety of ways where black bears are a part or even focus of the discussion, few, if any, participants have attended a facilitated community meeting in which every attendee has an equal opportunity to speak, raise
concerns, and have them acknowledged or addressed, much less through collaborative problem solving.

Very few, if any, homeowners had attended community gatherings that focused exclusively on bears. Others indicated they tended to avoid meetings, in general, or were not aware of any such meetings happening. Despite the fact that few participants had attended a community forum focusing on bears, there was plenty of interest, ideas, and suggestions on how best to plan for one. Participants offered strategies, suggested the best timing/season and ripeness, the important issues and people to include in the gathering, and some of the outcomes they hoped for. Participants in public agencies similarly offered suggestions on strategies and logistics, and had further thoughts on the important information and people to include.

4.2.3.7 How the Community Meets

Although most community members had not attended a facilitated community meeting focusing on bears, they had attended a great variety of meetings in which bears were either the focus, or were mentioned at some level. Those meetings focusing on bears included BEAR League-sponsored trainings, Wildlife Wednesdays and Kids for Conservation, and a press conference at the Sheriff’s office following a bear depredation. Other meetings participants attended that included some discussion of bears ranged from public meetings around ordinances and coffee klatches with a county supervisor to homeowners association meetings. Many participants offered that bears are often a topic of conversation at local gathering places and parties, especially the current story or
encounter with a bear. Homeowners associations have invited the Department of Fish and Game to speak at their meetings and as a counterpoint to BEAR League outreach.

**Homeowners Association Meetings**

Homeowners association meetings tended to be the most likely forum for discussing bears, although these discussions have not occurred without tension. One participant noted that the homeowners association leadership holds back, and does not want to talk about bears. In meetings they have offered suggestions, and conducted a survey, but did not share results, which this participant considered odd. Another second homeowner related,

> A couple years ago, . . . members of the BEAR League and are relatively outspoken about what you can do . . . . So, they, in a totally unrelated part of the presentation at the property owners meeting—we get together once a year in a general meeting—said something about the BEAR League, which was accepted, but then unfortunately made a comment about killing bears, which a couple people objected to. So it kind of created a real hassle—just a little, couple sharp words were fired back and forth in that meeting [2006]. So then, we fast forward to last year’s meeting [2007], and nothing was said, but the BEAR League representative, . . . came and spoke. And a couple of people were there that had . . . . She spoke and people asked questions and made comments, and whatever. And she’s pretty aggressive. She said, “We can kill bears all day long. I’m a witness to it, but you don’t have to if you take certain precautions to do so.” Whatever. So after she spoke, then one of the other learned non-Board members presented a petition signed by everybody that had been broken in—there were 13, 14 names on this thing—citing the fact that they were unhappy with the situation and felt that, and really gave the BEAR League a lot of abuse, on their claiming to do the following but not having it be successful . . . . So suddenly we have this division of the people that have had the problems who are up in arms about it, their sympathizers, and people who think that there can be a better day, and then a lot of people in the middle, of course. So, it’ll be kind of interesting this year [2008] to see where we take it, and I’m quite confident very little will be said . . . . I don’t think it will because there’s been so many break-ins. It’s not going to be as heated. In the meantime, the people who were BEAR League sympathizers have resigned from the board. They did it for that reason. They just felt that they didn’t want to become a symbol of people to vent in public, a lightning rod for those people that want to vent about the bears. They have. So I think that’s why
they resigned from the Board because they’re just too committed to that to say “I can compromise my views and listen to you talk about shooting bears.”

Another second homeowner related, “The [homeowners association] manager doesn’t want to discuss it. She doesn’t want to be asked to discuss it [bears in homeowners association meetings] because there’s such a division among the members.” Yet a resident in the same homeowners association mentioned that, “At our homeowners meeting everybody told their bear stories. That went on for like an hour, but I don’t know that we got anything out of it.” Telling bear stories seems to provide a release, in some way, but rolling up one’s sleeves and working through the problems between people in these meetings was either avoided or remained elusive.

Public Agency Meetings

Many of the community meetings participants from public agencies reported attending were in conjunction with their work. These included informational homeowners association meetings, neighborhood watch meetings, Fish and Game Commission meetings, and public meetings to take comment on proposed ordinances. Others directly related to their work included meetings with City Councils, County Commissions, interest groups, park systems, and resorts. Some participants in public agencies were invited and attended a BEAR League “kind of recruiting thing, getting the word out, work with bears, we want volunteers, and this is what we teach” seminar, and Wildlife Wednesdays in Tahoe City, and gatherings sponsored by Lake Tahoe Wildlife Care. Public agency participants also mentioned numerous interagency meetings they had attended including the Tahoe Council for Wild Bears, the Sierra Front Working Group, and meetings with a California State Senator to discuss problem bears in Tahoe,
but they were not set in a public forum. Participants in public agencies came together in these meetings to develop uniform trash ordinances related to bears and informational bear brochures. The desire to seek relief from an extraordinarily busy year for bear activity and break-ins instigated the meeting with the State Senator.

**Formal Community Meetings Focusing on Bears**

Two formal community meetings focusing on bears occurred during the field research. Both were scheduled in November [2007], presumably at the end of the active bear season. An interagency “Bear Awareness Forum” held in Washoe County, Nevada focused on providing information to the attendees— noted as a “sparse 50” in the local newspaper (*NLT Bonanza*, 11/14/2007). Three agencies spoke and provided information. Nevada Department of Wildlife (NDOW) provided information and statistics on bear activity and explained its policies on relocating bears and food drops in the backcountry, both of which they did not support. The county Sheriff offered clarifications on when to call his office— imminent threat, versus calling NDOW—a bear wandering the neighborhood. Incline Village General Improvement District (IVGID) explained their trash ordinance and how to purchase bear boxes. The local newspaper expressed disappointment at the small turnout, particularly since two other meetings on beach access and defensible space each had 200 and 125 attendees, respectively, and because the agencies hoped to gain public feedback on uniform ordinances, and an amendment to IVGID’s ordinance they were working on at that time. One of the sponsors offered,

*It was kind of a good closing push for the season. And that was spearheaded by the Sierra Front Bear Working Group but since we had the prize for problem locations within Washoe County, we hosted it up here.*
A colleague describing the event added,

Basically what we did was gave a PowerPoint presentation. [NDOW] gave his presentation on the Nevada black bear and how they have narrowed their ranges of living space in the Basin. When IVGID came up, . . . spoke briefly and . . . spoke briefly and they showed us some PowerPoints and pictures of damage done by bears and the messes and the whole deal that we’re dealing with and then when I came up on the enforcement side there were quite a barrage of questions about that. “Doesn’t IVGID have enough money already? Why do you want to fine us for this?” . . . There again the point was made. “No, this is not a money generator. This is to contain the trash.”

A second meeting advertised as an educational community meeting and sponsored by Douglas County and the Business Council of Douglas County offered attendees the opportunity to meet with representatives of NDOW and the BEAR League to learn about “Why our area is experiencing more bear–human conflict, What is attracting the bears, and What can we do as a community to lessen the likelihood of bears being attracted to our neighborhood.” About 40 people attended this meeting (Gardner, S. (December 5, 2007)). A resident of South Lake Tahoe who attended was quoted as saying she was grateful for the information and bear-proofing tips.

No Evidence of Facilitated Problem-Solving Meetings

Although a variety of community gatherings do indeed occur in the Tahoe Basin, this research did not find any evidence of a facilitated interactive problem-solving forum having occurred. One homeowner participant would “welcome a community forum for actual community members—not something decided by outsiders.” Another homeowner felt it was “important that a community solve its own problems,” and emphasized, “We do not need an outside facilitator; let the community slug it out and work through it.” Others hoped for a more formal setting that worked with “an agency with proven
expertise in dealing with bear problems who can cite experience and examples of what worked well,” or “a group outside the Basin who people are willing to be open to.”

Another participant called for the responsible government agency to “take the responsibility on, and address it” instead of “avoiding the issue.”

Aside from differing opinions about who should lead such a process, public agency participants pointed out real logistical challenges to holding such a meeting. “It’s hard when you have all these part-time homeowners.” Echoing this sentiment, law enforcement officers in two counties added,

Because of the transient population up here, the only place that they get discussed is at the yearly property owner association meetings, and then it’s only if it’s been a highlight of the year, there’s been a bunch of bear encounters, there’s been a lot of publicity about it.

If you’re up for a week on vacation, you’re spending really good money. Are you going to take time out to go to something like that as opposed to you’re going to go jet skiing, rafting, water skiing, snow skiing, whatever? So quite often that target audience that might benefit the most to learn about it, they’re not going to come.

Homeowners believed, “People don’t want to take time to discuss the problems”; “People are too busy, but they are the ones broken into.”

Participants’ Conceptions of Community Meetings

It was also clear that most participants’ conceptions of a community meeting were largely focused on informational settings with expert panels (Pacione, 1988). Few seemed to have knowledge of meetings focused on interactive problem solving. Those who were familiar with this approach reflected,

. . . structure it so you get some good dialogue between people and hopefully get them to listen to each other. Try to get in a problem-solving mode rather than screaming at each other . . . maybe some activity. It’s a combination of a Town
Hall meeting as well as producing some kind of a publication that could be distributed to the homeowners. That might be a useful thing . . . . Maybe you have to get people to do some work.

Planning and preparing for an interactive problem-solving meeting would clearly involve more than simple logistics and invitations; taking time to familiarize community members with whatever process is used and potential outcomes would probably make the difference between attendance, or not.

4.2.4 Community Support Systems

Finding: Despite multiple paths and jurisdictions for addressing problem human–black bear encounters, participants expressed a desire for a more broadly trusted, impartial intervenor.

Participants, especially second homeowners, expressed a desire for an impartial third party/intervenor when problems arise. One second homeowner felt they lacked representation because of a disparate, dysfunctional homeowners association that typically only meets once a year. Compared to the BEAR League, who in their view is much more organized and has a more effective voice, individual homeowners are at a distinct disadvantage when problems arise. This homeowner added,

The people who are sort of for preserving the rights of the bears have a leg up in terms of communication and effective influence and so on. The homeowners, we have been dysfunctional about some kind of collective response.

Another second homeowner echoed this sentiment. This homeowner felt they had nowhere to turn when they needed help.

That’s the question. Who do you go to? You have nobody really to go to. Fish and Game’s not going to handle it. All these agencies are all too busy to be bothered with bears. And, so that’s it. You don’t know who to go to.
Another second homeowner felt frustration with and had a lack of faith in authorities ever providing the kind of timely leadership/support/decision making that would make a difference. Others acknowledged,

I can understand. I believe there is probably zero funding to support these kinds of activities [collecting statistics on problem encounters]. Unless there’s some way to . . . . It’s so diffuse and so little is known about most of what’s going on that government agencies probably don’t see this as a big problem.

A second homeowner added, “The homeowners association would not take it on [survey of break-ins/problems] because many members do not want anything to happen to the bears.” Another participant felt that an “anti-BEAR League” or other party would “give the other side of what’s really going on.”

**Finding:** There is a need for empathy when addressing problem human–black bear encounters both for those who suffer break-ins and the responders who are looking out for the welfare of the bears.

4.2.4.1 The Emotional Impacts of Break-Ins and Intrusions

When problem bear encounters occur, empathy can go a long way to soften the shock of the encounter, and foster emotional and physical recovery and a more constructive path into the future. Two dimensions of problem encounters illustrate ways where empathy can facilitate recovery rather than instigate and escalate conflicts. The first dimension relates to the emotional impacts of the intrusion and the damage. Participants expressed shock, anxiety about absences, trauma, feelings of insecurity and fear, frustration, violation, exhaustion, loss of a sense of control, and relief at being missed, among others. A full-time homeowner related their experiences as a witness when intervening for a neighbor,
You can’t even imagine what it’s like. If you’ve seen it, it’s just unbelievable what happens. It’s the ugliest thing you can imagine because of the condition of your home when you left, and then after this happens, everything’s ruined. It’s totaled. The carpets come out. All the floors come out. The cabinets, the refrigerator, the pan . . . . It depends on what the proximity was of the kitchen to where they broke in. They’re going in and out all the time. Go in and eat, leave, come back, eat some more, rummage through some more stuff . . . .

Second homeowners who experienced multiple break-ins described the longer-term impacts, “Every time [we] drive up there, when we’re driving up our street to the house we both have our breath held, and sometimes we talk about it because we don’t know that the bear hasn’t been there.” Another second homeowner who experienced repeated break-ins over two years related the longer-term trauma and emotional impacts they and their family felt,

For the last practically two years we haven’t had that [refuge getaway]. During 2007 it was actually oppressive. We would have to figure out places to leave the kids because we would be spending literally all day cleaning up bear filth out of the house. It was literally disgusting . . . the flies and everything. The raccoons would come in the broken windows following the bears to clean up their mess and the flies and everything that would follow them in . . . the smell, . . . you couldn’t call it a weekend house. We go up and clean up the mess and leave again. It became a place that we had to go work . . . . The kids were terrified to sleep there. For six months we didn’t sleep in the house . . . . Even after the alarm was put in, and we started taking the kids back there, for the first few months, they didn’t really sleep at night. They would come running into our room all night worried about whether the alarm was going to go off, and whether the bears were going to come, so emotionally the whole idea of a second home as refuge has been destroyed and we’re not back yet . . . . It’s a place of worry and dollars being poured and work.

While these homeowners were grateful for the support they received while coping with these impacts, there were still feelings among the community that when these situations occur,

There’s a group of the populace that absolutely, positively would never kill a bear, and it’s always the humans’ fault. “Oh, you’re just an idiot. If you weren’t
such an idiot the bears wouldn’t have gotten into your house.” That kind of mentality. And that’s a problem . . . . I think a large percent of the population doesn’t have that view because there’s so many people have been impacted by bears or their friends have been impacted by bears . . . . But there’s still a group out there. You almost feel like they need to have a bear come in their house when they’re not doing anything wrong and they can go, “Oh, well maybe they aren’t just idiots, maybe the bears are getting more aggressive.”

A full-time homeowner concurred, “they constantly spin everything so that it’s our fault. It’s never a problem with the bears that need to be dealt with . . . . It’s always our fault.”

Another full-time homeowner echoed these sentiments following two break-ins [came in while sleeping; didn’t even know about it; took stuff out of freezer (hamburgers, chicken, cereals, ate all the apricots and left the pits); scary cause we didn’t hear it; the only way out is to attack/ plow you over; second time came in bathroom window; same bear called Goldie, Fish and Game put it down (always our fault—window open)].

The responders, on the other hand, counter, They do not appreciate the BEAR League . . . . People think she’s some sort of a nut case cause she’s going out and doing all this stuff, and because they do not live here they do not know that she is there, 24/7 taking care of these bears, getting them out from under houses, talking to these people and it’s like she is exhausted . . . . It’s funny. When she gets crazy with people, this is the 15th person today that has had the same complaint and will not do what we say to discourage the bears from coming into their property. She is not the bionic woman.

A little empathy could go a long way to soften the impacts of these encounters between people and bears, and between people about bears that follow these incidents.

4.2.4.2 Role Reversals Needed: Bears as Individuals versus Bears as a Population

The $100,000 Bear

The divergent vantage points participants bring to decisions when addressing problem encounters illustrates another instance where empathy could promote more
constructive paths. While biologist-responders view bears and manage them at the population level, community members come to know individual bears that pass through the properties on a daily basis. Many of the bears had names. One responder expressed his or her frustration,

I’ve seen too many times in my 20 years in government where the public looks at the one versus the many. You do everything you can for that one poor bear that is stuck with its head in a garbage can and you spend 10s, $100,000 on this bear and you lose the big picture of loss of habitat and what is happening with bear populations, in general. And in the big picture that one animal doesn’t matter in the population. What matters is carrying capacity, habitat, behavior of the many. Unfortunately, I’m thinking as a biologist . . . . Most of the people out there think at the Humane Society/PETA level, which is the individual. Everything is around the individual.

For me it’s a population question. I think it’s a healthier population if that one problem animal is removed from the population. Now there are a lot of people that disagree with managers in that.

A community responder related a “friendly” conversation with California Fish and Game about how they would never agree on their views of bears because Fish and Game views them as a population and prescribes the same responses for all bears, whereas this participant views each bear as a thinking, feeling creature.

**Goober Two**

These disparate vantage points come sharply into view when a bear known individually in the community is targeted for removal. A resident and law enforcement officer related one such situation.

Kept thinking about naming this bear Goober [Two]. We used to have a bear on our property. Well he was in the area, and once again dogs running loose chasing him, he liked to come inside the fence. And this was several years ago and we had named him Goober. It was actually prior to the aversion [program] in ’99 and prior to the BEAR League . . . . We didn’t have that many bear encounters back then . . . [c]oming home, you got 20, 25 people standing in front of my gate . . . .
And here’s this bear that’s been hanging out on the property and . . . he’s balancing, walking across the top of the gate, and everybody’s taking pictures . . . . I’m trying to get him to leave and he has no fear of people whatsoever . . . . I’m trying to get him to get off the gate. He won’t get off the gate. Finally, I go over and I open the gate and unlock it and he’s still balanced up there on the thing . . . . I think that was probably my neatest encounter. He just sat there, stared at me, looking down as I opened the gate with him sitting up there balancing on it . . . . What happened to him is he got underneath, a guy didn’t have the bottom of his house properly sealed/closed. He had a little ¼” piece of plywood nailed across the crawlspace. Well, Goober wound up getting nosy, and pulled it off and got under there and tore up a bunch of plumbing and stuff. So he [the guy] called Fish and Game and they came and trapped him and killed him.

Another pair of homeowners related tales of a bear known in their community as Alfred.

“She has names for them. She keeps track of them. She called this one Alfred.”

This one that they call, these guys down here have named Alfred. He’s huge. He’s gotta be six, seven hundred pounds, just huge, big white stripe down the front, just huge bear. Every Friday he’s roaming around. You’ll see him.

The Ice Cream Bear

The account of the “ice cream” bear caught in the crosshairs of the individual/population dichotomy probably illustrates most the need for empathetic communications as a way to bridge these vantage points both for the bears’ sake and the people who are working with them.

A particular bear that I had known from the time he was tiny . . . . He was one of those happy-go-lucky type bears that just didn’t seem to have a care in the world. Not dumb, but just not real sensible at times. I knew there were going to be some problems. Plus, he just seemed to like people. He liked hanging out with people. So he right after separation from his mother figured that the best way to make a living was to go into people’s kitchens and help himself to the things in the refrigerator and freezer and he started doing that. It was summer, June and July so people were leaving their outside doors open. The screen door is the only thing that separates the person from the outdoor world. The bear just would go right in and with people standing right in the kitchen, walk past them and go over to the freezer and dig around for the ice cream and help himself. Some people thought it was funny and cute, but most people thought it was just absolutely the scariest
thing in whole world, and not acceptable, and “Oh my God what are we going to do?” So he was slated for death.

[It happened] oh, every day. Ice cream was his favorite and he liked frozen Bacardi rum mix, pistachio, but whatever he could find. He was actually pretty tidy . . . . One woman, . . . he walked right in, went right past her, went over and helped himself to chocolate mint chip ice cream, took it into the living room and sat down on her Persian rug and started eating it . . . . Her husband came and they called the Sheriff. The Sheriff knew the bear because we’d been working with them throughout the summer. The Sheriff fired off some blanks from the front door and the bear promptly got up and ran back out the back door . . . . Her first comment was, “He was neater than my grandkids.”

The rampage, there were numerous cases like that. It was pretty much a daily basis, and the Sheriff, thank God, was working closely with us . . . . It took 12 serious aversive conditioning procedures with this bear to convince him that his behavior wasn’t acceptable. So, finally after the twelfth time, which actually was just right over in the yard next to mine he’d been caught in a house. Bear aversive conditioning is spanking the bear real good, and telling him “You can’t do this.” So he left, and after about two weeks, I really panicked and thought “Oh my God he’s dead. He’s gone, he’s dead. This isn’t like him.” I thought the worst. This would have been about end of August, first of September, and I was very concerned, but then in late November I saw him passing through. I knew where he denned up with his mother the year before . . . . He was apparently on his way there and he passed through and I saw him . . . . He looked at me and instead of his happy “Hey, how you doing?” way of greeting me, he shyly tucked his head down like, “I’m just passing through, don’t shoot at me” and tottered on his way. Went into hibernation and saw him again passing through the next spring on his way back up into the mountains. He was a total success story on a bear who got the idea when we did the aversive conditioning because we were relentless with it. It was on a daily basis we would have the ability to work with him. And, we knew his personality because I had known him since he was a cub.

So three or four years went on, . . . no more trouble with him at all. See him pass through in the spring and the fall and that was it. Never went in another house. He was never a bother. When he was 5 ½, it was summer I got a call that a bear had been shot and was dead on a hiking trail by a neighborhood not too far from here. I went down and looked, and it was him. Someone had shot him as he passed through their yard just doing nothing, but they lived way back in the outskirts and illegally shot him. I notified the Sheriff. The Sheriff was extremely upset because he was our first successful bear aversion, and then someone killed him and he was not doing anything except just being a bear, and being a good bear. So that was devastating. And, of course, we notified the authorities, which was Fish and Game who could have cared less that there was one more dead bear, and so no investigation was ever undertaken to determine who had illegally shot him. It was just like “Oh, it was just a bear. It doesn’t matter.” . . . That was unfortunate because he was more than a bear and he didn’t deserve to be
murdered . . . . He’d have been a premiere study pal. The things I could have been learned from him, but unfortunately we’re not to that point yet. So I lost out on that opportunity.

4.2.4.3 A Bridge to Empathy

One public agency participant’s vantage point offers a bridge to empathy and hopefully for those of opposing views to find a way to grow an appreciation for each other’s perspectives.

From a moral perspective, I have all the respect in the world for animals and their right to be here especially when we’re living in their neighborhood and we’ve constructed homes and cities in forested habitats where animals are. I have always kind of felt that way that we’re in their territory for the most part, and we have to learn how to live with them due to that . . . . We need to learn how to co-habitat with them [bears], and to manage them properly so that we’re not seeing populations dwindle. There’s a relatively small . . . . I think the managers around here consider the black bear population to be pretty sizeable, but in the grand scheme of things, this is a relatively small population of black bears that we have in this part of the Sierras and we really need to work at not seeing them be put in the position where they need to be euthanized and taken out, where every year you hear about bears that are breaking into homes and having some form of confrontation with people that live here. And a lot of times . . . . Every year you hear about bears that have to be euthanized and taken out. It’s just, that’s one less animal for the population. I’m sorry to hear about that sort of thing each and every year that happens. And I think we need to find better ways to avoid these types of situations where bears are becoming habituated to people in such a way that they’re just not afraid of contact. You see that happening, year after year after year.

4.2.4.4 Support System to Address Conflicts Between People

Finding: The community lacks a support system to address human conflicts about black bears and interventions.

Values-based conflicts arise between people about bears and interventions, but this research did not identify any constructive environment or support system where parties in dispute can meet to discuss and come to an understanding or agreement over
their concerns. That participants have an awareness and desire for more constructive paths is helpful.

Law enforcement officers witness the dichotomy of views about bears in the community.

This community gets fairly nuts about the bears. It’s a big attraction for people coming from Bay Area and other places . . . not that we want to see the bears, but the bears are scary so that it’s kind of this, it’s umm kind of a love/hate relationship. Everybody wants to see a bear, but when they see one, they’re scared.

“People here love their bears.” Not all participants “love their bears,” however. “There are lots of people who feel the same way [“anti-bear”] as us, but won’t say so.” Differences in vantage points were more evident as conflicts arose between people about interventions. One law enforcement officer observed,

There are people that don’t want to deal with the bears. They see no purpose to them, so kill them off. I’ve met those people [laughing] . . . very seldom will it be anybody that is vested in the community. You get the occasional one that’s that way, but they usually keep their mouth shut because they know theirs is not the popular opinion.

As participants described these disagreements or conflicts, the need for an impartial setting and/or third party became evident. A full-time resident related, “I feel caught in the middle because I’m friends with locals and summer visitors, and was a summer visitor before living in the Basin full-time.” Illustrating their point they added, “In difficult bear situations my friend prefers bears over people, whereas I choose people over bears.” A long-time second homeowner expressed concern about neighbors feeling they invite or promote bears coming into the community because a bear used [a space under their house] as a layover/rest stop but has never tried to break in.
But another second homeowner felt, “Not only do you have this [bear] problem, but you also have to deal with these people out here who say, ‘No, you can’t touch the bears.’” In addition to the concerns and frustrations participants expressed, there were also worries about retaliation. These concerns stemmed from personal experiences of retaliation, observed instances of retaliation, and warnings about potential retaliation.

All of these manifestations of the difficulties that arise between people in problem encounters suggest there is not any constructive outlet or resource such as community mediation or a mutually trusted impartial party in the community where they could seek assistance and/or relief. Several public agency participants acknowledged the need and ripeness for an outlet of some sort,

It seems that . . . our greatest conflict [is], not necessarily between bears and humans, but between humans and humans, pro-bear and anti-bear, and not that there’s a whole great group of anti-bear people, but there are people up here that are homeowners and business owners that are sick and tired of dealing with the aftereffects. They do everything that the people have told them to do to prevent the bears from damaging their property and breaking in and they do it, and they continue to do it, over and over and over.

On a good situation, we can kinda talk it out, but everybody’s got an idea, so it doesn’t always work out. Well, there’s people who don’t want the bear trapped that think the bears were there first so the bears oughta be able to live there. There’s other people who want the bear gone cause he’s been in their house. There’s me who’s caught in the middle.

There’s no ideal solution. There’s no solution that’s not gonna hurt somebody’s feelings. It’s just if everybody could get together and agree on a solution, period.

Another public agency participant acknowledged the challenges and frustration they face in working with a strongly polarized public,

Sometimes it seems like furthest extremes are the ones who are least likely to be open to new information. It’s the people that kind of fit more in the middle of the teeter-totter that you’re able to reason with. It seems like these far outer ones, it’s
like their minds are made up and you waste a lot of time, and energy and effort not getting anywhere with them.

One law enforcement responder provides ameliorative relief in the moment, by spend[ing] a great deal of time trying to keep levity to the situation, calm people down, and really try to turn the situation around. “Wow, how lucky are you that you get to see this bear.”

They also use the encounter as an opportunity to teach.

If they’re [bears] simply present and people are very uptight and nervous, . . . I’ll put my hat on, and will simply . . . “Hey, listen, this is what’s going on. If you have a problem this is what we’ll do.” I quite often will take my bear gun out . . . with the rubber pellets in it and pull the rubber bullets out and I’ll give it to people and explain, “If the bear becomes a problem, this is what I’ll do and if the bear becomes really a problem, if I need to, I can destroy the animal.” I really spend a great deal of time trying to calm people down and make them feel like this isn’t necessarily a bad thing, just the simple presence of that animal is not necessarily bad.

These efforts surely help to address human–black bear problems arising in the moment, but a broader resource that includes an outlet for conflicts arising between people remains unavailable.

4.2.5 Community

Finding: Tahoe is a divided community. Insider/outsider tension exacerbates satisfactorily addressing human–black bear encounters that have become a problem.

Tahoe is a fractured and partitioned community. Full-time residents and weekenders mutually feel the strains of living in a resort community when a problem arises. These strains fuel insider/outsider sentiments that further exacerbate satisfactorily addressing problem human–bear encounters.
4.2.5.1 Changing Tahoe

Through the interviews it became evident that residents of the Tahoe Basin feel tension and even animosity at times about their places in the community. Full-time residents especially expressed frustration with the way their environment had changed and the problems they face, and attributed much of these problems to “weekenders” or outsiders. One resident put it this way, “Sixty to seventy percent of second home residents are from the Bay Area, and for them it is out of sight, out of mind.” Renters were particular targets: “Renters do not have a clue”; “Renters see signs about trash pick-up and leave it outside when leaving on Sunday, but pick-up isn’t until Thursday”; “Tourists are 90% of the problem”; “Most people visiting are absolutely clueless, and need to know what is proper behavior, and isn’t.”

Second and/or absentee homeowners were no less ostracized: “Renters are the worst, then seasonal people, . . .”; “There is a whole range of issues, and second family homeowners are a huge part of the issue”; “Condo owners have no idea about bears or any other animals (e.g., People put garbage on top of dumpsters 10 years ago so they could take pictures of bears, but don’t realize the impacts of those actions)”; “You need to use scare tactics for city slickers and tourists because they don’t get it; they don’t believe you.”

Generally speaking, participants also expressed frustrations about the changes in their environment. “There’s certainly more people if traffic is any indicator. We didn’t think twice about trips to town from the West Shore, but now they are plotted really carefully because it’s hard to get there and home.” There are impacts on both bear and
human habitat. “Solitude and quiet are harder to come by.” A long-time second homeowner expressed frustration as well, “It’s disgusting how crowded it has become along with the traffic and prices of property. It was not at all like that when we first started coming here. Whatever was taking care of the bears is no longer happening.”

One full-time resident attributed change to post-Olympics (Squaw Valley in 1960) development. The built environment (campgrounds, restaurants, second homes, second homes as an investment) brought more people to the area.

**Seasonal Changes**

The area and community experiences these changes in both the short- and long-term. Short-term transience in the population is largely related to a summer season that runs from Memorial Day to Labor Day. Full-time residents described it as “sheer hell.”

“My wife come home from [work] and I just leave her alone. Yeah, [needs time to decompress] cause people are a-holes.” According to California State Parks estimates, the Lake Tahoe sector has approximately 600 campsites, with approximately five to eight people staying in a campsite. One law enforcement officer related,

We have a base population in the South Shore of Lake Tahoe, the unincorporated area of El Dorado County and the City of South Lake Tahoe, about 35,000 people. That’s the resident base population. But on any holiday weekend, especially in the summertime, that population can increase to 250,000 without too much trouble. The major holidays of Memorial Day, 4th of July, Labor Day weekend, it is not unusual for this place to swell to that amount.

Residents added, “It’s nice in the off-season because you get to see all the locals you haven’t seen in three months. Then the ski season comes, and they park in your driveway, and you can’t get out.” Since everyone is “on their own as far as snow removal” visitors take advantage of services that residents must provide for themselves.
Long-term changes are evident in the overall growth in the area, and these changes too are a source of aggravation. One full-time resident protested, “Then you have the developer, comes in, takes a little shack down, builds a beautiful house, and sells it. Well, he wants everything Disneyland.” Another put it more succinctly, “They’re building shit all the time.” Other long-time residents, whether full- or part-time concurred, “There used to be mountain cabins before bigger buildings, and stored extras in sheds”; “Mostly there’s lots more buildings and they keep getting bigger”; “. . . have been visiting for a long time, and we’ve sort of seen it develop over a long time.”

**Does Development Equal Progress?**

The push and pull of development is evident in conversations with participants and to anyone spending even a little stretch of time in the Basin. Lakeshore development is surrounded by public lands, largely national forest lands, but also state park lands. One realtor described, “Old County Road: one side is residential, the other side is Forest Service land.” In another instance, a lodging facility of old cabins sits immediately adjacent to a huge wetland area, and regular bear activity was reported around there. A state park law enforcement ranger noted that “Sugar Pine Point State Park is right next to the town of Tahoma.” The bears go between Tahoma and the state park. A long-time second homeowner related,

> The State bought a lot of the lots out. They bought the lot beside of mine because they’re environmentally sensitive. So you can’t build . . . . We’d never be able to build where my house is now.

Another second homeowner remarked,

> When I was on the board what was happening, there were a lot of subdivided lots there that never got built on and many of them are not buildable and the US Forest
Service gradually has been buying lots in the community and they pay what it costs, like 10 years of homeowners dues or something, just for community management. So, a lot of it is US Forest Service.

Members of the full-time community also reminisced about a Tahoe they missed, “a lot, a lot.” One full-time resident lamented the changes from “Old Tahoe” to “New Tahoe.” In “Old Tahoe” people helped each other.

I think the pulling over, if somebody’s in the ditch, just pull over, hook up a chain, pull them out and go on your way. And the circle is, somebody will do it for you. You know that’s the circle.

This resident went on to say, “Attitudes and mentality are like night and day,” illustrating the point by describing the difference between a canoe quietly boating along the Lake versus motor boats screaming along “polluting my ears.” There was an old sense of community. “If you get drunk, call me; sleep on the couch,” and emphasizing, “You’re my neighbor. Let’s take care of each other. Enjoy Tahoe for what it is. Don’t bring Disneyland here.” They added, “We have to live with major snowstorms. We have to live with major weather, and then we have to live with you Guccis.” In “New Tahoe” no one “wants to get involved”; “Everyone is so fiercely independent”; “People try to return chains [after using them] . . . . You can’t do that.” Another full-time resident added,

They also bring the view that “This is MY property and my area and how dare the bears come in.” [Chuckling.] If you live up here, this is everybody’s, and every animal’s habitat. And we want to preserve that. And it’s like if that’s what you want, and that’s your property, then go where you have all this asphalt and you don’t have to worry about any of the wildlife.

Yet another full-time resident added, “The lakeshore is rocky and newcomers want a sandy beach. They seek a country club-type environment.” They seemed both sad and irritated at the possibility of losing their 30-year family tradition, which awarded a trophy
for the best rock found on the same beach. Their community was “sort of an open community (no fences), but it’s changing” (e.g., a $3 million building that covers a lot). They added, there’s “a lot of anger in the neighborhood because people are buying and demolishing [old Tahoe] houses without talking with neighbors or obtaining proper permits;” these are a “different type of people.” Others remarked on the generational differences in residents. One public agency responder observed,

A lot of what I notice in the Tahoe Basin between now [2008] and 10 years ago . . . . When I started 10 years ago, a lot of those people that we worked for were older people, 70 years old. Well, they came through the Depression and they all had some type of rural agricultural-type background at some point in their life . . . . I don’t know if it’s whether from going through World War II where everybody was behind the war effort, or the Depression made people help each other more, or whatever. But you had more of that. Now those people are gone. A lot of these yuppie-type people, or younger people, I should say. It’s, “I’m all for me, I don’t care about my neighbor.”

The rising cost of living in Tahoe for full-time residents provides yet another rub: “Local pricing that is geared for visitors—prices have tripled over past five years”; “Gas prices go up on Thursday; down on Sunday in the summer.” Homeowners association fees have quadrupled in one case. A long-time homeowner who visited and then retired to the Tahoe Basin added that because of the high costs of food, summer traffic, and winter weather (2-3’ snow), they stock up on supplies in Reno or Carson City, which also means there are extra freezers and refrigerators in garages that can attract bears.

4.2.5.2 Communities Co-existing and Communicating, or Not

Numerous other signs of discontent and division in the community are evident in the ways participants described co-existing among themselves and communicating, or not. One full-time resident felt,
We don’t [live together]. They come for their summer bullshit, and then they leave at Labor Day and I’m like . . . . There were some buddies of mine down on the highway by . . . . They put a big sign up at Labor Day and have a big tagger, a big drunk for two days, and they put up a big sign that said, “So long Yonkers.” They were criticized.

Communications are challenged by transience and people “doing their own thing” so there is not a lot of interaction. One resident felt, “It’s inconceivable to not know my neighbors and speak with them.” Another resident added,

You’ve got a lot of absentee property owners here . . . . And we do talk to some of our neighbors that own homes, but other people I’ve never seen. There’s a house across here. Once in five years and I’ve never seen anybody there . . . . There’s sort of that absentee ownership and lack of accountability there.

Yet another resident pointed out, “It’s hard for second homeowners to help in looking out for each other because they’re not there.” One second homeowner described the process in their community for overcoming communication gaps, which is facilitated by a full-time resident.

Most of the information that we gather and share is through a little network of people in the neighborhood and there’s a guy who’s a caretaker for a lot of the houses . . . and also does the snow removal, . . . and is kind of the go-between for a lot of people in the neighborhood that disseminates, “So that guy’s house was broken into last weekend so you might want to . . . .” He stops by pretty much every time we’re there and updates us on what’s going on.

Other weekenders communicate when “taking dogs for walks and discussing what’s going on,” in cocktail parties, and through newsletters from homeowners associations. And then there is the rumor mill and gossip: “I still think part of the problem is that we don’t have, other than through the rumor mill, any sense of what’s going on, and I think things tend to be blown out of proportion a lot.” Or as another second homeowner put it,
“The unofficial reporting system in Tahoe is way better than the official reporting system.”

4.2.5.3 Who are the Insiders and Outsiders?

Participants clearly view the community as partitioned, but an interesting dynamic surfaced in who was considered an insider or outsider and how they formed those viewpoints. Full-time residents consistently positioned second homeowners, renters (short-term), and tourists as outsiders.

Where the play comes in, you’ve got a lot of weekenders, part-timers, second homeowners, renters. None of those people are really vested in the community, and not all of them are as anxious to have a peaceful resolution to the wildlife . . . .

The problem for the most part is with vacation renters. They pay to be here for a week, and they leave mid-week. That trash is still there. It’s an attractive nuisance . . . . It’s the sightseers, or the people that want to feed the wildlife. We’ve got a few of those. They want Bambi in the backyard. They like that environment. That’s the challenge.

It’s tough in that area up there. You have a lot of vacationers come in. They’re not aware of what’s going on and they haven’t been educated as far as the issue that can be there.

This is the real conflict we have in this area. So many of these residences up here are vacation/secondary residences. People don’t acquaint themselves with the sort of the rules to living in the woods, so to speak. So they come up here and they do sometimes really stupid things, everything from having a blazing barbeque in the middle of fire season in their backyard to leaving food where bears can get to it.

I attribute a lot of it to tourism up here. These people come up here, don’t know anything about wildlife, or the community and the first thing that happens they panic, cause other people panic, . . . .

Our visitors. They’re a big problem [laughing]. They are. They’re not here to, . . . they don’t care.

I think the level of ownership and caring is slightly less when you have a transient-type population like you do here. There’s a lot of folks that care very
much and deeply about what happens here in the Basin, but those tend to be the folks more that live here year round.

A participant and realtor remarked, “You can see them coming . . . even though they’re asking about properties, you can get all the information online.” How the community draws its boundaries is evident in the sentiments homeowners expressed. Second homeowners acknowledge that they “feel animosity toward ‘flatlanders,’ and that they don’t have the same rights as permanent residents even though they are paying taxes too.” Participants in several conversations identified themselves as permanent residents of the Basin, but further discussions made clear that their full-time residences were elsewhere. These second homeowners see themselves as members of the community and in many cases have maintained a second home there for longer than some full-time residents, yet to those who live in the Basin year round, they are still outsiders.

4.2.5.4 Signs of Fractures

Despite the support and efforts of full-time residents to provide safety nets for part-time homeowners, it does not fully translate to community or create or instill a sense of community. One public agency related their exchanges with a full-time resident,

I get the call from the neighbor who lives by that vacation rental who is exasperated, “Okay, I am so tired of cleaning up after this property. They’ve done it again, and I’m just fed up. I’ve been cleaning up for a year-and-a-half. I do this on my morning . . . I get up, walk my dog. I pick up the trash. Well, I’m tired of it.”

Some participants felt a breakdown or dissociation was occurring. Participants variously referred to their communities as, “on my street,” “on two streets around me,” “in homeowners association,” and “on the whole West Shore.” A long-time resident related...
. . . had a horrible confrontation at lunch a couple weeks ago over this whole thing . . . . I didn’t realize until that point, the lines really are being drawn, and it really drove it home that this issue is really driving a wedge in the community. That’s made me try and think of ways to bring us more together on it . . . . That was very distressing. It really, really was . . . We need a fresh approach . . . What happened at lunch that one day I realized is what’s happening all the way around the Lake . . . . For all the things to break up our community. You know everyone, and who would think that, “okay you can’t talk about politics, religion,” and now it’s bears.

Another public agency employee remarked, “It’s ‘I’m all for me. I don’t care about my neighbor.’ It’s [community] not there. No, it’s not there at all. Not there at all . . . .” A second homeowner relating their experiences following multiple break-ins provided a peek into the support a fractured community offers.

The kids didn’t sleep in the house for six or eight months, not one night. We would just drive up the hill and take them to the church or take them to a friend’s or something, somewhere we could leave them for a few hours and we’d go clean up and board up and take them back down the hill again.

4.2.5.5 Appeals for a Rekindling of Community

A long-time resident who had first spent time in Tahoe as a visitor appealed for a rekindling of community.

We need this whole community experience of making sure that our forests are safe. We’ve got to do that for the bears, and we’ve to do that for the forest. We have to make sure that our neighbors . . . . If everybody said, “Okay, I am going to take responsibility for my neighbors two-three doors down and make sure their houses are safe whether it’s for forest fires or bears.” We need to do that . . . . We all need to take care of each other, and the bears. We need to take care of our neighbors and alert our neighbors and be more communicative.

Some full-time residents walk their neighborhoods and look or check for broken/open doors, or caution tape. If they find an open door they will sometimes make sure the stove is turned off, but only if the owner is a close friend out of concerns of trespassing.
Another resident related, “But if I see them [bears] going through and this is . . . then I need to investigate.”

And as a full-timer, that’s what I do. And as a BEAR League person, that’s what I do. And I have also been, I think, pretty good in our homeowners association and meeting about “This is what you gotta do when you see a bear, and if it’s a problem you call me and I’ll be down.”

Finding: The community is composed of complex human and natural environments, which are inseparable for the purposes of evaluating and addressing problem human–black bear encounters.

4.2.5.6 The Human Environment

A mountain resort community such as Lake Tahoe experiences a constant turnover in its human environment. The changing mix of full-time residents, part-time residents, vacation visitors, and seasonal workers creates never-ending opportunities for new interactions between people and between people and black bears. Visitors to the Tahoe Basin have a variety of destinations (camping, lodging, second homes, other short-term rentals) and timeframes over which they visit, and participants provided some glimpses into that changing dynamic. A long-time resident and real estate agent observed, “We get all these visitors, more and more in Tahoe now from all over the world.” A law enforcement officer described the seasonal population in his community as “swelling” from the 35,000 to 250,000 over a holiday weekend. California State Parks personnel estimated that 3,000 to 5,000 campers occupy their campgrounds at any one time, and turnover is as frequent as every two days or as little as every five to seven days. A participant working as a camp host related an incident in which they believed a German camper misunderstood the use of the term “food cooler” to mean ice
chest/cooler, and so when instructed to keep food there did not recognize that he was supposed to use the bear box for his food. The host believed this misunderstanding contributed to the problem of a bear breaking into this camper’s car.

4.2.5.7 The Edges of the Human and Natural Environment: Avenues for Encounters

As human occupation and growth encroach upon the natural environment, the extent of shared space, especially at its edges, becomes an avenue for more encounters. As I traveled the study area to meet with participants and to see locations where problems had occurred it became clear that ecological edges proved to be areas of human–bear activity that I had suspected. Interviews with participants also confirmed this expectation either directly through their accounts, or indirectly by simply observing the environment in which problem situations occurred. A second homeowner observed,

I don’t have any feel for that “I am in bear habitat” or “they are in human habitat” so much as the encounters have called our attention to the fact that they are there . . . . You totally accept it. Anybody who likes hiking in the woods, likes that kind of stuff or we wouldn’t be there . . . it’s the issue of the damage that has resulted to the intrusion of the people into the bear habitat and now vice versa, the bears demanding their share of the goodies.

Participants identified six separate communities where bears had broken into houses at the edge of forests or open space. A second homeowner who suffered three break-ins related,

In 38 years we never had a bear problem, but the problem is there, the bears, there’s a creek that runs in the springtime at the end of the cul-de-sac and there’s a lot of areas up where the bears like to sleep during the daytime. So they go up there on the hill behind our house, and of course when they come down, we’re the first ones they visit, if they stop there. And so, . . . [the first] one as they come down off the hill. We never had a problem till the last two years [2007, 2006]. Oh, the bears were there.

A full-time resident questioned and related,
What is the problem? Why is it that a friend of mine who had his, built his house up there 40 years ago and never had a, lives right up on the edge of the woods, and never had a problem and got hit last fall [2007] for the first time in 40 years . . . . It’s rampant. It’s a real. It’s not just an isolated situation. So what is going on?

Another participant observed that bears are around during the day but are at the edges of developed areas such as at the edge of a golf course in the alders, next to a gas station, and in the trees—“You just need to look.” A second homeowner related in their community one

. . . place has been broken into several times, but the place on either side of him has been broken into probably three or four times. Now I understand they back up more to the forest . . . .

A second homeowner who experienced numerous break-ins in 2006 and 2007 in another community described their house as “backing up to a meadow.” In another community a long-time resident related their first experiences with bears in Tahoe,

About 15 years ago. When the bears started coming up here. That first big bear we saw . . . . We have Forest Service [land] next to our house. He was huge. Oh, that bear was huge. He was just standing up. Then he came over. Our wood was all stacked up and completely tore the wood pile apart. I don’t know what it was looking for, and dumped our trash can all that same night. That’s when it started.

And went on to describe the problems a friend and second homeowner had at another edge in their community.

That bear keeps coming back to the same house and breaking into it . . . . Oh, years. It’s been in the family 40 years. It’s way up. Their house is, you wind up these switchbacks . . . . It’s almost the last one before you hit the . . . it’s way up. If you’re going to hike up to the top of — Peak that’s where you go . . . and there’s no real trail, but you hike up there, and their house is maybe 25 yards from the takeoff point where you go up to the peak.

A second homeowner who experienced repeated break-ins related,
We are the bottom street. Directly across the street from us is conservancy property which is public-owned by the Lake Tahoe Conservancy. Directly below that is a strip of homeowners association land, but it’s dedicated green space, and directly below that is state park. And so . . . and we’re also right on the power line run which I’ve been told by somebody up there this particular bear’s den is about 200 yards straight down from our house. So we’re kind of the first thing in the neighborhood as they come up out of their preserve, or whatever [laughing]. We’re right on the route. Yeah, first place they walk by basically, coming up into the neighborhood.

Another person related that all the condo units broken into in a development were at the edge of the forest and along the bear’s path. A wildlife agency participant addressing a garbage-attractant situation they were having in their neighborhood noted,

We live on the edge of town . . . . We would find his tracks in our yard. It’s an unfenced yard. We’d find where he’d cut through our yard to get to the river and then back to wherever he was staying, and we was glad of it. I was hoping to see him one day. And even if he would have tore apart my trash can. I would have said, “Shame on me. Put my trash where he can’t get it.” It’s not a problem to me.

Other participants in public agencies described areas where bears were often seen, or where there had been regular activity.

They’re [bears] on the outskirts . . . [Participant affirming on the edges.] —— Park is actually across the street from . . . down in Carson and at the bottom of —- Creek and at the bottom of —- Canyon. There’s not a whole lot of development up in —- Canyon. [Participant affirming it is an edge].

The area around —- has always been kind of a hotbed of bear activity, but then you got all that wilderness area that’s kind of . . . is the first stop once they come over —- Pass.

These accounts and others support the idea that the proximity of the human and the natural environments to each other matters and should be a consideration in both preventing and addressing problem encounters with black bears.
4.3 Key Findings from Document Reviews

4.3.1 Introduction

Besides meeting with participants and spending time getting to know the study area, this research involved gaining an understanding of the laws, regulations, and policies that create the frameworks for and govern the paths to prevent and address problem human–black bear encounters. These laws address bears, bear management, and trash management and containment. In addition, numerous and diverse systems organizations use to document and track bear incidents attempt to create an accounting of the scope, extent, and locations where problem encounters occur.

4.3.2 Jurisdictions: States, Counties, Local Communities, State Parklands, Federal National Forests

The Lake Tahoe Basin is governed by two states (California and Nevada), four counties (Placer and El Dorado in California, Washoe and Douglas in Nevada), and includes both state parks and federal national forest lands in California and Nevada. Two cities in Nevada (Incline Village, Carson City) and one city in California (South Lake Tahoe) also provide frameworks for governing land use and public safety within these two states and four counties. Taken together, there are numerous and overlapping opportunities through state laws, regulations, and policies, and county ordinances and homeowners’ associations rules, to address the presence of bears and prevent encounters from becoming problems.
4.3.3 Laws, Policies, Ordinances, and Rules

Through trash containment and management ordinances and wildlife management and public safety laws, the Tahoe communities attempt to prevent and address problem encounters with black bears. For the resident or visitor these legal requirements and remedies spell out the terms for preventing problem encounters through food and trash containment and management practices and the range of wildlife and public safety interventions available to them when a problem encounter occurs. The county ordinances address human behavior (good trash management practices), controlling attractants, and penalties for infractions; the state laws address black bear behavior and escalating levels of interventions. Placer County also provides, through the Wildlife Services of its Agriculture, Weights, and Measures Department, a trapping service for parties who have received depredation permits from the California Department of Fish and Game. See Appendix 4 for specific details on these laws, regulations, ordinances, and rules.

Three of the four counties rimming Lake Tahoe had passed ordinances that specifically address the need to secure and contain trash from bears while the field research was underway. In 2010, Washoe County’s District Board of Health also adopted regulations requiring the use of animal-resistant containers. Generally, these ordinances require residents and commercial operations to secure trash from animals, including bears, and impose escalating penalties and the requirement to use a bear-resistant container for failure to comply. County ordinances differ slightly in their scope, when they became effective, and how they are enforced. Three local larger cities and communities adopted ordinances to address the need for bear-proofing trash. These
ordinances vary in both scope and form. The many unincorporated towns and communities rely on county ordinances and in a few cases homeowners associations’ rules to address these issues.

Even though most participants identified people or trash as the most likely reason for problems with bears, and a key motivation of the county and municipal ordinances is prevention, none of the counties or municipalities mandate the use of bear-resistant containers outright. Placer County’s ordinance requires bear-resistant containers with new construction or additions of more than 500 square feet of living space, and Incline Village will condition residential construction permits with this requirement if a garage or other structure is not available to secure trash. All other county and municipal ordinances require the placement or use of bear-resistant containers only after a sequence of violations. While the ordinances are arguably flexible in that they acknowledge the use of alternative good trash management practices, which is important given the costs (typically $1,000) of installing a bear-resistant container, they still leave open the possibility of bears having easier access to trash. Incline Village has worked creatively to contain trash in unequivocal, but equitable, ways and provides the greatest incentives to comply with their trash ordinance. They impose substantially higher penalties and costs to remediate the problem situation immediately, but they also offer incentive subsidies to purchase bear-resistant containers, refunds of penalties, and put cheaper (~$100) bear-resistant rolling carts into immediate use where violations occurred. When Carson City passed its ordinance in 2009, it included penalties for intentionally feeding bears, something lacking even in Nevada state law. The remaining county ordinances may
impose fines from $100 (El Dorado and Douglas) to $500 (Placer) following two violations, and allow from 30 to 90 days to put bear-resistant containers in place.

When preventive measures fail, there are three state programs that address escalating problem bear situations. Each of these programs consist of black bear management/conflict management policies developed by California and Nevada state wildlife agencies and California State Parks (SPs). Each state black bear policy uses a three-step system to classify the severity of the bear’s behavior and potential appropriate interventions. In addition to California’s Statewide Black Bear Policy 2071, a second system of classification addresses situations involving public safety (Public Safety Wildlife Guidelines 2072, n.d.). This system also uses a three-step approach for classifying and responding to public safety wildlife problems (sighting, threat, attack). Nevada’s Black Bear Conflict Management Policies and Procedures, like California’s Statewide Black Bear Policy 2071, do not expressly categorize public safety situations, but address attacks or injuries from black bears in a separate policy, “Guide to Handling Wildlife Attacks on Humans.” Nevada’s conflict management policy also lists situations in which lethal control is required versus optional. Optional situations include a cumulative breaking point, or three strikes policy, after handling nuisance bears three times. Both state black bear policies allow for a considerable amount of discretion in determining the severity of a situation, whereas the Public Safety Wildlife Guidelines 2072 make clear distinctions in what is considered and confirmed as a public safety threat. While discretion in implementing the California and Nevada’s black bear policies
allows for flexibility in making decisions, it also opens those decisions to public scrutiny and criticism, at times giving rise to questions and sometimes disagreement.

California State Parks (SPs) Human Bear Management Plan (Plan) for the Sierra District combines both prevention and intervention through education and interpretation, food and refuse storage, and bear behavior and response. Education focuses on providing a “clear and consistent message” to all “visitors, employees, concessionaires, and residents” about human–bear conflicts and ways to minimize them. Food and refuse storage emphasizes “no tolerance” for non-compliance. The Plan classifies bears into three categories that mirror the Statewide Black Bear Policy 2071, but modifies these classifications to reflect interactions in state parks and include coordination with the Department of Fish and Game when significant problems occur. SPs implements interventions at two levels, rather than three. Anyone can implement the first level, which involves simple noise and physical appearance deterrence. The second level, involving the use of chasing and hazing with projectiles, is reserved for trained State Park peace officers alone.

4.3.4 Incident Tracking Systems

To assess how the community tracks and communicates bear incidents the research included attempts to identify any system used to report and record an encounter with a black bear. The search produced a patchwork quilt of varying reasonable efforts to collect information on bear incidents, but did not identify a single, uniform repository in any one organization something for which some homeowners expressed a hope.
4.3.4.1 States

Both state wildlife organizations track incidents, although it was not possible to obtain specific information about the types of incidents that occurred. While California Department of Fish and Game (CDFG) tracked public safety incidents and other calls to their wildlife call line with a Wildlife Incident Report Form, statistics were not available, largely because a management system for these data was under development during the field research. The form tracked the reporting party, species reported and confirmed, the nature of the report, the investigative actions taken, and a summary of the actions taken. The system under development was largely intended to track depredations, not necessarily incidents. Anecdotally, CDFG staff indicated that they may receive about 15 calls a day during the summer that have been triaged by their call line staff. While the research did not access data related to bear encounters in Nevada, annual Black Bear Status Reports that coincided with the field study period were available and reviewed for 2007 and 2008. They provided summaries detailing the number of bear complaints, where they were located (county or general area), how the calls were handled (providing education/advice or intervention by a wildlife biologist), the time of year/season in which the complaints occurred, and the disposition of the bear. Complaints for 2007 were twice those of 2008 and the highest ever recorded in Nevada, and attributed largely to continuing incursion of human- and construction-related activities that result in habitat disturbance, and more sightings. Moisture in the late spring of 2008 was also considered a contributing factor in the differences in complaints between 2007 and 2008.
California State Parks (SPs) in the Sierra District tracked bear activity in its campgrounds during 2007 and 2008 through numerous categories and kindly shared these data. These data included: food storage citations, damage reports, food reward gained, total radio calls logged, and those calls involving bears. SPs collected these data primarily from May through September, or the high season from Memorial Day to Labor Day in the Tahoe Basin. By the State Parks’ estimates these data and collecting it provided a good trial for learning weaknesses in the process, and building a better system. These conclusions stem primarily from numbers which suggest greater bear activity in 2008, while knowing anecdotally that there were many more break-ins and food storage issues in 2007, but not necessarily captured by their process.

4.3.4.2 Counties

Conversations with three of the four county law enforcement departments in the Basin yielded helpful, but widely varying statistics, once again.

Placer County Dispatch kindly provided both detailed and summary redacted reports on calls they identified as involving bears. For the period January 1 through November 14, 2007, they recorded 360 calls. The greatest number of calls occurred during August (102), and the least number of calls occurred in January (3) and November (3). Detailed reports of selected calls involved bears on property, prowling adjacent to or in houses, in cars, or having damaged property including interiors of houses and been averted. The local news reported later in 2009 that Placer County intended to close its Dispatch office in the Basin and consolidate operations in their county seat in Auburn (Magin, 2009).
Collecting similar statistics for El Dorado County involved a bit more effort as their Dispatch Center is located in the county seat outside the Basin. Like Placer County, they track all calls made to their Dispatch Center. They only generate detailed reports, or information cases, for bear calls if there is a public safety issue. Anecdotally, the Sheriff’s office indicated that they probably receive two to three calls per night during the summer. Although it was not possible to receive any details or a summary of the calls the Dispatch Center received, they kindly provided tallies of bear calls for the years 2005 through 2008. The totals for 2007 and 2008 were 270, and 217, respectively. A formal request for one information case narrative provided extensive details of a situation in which a responding El Dorado County Sheriff tracked a bear that had been entering houses, and ultimately shot and killed it. Obtaining additional narrative information cases was not advised because of the costs and time involved to compile information of that detail. Because accessing details of multiple cases went beyond understanding how statistics are compiled and accessed, additional requests were not made.

Washoe County Law Enforcement, like Placer and El Dorado Counties, uses a computer-aided dispatch system. They, too, created a code in the system to track bear calls. The code, like the two described previously, covers the full spectrum of bear calls they might receive from a sighting to “Hey, there’s a bear in my living room.” They kindly shared a map that provides a pictorial view of bear calls located within the Incline Village beat between September 2007 and February 2008. Anecdotally, the map largely captured sightings. A tally or any further details on these mapped calls were not accessed.
4.3.4.3 Local Efforts

Local efforts to compile statistics on bear calls, sightings, or incidents were very diverse both in the way the information was compiled and what was actually available for review. Two local agencies provided statistics related to trash violations. A local non-profit bear advocacy group prepared and published Bear Reports in the local newspaper, the Sierra Sun. And numerous homeowners associations designed and circulated surveys and formed chat groups to assess and discuss bear activity in their neighborhoods. More recently, one community put social networking to work and created the Facebook page “Lake Tahoe Wall of Shame” to call attention to situations that jeopardize the well-being of bears by attracting them to accessible trash. The stated goal of this effort is to bring about better trash management processes by both businesses and residences in their community.

Incline Village General Improvement District (IVGID) compiled and shared a Trash Compliance Report for the period January 1, 2006 through May 28, 2008. Altogether they recorded 272 trash offenses over this period, which included complaints and escalating offenses. Of these 272 offenses, 141 or 52% involved wildlife violations, and penalties over $15,500 in wildlife-related fines. Since the completion of the field research, IVGID in 2009 set up a webpage on their website for community members to report bear activity. The reports include simple sightings, reports of break-ins and bears in trash, links to videos, and even bears mating in a backyard, among others.

Clean Tahoe Program (CTP), a public-benefit non-profit corporation contracted to work with El Dorado County and the City of South Lake Tahoe to identify, respond to,
and remediate trash violations generated a report of the 10-day courtesy notices given for the period June 26, 2007 to July 16, 2008. During this period, which immediately followed the Angora Fire in South Lake Tahoe, CTP staff issued a total of 396 courtesy notices. Of these notices, 144 or 36\% were due to unpermitted accumulation of bulk items, 250 or 63\% were due to animals in trash, and two were due to overloaded trash containers. Statistics on enforcement and follow-up monitoring were not available.

4.3.4.4 Community Efforts

Each Friday, the BEAR League, a local bear advocacy group, wrote weekly Bear Reports in the \textit{Sierra Sun} from September 2006 through November 2007. These reports alerted community members to areas of bear activity where bears had entered buildings/homes, the circumstances (e.g., open windows, single-pane windows, hollow-core doors) and provided informative tips and strategies for avoiding problem encounters. As another local intervenor, the BEAR League also staffs a 24-hour phone line for community members in need of assistance. Over the course of the field research they estimated calls for assistance at twice the usual number (100 per day in 2006, 200 per day in 2007). Attempts early on to access statistics on the number and locations of calls were unsuccessful; later a call log sheet developed to track calls was made available. This research, however, did not have access to any statistics related to using these call logs, although hopes to develop a database tracking system had been expressed.

Several homeowners associations groups with the desire to track and inform residents of the occurrence and extent of bear break-ins developed and circulated surveys to members. Others used chat groups, already set up to discuss other community issues,
to discuss and alert members of bear activity or break-ins. Data from these surveys were very closely held, and only brief glimpses into the findings were possible. For instance, one community indicated they learned through a survey with a 52% response rate that 24 out of 49 homes had been broken into over that past five years ending November 2007. Mostly, only the surveys themselves were available, not the results.

Two examples of surveys illustrate the sorts of information these communities hoped to compile. One survey queried: break-in(s) within last five years, date, time of day, how bear break-in was verified, food present in house?, what did bear get, anything else bothered, check-off of aversive actions in place, how did bear enter, describe evidence/damage found and estimate of costs, listing of organizations that may be helpful following a break-in. Another survey generated in 2010 queried: year, month and day of the incident, address, point of entry (with options to check-off), location of entry (in relation to the building), extra details (a list of check-offs), any possible inducements, any other details.

Any remaining statistics were purely anecdotal based on conversations in interviews. The numbers ranged widely, even within individual communities.

Most recently (Summer 2011), one community began to use social media to call attention to trash violations, bear traps, and other situations that threaten black bears in Incline Village. The Facebook page, “Lake Tahoe Wall of Shame,” includes photos of accessible trash, culvert traps, a variety of bear pictures in both their natural and manmade habitats, and posts and commentary typically used in social media to communicate concerns, issues, and support.
4.4 Results of the Background Survey

The goals of including a background survey in this research were twofold: (1) to gain supplemental information about the participants’ views on black bears and black bear management, community and community decision-making processes, and summarize these data; (2) to compare these results with the findings of the interviews. Comparisons between these results and studies posing the same or similar questions also create context for this research. Simple descriptive statistics that include frequencies and inferential statistics involving tests for significance using independent-samples $t$-tests, 1-way ANOVAs, 1-way Kruskal-Wallis ANOVAs, and Mann-Whitney $U$ tests provide the basis for these comparisons. Potential for conflict index (PCI) analyses brightened the results by illuminating the consensus and dissensus both between and within respondent category groups. See Appendix 6 for the Background Survey.

Analysis of the background survey responses supplemented the interviews by providing more information about how the community of residents, public agencies, and visitors presents itself both as a whole, and through the sociodemographic constituencies of gender, age, residency, affiliation, and education. The results of the background survey include the descriptive statistics/frequencies for the sociodemographic information (residency, years in the study area) and the survey questions for the respondents as a whole. They also include inferential statistics for the sociodemographic independent variables with respect to the dependent survey response variables. These results include central tendency (mean) and dispersion (standard deviation) for each survey question and
sociodemographic category. Shape (skewness) is noted in instances where non-parametric Kruskal-Wallis ANOVAs were used in the analyses.

4.4.1 Sociodemographics

4.4.1.1 Residency

Respondents often completed multiple sections of the background survey focusing on residency and time spent in the study area, which supports the idea that there is great diversity and complexity in the residents and visitors of the Tahoe Basin. Respondents’ multiple responses in this section meant it was necessary to sort and assign priorities (primary, secondary, and so on) to their residency responses in order to use residency status as a variable in significance testing. The goal through this process was to determine, as best as possible, the primary residency status for each respondent. In some cases, it was also possible to determine a secondary residency status. Of the 119 surveys completed, it was possible to determine a primary residency status for 115 respondents. The other four uncounted surveys were either missing, non-residents, or indeterminate. Of these 115 responses, 56 were full-time residents (48.7%), 23 were part-time residents (20%), 28 were vacation visitors (24.3%), and 8 were seasonal workers (6.9%). Most respondents (45.2%) had lived in or visited the study area for more than 20 years. Ten had lived in or visited the area for less than a year, 14 for 1 to 5 years, 23 for 6 to 10 years, five (5) for 11 to 15 years, 11 for 16 to 20 years, and 52 for more than 20 years. See Table 4.1 and Figure 4.1, Primary Residency Status.
Table 4.1: Primary Residency Status

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<td>10</td>
<td>14</td>
<td>23</td>
<td>5</td>
<td>11</td>
<td>52</td>
</tr>
</tbody>
</table>

It was also possible to determine a secondary residency status for 58 of the respondents. Secondary residency statuses provided insights into the nature of the changing human environment. These statuses reflected long-time relationships between respondents and the study area as well as highlighted transitions between respondents as vacation visitors to full- or part-time residents. One respondent was a full-time resident, 26 respondents were part-time residents, and 31 respondents were vacation visitors. Distinguishing these sorts of multiples statuses was possible because a respondent may be
primarily a part-time resident, for instance, but has also visited and vacationed in the Tahoe Basin for a longer time, and has indicated such on their surveys. As in primary residency statuses, the greatest number of respondents (53.4%) had spent more than 20 years in the Tahoe Basin in one way or another. See Table 4.2 and Figure 4.2, Secondary Residency Status.

Table 4.2: Secondary Residency Status

<table>
<thead>
<tr>
<th></th>
<th>&lt; 1 Yr</th>
<th>1-5 Yrs</th>
<th>6-10 Yrs</th>
<th>11-15 Yrs</th>
<th>16-20 Yrs</th>
<th>&gt; 20 Yrs</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full-Time Resident</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Part-Time Resident</td>
<td>4</td>
<td>7</td>
<td>4</td>
<td>2</td>
<td>1</td>
<td>8</td>
<td>26</td>
</tr>
<tr>
<td>Seasonal Worker</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vacation Visitor</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>3</td>
<td></td>
<td>23</td>
<td>31</td>
</tr>
<tr>
<td>Totals</td>
<td>4</td>
<td>9</td>
<td>7</td>
<td>3</td>
<td>4</td>
<td>31</td>
<td>58</td>
</tr>
</tbody>
</table>
In addition to determining residency, it became clear through interviews that noting a respondents’ affiliation (resident, public agency, vacation visitor-camper, or seasonal worker) would also be useful as a variable in significance testing. Affiliations were noted as described in Methods for 118 respondents/participants. Of the four groupings used to categorize respondents 54 (45.8%) were residents (both full- and part-time), 29 (24.6%) were public agency employees, 28 (23.7%) were vacation visitors or campers, and 7 (5.9%) were seasonal workers.

4.4.2 Background Survey Response Frequencies

The goal, through the overall background survey response analyses, was to learn how the respondents presented themselves as a whole with respect to three categories of questions. The results of the survey provided information about respondents’ opinions on wildlife and black bear management, community and community decision-making, and the conditions they considered important in a community-decision-making process. See Tables 4.3 through 4.5 for overall responses to the Background Survey.

4.4.2.1 Wildlife and Black Bear Management

The background survey included seven questions focusing on wildlife, black bears, and black bear management. See Table 4.3, Opinions about Wildlife—Frequencies (in Percent). As a whole more respondents (18.6%) strongly disagreed on the goals of managing wildlife for human benefit, although responses were fairly evenly distributed across the range of options (Skewness = .242). Most respondents (23.7%) also strongly agreed that animals and people should have similar rights. Most respondents (27.4% and 31.9%, respectively) strongly disagreed that hunting was cruel
and inhumane to the animals and that black bears were dangerous to people. While most respondents (29.9%) strongly agreed it was acceptable to destroy a black bear that had threatened a person, they strongly disagreed (26.5%) that the same management strategy was acceptable when a black bear had damaged property. Ultimately, most respondents (40.7%) strongly agreed (Skewness = -1.310) that final decisions about how to deal with a problem black bear should rest with a wildlife management agency.

4.4.2.2 Community and Community Decision-Making

The survey also attempted to learn about how the respondents viewed themselves with respect to ideas of community and community decision-making. Respondents were asked to consider an environmental quote and gauge to what degree they agreed or disagreed with the statement, “[T]he individual is a member of a community of interdependent parts. The land ethic simply enlarges the boundaries of the community to include soils, waters, plants, and animals, or collectively, the land.” Most respondents (44.6%) strongly agreed with the statement, suggesting their agreement with the idea that community includes not only people, but natural resources such as wildlife as well. See Table 4.4, Opinions about Community and Community Decisions (in Percent).

The research also attempted to gain a sense of how the respondents viewed their primacy in decisions affecting their community. While most respondents (55.1%) agreed at varying levels, the greatest number (26) of respondents (22%) neither agreed nor disagreed with the idea that they had greater knowledge about their community than visiting researchers. More respondents (58%) generally agreed, and the greatest number (30) of respondents slightly agreed (25%) on their superior right to make decisions
affecting their communities because they would bear the heaviest consequences. And, most respondents (74.3%) generally agreed that face-to-face dialogue was far more democratic than decisions about their community made by outsiders. These survey results suggest that respondents wish to be engaged in processes and decisions that affect their communities.

4.4.2.3 Community Decision-Making Processes and Important Dimensions

Respondents overwhelmingly expressed the importance of including numerous conditions in a community decision-making process that focuses on bear management. See Table 4.5, Opinions about Community Decision-Making Processes and Important Conditions (in Percent). The greatest number (36) of respondents and most overall (56.4%) felt it was important or very important for an impartial facilitator to lead the community process, while 6 (5.0%) did not know. The greatest number (58) of respondents and most overall (80.6%) also felt it was important or very important to seek ideas from all parties in the community in efforts to manage bears, while 3 (2.5%) did not know. The greatest number (54) of respondents and most overall (71.5%) also felt it was important or very important to invite the input of all community members in bear management decisions. The greatest number of respondents (62) similarly felt it was very important for a successful process to explore all non-lethal approaches when managing bears, and most overall (77.8%) felt it was important or very important to consider all non-lethal approaches. These results, like community decision-making sentiments, support using community decision-making processes that are inclusive and open to exploring a full range of options when developing bear management strategies.
Table 4.3: Opinions about Wildlife—Frequencies (in Percent)

<table>
<thead>
<tr>
<th>Opinions</th>
<th>Strongly Agree</th>
<th>Moderately Agree</th>
<th>Slightly Agree</th>
<th>Neither Agree nor Disagree</th>
<th>Slightly Disagree</th>
<th>Moderately Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Humans should manage wildlife populations so that humans benefit.</td>
<td>7.6</td>
<td>12.7</td>
<td>13.6</td>
<td>13.6</td>
<td>16.9</td>
<td>16.9</td>
<td>18.6</td>
</tr>
<tr>
<td>Animals should have rights similar to the rights of humans.</td>
<td>23.7</td>
<td>14.4</td>
<td>9.3</td>
<td>9.3</td>
<td>12.7</td>
<td>16.9</td>
<td>13.6</td>
</tr>
<tr>
<td>Hunting is cruel and inhumane to the animals.</td>
<td>17.1</td>
<td>9.4</td>
<td>6.8</td>
<td>15.4</td>
<td>10.3</td>
<td>13.7</td>
<td>27.4</td>
</tr>
<tr>
<td>It is acceptable to destroy a black bear that has threatened a person with bodily harm.</td>
<td>29.9</td>
<td>18.8</td>
<td>12.0</td>
<td>8.5</td>
<td>7.7</td>
<td>10.3</td>
<td>12.8</td>
</tr>
<tr>
<td>It is acceptable to destroy a black bear that has damaged property.</td>
<td>13.7</td>
<td>8.5</td>
<td>11.1</td>
<td>10.3</td>
<td>12.8</td>
<td>17.1</td>
<td>26.5</td>
</tr>
<tr>
<td>Final decisions about how to deal with a black bear that has become a problem should rest with the wildlife management agency.</td>
<td>40.7</td>
<td>28.8</td>
<td>7.6</td>
<td>7.6</td>
<td>2.5</td>
<td>5.9</td>
<td>6.8</td>
</tr>
<tr>
<td>Black bears are dangerous to humans.</td>
<td>8.4</td>
<td>2.5</td>
<td>8.4</td>
<td>11.8</td>
<td>14.3</td>
<td>22.7</td>
<td>31.9</td>
</tr>
</tbody>
</table>

*Note*. Highest overall agreement/disagreement shown in bold.
Table 4.4: Opinions about Community and Community Decisions (in Percent)

<table>
<thead>
<tr>
<th></th>
<th>Strongly Agree</th>
<th>Moderately Agree</th>
<th>Slightly Agree</th>
<th>Neither Agree nor Disagree</th>
<th>Slightly Disagree</th>
<th>Moderately Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community Land Ethic “The individual is a member of a community of interdependent parts. The land ethic simply enlarges the boundaries of the community to include soils, waters, plants, and animals, or collectively, the land.”</td>
<td>44.6</td>
<td>23.2</td>
<td>11.6</td>
<td>9.8</td>
<td>2.7</td>
<td>8.0</td>
<td>0.0</td>
</tr>
<tr>
<td>As a resident of your community you:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>know your community far better than scientists who gather data in the field for a season or two and return home.</td>
<td>13.6</td>
<td>21.2</td>
<td>20.3</td>
<td><strong>22.0</strong></td>
<td>9.3</td>
<td>12.7</td>
<td>0.8</td>
</tr>
<tr>
<td>have a superior right to make decisions because you will bear the heaviest consequences of those decisions.</td>
<td>17.9</td>
<td>14.5</td>
<td><strong>25.6</strong></td>
<td>16.2</td>
<td>10.3</td>
<td>12.8</td>
<td>2.6</td>
</tr>
<tr>
<td>believe face-to-face dialogue about options and consequences is democratic in a way that decisions made by outsiders can never be.</td>
<td>20.5</td>
<td><strong>35.0</strong></td>
<td>18.8</td>
<td>15.4</td>
<td>5.1</td>
<td>5.1</td>
<td>0.0</td>
</tr>
</tbody>
</table>

*Note.* Highest overall agreement/disagreement shown in bold.
Table 4.5: Opinions about Community Decision-Making Processes and Important Conditions (in Percent)

<table>
<thead>
<tr>
<th>Statement</th>
<th>Very Important</th>
<th>Important</th>
<th>Moderately Important</th>
<th>Slightly Important</th>
<th>Not Important at All</th>
<th>Don’t Know</th>
</tr>
</thead>
<tbody>
<tr>
<td>An impartial facilitator should lead the community process.</td>
<td>30.3</td>
<td>26.1</td>
<td>16.0</td>
<td>12.6</td>
<td>10.1</td>
<td>5.0</td>
</tr>
<tr>
<td>Efforts to manage bears should seek ideas from all parties in the community.</td>
<td>48.7</td>
<td>31.9</td>
<td>9.2</td>
<td>5.0</td>
<td>2.5</td>
<td>2.5</td>
</tr>
<tr>
<td>Bear management decisions should invite the input of all community members.</td>
<td>45.4</td>
<td>26.1</td>
<td>13.4</td>
<td>6.7</td>
<td>5.9</td>
<td>2.5</td>
</tr>
<tr>
<td>A successful community process explores all non-lethal approaches to manage bears.</td>
<td>53.0</td>
<td>24.8</td>
<td>11.1</td>
<td>7.7</td>
<td>3.4</td>
<td>*</td>
</tr>
</tbody>
</table>

*Note. Highest overall agreement/disagreement shown in bold. *Don’t Know = .8; Missing = .8.*

4.4.3 Significance Testing across Sociodemographic Categories

In an assessment to describe the potential conflicts arising between people about black bears, it is also important to understand how the community through its various constituent groups situates itself with respect to the same issues about black bears and black bear management decisions as well as community and community decision-making processes. Significance testing using independent sociodemographic variables helped to provide those insights. This section reports the results of these tests using (1) independent samples *t*-tests for gender and each survey question (gender is the independent, dichotomous variable; the response to the survey question is a continuous, dependent variable); (2) 1-way analysis of variance (ANOVA) tests, and where necessary (Skewness is > +1.0 or < -1.0) (Vaske, 2008, 275); (3) 1-way Kruskal-Wallis ANOVAs;
and (4) Mann-Whitney $U$ tests for the remaining sociodemographic and survey response variables. See Appendix 2 for all results not reported within this section.

**4.4.3.1 Independent-Samples t-tests**

**Gender**

Independent-samples $t$-tests, and Mann-Whitney $U$ tests, where necessary, identified eight instances of significant differences between men and women. Six of these significant results related to the respondents’ ideas about animals and black bear management. One of the results related to respondents’ views on how important an impartial facilitator is in leading a community process. The final instance of a significant difference related to men’s and women’s views on what constitutes a community land ethic.

Overall women were more tolerant and perhaps even had supportive opinions of black bears and their management compared to men. Significant differences were found between men and women when queried on their beliefs about animals and black bears in particular as well as black bear management alternatives. Men and women were more similarly situated when questioned about their ideas about community and important considerations in community decision-making processes focusing on bear management. Two exceptions to these results focused on their agreement with the scope of a community land ethic, and the importance of an impartial facilitator in a community process involving decisions. While they differed significantly on these two issues it was in their level of agreement or support versus disagreement. Here again women tended to
agree more than men or find aspects of community decision-making processes of greater import.

*T*-tests evaluating the differences between men and women in their beliefs about animals showed significant differences across all four survey questions. See Table 4.6, Significant Results: Gender and Opinions about Wildlife and Black Bears—Independent Samples t-test Results. The results indicated there were significant differences between (1) men and women \( t(116) = 2.06, \rho = .042 \) with respect to managing wildlife populations for human benefits. Women \( (M = -.79, SD = 1.917) \) disagreed slightly more than men \( (M = -.07, SD = 1.867) \) in this regard. (2) Women \( (M = .89, SD = 2.13) \) agreed while men \( (M = -.52, SD = 2.05) \) disagreed that animals and people should have similar rights. (3) Women \( (M = .28, SD = 2.29) \) agreed while men \( (M = -1.18, SD = 1.90) \) disagreed that hunting is cruel and inhumane to animals. (4) Women \( (M = -1.52, SD = 1.82) \) disagreed more than men \( (M = -.79, SD = 1.89) \) that black bears are dangerous to people.

Men’s and women’s opinions about black bear management also differed significantly for two of three survey questions. Women agreed \( (M = .03, SD = 2.20) \) less than men \( (M = 1.48, SD = 1.89) \) that it was acceptable to destroy a black bear that has threatened a person with bodily harm. Women also disagreed \( (M = -1.17, SD = 2.10) \) on the acceptability of destroying a black bear that has damaged property while men \( (M = .05, SD = 2.02) \) agreed with this approach. On the other hand, both men and women agreed that final decision-making should rest with the wildlife management agency when a black bear becomes a problem. Men \( (M = 1.74) \) agreed more than women \( (M = 1.33), \)
and there were no significant differences between them based on Mann-Whitney $U$ results ($Z = -.659, \rho = .51$). See Appendix 2, Table 2.1.

While men and women differed significantly ($Z = -2.394, \rho = .017$) in their beliefs about what constitutes a community land ethic, it was in their degree of agreement. Women ($M = 1.98$) agreed more than men ($M = 1.46$) with the idea that a community land ethic includes natural resources such as wildlife. See Table 4.7, Significant Results: Gender and Community—Mann Whitney U Results.

Men and women also agreed on various aspects of community and community decision-making, but there were not any significant differences between them in their agreement. Men ($M = .75, SD = 1.47$) agreed slightly more than women ($M = .58, SD = 1.70$) that they knew their community better than scientists who gather data there and return home. Men also agreed ($M = .73, SD = 1.55$) slightly more than women ($M = .58, SD = 1.84$) that they have a superior right to make decisions in their community because they will bear the heaviest consequences. Men ($M = 1.32, SD = 1.38$) and women ($M = 1.38, SD = 1.38$) agreed equally, however, that face-to-face dialogue about options and consequences is democratic in a way that decisions made by outsiders could never be. See Appendix 2, Table 2.2 for these results.

$T$-tests evaluating the importance of inclusive conditions in a multi-party community decision-making process highlighted the difference between women and men in who facilitates such a process. See Table 4.8, Significant Results: Community Decision-Making Processes and Important Conditions. There was a significant difference between men and women $t(104) = -2.90, \rho = .005$ in how important it is to
have an impartial facilitator lead a community process; women ($M = 3.91, SD = 1.15$) viewed this aspect as more important than men ($M = 3.20, SD = 1.42$). Dependent variables for the remaining aspects of community processes were not normally distributed, so non-parametric Mann-Whitney $U$ tests were run in addition to $t$-tests. Neither $t$-tests nor Mann Whitney $U$ tests found significant differences between men and women on any of the three aspects related to conducting a community decision-making process focusing on black bear management. Everyone generally considered these conditions important or very important. Both men ($M = 4.21$) and women ($M = 4.23$) believed it was equally important to seek ideas from all parties in efforts to manage bears. Men ($M = 4.05$) and women ($M = 4.26$) also believed exploring all non-lethal approaches when managing bears was important to very important in a community process. Women ($M = 4.17$), however, believed it was more important to invite the input of the whole community on bear management decisions than did men ($M = 3.84$). See Appendix 2, Table 2.3, for these results.
Table 4.6: Significant Results: Gender and Opinions about Wildlife and Black Bears—Independent Samples $t$-test Results

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Male Mean</th>
<th>SD</th>
<th>N</th>
<th>Female Mean</th>
<th>SD</th>
<th>$t$-value</th>
<th>df</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Humans should manage wildlife populations so that humans benefit.</td>
<td>56</td>
<td>-0.07</td>
<td>1.87</td>
<td>62</td>
<td>-0.79</td>
<td>1.92</td>
<td>2.06</td>
<td>116</td>
<td>0.042</td>
</tr>
<tr>
<td>Animals should have rights similar to the rights of humans.</td>
<td>56</td>
<td>-0.52</td>
<td>2.05</td>
<td>62</td>
<td>0.89</td>
<td>2.13</td>
<td>-3.65</td>
<td>116</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Hunting is cruel and inhumane to the animals.</td>
<td>57</td>
<td>-1.18</td>
<td>1.90</td>
<td>60</td>
<td>0.28</td>
<td>2.29</td>
<td>-3.75</td>
<td>113</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>It is acceptable to destroy a black bear that has threatened a person with bodily harm.</td>
<td>56</td>
<td>1.48</td>
<td>1.89</td>
<td>61</td>
<td>0.03</td>
<td>2.20</td>
<td>3.84</td>
<td>114.5</td>
<td>&lt;0.000</td>
</tr>
<tr>
<td>It is acceptable to destroy a black bear that has damaged property.</td>
<td>57</td>
<td>0.05</td>
<td>2.02</td>
<td>60</td>
<td>-1.17</td>
<td>2.10</td>
<td>3.20</td>
<td>115</td>
<td>0.002</td>
</tr>
<tr>
<td>Black bears are dangerous to humans.</td>
<td>57</td>
<td>-0.79</td>
<td>1.89</td>
<td>62</td>
<td>-1.52</td>
<td>1.82</td>
<td>2.14</td>
<td>117</td>
<td>0.035</td>
</tr>
</tbody>
</table>

Table 4.7: Significant Results: Gender and Community—Mann Whitney $U$ Results

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Male Mean</th>
<th>SD</th>
<th>N</th>
<th>Female Mean</th>
<th>SD</th>
<th>Z</th>
<th>df</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community Land Ethic “[T]he individual is a member of a community of interdependent parts. The land ethic simply enlarges the boundaries of the community to include soils, waters, plants, and animals, or collectively, the land.”</td>
<td>54</td>
<td>1.46</td>
<td>1.55</td>
<td>58</td>
<td>1.98</td>
<td>1.54</td>
<td>-2.394</td>
<td>103.9</td>
<td>0.017</td>
</tr>
</tbody>
</table>

Table 4.8: Significant Results: Community Decision-Making Processes and Important Conditions

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Male Mean</th>
<th>SD</th>
<th>N</th>
<th>Female Mean</th>
<th>SD</th>
<th>$t$-value</th>
<th>df</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>An impartial facilitator should lead the community process.</td>
<td>55</td>
<td>3.20</td>
<td>1.43</td>
<td>58</td>
<td>3.91</td>
<td>1.16</td>
<td>-2.90</td>
<td>103.9</td>
<td>0.005</td>
</tr>
</tbody>
</table>
4.4.3.2 Analysis of Variance (ANOVA) Results

Significance testing using a 1-way ANOVA or Kruskal-Wallis ANOVA, where necessary, identified seven instances of significant differences between respondents based on their sociodemographic constituencies. One-way ANOVAs identified two instances (human-centered wildlife management and the importance of an impartial facilitator) of significant differences based on ages of the respondents. Part-time residents and vacation visitors also differed significantly in their opinions about the importance of an impartial facilitator. One-way ANOVAs also identified one instance of significant differences between respondents based on their education with respect to their primacy in making decisions affecting their community. Non-parametric Kruskal-Wallis ANOVAs identified three instances of significant differences. Two of these instances (final black bear management decisions and what constitutes a community land ethic) were differences based on respondents’ affiliations. The third instance (non-lethal approaches and success) was based on respondents’ education. Details, including tables, of these results follow below.

Age

One-way ANOVA results revealed two instances of significant differences between respondents based on their ages. There were significant differences in agreement over managing wildlife populations for human benefit between respondents based on age, \( F (4, 107) = 2.891, p = .026 \). Least significant difference (LSD) comparisons showed significant differences between two groups of respondents: those aged 40s and 70+ (\( p = .004 \)), and 50s and 70+ (\( p = .008 \)). Respondents in the 40s (\( M = \) 182
-1.03) and 50s ($M = -.88$) age groups disagreed on this point while respondents in the 70+ age group ($M = .63$) agreed that wildlife populations should be managed for human benefit. The Bonferroni correction also indicated a significant difference ($\rho = .039$) between respondents in the 40s and 70+ age groups. There were also significant differences between four age groups, $F(4, 102) = 2.73, \rho = .033$, with respect to the importance of an impartial facilitator leading a community process. Least significant difference (LSD) comparisons showed significant differences between age groups 20s-30s and age group 40s ($\rho = .017$) as well as between age group 40s and age group 70+ ($\rho = .006$). Respondents in age group 40s ($M = 4.17$) believed that having an impartial facilitator was more important than did respondents in age groups 20s-30s ($M = 3.08$) and 70+ ($M = 3.00$). See Table 4.9, Significant Results: One-Way ANOVA and Age by Decade.

Although one-way ANOVA significance testing did not reveal any further significant differences between respondents based on their ages, interesting age-related trends were observed with respect to ideas about animals and black bear management. Respondents aged 20s-30s curiously tended to express less tolerance for trouble with bears, expressing less objection to lethal interventions while at the same time disagreeing the most about the danger of black bears. Most respondents aged 40s, 50s, and 60s seemed more tolerant of black bears and expressed greater support for their rights. Respondents aged 20s-30s ($M = -1.14$) disagreed while those aged 40s, 50s, and 60s slightly agreed that people and animals should have similar rights. Respondents aged 20s-30s ($M = -1.77$) also disagreed more strongly than respondents aged 40s ($M = -20$).
and 70+ ($M = -0.06$), while respondents aged 60s ($M = 0.05$) slightly agreed that hunting is cruel and inhumane to animals. Respondents largely neither agreed nor disagreed or slightly agreed that it was acceptable to destroy a black bear that had threatened a person, but respondents aged 20s-30s slightly to moderately agreed with this outcome. Conversely, respondents neither agreed nor disagreed or slightly disagreed that it was acceptable to destroy a black bear that had damaged property. Most respondents slightly to moderately disagreed that black bears are dangerous, but the levels of disagreement about black bear danger decreased with age; the youngest age group (20-30 years) disagreed the most ($M = -1.50$) while the oldest age group (70+ years) disagreed the least ($M = -0.63$).

With the exception of slightly to moderately agreeing that face-to-face dialogue was more democratic than decisions made by outsiders, respondents neither agreed nor disagreed or slightly agreed about knowing their communities better than outsiders and having a superior right to make decisions that will affect them.

Kruskal-Wallis ANOVAs at the < .05 level of significance did not identify any significant differences between respondents for the three remaining survey questions about community decision-making processes and important conditions (seeking ideas from all parties in managing bears, exploring all non-lethal approaches for a successful community process, and inviting the input of all community members in bear management decisions). Respondents aged 20s-30s, as in earlier survey questions about black bear management, found inclusive approaches in decision-making less important than respondents in all other age groups. See Appendix 2, Tables 2.4 to 2.6 for results.
Table 4.9: Significant Results: One-Way ANOVA and Age by Decade

<table>
<thead>
<tr>
<th>Variable</th>
<th>Age</th>
<th>N</th>
<th>Mean</th>
<th>SD (±)</th>
<th>F Value</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Humans should manage wildlife populations so that humans benefit.</td>
<td>20s-30s</td>
<td>14</td>
<td>-0.07</td>
<td>1.542</td>
<td>2.891</td>
<td>0.026</td>
</tr>
<tr>
<td></td>
<td>40s</td>
<td>30</td>
<td>-1.03</td>
<td>1.921</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>50s</td>
<td>32</td>
<td>-0.88</td>
<td>1.699</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>60s</td>
<td>20</td>
<td>-0.15</td>
<td>2.11</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>70+</td>
<td>16</td>
<td>0.63</td>
<td>1.668</td>
<td></td>
<td></td>
</tr>
<tr>
<td>An impartial facilitator should lead the community process.</td>
<td>20s-30s</td>
<td>12</td>
<td>3.08</td>
<td>1.505</td>
<td>2.73</td>
<td>0.033</td>
</tr>
<tr>
<td></td>
<td>40s</td>
<td>29</td>
<td>4.17</td>
<td>1.104</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>50s</td>
<td>31</td>
<td>3.52</td>
<td>1.151</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>60s</td>
<td>20</td>
<td>3.70</td>
<td>1.380</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>70+</td>
<td>15</td>
<td>3.00</td>
<td>1.648</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Residency

One-way ANOVA results revealed one instance of significant differences between the four residency groups, $F(3, 105) = 3.18$, $p = .027$, with respect to an impartial facilitator leading a community process. Post-hoc comparisons with Games-Howell showed significant differences (.055) between part-time residents and vacation visitors on this issue. Part-time residents ($M = 3.09$) believed it was less important for an impartial facilitator to lead a community process than did vacation visitors ($M = 4.17$).

Neither one-way ANOVAs nor Kruskal-Wallis ANOVAs where necessary revealed significant differences between residency groups for the remaining variables. See Appendix 2, Tables 2.7 to 2.10 for all results.

Ideas about Black Bears and Black Bear Management

Part-time residents ($M = .26$) very slightly agreed that wildlife should be managed for human benefits while the remaining respondents neither agreed nor disagreed or slightly disagreed with this idea. Most respondents neither agreed nor disagreed or slightly agreed that people and animals should have similar rights, except seasonal
workers who slightly disagreed ($M = -0.13$). Full-time residents ($M = -0.67$) and seasonal workers ($M = -1.88$) slightly to moderately disagreed that hunting was cruel and inhumane to animals while part-time residents ($M = 0.17$) and vacation visitors ($M = 0.04$) only slightly agreed with this point. All respondents slightly to moderately disagreed that black bears are dangerous; seasonal workers ($M = -1.50$) disagreed the most while part-time residents ($M = -0.83$) disagreed the least.

Most respondents neither agreed nor disagreed or slightly agreed ($M = 0.56$ to 1.38) that it was acceptable to destroy a black bear that had threatened a person with bodily harm, but neither agreed nor disagreed or disagreed ($M = 0.00$ to -1.29) on this approach when a bear had damaged property. Seasonal workers ($M = 0.38$), however, slightly agreed with this approach. Most respondents agreed ($M = 1.38$ to 1.68) that final decisions about problem black bears should rest with a wildlife agency, although seasonal workers agreed more strongly with this point ($M = 2.38$).

**Community and Community Decisions**

As in the one-way ANOVAs for respondents by age groupings, respondents neither agreed nor disagreed or slightly agreed about knowing their communities better than outsiders ($M = 0.46$ to 1.00) and having a superior right to make decisions that will affect them ($M = 0.43$ to 0.91), and agreed more strongly ($M = 0.88$ to 1.64) that face-to-face dialogue was more democratic than decisions made by outsiders.

**Community Decision-Making Processes and Important Conditions**

Respondents generally considered inclusive approaches important or very important in community decision-making processes particularly seeking ideas from all
parties in the community in efforts to manage bears (M = 4.00 to 4.36) and exploring all non-lethal approaches in managing bears for a successful community process (M = 4.00 to 4.32). Where bear management decisions were the focus respondents believed it was moderately important to important (M = 3.86 to 4.07) to invite the input of all community members.

**Affiliation**

One-way ANOVAs did not show any significant differences between respondents’ ideas about animals and black bear management, nor were there significant differences in respondents’ opinions about community and engagement. However, Kruskal-Wallis statistics identified two instances of significant differences between respondents. See Appendix 2, Tables 2.11 to 2.13 for all results.

Kruskal-Wallis statistics showed there were significant differences between respondents (at the < .05 level) based on their affiliations for two dependent variables: (1) whether final decisions about a black bear that has become a problem should rest with wildlife management agencies, and (2) what constitutes a community land ethic. See Table 4.10, Significant Results: Kruskal-Wallis ANOVA and Affiliation.

Successive Mann-Whitney U tests indicated that there was a significant difference between residents (both full- and part-time) and public agency employees (Z = -2.69, Asymp Sig (two-tailed) = .007) with respect to final black bear management decisions. Residents only slightly agreed (M = .96) while public agency employees moderately to strongly agreed (M = 2.17) that final decisions should rest with a wildlife agency. Mann-
Whitney $U$ tests did not reveal any other significant differences between respondents based on affiliation with respect to final decisions about black bear management.

Successive Mann-Whitney $U$ tests also indicated that there was a significant difference between residents (both full- and part-time) and public agency employees ($Z = -2.859$, Asymp Sig (two-tailed) = .004) in what constitutes a community land ethic. Residents (full- and part-time) and vacation visitors also differed significantly in these beliefs ($Z = -1.993$, Asymp Sig (two-tailed) = .046). Residents ($M = 2.12$) agreed more strongly than did public agencies ($M = 1.37$) and vacation visitors ($M = 1.44$) that a community land ethic includes natural resources such as wildlife. No other significant differences between respondents were evident.

Table 4.10: Significant Results: Kruskal-Wallis ANOVA and Affiliation

| Variable                                                                 | Affiliation               | N   | Mean  | SD (±) | K-W Chi$^2$ | Asymp. Sig.
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Final decisions about how to deal with a black bear that has become a problem should rest with the wildlife management agency.</td>
<td>Resident</td>
<td>53</td>
<td>0.96</td>
<td>2.148</td>
<td>9.101</td>
<td>0.028</td>
</tr>
<tr>
<td></td>
<td>Public Agency</td>
<td>29</td>
<td>2.17</td>
<td>1.416</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vacation Visitor – Camper</td>
<td>28</td>
<td>1.68</td>
<td>1.611</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Seasonal Worker</td>
<td>7</td>
<td>2.43</td>
<td>0.787</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community Land Ethic</td>
<td>Resident</td>
<td>51</td>
<td>2.12</td>
<td>1.395</td>
<td>8.310</td>
<td>0.040</td>
</tr>
<tr>
<td>“[T]he individual is a member of a community of interdependent parts. The land ethic simply enlarges the boundaries of the community to include soils, waters, plants, and animals, or collectively, the land.”</td>
<td>Public Agency</td>
<td>27</td>
<td>1.37</td>
<td>1.573</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vacation Visitor – Camper</td>
<td>27</td>
<td>1.44</td>
<td>1.717</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Seasonal Worker</td>
<td>6</td>
<td>1.33</td>
<td>1.862</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
One-way and Kruskal-Wallis ANOVA testing revealed two instances of significant differences between respondents based on their highest level of education. One-way ANOVA testing showed a significant difference between respondents’ opinions about face-to-face dialogue versus decisions made by outsiders in community and community decision-making. A Kruskal-Wallis ANOVA also showed a significant difference between respondents’ opinions on the importance of a successful community process exploring all non-lethal approaches in managing bears.

A one-way ANOVA showed that there were significant differences in agreement between numerous groups based on highest education regarding a superior right to make decisions for the respondent’s community, $F(4, 111) = 3.723, \rho = .007$. LSD comparisons showed that means differed significantly across numerous groups. High school educated-respondents ($M = 1.00$) agreed they had a superior right to decide while respondents with some graduate studies ($M = -.80$) disagreed on this point. Respondents with some college ($M = 1.29$) likewise differed significantly in agreement with respondents with bachelor’s degrees ($M = .29$) or some graduate studies ($M = -.80$) who only slightly agreed or disagreed, respectively with this point. And respondents with some graduate studies differed significantly in agreement with all other groups except those respondents with bachelor’s degrees, and especially those respondents with graduate/professional degrees ($M = .79, \rho = .008$). While respondents with some graduate studies ($M = -.80$) disagreed on the superior right to make decisions in their community, all other respondents agreed in varying degrees. The Bonferroni correction
also found significant differences between respondents with some graduate studies and respondents with some college ($\rho = .006$). See Table 4.11, Significant Results: One-Way ANOVA and Highest Level of Education—Community and Community Decisions.

<table>
<thead>
<tr>
<th>As a resident of your community you:</th>
<th>Highest Education</th>
<th>N</th>
<th>Mean</th>
<th>SD (±)</th>
<th>F Value</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>have a superior right to make decisions because you will bear the heaviest consequences of those decisions.</td>
<td>Some HS/Diploma or GED</td>
<td>6</td>
<td>1.00</td>
<td>1.673</td>
<td>3.724</td>
<td>0.007</td>
</tr>
<tr>
<td></td>
<td>Some College</td>
<td>31</td>
<td>1.29</td>
<td>1.677</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bachelor- 4 yr Degree</td>
<td>35</td>
<td>0.29</td>
<td>1.619</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Some Graduate Graduate/ Professional Degree</td>
<td>34</td>
<td>0.79</td>
<td>1.719</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Kruskal-Wallis statistics showed significant differences (at the < .05 level) among respondents based on highest education with respect to the importance of successful community processes exploring all non-lethal approaches to manage bears. Successive Mann-Whitney $U$ tests indicated that there was a significant difference between respondents with some college and graduate/professional degrees ($Z = -2.81$, Asymp Sig (two-tailed) = .005). Respondents with some college ($M = 4.42$) believed exploring all non-lethal approaches for managing bears was more important than did respondents with graduate or professional degrees ($M = 3.69$). Mann-Whitney $U$ tests also identified a significant difference between respondents with some graduate studies and respondents with graduate or professional degrees ($Z = -2.076$, Asymp Sig (two-tailed) = .038) for this variable. Respondents with some graduate studies ($M = 4.50$) also believed this condition
was more important than did respondents with graduate or professional degrees ($M = 3.69$).

Table 4.12: Significant Results: Kruskal-Wallis ANOVA and Highest Level of Education—Community Decision-Making Processes and Important Conditions

<table>
<thead>
<tr>
<th>Variable</th>
<th>Highest Education</th>
<th>N</th>
<th>Mean</th>
<th>SD (±)</th>
<th>K-W Chi²</th>
<th>Asymp. Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>A successful community process explores all non-lethal</td>
<td>Some HS/Diploma or GED</td>
<td>5</td>
<td>4.60</td>
<td>0.548</td>
<td>11.549</td>
<td>0.021</td>
</tr>
<tr>
<td>approaches to manage bears.</td>
<td>Some College</td>
<td>31</td>
<td>4.42</td>
<td>1.119</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bachelor- 4 yr degree</td>
<td>35</td>
<td>4.23</td>
<td>0.910</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Some Graduate/ Graduate/</td>
<td>35</td>
<td>3.69</td>
<td>1.255</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Professional Degree</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

One-way ANOVAs did not reveal any significant differences between respondents based on highest education with respect to ideas about animals and wildlife (human-centered management, animal rights, black bear danger or hunting). Nor were there significant differences between respondents about destroying a black bear that has threatened a person with bodily harm or damaged property. One-way ANOVAs did not reveal significant differences between respondents based on their education with respect to community knowledge, or the importance of an impartial facilitator leading a community process. See Appendix 2, Tables 2.14 through 2.17 for all other results.

4.5 Results of the Potential for Conflict Index (PCI) Analyses

The PCI results report and illustrate three sets of analyses using tables that list the PCI and mean, and graphs of these values using bubble charts. A second set of tables reports the significance of differences ($d$) between the PCIs. The first set of analyses
reports the results of (1) PCIs (degree of agreement or disagreement) across all respondents for each survey question. See Table 4.13, Potential for Conflict Indices (PCIs) and Mean Scores for Lake Tahoe Respondents. The second set of analyses reports (2) the differences in responses to the survey questions within the groups of respondents by the independent sociodemographic variables: gender, age, residency, affiliation, and education. The third set of analyses (3) measures the differences between PCIs for respondents by groups and tests for any significant differences among them. PCIs of 1 indicate the greatest dispersion, and thus the greatest potential for conflict, whereas a PCI of 0 indicates agreement among the respondents. The larger a bubble is in a graph, the greater the potential for conflict.

4.5.1 Overall Background Survey PCI Results

Respondents’ ideas about wildlife suggest there is a diversity of opinion with respect to human-focused wildlife management (.46), whether people and animals should have similar rights (.59), and hunting is cruel and inhumane to animals (.53). There was greater consensus of opinion, however, about the danger of black bears (.38). These values coupled with the survey results frequency provide an idea of how cohesive the results of survey frequencies are. For instance, while the greatest number of respondents strongly disagreed that wildlife should be managed for human benefit, the PCI of .46 suggests some diversity in respondents’ opinions as is seen in the distribution of the frequency results for this variable.

Respondents’ ideas about wildlife management were similarly mixed except with respect to final decisions about problem black bears. When questioned about the
acceptability of destroying black bears for damaging property (.54) versus threatening a person with bodily harm (.56), respondents were diametrically opposed: on the one hand strongly disagreeing when a bear damages property, but strongly agreeing when a bear threatens a person with bodily harm. Most respondents (.37), however, strongly agreed that final decisions about problem black bears should rest with a wildlife management agency.

Despite the diversity in the respondents’ residency and childhood communities as a whole there was a great deal of consensus in their ideas about community and community decision making. Most respondents (.24) strongly agreed that a community land ethic includes natural resources such as wildlife, and moderately agreed that face-to-face dialogue is far more democratic than decisions made by outsiders (.18). However, as a whole they had little opinion about the comparative knowledge they versus outsiders had about their community (.30), or their primacy in making decisions that affect their community (.35), only slightly agreeing on this variable.

Respondents questioned about the importance of including particular conditions in a community decision-making process were of mixed opinion at best and divergent of opinion in the extreme. Although most respondents believed it was very important for an impartial facilitator to lead the process the diversity in their opinions (.74) was greater than any other variable in the survey. Respondents similarly believed it was very important to seek ideas from all community members in efforts to manage bears (.49) and that a successful community process would explore all non-lethal approaches when managing bears (.55), yet the PCIs suggest diversity of opinion on these conditions. And
even though most respondents believed it was very important for those making bear
management decisions to invite the input of all community members, the PCI (.61) once
again suggests diversity of opinion.

PCIs therefore provide another dimension for measuring diversity among parties
above and beyond simple frequencies. They also provide further support beyond a
simple analysis of variance seeking to note significant differences between parties, the
subject of the next analyses using PCI.

Table 4.13: Potential Conflict Indices (PCIs) and Mean Scores for Lake Tahoe
Respondents

<table>
<thead>
<tr>
<th>Opinions About Wildlife, Black Bears and Black Bear Management</th>
<th>Potential Conflict Index (PCI2)</th>
<th>Mean Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Humans should manage wildlife populations so that humans benefit.</td>
<td>0.46</td>
<td>-0.45</td>
</tr>
<tr>
<td>Animals should have rights similar to the rights of humans.</td>
<td>0.59</td>
<td>0.22</td>
</tr>
<tr>
<td>Hunting is cruel and inhumane to the animals.</td>
<td>0.53</td>
<td>-0.43</td>
</tr>
<tr>
<td>It is acceptable to destroy a black bear that has threatened a person with bodily harm.</td>
<td>0.56</td>
<td>0.73</td>
</tr>
<tr>
<td>It is acceptable to destroy a black bear that has damaged property.</td>
<td>0.54</td>
<td>-0.57</td>
</tr>
<tr>
<td>Final decisions about how to deal with a black bear that has become a problem should rest with the wildlife management agency.</td>
<td>0.37</td>
<td>1.53</td>
</tr>
<tr>
<td>Black bears are dangerous to humans.</td>
<td>0.38</td>
<td>-1.17</td>
</tr>
</tbody>
</table>

(continued)
Table 4.13: Potential Conflict Indices (PCIs) and Mean Scores for Lake Tahoe Respondents (continued)

<table>
<thead>
<tr>
<th>Community and Community Decisions</th>
<th>Potential Conflict Index (PCI&lt;sub&gt;2&lt;/sub&gt;)</th>
<th>Mean Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community Land Ethic*</td>
<td>0.24</td>
<td>1.73</td>
</tr>
<tr>
<td>As a resident of your community you:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Know your community far better than scientists who gather data in the field for a season or two and return home.</td>
<td>0.30</td>
<td>0.66</td>
</tr>
<tr>
<td>have a superior right to make decisions because you will bear the heaviest consequences of those decisions.</td>
<td>0.35</td>
<td>0.65</td>
</tr>
<tr>
<td>believe face-to-face dialogue about options and consequences is democratic in a way that decisions made by outsiders can never be.</td>
<td>0.18</td>
<td>1.35</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Community Decision-Making Processes and Important Conditions</th>
<th>Potential Conflict Index (PCI&lt;sub&gt;2&lt;/sub&gt;)</th>
<th>Mean Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>An impartial facilitator should lead the community process.</td>
<td>0.74</td>
<td>3.57</td>
</tr>
<tr>
<td>Efforts to manage bears should seek ideas from all parties in the community.</td>
<td>0.49</td>
<td>4.22</td>
</tr>
<tr>
<td>Bear management decisions should invite the input of all community members.</td>
<td>0.61</td>
<td>4.01</td>
</tr>
<tr>
<td>A successful community process explores all non-lethal approaches to manage bears.</td>
<td>0.55</td>
<td>4.16</td>
</tr>
</tbody>
</table>

*Community Land Ethic “[T]he individual is a member of a community of interdependent parts. The land ethic simply enlarges the boundaries of the community to include soils, waters, plants, and animals, or collectively, the land.”*
Figure 4.3: Potential Conflict Indices for Lake Tahoe Respondents and Ideas about Animals and Black Bears
Figure 4.4: Potential Conflict Indices for Lake Tahoe Respondents and Black Bear Management Decisions
A second analysis included examining the diversity of opinions between the respondents based on their sociodemographic affiliations. PCIs were calculated for respondents in the sociodemographic categories of gender, age, residency, affiliation, and highest level of education. The purpose of these analyses was to brighten any potential differences between parties and within the subcategories for these sociodemographic categories.

4.5.2.1 Gender

The diversity of opinions across the survey among men and women as individual groups was largely mixed, however, PCIs revealed several instances of divergence and
cohesiveness within each group. Consensus among men was most evident in their agreement that final decisions about problem bears should rest with a wildlife management agency (.277), and their ideas about community and community decision-making. Divergence among men was greatest (.799) regarding an impartial facilitator leading a community decision-making process. Women’s opinions were fairly diverse as evidenced by mid-range PCIs. However, the greatest divergence among women, as with men, was over the importance of an impartial facilitator (.609). Consensus among women was greatest (.202) in their slight to moderate agreement that face-to-face dialogue is more democratic than decisions made by outsiders. See Appendix 3, Tables 3.1 and 3.2 for all results.

4.5.2.2 Age

PCIs helped to identify individual areas of similarities and differences among respondents, but few trends were evident across all of the survey questions. Respondents in their 20s-30s and the 70+ age range tended to exhibit the most remarkable areas of consensus or dissensus while PCIs for respondents in all other age groups were very individualized. These results underscore the benefits of the insights PCIs can provide into the strength of commitment a respondent has toward an issue in conflict. See Appendix 3, Tables 3.3 and 3.4 for all results.

Wildlife and Black Bear Management

Four variables provide information about respondents’ ideas about wildlife: human-centered management, animal rights, the cruelty of hunting, and the danger of black bears. Three additional variables provide insights into respondents’ ideas about
black bear management. Respondents in their 20s-30s were fairly consensual overall, and tended to respond similarly to those in the 70+ age range except with respect to black bear danger, on which they disagreed at a greater level. Respondents in their 40s were generally more consensual than those in their 50s, and similarly situated with respect to the survey questions on wildlife and black bear management except with respect to destroying a black bear that has threatened a person; respondents in their 40s were considerably disparate. Respondents in their 60s trended more toward those in the 70+ age range except on destroying a black bear that has threatened a person, on which there was general agreement about this approach. Respondents in the 70+ age range were mostly consensual in their utilitarian views of animals and black bear management compared to all other respondents. Specific details follow here and in the tables found in Appendix 3.

Respondents in their 20s-30s were a fairly cohesive group in their opinions about wildlife; PCIs ranged from .135 (cruelty of hunting) to .384 (animal rights). Their opinions on black bear management were a bit more wide-ranging with the most consensus about final black bear decisions resting with a wildlife management agency (.197) and the least consensus (.527) over destroying a black bear that has damaged property.

Respondents in their 40s were a bit more diverse in their ideas about wildlife as a group with PCIs ranging from .297 (black bear danger) to .570 (animal rights). Respondents’ opinions about black bear management were also wider-ranging with the most consensus (.357) about final black bear decisions resting with a wildlife
management agency and the least consensus about destroying a black bear that has threatened a person with bodily harm (.727).

Respondents in their 50s as a group were somewhat mixed in their ideas about wildlife. PCIs ranged from .346 (human-centered wildlife management) to .618 (animal rights). Their opinions about black bear management were similarly mixed with the least consensus (.681) about destroying a black bear that has damaged property and the most consensus (.496) about destroying a black bear that has threatened a person with bodily harm.

Respondents in their 60s held mixed opinions about wildlife. PCIs ranged from .333 (black bear danger) to .650 (cruelty of hunting). These respondents were more cohesive in their opinions about black bear management with the most consensus (.309) about final black bear decisions resting with a wildlife management agency and the least consensus (.456) about destroying a black bear that has damaged property.

Respondents in the 70+ age range were fairly diverse in their ideas about wildlife. PCIs ranged from .292 (human-centered wildlife management) to .690 (animal rights). Differences in their opinions remained equally diverse with respect to black bear management. The greatest consensus among this age group (.281) focused on final black bear decisions resting with a wildlife management agency and the least consensus was equally represented in their opinions about destroying black bears for damaging property (.581) or threatening a person with bodily harm (.578).
Communities and Community Decision-Making

Four variables sought to learn about respondents’ ideas about community and their roles in making decisions that affect their communities. Respondents were generally strongly consensual with respect to their ideas about community and community decision-making, however, those in the 70+ age range had greater levels of mixed opinions than all other age groups except on face-to-face dialogue versus decisions made by outsiders.

The first survey question measured respondents’ agreement with an environmental quote about what constitutes a community land ethic. PCIs suggested that most respondents either slightly or moderately agreed with the statement. Respondents in their 60s moderately to strongly agreed with the statement and were also the most cohesive as a group (PCI = .135), while respondents in the 70+ age range slightly to moderately agreed with the statement and were the least cohesive, though fairly similarly situated, as a group (PCI = .372).

The next three variables measured how respondents viewed their roles and place in their community. On average, most respondents neither agreed nor disagreed or slightly agreed that they knew their community better than outsiders. Respondents in their 20s-30s were most cohesive as a group (PCI = .173) while respondents in the 70+ age range were least cohesive (PCI = .573). As with the query on community knowledge, respondents neither agreed nor disagreed or slightly agreed on their primacy in decisions affecting their community. Respondents in their 40s and 50s were the most cohesive as groups (PCIs = .246 and .243, respectively) while respondents in the 70+ range who
slightly agreed with this idea on average, were the least cohesive (PCI = .625).
Respondents in all age subcategories were fairly cohesive (PCIs ranging from .052 to .268) within their groups and slightly to moderately agreed that face-to-face dialogue is more democratic than decisions made by outsiders. Respondents in their 50s were most cohesive (.052) and respondents in their 40s were least cohesive (.268).

**Community Decision-Making Processes and Important Conditions**

Four variables also measured respondents’ ideas about how important it is to include certain approaches in a community decision-making process. The first variable questioned respondents about a third-party intervenor. The next three variables questioned respondents about levels of engagement as participants in a community process and a strategy for framing a successful process. Respondents were highly mixed to disparate in their ideas about community decision-making processes and important conditions, but those in their 20s-30s were more mixed or disparate than all other respondents. As was observed in other analyses, all respondents, regardless of age, were of mixed to disparate opinions on the need for an impartial facilitator in a community process.

Respondents believed it was moderately important to important for an impartial facilitator to lead a community process. However, there was quite a bit of disparity within age subcategories across all respondents. Respondents in the 70+ age range had the greatest disparity (.893) while those in their 40s had the least disparity (.540).

When queried about levels of engagement most respondents, except for those in their 20s-30s, believed it was important to very important to (1) seek ideas from all
community members in efforts to manage bears as well as (2) invite their input on bear management decisions. While respondents in their 20s-30s believed these approaches were moderately important to important, there was also the greatest disparity among these respondents as well (PCIs = .714 and .833, respectively). Respondents in their 60s were most cohesive (PCIs = .275 and .388) in their view that these two approaches were important or very important.

When queried about the importance of a successful process exploring non-lethal approaches to manage bears respondents were mixed in their consensus. Respondents in their 40s showed the greatest consensus (PCI = .411) while respondents in their 60s showed the least consensus (PCI = .682).

While these PCI results revealed some smaller areas of consensus with respect to desired levels of engagement, respondents across the age subcategories were somewhat to very disparate in their opinions about community decision-making processes. These results support earlier PCIs for respondents overall as well with the greatest dissensus about a facilitator (.74) and the least dissensus about seeking ideas from all parties in efforts to manage bears (.49).

4.5.2.3 Residency

PCIs were calculated for respondents affiliated with three residency subcategories: full-time resident, part-time resident, and vacation visitor. These calculations excluded the subcategory seasonal worker because of the small number (eight individuals) of respondents. PCI results across the 15 variables and three residency subcategories suggest that the less engaged a respondent (i.e., vacationers) is in the
community and outcomes, the more aligned their responses were with beliefs and values versus grappling with day-to-day decisions about problems with black bears. See Appendix 3, Tables 3.5 and 3.6 for all results.

**Wildlife and Black Bear Management**

PCI results were fairly similar across the three residency subcategories and three of the variables (human-centered wildlife management, animal rights, and cruelty of hunting) focusing on ideas about wildlife. PCIs ranging from .414 (human-centered management) to .633 (animal rights) suggest fairly mixed opinions within residency subcategories. While PCIs ranged from .233 (vacation visitors) to .456 (part-time residents) with respect to black bear danger, they did not suggest significant differences among or between the subcategory groups for this variable or the previous three variables. These results suggest that even though there are not significant differences between the groups based on one-way ANOVAs or PCI Difference tests, the differences among the groups may be enough to warrant further exploration of these views in a facilitated conversation.

Respondents’ views on black bear management were similarly mixed about destroying a black bear that has threatened a person with bodily harm; PCIs ranged from .513 to .576. However, views within and between respondents differed significantly with respect to destroying a black bear that has damaged property and final decisions about problem black bears resting with a wildlife management agency. Vacation visitors were most cohesive (PCI = .361) in their slight to moderate disagreement on destroying a black bear that has damaged property while part-time residents were least cohesive (PCI =
.667) in neither agreeing nor disagreeing on this point. Vacation visitors were also most cohesive (PCI = .158) in their slight to moderate agreement that final decisions about problem black bears should rest with a wildlife management agency while full-time residents were least cohesive (PCI = .512) on this point.

**Communities and Community Decision-Making**

Full-time residents were most cohesive (PCI = .135) in their slight to moderate agreement with a community land ethic that includes natural resources such as wildlife. Part-time residents agreed with this idea slightly more overall, but were also somewhat mixed (PCI = .413) among themselves. Respondents were greatly cohesive among themselves in their agreement on their roles and place in their community. Moreover, none of these PCIs were found to differ significantly within any of the residency subcategories. PCIs across the three subcategories and three variables ranged from .111 to .395 with one exception. Part-time residents were somewhat mixed (PCI = .441) about their primacy in making decisions that affect the community.

**Community Decision-Making Processes and Important Conditions**

Respondents differed the most within residential subcategories with respect to the importance of an impartial facilitator leading a community decision-making process. Vacation visitors were most cohesive (.552) in their belief that it is important to very important for an impartial facilitator to lead the process while part-time residents were least cohesive (PCI = .867) in their moderately important to important belief. While respondents generally believed that engaging all parties in bear management strategies and decisions was important to very important, PCIs suggested mixed consensus within
the residency subcategories. Full-time residents were most cohesive (.420) in their belief that seeking ideas from all parties in efforts to manage bears was important to very important. Part-time residents were the least cohesive (PCI = .625) in their belief that inviting the input of the whole community in bear management decisions is moderately important to important overall.

4.5.2.4 Affiliation

PCIs were calculated for respondents in three subcategories of the affiliation category: residency, public agency, and vacation visitor-camper. These calculations, as in the residency category, also excluded the subcategory seasonal worker because of the small number of respondents (typically seven individuals). Consistent with the PCI results in the residency category, PCIs reflected a respondent’s level of engagement in day-to-day decision-making. As in the residency category, the less-engaged vacationers were most cohesive in their beliefs about acceptable interventions when a black bear becomes a problem, including the importance of an impartial facilitator in a community process. PCIs suggested a relationship between consensus and levels of engagement for public agency employees as well when queried about inviting the input of all community members in bear management decisions. And, despite general agreement among all respondents, PCI results also revealed contrasting levels of consensus regarding a respondent’s views and ideas about community decision-making. See Appendix 3, Tables 3.7 and 3.8 for all results.
Wildlife and Black Bear Management

PCIs for the four variables measuring respondents’ ideas about wildlife, including black bears, were mixed, but generally cohesive. Public agency employees tended to be more cohesive in their ideas compared with residents and vacation visitors. Vacation visitors-campers were the most cohesive subgroup (PCI = .233) in their slight to moderate disagreement that black bears are dangerous, while residents were the least cohesive (PCI = .661) in neither agreeing nor disagreeing to slightly agreeing that animals and people should have the same rights. PCIs for one of the four variables measuring respondents’ ideas differed significantly. The differences in PCIs and cohesiveness between public agency employees and residents ranged from .454 to .661, respectively. Residents neither agreed nor disagreed to slightly agreed that animals and people should have similar rights while public agency employees neither agreed nor disagreed to slightly disagreed on this point.

Three variables measured respondents’ views on black bear management. Compared with the four variables measuring respondents’ ideas about wildlife, PCIs differed significantly both within and across two of the three measures. Respondents were evenly mixed (PCIs ranging from .520 to .576) in neither agreeing nor disagreeing to slightly agreeing that it is acceptable to destroy a black bear that has threatened a person with bodily harm. PCIs differed significantly, however, on destroying a black bear for damaging property and whether final decisions about problem black bears should rest with a wildlife management agency. Vacation visitors-campers were most cohesive (PCI = .361) in slightly to moderately disagreeing with destroying a black bear that has
damaged property while residents were least cohesive (PCI = .625) in neither agreeing nor disagreeing to slightly disagreeing with this approach. Vacation visitors-campers were also most cohesive (PCI = .158) in their slight to moderate agreement that decisions about problem black bears should rest with the wildlife management agency while residents were more mixed (PCI = .542) in neither agreeing nor disagreeing to slightly agreeing on this point.

**Communities and Community Decision-making**

PCIs suggested respondents were fairly cohesive within affiliation subcategories across the four variables that measured opinions about a community land ethic and one’s sense of community and community decision-making. Cohesion across affiliation subcategories did not necessarily mean respondents were always in agreement, however. Residents moderately to strongly agreed that a community land ethic includes natural resources such as wildlife while the remaining respondents slightly to moderately agreed on this point. Even though respondents agreed at varying levels, PCIs provided insights into the strength of a subgroups’ agreement within a variable.

Across all subcategories and variables, public agency employees were most cohesive (PCI = .049) in their slight to moderate agreement that face-to-face dialogue about options is more democratic than decisions made by outsiders while residents were least cohesive (PCI = .398) in neither agreeing nor disagreeing to slightly agreeing on their primacy with respect to decisions that affect their community. PCIs for two of the four variables differed significantly suggesting some level of uncertainty within subcategory affiliation groups. Although public agency employees (PCI = .115),
residents (PCI = .333), and vacation visitors (PCI = .395) neither agreed nor disagreed or slightly agreed that residents know their community better than visiting researchers or outsiders, PCIs indicated that cohesion differed within and across the affiliation groups. PCIs also highlighted differences in cohesion between public agency employees (PCI = .189) and residents (PCI = .398) on the primacy of residents in decisions that affect their communities even though these subgroups neither agreed nor disagreed to slightly agreed on this point but at slightly different levels. PCIs also highlighted strong cohesion (ranging from .049 to .212) within respondents across all affiliation subcategories in their slight to moderate agreement that face-to-face dialogue about options is far more democratic than decisions made by outsiders.

**Community Decision-Making Processes and Important Conditions**

Most respondents believed that inclusive approaches and broad-based bear management practices were important or very important for the four variables focusing on community decision-making process and content. PCIs ranging from .457 to .791, however, suggested fairly mixed opinions within the affiliation subcategories including two instances of greater disparity. Consensus among residents was minimal (PCI = .791) in their belief that impartial facilitators are moderately important to important in a community process. Respondents overall expressed the greatest diversity in beliefs both within and across subcategories for this variable. Consensus was greatest (PCIs = .457 and .458), on the other hand among public agency employees. As a subgroup they considered exploring all non-lethal approaches for a successful community process and seeking ideas from all community members in efforts to manage bears important to very
important. Consensus within public agency employees waned (PCI = .702), however, with respect to including all community members in bear management decisions. This PCI suggested mixed to disparate opinions within public agency employees about collaboratively sharing decisions while believing this aspect was moderately important to important.

4.5.2.5 Education

PCIs were calculated for respondents in four subcategories in the highest level of education category: Some College, Bachelor’s – 4-year Degree, Some Graduate, and Graduate/Professional Degree. PCI calculations excluded the subcategory Some High School or GED because of the small number of respondents (five or six) in this subcategory. Examining PCIs across respondents’ highest levels of education did not identify any real trends across the variables despite significant differences in PCIs for six of the 15 survey variables. Individually, respondents were mixed in their ideas about animals and black bear management, largely consensual in their ideas about community and community decision-making, and somewhat mixed and occasionally disparate in their views about community decision-making processes. See Appendix 3, Tables 3.9 and 3.10 for all results.

Wildlife and Black Bear Management

PCIs suggested fairly mixed opinions (ranging from .447 to .680) within the four educational subcategories for two of the four variables (animal rights and cruelty of hunting) measuring respondents’ ideas about wildlife, but similar across them. PCIs suggested the greatest consensus (.477) among respondents with bachelor’s degrees
(hunting) and the least consensus (.680) for respondents with some graduate studies (hunting). PCIs for the two remaining variables (human-centered management and black bear danger) differed more so within and among the respondents. Overall, respondents largely neither agreed nor disagreed about human-centered wildlife management, although respondents with some graduate studies slightly to moderately disagreed on this point. PCIs for respondents with some graduate studies also suggested the greatest consensus (PCI = .133), while PCIs for respondents with graduate/professional degrees suggested the least consensus (PCI = .509) in neither agreeing nor disagreeing on human-centered management. Respondents slightly to moderately disagreed about the danger of black bears with the greatest consensus (PCI = .147) among those with some graduate studies and the least consensus (PCI = .450) among those with some college studies. These results suggest mixed beliefs among respondents with respect to animal rights and the cruelty of hunting, and wider variation in beliefs as a group about black bear danger and human-centered wildlife management.

PCIs for black bear management variables suggested respondents’ ideas overall are both mixed and widely varying within and across the three variables. Respondents slightly agreed it was acceptable to destroy a black bear threatening a person, although their opinions across the four educational subcategories were mixed (PCIs ranging from .535 to .800). Conversely, although respondents slightly to moderately agreed that final decisions about problem black bears should rest with a wildlife management agency, PCIs suggested a less consensual group overall (PCIs ranging from .242 to .509) with high levels of consensus among some respondents, and more mixed levels of consensus
among others. Similarly, although respondents neither agreed nor disagreed or slightly disagreed that it was acceptable to destroy a black bear that had damaged property, PCIs, and therefore within and across group cohesiveness, differed significantly between respondents with bachelor’s degrees and graduate/professional degrees. These results suggest potential polarization across parties with respect to black bear management as well as the need to explore and understand the differences that lie beneath these ideas.

**Communities and Community Decision-Making**

PCIs across the four variables measuring respondents’ ideas about community and community decision-making and a community land ethic suggested fairly cohesive groups within the educational subcategories, however, the groups varied significantly in their ideas within two of the variables. While respondents were fairly cohesive within the educational subcategories with respect to community land ethic, PCIs ranging from .000 to .403 differed significantly. Respondents’ ideas also varied from slightly to moderately agreeing all the way to moderately to strongly agreeing for this variable. As in respondents’ ideas about a community land ethic, PCIs ranging from .106 to .380 suggested a fair deal of cohesion among the respondent subcategories in their beliefs about the democracy of face-to-face dialogue versus decisions made by outsiders even though these groups overall differed significantly. Respondents were similarly cohesive (PCIs ranging from .214 to .342) across the educational subcategories and the two remaining community-related variables; however, their ideas about their primacy in making decisions that will affect them varied significantly ($\rho = .007$) from slightly disagreeing all the way through slightly to moderately agreeing. Respondents’ opinions
about how well they versus outsiders know their community were both cohesive (PCIs ranging from .214 to .373) and similarly situated in that they neither agreed nor disagreed to very slightly agreed on this point.

Community Decision-Making Processes and Important Conditions

PCIs for four variables related to the process and content of conducting a community decision-making process about black bear management suggested considerable disparity across three of the four variables and within and across the educational subcategories. Respondents with some college exhibited the greatest consensus (PCI = .362) within educational subgroups in believing that it was important to very important to seek ideas from all parties in efforts to manage bears while respondents with graduate/professional degrees exhibited the least consensus (PCI = .851) over whether an impartial facilitator should lead the process, believing overall that this aspect was moderately important to important. PCIs across the educational subcategories revealed similarly high levels of dissensus (PCIs ranging from .700 to .851) with respect to the need for an impartial facilitator, and mixed to disparate opinions (PCIs ranging from .479 to .750) about whether bear management decisions should invite the input of the all community members. PCIs for these two variables suggested differences in opinions both within (impartial facilitator) and across (inviting input) respondents based on the four educational subcategories.

PCIs for the remaining two variables suggested even greater dissensus among respondents based on their highest level of education. PCIs ranging from .362 to .820 suggested great dissensus both across and within educational subcategories with respect
to whether efforts to manage bears should seek ideas from all parties in the community. While respondents with some college (PCI = .362) were most cohesive in their belief that seeking diverse ideas was important to very important, those with some graduate studies were the least cohesive (PCI = .820) in their beliefs that this approach was moderately important to important. Respondents were least in agreement, however, over the importance of a successful community process exploring all non-lethal approaches to manage bears. Respondents with graduate/professional degrees were least cohesive (PCI = .680) in their belief that including these approaches were moderately important to important \((M = 3.686)\) while those with some graduate studies (PCI = .410) believed this approach was important to very important \((M = 4.500)\). As the one-way ANOVA for this variable indicated, differences in opinions varied significantly.

4.5.3 PCI Difference Tests

4.5.3.1 Introduction

Following calculations of PCIs for respondents in the five sociodemographic categories and respective subcategories affiliated with these categories, tests seeking significant differences between PCIs for subcategories were calculated using the following formula (Vaske, 2010, p. 249):

\[
d = \frac{ABS(PCI_a - PCI_b)}{\sqrt{(PCI_{aSD})^2 + (PCI_{bSD})^2}}
\]

where \(d\) is considered to be \(N(0,1)\)

Where ABS = absolute value, \(PCI_a\) = the observed PCI for the first sample or group, \(PCI_b\) = observed PCI for a second sample or group, \(PCI_{aSD}\) = standard deviation of the simulated PCI distribution for the first group, and \(PCI_{bSD}\) = standard deviation of the
simulated PCI$_2$ distribution of the second group. If $d > 1.96$, the difference between PCIs is statistically significant at $p < .05$.

PCIs provide information on the degree of consensus or dissensus within and across respondent groups. By conducting PCI difference tests between each of the subcategories within each sociodemographic category it is possible to gain insights into not only how cohesive a group or subgroup is, but also whether these differences (or perhaps instabilities within the groups) are significant enough that they may make a difference in how these parties interact on said issue. All PCI difference test results are available on request.

4.5.3.2 Gender

Calculating $d$ using PCIs for males and females in each of the 15 survey variables produced two instances of significant differences. Although both males and females neither agreed nor disagreed to slightly agreed that residents have primacy in decisions made that will affect their community, $d = 2.11$ suggested that males (PCI = .254) were a more strongly cohesive group in their responses than females (PCI = .449) were. PCIs for males and females also differed significantly ($d = 2.41$) with respect to the need for an impartial facilitator. Males’ (PCI = .799) and females’ (PCI = .609) opinions as groups were mixed to disparate in their views that the need for an impartial facilitator was moderately important to important. In contrast to these differences, males and females were similarly cohesive ($d = .14$) in their slight to moderate agreement that a community land ethic includes natural resources such as wildlife, and in their differing views ($d = .20$) about whether it is acceptable to destroy a black bear that has damaged property.
4.5.3.3 Age

The PCI Difference Test greatly enhances sorting and comparing PCIs, especially for sociodemographic categories with three or more subcategories such as this category. While it is possible to gain a general understanding of the cohesion or disparity within a respondent subcategory, it is more challenging to determine the significance of differences between subcategories. The PCI Difference Test accomplishes this goal easily and quickly.

Significant differences in PCIs were more the norm than the exception with respect to respondents’ ages. Ten of the 15 variables in the survey were found to have significant differences between PCIs for at least one pairing of age groups and up to four pairings of age groups.

Wildlife and Black Bear Management

Significant differences in PCIs were found for two of the four variables related to respondents’ ideas about wildlife: human-centered wildlife management and the cruelty of hunting. The PCI for respondents in their 60s suggested they were significantly less cohesive as a group than respondents in the 70+ age range about human-centered wildlife management. This difference ($d = 2.07$) taken together with significant differences identified through ANOVAs tests creates potential new contours in understanding the dynamics between age and this variable. PCIs for three age groups differed significantly with the PCI for respondents aged 20s-30s. Whereas respondents aged 20s-30s were strongly cohesive (PCI = .135) in their slight to moderate disagreement that hunting was cruel and inhumane, respondents in their 40s (PCI = .530), 50s (PCI = .555), and 60s
(PCI = .650) were mixed in their very slight disagreement on this point. These differences in consensus within and among these subgroups produced PCI difference test results of 2.59, 2.65 and 3.33, respectively. A small N_{20/30} = 13 versus 30, 32, 20 for the other three respective age categories may explain these differences. Respondents in their 40s and 50s, on the other hand, exhibited the least differences in PCIs (d = .18).

PCIs also differed significantly for two of the black bear management variables: destroying a black bear that has threatened a person, and final decisions about problem black bears resting with a wildlife management agency. PCIs for respondents in their 40s and 60s differed (d = 2.08) in their slight to moderate agreement on destroying a black bear that has threatened a person. Respondents in their 40s were mixed in their opinions while respondents in their 60s were fairly cohesive as a group on this approach. PCIs also differed significantly (d = 1.99) between respondents aged 20s-30s and 50s. While both subgroups slightly to moderately agreed that wildlife agency’s should make final decisions about problem black bears, respondents in their 20s-30s were far more cohesive (PCI = .197) as a group than respondents in their 50s (PCI = .599).

**Communities and Community Decision-Making**

PCIs differed significantly for three of the four variables related to respondents’ ideas about community and community decision-making. PCIs for all age groups differed significantly from those for respondents aged 70+ (PCI = .573) with respect to one’s knowledge about their community. While all respondents neither agreed nor disagreed or very slightly agreed on this point overall, respondents aged 70+ were more mixed in their opinions compared to all other subgroups, which were fairly cohesive.
Difference tests results ranging from 2.05 (40s and 70+) to 3.14 (20s-30s and 70+) revealed a subtle difference in what would have otherwise appeared to be general agreement on this issue. PCIs also differed significantly between the first three of the four age groups and respondents aged 70+ with respect to one’s primacy in making decisions that affect one’s community. Respondents in their 20s-30s, 40s, and 50s were very cohesive (PCIs ranging from .272 to .243) compared to respondents aged 70+ (PCI = .625) even though opinions on this issue ranged fully from neither agreeing nor disagreeing to slightly agreeing. PCI difference test results indicate a level of certainty in responses that may support the idea that respondents did not fully understand this question. Finally, although PCI difference tests revealed a significant difference ($d = 2.15$) between respondents aged 40s (PCI = .268) and 50s (PCI = .052), both groups slightly to moderately agreed that face-to-face dialogue is more democratic than decisions made by outsiders. The difference test simply highlighted the degrees of cohesion between the two subgroups, which was very strong in both instances.

**Community Decision-Making Processes and Important Conditions**

PCIs also differed significantly for three of the four variables related to respondents’ desired levels of engagement in community decision-making processes. PCIs for respondents in their 40s and 50s differed significantly ($d = 2.61$ and 2.48, respectively) from those aged 70+ about the need for an impartial facilitator. Respondents in their 40s (PCI = .540) and 50s (PCI = .629) were somewhat mixed in both their opinions and commitment to them while respondents aged 70+ were clearly divided (PCI = .893) in believing an impartial facilitator is only moderately important.
Respondents’ opinions were divided and significantly mixed within subgroups with respect to levels of community engagement as well. Respondents in their 20s-30s were very mixed in their opinions that it was moderately important to seek ideas from all parties in efforts to manage bears, producing significant PCI difference tests with respondents aged 40s ($d = 2.30$) and 60s ($d = 3.50$) who were very cohesive (PCIs = .384 and .275, respectively) in their views that this approach was important to very important. PCIs for respondents aged 50s and 60s also differed significantly ($d = 2.47$) on this issue based primarily on the mixed views (PCI = .517) of respondents in their 50s. PCIs also differed significantly about whether bear management decisions should invite input of the whole community. Respondents aged 20s-30s ($d = 3.72$), 40s ($d = 2.04$), and 50s ($d = 2.00$) were mixed and divided within themselves compared to respondents aged 60s who were cohesive (PCI = .388) in their opinions that inviting input was important to very important.

### 4.5.3.4 Residency

PCI difference tests revealed three instances of significant differences between PCIs for respondents based on their residency status. Two of these differences occurred for PCIs between part-time residents and vacation visitors; one of these differences occurred for PCIs between full-time residents and vacation visitors. Part-time residents and vacation visitors differed ($d = 2.38$) within and across the opinions expressed about destroying a black bear that has damaged property. Part-time residents were very mixed (PCI = .667) in neither agreeing nor disagreeing on this point, while vacation visitors were fairly cohesive in slightly to moderately disagreeing with this approach. PCIs for
part-time residents and vacation visitors also differed significantly \((d = 2.21)\) about the need for an impartial facilitator. Part-time residents were very divided (PCI = .867) in believing this aspect of a community meeting is moderately important, while vacation visitors were mixed (PCI = .552) in their opinions that an impartial facilitator is important to very important. These results also support and extend one-way ANOVA significance testing results in which part-time residents and vacation visitors differed significantly on this point (Post hoc sig = .055). PCIs for full-time residents and vacation visitors differed significantly \((d = 2.22)\) about whether final decisions on problem black bears should rest with a wildlife management agency. Full-time residents were mixed (PCI = .512) in their slight to moderate agreement on this point while vacation visitors were very cohesive (PCI = .158) and more strongly positioned in their moderate agreement. PCI difference tests did not reveal any other significant differences for the remaining 12 variables in the survey.

4.5.3.5 Affiliation

PCI difference tests identified six instances of significant differences between respondents based on their affiliations out of the 15 variables in the survey. These differences occurred between residents and public agency employees, residents and vacation visitors, and in one instance between vacation visitors and public agency employees.

PCIs for residents and public agency employees differed on three points: animal rights \((d = 2.07)\), community knowledge \((d = 2.63)\), and a resident’s superior right to make decisions for their community \((d = 2.16)\). Residents were mixed (PCI = .661) in
their very slight agreement that people and animals should have similar rights, while public agency employees neither agreed nor disagreed to slightly disagreed on this point (PCI = .454). While residents and public agency employees agreed equally that residents know their community far better than researchers or outsiders, public agency employees were twice as cohesive (PCI = .115) in their opinions than residents were (PCI = .333). Residents agreed twice as much as public agency employees overall on their primacy in making decisions that affect their community, but were also about half as cohesive (PCI = .398) as agency employees (PCI = .189) overall.

PCIs for residents and vacation visitors also differed significantly on three points: destroying a black bear that has damaged property ($d = 2.24$), whether final decisions about problem black bears should rest with the wildlife management agency ($d = 2.96$), and how important it is for an impartial facilitator to lead a community process ($d = 2.05$). Vacation visitors slightly to moderately disagreed that it is acceptable to destroy a black bear that has damaged property while the less cohesive residents (PCI = .625) neither agreed nor disagreed to slightly disagreed on this point. Vacation visitors were also more certain as a group (PCI = .158) in slightly to moderately agreeing that wildlife agencies should make final decisions about problem black bears while residents were mixed (PCI = .542) in neither agreeing nor disagreeing to slightly agreeing on this point. Vacation visitors were mixed (PCI = .552), but more certain than residents (PCI = .791) in their belief that an impartial facilitator is important to very important while residents believed this aspect of a community meeting was only moderately important.
Finally, PCIs differed significantly \((d = 2.87)\) between vacation visitors and public agency employees in their views on community knowledge. While both subgroups neither agreed nor disagreed to slightly agreed that residents know their community better than researchers, public agency employees were far more cohesive \((PCI = .115)\) than vacation visitors \((PCI = .395)\).

### 4.5.3.6 Education

PCIs differed between respondents based on highest education levels for six of the 15 survey variables for as few as one pairing of subgroups and as many as three pairings of subgroups within a survey question.

**Wildlife and Black Bear Management**

PCIs for two pairings of respondent subgroups differed significantly about human-centered wildlife management. Respondents with some graduate studies \((N = 10)\) were very cohesive \((PCI = .133)\) in slightly disagreeing with this approach, while those with graduate/professional degrees were mixed \((PCI = .509)\) in neither agreeing nor disagreeing to slightly disagreeing on this approach \((d = 2.93)\). PCIs for respondents with some graduate studies and some college also differed significantly \((d = 2.57)\). Here again, while respondents with some college slightly disagreed on this point, they were mixed in their opinions as a group \((PCI = .492)\).

PCIs for respondents with bachelor’s/4-year degrees and graduate/professional degrees differed significantly \((d = 2.18)\) on the acceptability of destroying a black bear that has damaged property. Overall both subgroups slightly disagreed at similar levels,
but those with graduate/professional degrees (PCI = .667) were more mixed in their opinions than respondents with bachelor’s degrees (PCI = .405).

**Communities and Community Decision-Making**

PCIs differed for two of the four survey variables focusing on community and community decision-making: community land ethic, and democracy and dialogue. PCIs for all three subgroup pairings differed significantly on the scope of a community land ethic largely due to the uniformity in the subgroup with some graduate studies (PCI = .000). Respondents with some graduate studies moderately to strongly agreed that a community land ethic includes natural resources such as wildlife while those with graduate/professional degrees were somewhat mixed (PCI = .403) in their slight to moderate agreement with this point (d = 3.77). The PCI for respondents with bachelor’s/4-year degrees (PCI = .254) also differed significantly from those with some graduate studies (d = 2.49). And even though respondents with some college (PCI = .070) and graduate/professional studies (PCI = .403) slightly to moderately agreed on the scope of a community land ethic, respondents with graduate/professional degrees were far less cohesive than respondents with some college (d = 2.68).

PCIs for respondents with bachelor’s/4-year degrees and some graduate studies also differed significantly (d = 2.15) on their views about face-to-face dialogue versus decisions made by outsiders. While a strongly cohesive (PCI = .106) subgroup of respondents with bachelor’s degrees slightly to moderately agreed on the democracy of dialogue, the less cohesive subgroup of respondents with some graduate studies (PCI = .380) neither agreed nor disagreed to very slightly agreeing on this point.
Community Decision-Making Processes and Important Conditions

PCIs differed significantly for two of the four survey variables focusing on the process and content of community decision-making: the importance of seeking ideas from all parties in efforts to manage bears, and exploring all non-lethal approaches to manage bears for a successful process.

PCIs for respondents with some college and some graduate studies differed ($d = 2.78$) both in their cohesiveness and in the importance of engaging all parties. Respondents with some college (PCI = .362) were cohesive in their belief that seeking the ideas of all parties is important to very important while those with some graduate studies (PCI = .820) were very divided in their views that this dimension is only moderately important. While respondents with bachelor’s/4-year degrees were slightly less cohesive (PCI = .403) than those with some college, PCIs also differed significantly ($d = 2.60$) from those with some graduate studies. Respondents with bachelor’s/4-year degrees also believed that seeking ideas of all parties was important to very important.

PCIs for respondents with bachelor’s/4-year degrees and graduate/professional degrees also differed significantly ($d = 2.42$) on the importance of a successful community process exploring all non-lethal approaches to manage bears. Respondents with bachelor’s/4-year degrees were slightly mixed (PCI = .464) in their belief that this aspect is important to very important, while those with graduate/professional degrees were somewhat divided (PCI = .680) in their belief that this aspect was moderately important to important. These results support and extend earlier Kruskal-Wallis ANOVA and Mann Whitney $U$ results, which revealed significant differences (Asymp. Sig. = .021)
between respondents with some college and graduate/professional degrees (Asymp. Sig. (2-tailed) = .005), and some graduate studies and graduate/professional degrees (Asymp. Sig. (2-tailed) = .038).

4.6 Chapter Summary

4.6.1 Introduction

The goals of this research were to learn more about how participants formed ideas about black bears and explore the roles those ideas might have when addressing encounters with black bears that became a problem. This chapter described the findings and results gained through three simultaneous mixed methods: (1) semi-structured interviews; (2) reviews of laws, policies, and ordinances forming the legal and institutional frameworks for preventing and addressing problem encounters and documents tracking them; and (3) a background survey and significance testing using independent-samples t-tests, ANOVAs, and analyses using the Potential for Conflict Index. The findings summarized here reflect both the initial focus of the research on understanding the intra- and interpersonal dimensions of human–black bear encounters as well as its evolution and emphasis on a whole community study.

4.6.2 Semi-Structured Interviews

Five broad themes organized the 12 nested findings produced from using an opening coding process on the semi-structured interviews. These themes included (1) Ideas about Bears, 2) Problems Arising in Human–black Bear Encounters, 3) Community Problem-Solving: Encounters, Deterrents, and Interventions, 4) Community Support Systems, and 5) Community. Taken together, these findings illustrated the multi-
jurisdictional nature of the study area, the broad scope of the participants’ concerns, and the partitioning of the community itself reflected in insider/outsider sentiments.

The theme focusing on ideas about bears and the single finding associated with it emphasized the importance of trusted sources such as a family member, a college professor, or a documentary in shaping the ideas participants formed about bears. These enduring ideas were largely stable among participants who formed ideas through mediated, trusted sources. First responders such as law enforcement officers, however, found their own experience with black bears unmatched as the best source of information about bears. Through firsthand experience, these participants’ ideas about bears evolved to include a measure of predictability and understanding about black bear behavior that seemed also to provide them a measure of comfort when around them.

The second theme focusing on problems arising in black bear encounters included three separate findings stemming from the interviews. The first finding illustrated how broadly the participants conceptualized problem black bear encounters. Residents and second homeowners viewed human–black bear problems through multiple lenses and time scales, including both short- and long-term factors, such as how human–black bear problems began in the first place, what is a problem bear, who or what is responsible for problems that arise, how readily or easily one can report and seek assistance when a problem arises, and what are acceptable processes for addressing problematic situations. The second finding emphasized the complications arising out of the multiple jurisdictions that set the legal and institutional frameworks for preventing and addressing problem black bear encounters. Structural sources and gaps found in laws, regulations, and
policies contribute to human–black bear problems or exacerbate addressing them. Participants made the lack of flexibility or inability to innovate solutions in problem situations especially apparent in interventions such as when the wrong bear is trapped, or the inability to relocate bears to suitable habitat. Gaps in laws raised participants’ concerns as well, and especially with respect to feeding wildlife. California law does not permit feeding wildlife while Nevada law lacks such legislation. These gaps and differences between the two states create inconsistencies in what is possible to prevent and mitigate the attendant problems that can arise especially through intentional (to attract) or supplemental (to divert) feeding and unintentional feeding. The third finding emphasized the importance of recognizing synergy in addressing problem human–black bear encounters. Participants discussed the intelligence and adaptability of black bears in interventions, especially in figuring out how to overcome deterrents such as barking dog boxes and metal bear boxes, and to recognize “boxes” (refrigerators and freezers) that contain food. Law enforcement first responders also acknowledged black bear adaptability in interventions such as aversive conditioning and the magnitude of a bear’s hunger when “taking the spanking” to fulfill that need.

The third theme focusing on community problem solving outlined three findings that capture the range of approaches individuals and the community use to deter or intervene in problem black bear situations, including engaging the community through meetings or gatherings. The first finding described the approaches that individuals use to deter bears, how they learn about them, and the progression to informal community and formal agency interventions. The second finding piggybacked onto the first one and
emphasized the role of the participants’ willingness and support for implementing deterrents and interventions in successfully preventing and addressing problem situations. Most participants readily used a range of deterrents but some did so with skepticism or frustration about their effectiveness and resentment about the costs. Others admitted “ratcheting up over time,” “learning as you go,” and seasonality in using deterrents. These outlooks and admissions suggested the line between deterrents and interventions was fuzzy for some participants. This finding also acknowledged the variability in how and whom residents contacted for assistance when problem black bear situations were beyond their capacity. Timing and personal preferences in outcomes played a role, as did the constraints imposed by organizational missions and institutional boundaries and in forming partnerships. The third finding shifted the emphasis to the community and any efforts it had made to engage its members in meetings to address problem human–black bear encounters. The research found that few, if any, participants had attended a facilitated community meeting to address problem black bears, and particularly one that included collaborative problem-solving. While participants had attended a variety of meetings that either focused on or included discussions about black bears, they were largely in informational settings with expert panels, or homeowners association meetings. Participants, moreover, seemed mostly unfamiliar with interactive problem-solving type community meetings. While participants expressed interest, ideas, and suggestions for holding such a meeting, it was also clear that logistical challenges and their varied preferences for who should lead the process would undoubtedly play a role in their attendance.
The fourth theme integrates three findings related to community support systems. These findings stemmed from interests participants expressed and were viewed as dimensions focusing wholly on human needs in problem black bear encounters. The first finding acknowledged the multiple paths and jurisdictions available for addressing problem human–black bear encounters, but identified participants’ interests for a more broadly trusted, impartial intervenor. These interests stemmed from a desire for a dedicated, reliable, impartial intervenor. Participants, especially second homeowners, feeling a lack of representation expressed an interest for a party that is dedicated to addressing human–bear encounters and problems alone particularly because of the difficulties they faced when needing assistance. The second finding identified the need for empathy both for those who suffer bear break-ins and the responders who are looking out for the welfare of the bears. This finding emphasized the importance of empathy in acknowledging the impacts of problem bear encounters to foster recovery rather than instigate and escalate conflicts. Two dimensions illustrated this point. The first related to the emotional impacts homeowners suffer from the intrusion and damage to their homes; the second related to the disparate views of bears as individuals versus simply one in a population of many, especially when making decisions about their fate. Emphasizing empathy in this finding is intended to promote understanding between parties when they are at odds over differing worldviews of bears. The third finding identified the lack of a support system in the community to address conflicts between people about black bears and interventions. Participants’ expressions of feeling “caught in the middle,” worries about retaliation when attempting to address problem black encounters, and personal
experiences of retaliation suggested that the community lacked a constructive outlet for parties to meet and come to an understanding or agreement about their concerns. Participants’ interests and awareness of alternative paths provided some hope for these difficult situations.

The fifth, and final, theme focused on the community as a whole, and included two findings that the interviews identified as essential considerations in how human–black bear conflicts arise and continue unabated. The first finding characterized Tahoe as a divided community. Through the interviews it became apparent that both full-time residents and weekenders mutually feel the strains of living in a resort community when a problem arises. These strains fuel insider/outsider sentiments that further exacerbate addressing problem human–black bear encounters. These sentiments were evident in how participants characterized the problems that arise and their sources, the changes in their environment and their community, and how the residents and visitors co-exist and communicate, or not. The divisions, or partitions, were even more directly evident through participant characterizations of the bear issue “driving a wedge in the community.” Another long-time visitor and resident appealed for a rekindling of community. These sentiments and the divisions they engender are a hindrance to working constructively to address problem encounters beyond simple abeyance. The second finding emphasized the importance of recognizing the complex, inseparable nature of the human and natural environments in this mountain resort community when addressing problem human–black bear encounters. These complexities are evident in the ever-changing mix of full-time and part-time residents, vacation visitors, and seasonal
workers and the constant opportunities for new interactions between people and between people and bears. It is also evident as human occupation and growth encroach upon the natural environment and the encounters that occur in shared space, especially at its edges. Participants identified six different communities where bears had broken into houses at the edges of forests or open space. These accounts and others support the idea that the proximity of the human and natural environments to each other matters and should be a consideration in efforts to prevent and address problem encounters with black bears.

4.6.3 Document Reviews

These findings focused on reviews of two categories of documents: (1) the laws, ordinances, and policies governing the study area; and (2) the systems used across the many public agencies and individual communities to create an accounting of the scope, extent, and locations of bear incidents, or where and what type of problem encounters occurred.

4.6.3.1 Laws, Policies and Ordinances

The multiple jurisdictions (two states, four counties, three cities in California and Nevada, federal national forestlands and state parklands) meant there were numerous and overlapping opportunities through state laws, regulations, and policies, county ordinances, and homeowners’ associations rules to address the presence of bears and prevent encounters from becoming problems. County and local ordinances addressed prevention through human behavior (good trash management practices), controlling attractants, and penalties for infractions; state laws and policies addressed black bear
behavior and escalating levels of interventions. Specific citations and descriptions of the
laws, regulations, and ordinances are in a separate appendix.

Three of the four counties passed ordinances that require securing and containing
trash from bears; the fourth county requires the use of animal-resistant containers.
County ordinances differed slightly in their scope, when they became effective, and how
they are enforced, but generally, they required residents and commercial operations to
secure trash from animals, including bears, and imposed escalating penalties and the
requirement to use a bear-resistant container for failure to comply. Three local cities also
adopted ordinances to address bear-proofing trash; they varied in both scope and form.
One Nevada community has worked creatively to contain trash in unequivocal, but
equitable, ways and provides the greatest incentives to comply with their trash ordinance.
They impose substantially higher penalties and costs to remediate the problem situation
immediately, but they also offer incentive subsidies to purchase bear-resistant containers,
refunds of penalties, and put cheaper (~$100) bear-resistant rolling carts into immediate
use where violations occurred. Another Nevada community included penalties for
intentionally feeding bears, something lacking in Nevada state law. The many
unincorporated towns and communities rely on county ordinances and in a few cases
homeowners associations’ rules to address trash issues.

Even though most participants identified people or trash as the most likely reason
for problems with bears, and a key motivation of the county and municipal ordinances is
prevention, none of the counties or municipalities mandated the use of bear-resistant
containers outright. One county required bear-resistant containers with new construction
or additions of more than 500 sq-ft of living space and a local community conditioned residential construction permits when alternate structures to secure trash were unavailable. All other county and municipal ordinances required the placement or use of bear-resistant containers only after a sequence of violations. Although this approach means that bears potentially have easier access to trash, it also acknowledges and incorporates flexibility for those who keep animals out of their trash without the use of expensive bear-resistant containers.

When preventive measures failed, three state programs addressed escalating problem bear situations. Each of these programs consist of black bear management/conflict management policies developed by California and Nevada state wildlife agencies and California State Parks (SPs). Both state wildlife agencies have adopted policies to classify and address problem wildlife encounters through a three-step system, and address public safety wildlife problems (sighting, threat, attack) through separate guideline documents. In addition, Nevada’s conflict management policy lists situations in which lethal control is required versus optional. Optional situations also included a cumulative breaking point, or three strikes policy, after handling nuisance bears three times. Both state black bear policies allow for a considerable amount of discretion in determining the severity of a situation (and attendant response), whereas California’s public safety wildlife guidelines make clear distinctions in what is considered and confirmed as a public safety threat. While discretion in implementing the California and Nevada’s black bear policies allows for flexibility in making decisions, it
also opens those decisions to public scrutiny and criticism, and at times gives rise to questions and disagreement.

Acknowledging the campground settings and changing visitor base, California State Parks (SPs) Human Bear Management Plan (Plan) in the study area combines both prevention and intervention through education and interpretation, food and refuse storage, and bear behavior and response. The Plan classifies bears into three categories that mirror California’s Department of Fish and Game’s black bear policy, but modifies these classifications to reflect interactions in state parks and include coordination with the Department of Fish and Game when significant problems occur. SPs implements interventions at two levels, rather than three. Anyone can implement the first level, which involves simple noise and physical appearance deterrence. The second level, involving the use of chasing and hazing with projectiles, is reserved for trained State Park peace officers alone.

4.6.3.2 Incident Tracking Systems

The findings reported the results of assessing how public agencies and the community track and communicate bear incidents and discussed the systems identified that are used to report and record an encounter with a black bear. The search produced a patchwork quilt of varying reasonable efforts to collect information about bear incidents, but did not identify a single, uniform approach or repository in any one organization something for which some homeowners expressed a hope.

The systems identified collected (1) black bear statistics in three state agencies (California Department of Fish and Game, Nevada Department of Wildlife, and
California State Parks), (2) black bear calls for assistance in three of the four county law enforcement offices (the fourth was not contacted), (3) statistics on trash- and wildlife-related trash violations in two local/county efforts, and (4) a diverse collection of surveys, sightings, and incidents compiled through community efforts.

Both state wildlife organizations tracked incidents, but it was not possible in either case to obtain specific information about the types of incidents that occurred. California used a Wildlife Incident Form and a system to manage this information was under development during the research. This system was largely intended to track depredations, not necessarily incidents. The research extracted information about black bear statistics for Nevada from annual Black Bear Status Reports that coincided with the field study period (2007-2008). Complaints for 2007 were twice those of 2008 and the highest ever recorded in Nevada, and attributed largely to the continuing incursion of human- and construction-related activities that result in habitat disturbance, and more sightings.

California State Parks (SPs) was also developing a system to track bear activity in its campgrounds. SPs collected these data primarily from May through September, or the high season from Memorial Day to Labor Day in the Tahoe Basin. Staff acknowledged these preliminary data provided a pilot for learning weaknesses and building a better system for collecting and tracking black bear activity after documenting greater bear activity in 2008, while knowing anecdotally that there were many more break-ins and food storage issues in 2007, but not necessarily captured by their process.
All three county law enforcement offices used a computer-aided dispatch system, but the information and reports available ranged from detailed reports and summary lists to annual tallies. Another county reported calls using a mapping system of one particular beat. From these reports it was possible to compile and compare statistics for two of the counties. However, in each case the data covered different periods of time.

Data obtained from two local organizations tracked trash complaints and courtesy notices. As in the county data reviewed, the time periods differed. It was possible, however, to compare these statistics through total complaints over the given time periods, which included a percentage of wildlife-related problems or violations. Wildlife-related problems amounted to 52% (over 17 months) versus 63% (slightly over 13 months) of the data compiled over these two periods.

Community efforts to compile statistics on bear calls, sightings, or incidents were very diverse both in the way the information was compiled and what was actually available for review. Among these diverse approaches were weekly bear reports in the local newspaper noting areas of bear activity, where a bear had entered buildings and the circumstances, homeowners association surveys, chat groups, and a Facebook page in one community used to call attention to trash violations, bear traps, and other situations that threaten black bears in that community. Any remaining statistics within communities were purely anecdotal based on conversations in interviews. The numbers ranged widely, even within individual communities.
4.6.4 Background Survey Data

The goal of the background survey was to bring supplemental information to the interviews about participants’ ideas about wildlife and black bear management, community and community decision-making, and important conditions to include in community decision-making processes. Significance testing and potential for conflict index (PCI) analyses provided numerous insights about both the participants and the issues that concerned them. Through these analyses it was possible to gauge the potential for conflict based on both differences and similarities in PCIs. Low PCIs, or high consensus, between two groups can mean harmony or strong intractability depending on their opinions on an issue, whereas high dissensus within two groups may signal the potential for flexibility within one group as it is situated against another disparate group.

One hundred and nineteen (119) respondents completed surveys out of the 127 surveys distributed (93.7%). Fifty-two percent of the respondents were female; 45% of the respondents were male. Respondents’ ages ranged from 23 to 84; most were in their 40s (26.5%) or 50s (28.3%). Ninety percent of the respondents identified their ethnicity as White, non-Hispanic. Half of the remaining 10% of the respondents were Hispanic/Latino/a. Sixty-eight percent of the respondents held a bachelor’s degree or higher, exceeding census data for the area of 17 to 44%. Forty-nine percent of the respondents were full-time residents, 20% were part-time residents, 24% were vacation visitors, and 7% were seasonal workers. Most respondents (45.2%) had lived in or visited the study area for more than 20 years.
The findings reported results of the background survey overall, and the results of significance testing using independent-samples $t$-tests with gender data and one-way or Kruskal-Wallis ANOVAs with the sociodemographic independent variables of age, residency, affiliation, and education.

The overall background survey results reported frequencies (in percent) across three categories of variables. Respondents were generally supportive of wildlife and managing them, but made distinctions in the interventions they supported and who should implement them when problems arose. Although respondents agreed with varying strengths across the community and community decision-making variable, the survey results suggested that respondents in general wish to be engaged in processes and decisions that affect their communities. Like community decision-making sentiments, the findings indicated respondents supported using community decision-making processes that are inclusive and open to exploring a full range of options when developing bear management strategies. And, while more respondents overall believed an impartial facilitator was very important, they did not support this condition with as great a frequency as the remaining variables in this category.

PCI results coupled with the overall survey frequency results provided an idea of the cohesion of survey frequencies results. For instance, while the greatest number of respondents strongly disagreed that wildlife should be managed for human benefit, the PCI of .46 suggested some diversity in respondents’ opinions as was seen in the distribution of the frequency results for this variable. Despite the diversity in the respondents’ residency and childhood communities, as a whole PCIs indicated there was
a great deal of consensus in their ideas about community and community decision-making. PCIs for the variables focusing on the importance of including particular conditions in a community decision-making process were of mixed opinion at best and of divergent opinion in the extreme. The PCI (.74) for the variable on the importance of an impartial facilitator, for instance, showed that diversity in opinions was greater than any other variable in the survey.

Independent-samples $t$-tests, and Mann-Whitney $U$ tests, where necessary, identified eight instances of significant differences between men and women in the findings. Six of these significant results related to the respondents’ ideas about animals and black bear management. One of the results related to respondents’ views on how important an impartial facilitator is in leading a community process. The final instance of a significant difference related to men’s and women’s views on what constitutes a community land ethic.

Significance testing using a one-way ANOVA or Kruskal-Wallis ANOVA, where necessary, identified seven instances of significant differences between respondents based on their sociodemographic constituencies. One-way ANOVAs identified two instances (human-centered wildlife management and the importance of an impartial facilitator) of significant differences based on ages of the respondents. Part-time residents and vacation visitors also differed significantly in their opinions about the importance of an impartial facilitator. One-way ANOVAs also identified one instance of significant differences between respondents based on their education with respect to their primacy in making decisions affecting their community. Non-parametric Kruskal-Wallis
ANOVAs identified three instances of significant differences. Two of these instances (final black bear management decisions and what constitutes a community land ethic) were differences based on respondents’ affiliations. The third instance (non-lethal approaches and success) was based on respondents’ education.

Significance testing, potential for conflict index analyses, and PCI difference tests showed clear differences between men and women on numerous issues and between them as groups. These differences were especially clear between men and women regarding the importance of an impartial facilitator leading a community process. Men and women differed significantly in their opinions about this issue, and also both between and among themselves as individual groups based on PCI results and PCI difference tests. While both men and women considered this aspect moderately important, women viewed this aspect with significantly greater import than men. PCIs suggested the strength of the differences between men (.799) and women (.609) may not be as great as one might suspect, however, based on significance testing alone because each of these groups were significantly different in their mixed to disparate opinions overall. Independent samples t-tests indicated men and women also differed significantly in their opinions (six out of seven issues) about animals and black bear management as well. Women were more tolerant and perhaps even had supportive opinions of black bears and their management compared to men.

Significant differences were evident between respondents based on their ages as well. Once again respondents differed both between and among themselves on the importance of an impartial facilitator. Respondents in their 40s and 70+ differed both on
how important they believed this condition was in a community decision-making process as well as differed significantly within themselves as groups. The highly disparate respondents in the 70+ age range believed this condition was only moderately important while the somewhat mixed respondents in their 40s believed this issue was important to very important. In an actual community process, participants in their 40s may mediate the disparity for those in the 70+ age range.

Significant differences occurred between part-time residents and vacation visitors on the importance of an impartial facilitator as well. Vacation visitors believed this condition was important to very important while part-time residents found this condition only moderately important. PCIs indicated vacation visitors (.552) were somewhat mixed in their opinions while part-time residents (.867) were highly disparate. Taken together, these three avenues for screening the respondents makes clear that regardless of sociodemographics, there will be concerns about who leads a community process that addresses human–black bear conflicts.

Human-centered wildlife management also arose as an issue where significant differences between respondents were found. Differences were evident between men and women and between respondents based on their ages. Respondents in their 40s and 50s both differed significantly with respondents in the 70+ age range on this issue. While respondents in their 40s and 50s neither agreed nor disagreed or slightly disagreed, respondents in the 70+ range slightly agreed with this approach. PCIs did not differ significantly between these groups, suggesting even greater intractability as each of these groups were fairly cohesive within themselves on their opinions about this issue. Men
and women were similarly situated in that they were fairly cohesive as groups, but differed significantly about managing wildlife for human benefit. Once again, it would not be unusual to see intractable conflicts arising out of situations where management decisions pitted wildlife and people against each other.

Finally, where PCI difference tests produced $d$ values $< .25$, it was assumed that these situations suggested high consensus within the two groups compared. Coupling this information with significant testing results provides some ideas about where intractable situations might arise. Men and women differed significantly on the acceptability of destroying a black bear that had damaged property and were both somewhat mixed to consensual on their differing views. It would not be unusual to see problems arise between men and women about how to address a situation where a bear has damaged property as a result. Conversely, PCIs identified areas of consensus on this issue with respect to respondents’ ages. Respondents in their 40s and 60s and 20s-30s and 40s were consensual to somewhat mixed in their mutual slight disagreement with destroying a black bear in this situation. Participants of these ages may be able to mediate the potential intractability between men and women.

The background survey data coupled with the findings of the semi-structured interviews, as discussed in the following chapter which analyzes and interprets these findings and results, helps to provide a more complete picture of the community, including its residents and visitors and their opinions and preferences on black bears and addressing the problems that arise when encountering them.
5. ANALYSIS, INTERPRETATION, AND SYNTHESIS OF FINDINGS

5.1 Introduction

This research employed mixed methods to combine the strengths of approaches used to understand conflicts with those of human dimensions of wildlife research to gain a more comprehensive understanding of the nature of the conflicts arising in human–black bear encounters. Using mixed methods in this research increased the possibility for understanding the initiation of a problem black bear encounter and its progression to a larger conflict by exploring ideas about black bears and their role in addressing problem situations. It also created opportunities for richer inferences in that semi-structured interviews provided depth, while the supplemental survey provided breadth. While mixed methods approaches can also increase the likelihood of locating divergent views, the survey data in this instance expanded or supported findings of the detailed interviews (Tashakkori & Teddlie, 2003).

In keeping with Leech’s partially mixed concurrent dominant status design, the research emphasized qualitative interviews and supplemented them with a background survey (Leech & Onwuegbuzie, 2009). This chapter discusses the findings of the interviews and the results of the background survey separately, and compares and contrasts the results of these two approaches for correspondence, contradiction, or expansion of the literatures focusing on conflict analysis and resolution and human–
wildlife and human–black bear conflicts. These combined literatures address human–
bear/wildlife interactions, environmental/natural resource conflict resolution, and conflict
analysis and resolution, in general, and create the context for making these comparisons.
While data are sometimes transformed at the interpretation stage by converting to one
form or another (all qualitative or quantitative), these data remained analytically separate
(Sandelowski, 2000). The chapter concludes by linking the results through the
interpretations and inferences.

The interview findings discussion and analysis is organized around the five
themes that emerged through an open, and then focused, coding process. It emphasizes
dimensions in each of these themes considered essential in understanding the escalation
and mediation of conflicts arising in black bear encounters. The themes are: ideas about
black bears and the differences between the influences of personal experience over
mediated learning; context for the diversity of problems participants expressed as well as
some thoughts on the thresholds between an encounter and problem, including the
conditions that may contribute to latent versus manifest conflicts; a discussion of two
types of conflicts that arise between people through encounters with black bears; the
scope and range of problem-solving approaches used at the individual and community
levels; and lastly a discussion of the inherent obstacles a fractured community faces in
solving problems together.

The background survey data discussion focuses on those results that were
statistically significant, and emphasizes two results in particular. Analyses of the data
using significance testing and potential for conflict indices identified a significant
relationship between gender and values about wildlife and black bears, and issues related to community and community problem solving. It also identified significant differences between respondents on the importance of an impartial facilitator. In addition to these two results, the discussion highlights other significant results and contextualizes them with earlier research, especially the influences of age, education, and community affiliation (resident, public agency, or vacation visitor). Survey issues focusing on the scope of a community land ethic and black bear management decisions are discussed in addition to the differences between respondents about the importance of an impartial facilitator.

The last section of the chapter compares and links the interview and survey data using four of the themes that emerged in the interviews. The discussion on ideas about black bears makes a distinction in respondent opinions about black bears versus black bear management, and reflects on the role of these ideas in the emergence of problem encounters, especially within the context of the varied opinions expressed in the interviews. The role of age and concerns about the safety of children and grandchildren are compared as one illustration.

While the survey did not explore the situations respondents considered a problem, it examined their preferred management responses in defined problem situations. These data supplemented interview findings about problems arising in black bear encounters by providing some additional insights into the participants’ preferences for management actions in a problem situation. These data offered some hints about the variation in preferences interview participants expressed, and the potential for conflicts over
interventions and appropriate intervenors. Situating the results in comparable studies also provided a sense of how the respondents’ views compare with those of other California residents and communities also facing wildlife encounters. The survey, especially the significance testing and potential for conflict index results, demonstrated there was less consensus among respondents about who should make final decisions about problem black bears, and supported interview findings that suggested differences among participants as well.

The discussion focusing on community problem solving emphasized the benefits of having supplemental survey results in light of what seemed to be little experience on the part of the participants with collaborative problem-solving processes. The survey measured respondents’ opinions on the importance of four conditions in a community decision-making process. The results provided some insights into participant/respondent preferences for a collaborative process, as well as how they differed among themselves, particularly based on gender and affiliation. Contextualizing these results within previous studies also illustrated that public agencies preferred to maintain the locus of control when making decisions.

The final theme focusing on community compared participants’ ideas on the scope of a community land ethic and ideas about community engagement with interview participant sentiments suggesting fractures or divisions between year-round and seasonal communities. Survey results reinforced the differences (although not always statistically significant) by community affiliation. Full-time residents who expressed their frustrations with seasonal and part-time visitors in creating problems with black bears
expressed strong opinions about a community land ethic and knowing the most about their community. Part-time residents, meanwhile, expressed the greatest sentiments about their primacy in community decisions as well the desire for face-to-face dialogue. The combined survey results also supplemented interview findings that suggested community interest in collaborative processes, but also highlighted the need to better define the full extent of motivations and interests, as other studies had done.

5.2 Interviews

Semi-structured interviews focused on gathering an understanding of two dimensions of human–black bear encounters and conflicts: (1) what influences the views that participants form about black bears, and (2) the role these views play when participants decide on ways to address human–black bear encounters that become problems. Examining these ideas and influences also provided an avenue for examining the larger community. Through the research it became clear that the community’s role in how encounters unfold was central to the study.

Five broad themes organize the findings that emerged from the interviews and provide insights into (1) the breadth and stability of the ideas participants held about black bears, (2) what they considered problems, (3) the approaches and gaps in the processes available to them for addressing the problems, (4) the support systems that would help them address these problems more effectively, and ultimately, (5) the multiple communities within communities that make up what is otherwise assumed to be a uniform community of year-round residents, part-time/seasonal residents, and vacation visitors. These themes and findings illustrated the fractures between the three “sub”
communities within the larger Tahoe community, which became all the more clear when pressed by the presence of a problem bear, and the need to do something about it.

The findings suggest there are partitioned communities within communities in Tahoe that function largely within themselves until a problem black bear encounter occurs. The individual communities of year-round or full-time residents, seasonal/part-time residents, and vacation visitors intersect at the provocation of a problem bear encounter. Bears, as the provocateurs, were more than troublemakers, however. They were also the catalysts for understanding the community, how it works to address problem situations, and ultimately the potential bridge-builders for a more connected community. The interviews found that multiple communities functioning separately, but sharing the same geographic space (Halseth, 1993), exacerbate constructive communitywide problem solving and may also contribute to conflicts arising around who gets to speak for the bears.

Acknowledging the fractures and/or partitions in the larger community can create incentives to tailor systems that will reach individual communities based on their foremost needs and interests. It can also provide opportunities to explore areas most likely and fruitful for building bridges between the communities. These findings also provide insights into ways that existing systems for addressing problem encounters can be improved for greater harmony between people and bears and between people about bears and problem situations. Although these findings are unique to this research setting, it still shares common attributes with other mountain resorts, especially the steady turnover of the human population, the challenges of human encroachment on natural
areas within and surrounding developed communities, and the increasing competition between people and wildlife to share this space. The findings pinpoint the fractures, but the nuances and insights provided by participants are the mortar for tailoring existing systems to create connections between communities that will better address their individual and collective needs.

Using exemplars within the findings and themes, this chapter interprets and analyzes the ways in which the fractures surface and contribute to instability and partitions in the community as a whole.

*Thesis: Problem Bear Encounters Occur Because an Interpersonal-Social-Natural Environment Exists that Enables them to Happen.*

- The intersection of gaps, whether natural/ecological, social, human, or political create an atmosphere in which a black bear encounter can become a problem rather than minimizing or mitigating it, and what makes the difference is where, when, and among whom the encounter occurs. The greater the connectedness there is within the community, the more resilient it can be in responding to the encounters and preventing new ones from becoming a problem.

- Bears are Catalysts: The bears’ presence reveals the vulnerabilities in the social, political, and ecological relationships that would enable the community to withstand stressors.
5.2.1 Ideas about Bears

One of the goals of the research was to examine how participants formed ideas about black bears. Research interviews found that participants learned about black bears and their behavior largely in two ways: through firsthand experience, and through trusted sources such as a family member (DeRuiter & Donnelley, 2002), college professor, or documentaries and other print media (Kalof & Amthor, 2010). The ideas, or beliefs, participants formed tended to be fairly stable and resistant to change (Kretser, Curtis, Francis, Pendall, & Knuth, 2009) with a few exceptions. Encounters with black bears had the additional effect of transforming ideas in several ways.

Through interviews it became clear that encounters with black bears changed participants’ ideas about them, and their behavior. Participants located in one community on Lake Tahoe whose encounters with bears were minimal or simple nuisances such as a bear in their trash had decidedly different views of black bears than those who had suffered damage from bears breaking into their houses. Participants who had suffered property damage from a black bear breaking into their house tended to compartmentalize their ideas about black bears (Strauss, 2005). In these instances competing or inconsistent social discourses about black bears were evident. Strauss suggests these competing expressions and ideas stem from an individual who belongs to two different subgroups. The participant environmentalist who welcomed and supported living in bear country and enjoyed seeing bears, but has suffered damage through a break-in, now also belongs to the group of participants who would rather not have bears in their community.
as they reconcile the trauma of the intrusion. The transformational effect of the break-in encounter, whether temporary or long-term, was evident in these interviews.

Encounters with black bears were also transformational for participants working as first responders. Through regular exposure and the experience of encountering black bears in their work, participants’ ideas about black bears and their behavior not only changed, but they also informed how they intervened. One first responder described this transformation,

All you know is what you’ve seen on TV or read in books or anything else . . . . I didn’t know squat before I got here, to tell you the truth. You know what you read, what you see on TV, what you hear from others.

. . . I have certainly sat through discussions with other experts in the field, but I would be willing to say that my personal experience has been most educational to me . . . . Not that I am any national expert or anything like that. I just have a fairly good perspective of what to expect from a bear depending on time of year, whether there’s cubs present or not, whether they’re inside a residence or outside a residence, whether it’s daylight or darkness. There’s a number of different factors and you weigh all those things in when you’re trying to resolve a situation . . . . It’s a collective knowledge, not an individual article or thesis or anything else that I’m working off of.

Experience with bears as first responders also transformed the nature of the conflicts that arose. Through the benefits of firsthand experience, conflicts about bears seem to dissolve, and conflicts about values rise to prominence. It is not that these values are not already present, in either vantage point, but one plays a larger role than the other. That is, when conflicts about bears are based in debates of cultural or symbolic representations, conflicts seem more focused at the micro or intrapersonal level. Whereas conflicts that include a filter of experience transcend cultural and symbolic representations and become conflicts of social values. These conflicts focus more on social values such as animal.
rights, conceptions of the natural world and a person’s place in it with respect to wildlife, and bears especially.

Whether participants had the benefit of regularly observing black bear behavior or not, it was clear popular culture and trusted sources had a role in the ideas and outlooks they formed about both black bears and wildlife in general. Among those trusted sources are film and print media that together play an important role in shaping values and beliefs about animals (Kalof & Amthor, 2010). *Wild Kingdom*, Jacques Cousteau, and National Geographic were among the television and nature programs participants watched as young people and mentioned regularly. Other shows included Walt Disney and Grizzly Adams. While one participant related,

> I remember stuff as a kid, *Gentle Ben*, and I can’t remember the other guy that lived out in the wilderness that was out on his own and his best friend was a bear and everything was great with them, and that was TV and that got explained to me that that’s not really how it is.

Another participant remarked,

> *Wild Kingdom* is one of the main reasons I’m in the field I’m in. . . . They were out messing around with wildlife, capturing wildlife and studying it, outdoors and not sitting at a desk somewhere. It was all very appealing . . . . I can’t come up with specific shows or specific examples. I just remember watching the show a lot, and wanting to get out and do that type of work.

More recent programs mentioned included shows on Discovery Channel and Planet Earth.

While nature programs seem to nourish the public’s interest and strong curiosity about wildlife, wildlife filmmakers emphasize the growing need for wildlife filmmaking reform, especially in the face of competition for fewer dollars and temptations to sensationalize wildlife situations for entertainment value (Palmer, 2010). Deception and
fakery are not new to wildlife filmmaking, however, and Palmer points to numerous instances of staged settings (including in shows such as *Wild Kingdom*), the use of captive animals in supposed wild settings, and baiting or chumming sea creatures or bears. He adds,

if you see a bear feeding on a deer carcass in a film, it is almost certainly a tame bear searching for hidden jellybeans in the entrails of the deer’s stomach. The candy gives the impression that the proud carnivore is feasting on a fresh kill. (p. 105)

In light of the role print and film media plays in influencing ideas about wildlife, and bears—including inadvertently encouraging people to get too close to animals (Palmer, p. 100), in contrast to the ideas formed through firsthand experience, there exists an unexplored opportunity to create bridges between these vantage points. Individuals in the community who know these behaviors well can create these bridges as black bear “diplomats” or interpreters, offering a level of understanding that permeates and deconstructs views based on cultural sources alone. Opportunities to learn about black bears and their behavior in safe settings from those with the knowledge and experience in the community is one way to provide opportunities for positive encounters (Campbell & Lancaster, 2010; Kretser et al., 2009; Needham, Rollins, & Wood, 2004; Siemer, Hart, Decker, & Shanahan, 2009). One community member also expressed hope for creating these opportunities as an alternative to the misinformation that promotes fear. Absent formal opportunities to broaden understandings, educational recordings of a variety of black bear behaviors are available as another means for learning about black bears and their behavior through the lens of experience (*Bear Videos*, n.d.).
5.2.2 Problems Arising in Black Bear Encounters

Interview participants expressed widely ranging concerns about the problems that arise in black bear encounters, but at no time was it clear that it would be possible to address these concerns comprehensively without an understanding and agreement on what the problems were that needed addressing. This diversity illustrates the general lack of agreement in the community on what black bear problems are most pressing, how to prevent them, and what to do to address them. For the second homeowner, security and timely response to problem encounters were important. For some year-round residents, keeping a connection with the Tahoe of old and its sense of community were most important. Other residents enjoyed Tahoe’s wildlife, including black bears, but some did not always appreciate the adjustments needed when living in black bear habitat. And for agency personnel as intervenors who are pressed to act, having clear, defensible decision points and procedures to implement were important. In addition to year-round and part-time residents and community intervenors are a diverse group of visitors who do not necessarily understand or appreciate that black bears are present, and from their lack of area experience problem encounters can arise. The disparate mix of priorities the participants expressed is a clue that problem black bear encounters may also signal the potential for other larger concerns in the community.

When a community is faced with addressing a challenging situation, the problems expressed are rarely tidy, or encompass all that appears at first blush (Forester, 2009). It is quite natural to focus on the situation at hand without realizing that there are probably “a mix of personal agendas, tensions between organizations, good and bad relationships
between individuals, and a history of previous encounters” that are also influencing the resolutions they seek (Carpenter & Kennedy, 1988).

As is typically the case for a complex community problem that has developed over time, it is necessary to consider the whole of the situation and its component dimensions through some sort of framework. The findings began to create that framework through the three components that synthesized and categorized the participants’ views of the problems arising in human–black bear encounters. These components included a global statement capturing the breadth of their concerns, a description of the institutional frameworks they must navigate, and an acknowledgement of the synergistic relationships between people and black bears in this community.

The interviews provided some insights into the wide range of issues participants confront, and situations viewed as an inconvenience versus a larger problem. Trash strewn about a neighborhood was an inconvenience and nuisance, but spending money to correct or repair damage was a problem. Deterring a bear while exploring potential food sources was a necessary habit, but knowing whom to contact when the bear will not leave was a problem. Telling bear stories at cocktail parties was entertaining, but knowing what to do to stop a bear from breaking into a house was a problem. The line between inconvenience and problem, however, varied from one person to another, and is a distinction that the community and its members must explore and make themselves.

The interviews also revealed an important question of agency in how problems develop. Participants describing the “most likely reason for problems with bears” most often mentioned two reasons among numerous other reasons: people and trash. The
distinction made between trash and people called attention to the obvious question about the source of trash, though. One participant offered that it is almost like the individual distances the act from the actor. A participant in a local agency added,

Why is the bear there to begin with? Let’s step back into, not “Why he’s in my yard,” but “how come he’s here in the first place? Who’s not practicing best management trash practices? Why?” Because you can pretty much, trash, the arrows are pointing at that. So if you can isolate the property that’s the problem, and get them in the system so that they gotta take care of it, and be more conscious, whatever that means, whatever enforcement that requires. That’s my personal solution to this whole problem is, “People, get conscious about your trash practices” . . . . Honestly, it’s a matter of being conscious with your stuff, being personally responsible.

Other agency personnel offered, “We contribute more to the problem than the bear does. The bears are just being bears”; “It’s trash. It’s a human issue. Definitely trash”; and “People. That is the reason, generally. If there were no people there . . . .”

The role of agency becomes more clear through the continuum of people:trash:bears, and the question of problem people or problem bears. The synergistic relationships between people and black bears in this community serve to underscore the role of agency through the exacerbations that develop as people view the problem more on the bear–trash end of the continuum rather than the people–trash end. In the words of the agencies and agency responders, people need to understand their role in creating “problem bears.”

Facing the challenges of problem black bear encounters requires the community to consult and coordinate with public agencies as well, and at some level the disputes that arise mirror those of other public disputes. The interviews also identified institutional and structural problems related to differences across jurisdictions and in the personnel
implementing the laws and policies that govern these multiple communities. Carpenter and Kennedy (1988) emphasize that “disputes over public issues come in all sizes and shapes . . .,” adding that “Some conflicts erupt into bitter confrontation and rapidly grow worse. Others are chronic disagreements that flare up periodically, then die down and become dormant for a time.”

All of these characteristics are evident at some level in the concerns participants raised in problem encounters with black bears, but as Deutsch (1973) notes, not all participants are “consciously experiencing a conflict the way he [she] should be,” suggesting a latency because it has been “repressed, displaced, or misattributed, or . . . does not yet exist psychologically” (p. 14). Latency periods also include differences between groups, individuals, or organizations that are not great enough to prompt one of the parties to act to change the situation (Brahm, 2003). Wehr (1998) adds that every conflict includes a latency period in which the potential for conflict exists, but it has not yet developed. “An alienating social structure” may also suppress the emergence of social conflict (Wehr, 1998). The persistent expressions of problems without observable overt conflicts between community members suggest a latent or emergent situation rather than a manifest conflict (Mitchell, 1981).

The general dissatisfaction with problem bear encounters and individual initiatives described to address them suggests that a number of factors are at work in preventing conflicts between community members from emerging into overt or manifest conflicts. First, the complex nature of satisfactorily preventing and addressing problem encounters mirrors any other problematic public dispute (Carpenter & Kennedy, 1988),
but is exacerbated by the multiple jurisdictions in which the encounters occur. Second, the fractured state of the community, or in Wehr’s view the alienating social structure, means that the disconnected factions of the community remain isolated from one another in both expressing their discontent with the situation and in addressing it. And finally, because a communitywide system does not exist for addressing encounters, community members remain divided and unconsolidated in appealing to or expressing their dissatisfaction to outside public agencies.

The risks of unmanaged conflict include growing suspicion of other parties without realizing this is occurring, fractured personal relationships, and community disruption (Carpenter & Kennedy, 1988, p. 16). Coleman (1957) cautions that “the outcome of one dispute [in a community] ‘loads the dice’ in favor of a similar outcome the next time” (p. 2). These observations and potential risks will hopefully provide the community with incentives to try more collaborative approaches when addressing problems that arise in black bear encounters.

5.2.3 Conflicts Between People about Bears and Interventions

While discussing the problem encounters that arise between the participants and black bears, two dimensions of conflicts between people emerged in interviews. The first focused on conflicts arising between community members about black bears and their behavior, and the second focused on those arising between community members about interventions.

Interview participants discussed a variety of situations in which disagreements arose between themselves and others about black bears. Three commonly mentioned
disagreements that also have a bearing on public policy focused on black bear population numbers, why bears break into properties, and who gets to speak for the bears.

Participants widely believed that black bear population numbers in the Tahoe Basin were rising. These statements were supported by either their perceptions based on bear activity, or because a wildlife official “threw out a statistic that they think there are five times as many black bears in California as there were in the ’70s. Have no way of knowing whether or not that statistic is true, but . . . .” Another participant offered he or she was told by another official that the black bear population had grown five times in the past 10 years. In response, one participant conveyed that “A few ‘rebels’ are trying to get the Department of Fish and Game to do something about getting the bear population down.” Disagreements about scientific data are a common issue in environmental disputes (Adler, 2002; Ozawa, 1996). Research in the Tahoe Basin has suggested that rather than the black bear population increasing, it is redistributing (Beckmann & Lackey, 2008). To the unknowing resident, black bear numbers appear to be growing, but bears are instead relocating to urbanizing areas and easy food sources.

A second issue related to differences in opinion about how or why problems with black bears occur. One wildlife official conceded,

If you have a bear that is extremely habituated, and it is testing doors and windows, looking through curtains, looking through windows and seeing a refrigerator and thinking it’s an ice chest in a car . . . . Those bears, there’s not much you can do about keeping them out of your place, and for some reason it picks your place.

Yet others believed there must have been something a person had done wrong to prompt a bear to break into their property. At the core of these vantage points lies a difference in
opinions about agency, and whether there is a human role when black bears break into properties. Some parties are certain that break-ins are unprovoked, while others are certain an omission of some sort created an attractant.

Finally, when problems with black bears arose, differences in opinions about who gets to speak for the bears were also clear. A community responder related,

“They get the bear call and three or four days later they come up, they respond. Well, that bear isn’t sitting there waiting for them three or four days. It’s gone. So, they very rarely see the animals. They don’t understand how to deal with them at all, but yet they’re the ones who make all the rules and call all the shots and destroy our ability to make any progress. We don’t like that the bears are going into houses either . . . . We want to stop it just as much as they do, but we have this huge obstacle in our way, which is the DFG [Department of Fish and Game].

A participant from a public agency, on the other hand countered,

“A lot of it boils down to “too many cooks.” We’ve got so many land management agencies between State Parks, Forest Service, local Sheriff’s offices who share public safety issues, local activist organizations who want to be intimately involved. It’s too many people trying to do too much.

Indications that parties feel a mutual interference in achieving their respective goals suggests that conflicts between parties also arise over who gets to advocate for, or speak for, the bears.

Participants described situations suggesting that conflicts between community members arise over interventions as well. These differences were most evident in the threats, retaliation, and concerns about retaliation that participants intimated. Numerous participants related secondhand stories of personal attacks against others for requesting depredation permits and traps for a black bear that had caused problems. By their accounts retaliatory actions included “putting up wanted posters and vandalizing the
house,” vandalizing cars, sabotaging traps, broken windows, “chain-saw[ing] all the outlets out of the wall,” and in one case issuing death threats. In another instance, a participant related their personal experiences after requesting a depredation permit: Flyers providing their name, address, and phone number were distributed to everyone on their street. The flyers labeled the participant a “bear killer” and encouraged recipients to contact the homeowner to let them know how they felt about their unwillingness to coexist with wildlife. In another situation, participants requesting a culvert trap were anxious about every car they heard on their street, fearing an incident. After four days they requested that the trap be removed because “they did not realize the position they were putting themselves in” by the request. Another participant who had experienced repeated problems decided not to request a depredation permit after a neighbor warned them about the possibility of retaliation. A year-round resident offered,

So there’s a fear out there from some people to deal with the problem . . . . They feel kind of a Catch-22. If you have the bear killed then the bear protectors are going to get all upset with you and damage your house. So they feel kind of between a rock and a hard place.

These situations reflect exceptions to the latent conflicts previously described in that overt actions have been taken to alter the behavior or abandon the goals of one party by another (Mitchell, 1981).

5.2.4 Community Problem Solving

According to interview participants the community largely addresses problems arising in black bear encounters in two ways: through direct deterrents and agency interventions. A third possibility explored with participants the use of and their
attendance in communitywide gatherings to collectively meet and work together in discussing and addressing problem black bear encounters.

Interviews revealed unexpected nuances in the ways participants viewed preventive versus intervention measures, however. While participants readily described measures they used as direct deterrents, the distinction between the things they used as a deterrent versus an intervention blurred at times. These observations suggested that the idea of a deterrent versus an intervention was a matter of mindset. Deterrents at times were put in place as a post-incident intervention. These measures were especially apparent in interviews where participants used motion-activated “Rex” dog barking boxes following a break-in. Conversely, participants with the local bear advocacy group spoke clearly about these measures as preventive deterrents, not reactive deterrents, or interventions. Another participant offered,

Through education and through encounters they start to realize, okay, I can’t do this. It’d be like somebody in New York or L.A. or San Francisco knows they can’t leave their cell phone, computer and iPod setting on the front seat of the car and leave it unlocked ’cause it won’t be there when they come back. Up here instead of criminals, we’re dealing with wildlife . . . . That’s 100% of the resolution to bear conflicts is people modifying their behavior to better co-exist with the bears.

Being mindful of these nuances as the community works to communicate and implement preventive deterrents would probably help.

Timing is another important nuance and consideration in community problem solving. Some participants supported a homeowner using rubber buckshot to interrupt a problem black bear situation because they believed the ability to respond promptly was the only way to have a reasonable chance of making a difference. Using rubber buckshot
later was likened to spanking a child after-the-fact. The nuance of timing provides some understanding for the differences in participant tolerance for who can appropriately intervene with a gun and projectiles. Even though participants did not typically support homeowners or community members using guns, some flexibility was evident because timing matters.

A final observation and nuance related to community problem solving focuses on the participants’ conceptions of a community gathering and the goals or outcomes they seek through these gatherings. Public agency participants described community gatherings they had attended as presentations, public meetings, public hearings, and symposiums with expert panels. Community members added BEAR League workshops, coffee klatches with a county supervisor, an agency meeting with one community, and a press conference at a local Sheriff’s office as other types of community gatherings. The idea of a communitywide collaborative problem-solving gathering was largely foreign to all participants except for a few individuals. Understanding the participants’ knowledge of, or unfamiliarity with, collaborative approaches was an important insight the interviews provided.

While participants were very helpful in offering important logistical strategies and ideas for convening such a gathering, community members would need to be introduced to collaborative approaches and the outcomes possible. Important benefits to relate are that the number of participants is unlimited, the gathering emphasizes problem solving versus conveying information, it is goal-oriented, and inclusive (Carpenter & Kennedy, 1988). Embracing the following core values in a public participation process would
further these benefits (Dukes, Piscolish, & Stephens, 2000; IAP2 Core Values of Public Participation, 2007).

1. Those affected by a decision have a right to participate in the decision-making process,
2. The public’s contribution will influence the decision,
3. Sustainable decisions recognize and communicate the needs and interests of all participants, including decision-makers,
4. Seek and involve those potentially affected by or interested in a decision,
5. Seek input from participants in designing how they participate,
6. Provide participants the information needed to participate meaningfully, and
7. Communicate to participants how their input is affecting the decision.

Planning for other such efforts has included attention to process (Tuler & Webler, 1999), mechanisms to promote meaningful engagement with the public (Morgan, Davis, Ford, & Laney, 2004), policy learning (technical learning, conceptual learning, and social learning) (Lauber & Brown, 2006), and design criteria for public involvement (Chase, Decker, & Lauber, 2004; Chase et al., 2002). Co-management, especially participatory intervention planning, provides another way to engage the community in addressing human–wildlife conflicts (Treves, Wallace, Naughton-Treves, & Morales, 2006).

In addition to the interviews identifying the need to familiarize participants with collaborative processes, they also provided some hints about the issues a gathering should include and ways to integrate them. The interviews revealed some common understandings among the participants, which provided encouragement for opening
discussions. Most participants seemed to understand that if a bear breaks into a property once, it is very likely to return. Discussions of mutual agreement provide a way for the participants to develop a rapport, and learn from one another at the same time.

Interviews also revealed trends and patterns around language. Participants used the same words, but differently, creating opportunities for misunderstandings/miscommunications. Exercises focusing on commonly used terms provide a vehicle for both conversation and understanding in a way that is neither threatening personally nor confrontational through the juxtaposition of opposing views. These easier conversations can also build a path for discussing the thornier topics of preventing and addressing problem encounters. Finally, participants offered ideas for community-building efforts. All of these general observations offer possibilities for ways to encourage collaboration by creating familiarity, using “ice-breaker” type exercises, and laying the groundwork for problem solving.

5.2.5 Community

While exploring the problems arising in black bear encounters, participant descriptions of changes in both the built and human environments suggested the evidence of divisions or fractures in the community.

McMillan and Chavis (1986) defined a sense of community as “a feeling that members have of belonging, a feeling that members matter to one another and to the group, and a shared faith that members’ needs will be met through their commitment to be together” (p. 9). Their definition includes four elements: membership, influence, integration of and fulfillment of needs, and a shared emotional connection. Of the five
attributes McMillan and Chavis include in membership, boundaries are especially evident in the ways interview participants describe themselves and interactions with other community members. Outsiders, or deviants, as the authors put it, provide a way for insiders to unite around a troubling issue in the community. Interview participants provided little evidence to support the presence of McMillan and Chavis’ second element of influence at work in the community. Interviews suggested that community members tended to operate independently more than under the reciprocal role of influence, which simultaneously provides validation through cohesion while exerting conformity.

McMillan and Chavis’s third element of integration and fulfillment of needs is similarly elusive. It is especially noteworthy that McMillan and Chavis suggest that the degree to which individual values are shared among community members will determine how well it organizes and prioritizes need-fulfillment activities, i.e., how well they will work together to address problems. The authors add that it is mutually satisfying to help others and be helped, and “the most successful communities include associations that are mutually rewarding for everyone” (p. 16). Finally, the fourth element of a shared emotional connection emphasizes that the more community members interact and invest in solving problems together positively, the greater the bond will be between them.

While this research did not specifically explore ways that the year-round and seasonal communities interact, the interviews suggested just the opposite, that everyone is “doing their own thing.”

Urbanizing rural communities share similar “growing” pains (Slemp et al., 2012). Halseth (1993), in studying community at the intersection of rural and amenity
landscapes, emphasized the “inter-relationships developing within the confluence of spaces, places and social structures in the construction and meaning of ‘community.’” While he also acknowledged the common elements of a shared sense of belonging, and a distinctive identity that defines its members, he emphasized the “social and spatial space within which individuals experience and conduct most of their important activities” (p. 176). In so doing, he makes an argument for community “as a process rather than an entity.” Potapchuk and Crocker (1999) conceptualize community one step further in terms of civic capital, adding that “civic capital is the engine that drives a community to overcome barriers, create accountability, manage change, and get things done” (p. 179). “Communities rich in civic capital,” they add, “have numerous ways to confront challenges” (p. 179). These collective vantage points of the individual psychological sense of community (McMillan & Chavis), as an evolving process situated in a changing space (Halseth), and through its civic capital capacities (Potapchuk & Crocker) provide a comprehensive way for assessing the study area community at the individual level, through the intersections of its changing populations, and its capacities to together address problems that arise.

The research study area’s characteristics and participant attitudes mirror those observed in other amenity-rich landscapes where long-time rural populations intersect with newcomer in-migration (Halseth, 1993; Smith & Krannich, 2000). Long-time residents in Smith and Krannich’s study were more concerned about preserving existing ways of life, and believed more than newcomers that tourism led to negative social effects and preferred less future tourism development (2000). This current study’s area
also compared similarly to Halseth’s rural and converter (seasonal-use property to permanent residence) residential groups in a recreation amenity landscape near an urban fringe (1993). Sociodemographic characteristics of the converter group included an older population without children in the household whose formal education level is higher than long-time residents and who are mostly retired. Converters’ social community was more localized to neighbors within the immediate area compared to rural residents, and both property owners’ groups and social organizations reflected these spatial and social influences as well. Rural long-time residents participated more fully in property owner’s groups and community building projects while the converters’ organization provided fewer needs and opportunities to engage the wider community. Halseth found that distinct communities, or communities within communities, in a “‘shared but separate’ geographic space” characterized the wider community in his study (p. 175).

Slemp et al. (2012) emphasized the perspectives of community stakeholders in a study examining land use change and impacts on quality of life. Using a grounded theory approach, their study specifically focused on the well-being/quality of community. Participants characterized changes in the community widely, but themes focusing on concerns about urban growth and low-density development emerged and were characterized in four findings. Like participants in this current study’s area, Slemp et al.’s participants were concerned about loss of natural environments, ecosystem function, and loss of unbuilt land, in their case, farmland. Participants also raised concerns about the decay of a sense of community and cultural change and social conflict. On the other
hand, Slemp et al.’s participants also believed that an invigorated economy helped the community by increasing the local tax base and supporting more jobs in the area (2012).

Participants in this current research’s study area echoed Slemp et al.’s participants’ sentiments that in-migration had both fragmented the social structure of the community, and led to a decline in social connectedness. In the same way that homeowners were unsure where to turn for assistance with a problem black bear situation, Slemp et al.’s participants lamented, “You know it’s kind of every man for themselves. I am going to do my thing, neighbor does his thing, guy across the street does his thing. You wave at each other in the morning . . .” (2012, p. 145). Like participants concerned about transient visitors in this research study area, Slemp et al.’s participants also agonized over how to engage commuting community members who are only there to sleep. They found that urbanizing rural areas had significant social consequences for communities similar to this current study’s area, especially fragmentation of social connectedness and fracturing of community identity. Slemp et al.’s participants, as in Halseth’s and Smith and Krannich’s studies, also raised concerns about changing values. For some, these surfaced as “culture clashes,” for others a “clash in values” (2012, p. 146). Taken together, these studies emphasize the importance of social organization and values in communities, and how they change and can instigate social conflicts when long-time and newcomer residents lack meaningful ways to collaborate in the shared space.

Clendenning, Field, and Kapp (2005) offered a slight variation on findings that suggest “culture clash” or “clash in values” is disruptive to communities. They examined
the differences in attitudes between seasonal and permanent residents toward wildlife management on public lands in an amenity-rich area of northwestern Wisconsin. They considered length of residence (newcomer and long-time), and place of residence (both current and from youth) and controlled for education and income. Attitudes toward hunting in Clendenning et al.’s study mirrored earlier studies suggesting permanent residents and those of rural upbringing were more supportive of management for these purposes, but attitudes toward wilderness and endangered species protection were not significantly different for seasonal and permanent residents. The authors concluded that the divide between urban seasonal and rural permanent residents may not be as great with respect to wildlife. They reasoned that the history of an amenity-rich area as a resort, along with the steady turnover of seasonal to permanent residents, may explain these findings.

Respondents in this research, particularly full-time residents and seasonal workers, like Clendenning et al.’s respondents, disagreed most on the cruelty of hunting. However, full-time and part-time residents differed on human-centered wildlife management, similar rights for animals and people, and black bear danger. In each of these instances full-time residents were more supportive of wildlife than part-time residents. In light of these observations, and that full-time residents and vacation visitors expressed similar opinions, something more than Clendenning et al.’s variation is at work in the study area community, most likely the problem encounters and the individuals facing them the most, i.e., part-time residents.
Potapchuk and Crocker (1999) offer some hope and guidance for communities in transition in their call for building civic capital. Communities with strong civic capacity are characterized by open, honest communications, respect for differences, and a desire to work from its collective strengths (p. 177). For fractured communities this means building trust and relationships, developing and sharing a joint vision for their community, creating opportunities to work together and find success, working across organizations and its hierarchies, and nurturing and training leaders and participants beyond the usual suspects.

This research suggests that the fractured state of the study area community complicates addressing problem black bear situations. The social structures that might provide opportunities for communities within communities to meet were not strongly evident in this research. Year-round residents related efforts they made through neighborhood watches in their communities to support second homeowners, and second homeowners acknowledged their need for support while away, yet signs of collegiality between the two communities were not apparent. Communication within one neighborhood seemed mostly provided by paid helper/support services. The fractures also seem to create lost opportunities to engage local resources and knowledge in problem solving. Conversations with participants highlighted the creative ways they have individually researched and addressed problem encounters, but at the same time these ideas remained in a vacuum. Interviews with two adjacent neighbors illustrated evidence of this vacuum. One neighbor developed ways to deter black bears at their doors and windows; the adjacent neighbor meanwhile expressed a strong interest in
knowing ways to secure their property. Even though they lived mere feet from one another, it was not apparent that an exchange of information had occurred between them.

Opportunities to build community in the study area seemed mostly targeted to year-round residents through civic and service organizations like the Boys and Girls Club, Kiwanis and Rotary Clubs, and social organizations like Tahoe Mothers’ Club and Tahoe League for Charity (Business Directory: Agencies and Associations, 2007). Environmental organizations like the BEAR League, Tahoe Rim Trail Association, and the League to Save Lake Tahoe provide opportunities to engage the wider community through volunteer service projects, but the degree to which seasonal or transient visitors engage in such activities was unclear. An annual pancake breakfast hosted by a volunteer fire department in one community was the only event participants mentioned that engaged communitywide members. Although this research did not specifically explore the range of opportunities for engaging the wider community, it is clear that a need to build relationships on a wider scale would provide helpful first steps toward building trust, a history of success in problem solving, and the relationships necessary for collaboratively addressing broader community issues such as black bear problems.

5.2.6 Interview Analysis Summary

The goal of this research was to learn more about human–black bear encounters that become problems or conflicts. The research focused on learning more about what influences (1) the views participants developed about black bears and (2) the role these views played when seeking to address human–black bear encounters that were a problem. Five themes emerged as the interviews explored problems arising in human–black bear
encounters. In addition to these themes, interviews with participants made clear that problems arising in black bear encounters include not only those between people and black bears, but also those between people about the bears (Madden, 2004; Peterson et al., 2010). This section considered and explored both of these aspects of problem encounters through the themes emerging in the research.

Analysis of the interviews developed the five themes that emerged in the interviews by focusing on those dimensions of the findings that seem to present the greatest challenges in addressing problem human–black bear encounters in the study area. These discussions included (1) the range of ideas the participants have about black bears and black bear behavior, (2) the problems arising in black bear encounters, (3) the conflicts between people about black bears and interventions, (4) the insights in community problem-solving approaches, and (5) an assessment of the community and its functionality.

While the discussion acknowledged the problems that occur between people and black bears in the community, it emphasized the social-structural dimensions in these discussions. It specifically attempted to frame the discussions to stress that conflicts between people and black bears usually include conflicts between people about black bears as well. Drawing on conflict analysis and resolution resources, the discussions considered individual dimensions that may influence the paths the encounters take to understand the progression of experiences from encounter through problem to conflict.

The theme focusing on the ideas participants formed about black bears emphasized the differences between the source of the ideas, especially the differences
associated with ideas formed through experience versus trusted mediated sources such as a family member, college professor, or documentary. It also highlighted how experience changes and informs response options, and how malleable our mediated ideas about wildlife can be without us realizing it. It concludes with some thoughts on how experience with black bears might be made more available to those living in black bear habitat.

An analysis of the problems arising in black bear encounters emphasized the diversity of issues that are often common in situations that have developed over time, and that involve public disputes. The analysis focused on several issues related to problems arising in human–black bear encounters, especially subtle perceptions participants conveyed. It then offered some thoughts on the potential for manifest conflict between people about black bears, discussed the characteristics that hint of this possibility, and the risks associated with allowing unmanaged conflict to progress.

The analysis also discussed two dimensions of conflicts arising in black bear encounters, particularly those arising between people about black bears, and between people about black bear interventions. It emphasized three situations where participants’ beliefs about black bears and black bear behavior were the source of the problems. Participants’ information and understanding about the black bear population (Beckmann & Lackey, 2008) and the motivation for bears breaking into houses were often given as the reason for problems. The third situation emphasized who gets to advocate, or speak, for the bears. These situations arose because of multiple interests and jurisdictions who can act when problem encounters arise. The analysis also highlighted the conflicts that
arise between people about interventions. These discussions included the concerns participants intimated about threats, retaliation, and concerns about retaliation regarding the removal of a bear by depredation. Evidence of these conflicts was apparent in the tactics some parties successfully used to change other parties’ behavior or abandon their goal of depredation to address a problem bear situation (Mitchell, 1981).

The fourth theme and discussion focused on community problem solving and the nuances revealed in the interviews. These nuances seemed important to consider as insights for improving the overall effectiveness of the deterrents and interventions the community uses when addressing problem situations. The first insight highlighted participant differences in what constituted a deterrent versus an intervention, and observed that the line between preventive and reactive deterrents blurs at times. The second insight stemmed from participants’ emphases on the importance of timing in interventions. It was especially clear that timing mattered, and participants’ flexibility in who and what methods were used to intervene were influenced by timing. A final insight related to participants’ ideas about and understanding of community gatherings to address problem situations. The interviews suggested that the use of collaborative problem-solving approaches was largely foreign to most participants, indicating that any effort using these approaches would require familiarizing potential participants with these processes. The section concluded with some thoughts on the benefits that would be important to convey as well as the core values such a process would embrace.

The fifth, and final, theme focused on the community itself. It provided a number of definitions for community and sense of community and made a case for the fractures,
or communities that exist within communities (Halseth, 1993) in the study area. It then highlighted the similarities between the study area and other changing communities that include newcomers versus long-time residents and the sorts of fractures or decay in sense of community that participants in these studies conveyed. The discussion offered one remedy for fractured communities in collaborative efforts to build civic capital. These approaches can help to build trust and relationships between community members through mutual projects where they are able to create a history of success together. The analysis argued that absent efforts to build connections between the communities within communities, addressing problem black bear encounters will continue in an ad hoc, individualized, and much less productive manner.

5.3 Background Survey Data Analyses

The mixed methods approaches in this research included a background survey to gain supplemental information about the participants’ views on black bears and black bear management, community and community decision-making processes, and to provide a point for comparison with the interview findings. The survey data results stem from surveywide frequencies, and significance testing using independent-samples t-tests, one-way analysis of variance (ANOVAs), one-way Kruskal-Wallis ANOVAs and Mann-Whitney U tests. Potential for conflict indices (PCI₂) and difference tests (Vaske et al., 2010) brightened these results by illuminating areas of consensus and dissensus between the survey respondents.

Analyses of the survey data supplemented the interview data in two ways. Significance testing identified the survey issues that were of greatest concern to the
respondents, while also highlighting the sociodemographic categories most related to those concerns. The potential for conflict indices provided additional insights into these data by identifying areas of consensus and dissensus within survey groups, both surveywide and within the respondents’ sociodemographic characteristics.

5.3.1 Significant Differences and Sociodemographic Categories

Significance testing identified several areas of differences based on sociodemographic characteristics, but especially differences based on gender. Differences were also found based on age, affiliation, and education.

5.3.1.1 Gender

Consistent with Kellert and Berry (1987) and other earlier studies, the survey identified significant differences between respondents based on gender (Agee & Miller, 2009; Thornton & Quinn, 2009) and age (Kellert, 1994). While other studies also found differences between respondents based on gender and age, the authors considered the impacts of these variables noteworthy, but small or weakly related to the attitudes (Morzillo, Mertig, Hollister, Garner & Liu, 2010, age; Campbell & Lancaster, 2010, age and gender; Thornton & Quinn, 2009, age).

Male and female respondents differed significantly on eight of the 15 survey questions. Six of these differences focused on their ideas about wildlife, black bears, and black bear management. Female responses tended more toward humanistic and moralistic attitudes while male responses tended more toward utilitarian and dominionistic attitudes (Kellert & Berry, 1987; Zinn & Pierce, 2002). Males agreed more than females on the acceptability of destroying black bears, regardless of the provocation
such as damaging property or threatening a person with bodily harm (Agee & Miller, 2009; Zinn & Pierce, 2002). Females disagreed twice as much as males about the danger of black bears, and disagreed slightly more than males on managing wildlife for human benefit. They also agreed while males disagreed on the cruelty of hunting, and animals and people having similar rights (Zinn & Pierce, 2002).

In a survey question measuring agreement on the scope of a community land ethic, males and females both agreed that it includes natural resources such as wildlife, but females agreed significantly more than males. These results suggest that female respondents are more likely to tolerate problems with bears (Kellert & Berry, 1987), and may even mediate the choices of their male counterparts for interventions.

5.3.1.2 Age

Respondents also differed significantly based on their age, affiliation, residency, and education. Survey respondents differed significantly based on age for two of the survey questions: human-centered wildlife management and the importance of an impartial facilitator in a community decision-making process. Respondents in their 40s and 50s disagreed on managing wildlife for human benefit while older respondents (70+) agreed on this point. In addition to differences across these age groups, PCIs also indicated a good deal of consensus within each group. In light of the largely high degrees of consensus within these groups, it would not be surprising to see problems arising between these “baby boomer” and Depression-era respondents over management decisions favoring people over bears.
5.3.1.3 Affiliation and Black Bear Management Decisions

Significant differences between respondents were also observed for two of the survey questions based on their affiliations: black bear management decisions and the scope of a community land ethic. Consistent with interviews, public agency employees agreed more than twice as much as residents, both part- and full-time, that wildlife management agencies should make final decisions about black bears that become a problem. While residents were somewhat mixed (PCI = .542) in their consensus, PCIs indicated fairly strong consensus among public agency employees (PCI = .215). Although the difference between the PCIs for these two groups was not significant ($d = 1.82$), the differences between and within these groups highlight potential problem areas between residents and public agencies as decisions focusing on problem black bears come into play.
In addition to differences found through significance testing, three additional instances of PCIs differing significantly for this issue support the idea that bear management decisions may be problematic. PCIs differed significantly between respondents in two sociodemographic categories in addition to the affiliation category: residency and age. Vacation visitors were strongly consensual and agreed more than residents ($d = 2.96$) in the affiliation demographic category. Strongly consensual vacation visitors also agreed more than the full-time residents ($d = 2.22$) who were more mixed in their opinions in the residency demographic category. And strongly consensual
young respondents (20s-30s) ($d = 1.99$) agreed slightly more than respondents in their 50s who were more mixed within this age category. The mixed opinions of full-time residents (PCI = .51) and respondents in their 50s (PCI = .60) add support to the notion that respondents are not in agreement as much as the surveywide PCI (.37) would suggest.

5.3.1.4 Affiliation and Community Land Ethic

Noteworthy differences between respondents in the affiliation sub-categories also begin to provide some background on residents’ outlook for their community. Residents, both full- and part-time, differed significantly with public agency employees and vacation visitors on the scope of a community land ethic. Strongly consensual residents agreed far more than public agency employees and vacation visitors that a land ethic for their community consists of interdependent parts, which include all natural resources and animals.
Figure 5.2: PCIs: Affiliation and Community Land Ethic

5.3.1.5 Highest Education Level

Significance testing also identified two instances of differences between respondents based on their highest level of education. These differences occurred with survey questions focusing on respondents’ ideas about community, and the conditions they considered important in a community decision-making process. Questions related to the respondents’ ideas about community were also intended to measure their interest and desire to participate in management decisions that are typically made by public organizations (Fairfax et al., 1999). Significant differences between three pairings of respondents arose when questioned about their superior right to make decisions in their community because of the heavy consequences they will bear. Respondents with some
graduate studies differed with respondents at two other education levels, those with some college and those with graduate professional degrees. Respondents with some college and graduate/professional degrees agreed while respondents with some graduate studies disagreed. Respondents with some college also agreed more than respondents in all other education categories, and were followed by respondents with graduate/professional degrees in their level of agreement. Although the low number of respondents (10) with some graduate studies may be contributing to the differences observed in these results, significant differences occurred between respondents with some college and other respondents. Respondents with some college agreed far more than those with bachelor’s degrees. Similarly consensual PCIs across all of the educational levels for this question suggested real differences between respondents with some college and others. Knowing of this interest and desire among respondents with some college suggests a willingness in this group to engage in community processes, if given the opportunity. Examining the residency status of respondents with some college may provide further insights on these motivations.

Respondents also differed significantly based on their education for the survey question related to the importance attached to successful community processes exploring all non-lethal approaches to manage bears. Contrary to Kellert’s findings (1994) that those with higher education levels tend to strongly support protection and conservation of bears, respondents with graduate/professional degrees found this condition only moderately important in a community decision-making process, while respondents with some college and some graduate studies believed including these dimensions was very
important. PCIs suggesting mixed consensus overall, but greater disensus (PCI = .68) for respondents with graduate/professional degrees may explain the lower mean for this group (Kellert, 1994). Examining the age ranges within respondents with graduate/professional degrees may also help to clarify these counterintuitive results which merit further examination.

**Figure 5.3: PCIs: Education and Success and Non-Lethal Approaches**
5.3.2 Significant Differences and Survey Questions

In addition to identifying significant differences related to gender, the survey analyses also found respondents differed significantly about managing wildlife for human benefit, and especially on the importance of an impartial facilitator.

5.3.2.1 Impartial Facilitator

One survey question clearly identified differences in opinions among the respondents, regardless of the sociodemographic category. Significance testing identified three instances of differences between respondents based on the sociodemographic categories: gender, age, and residency. PCIs for how important respondents believed it was for an impartial facilitator to lead a communitywide decision-making process focusing on bears showed great dissensus not only surveywide (.74), but also within these three sociodemographic categories.

**Gender**

Females were mixed (PCI = .61) and differed significantly ($M = 3.91$) from males in believing this was an important condition. Like females in Anthony, Knuth, and Lauber’s study (2004), females in the current study’s area found an impartial facilitator in a process more important than did males. Males, meanwhile, were strongly disparate (PCI = .80) in believing that it was only moderately important ($M = 3.20$) for an impartial facilitator to lead the process, also resulting a significant difference in PCIs ($d = 2.41$).
Two groups of respondents differed significantly based on their age. Highly disparate (PCI = .81) younger respondents (20s-30s) found this condition less important ($M = 3.08$) than those in their 40s ($M = 4.17$) who were mixed in their opinions (PCI = .540). Respondents in their 40s also differed significantly in their opinions from those aged 70+ ($M = 3.00$). PCIs also differed significantly ($d = 2.61$) for these respondents and those aged 50s and 70+ ($d = 2.48$). Respondents in their 40s were somewhat mixed in believing this condition was important, while those aged 70+ were strongly disparate (PCI = .893) in believing this condition was only moderately important. Respondents in their 50s were mixed in their belief that this condition was less important than those in their 40s, but more important than those aged 70+. While significant differences between
and within two sets of age groups suggests great uncertainty about the importance of engaging an impartial facilitator based on age, a caveat is due. Respondents in the younger \((N = 12)\) and older \((N = 15)\) groups included half as many respondents as those in the 40s and 50s age groups. Verifying these differences with more respondents in the younger and old age groups would lend greater reliability to this result.

**Figure 5.5: PCIs: Age and Impartial Facilitator**

**Residency**

Significant differences also occurred between part-time residents and vacation visitors. Somewhat mixed vacation visitors \((PCI = .552)\) believed an impartial facilitator
was far more important ($M = 4.16$) than strongly disparate (PCI = .867) part-time residents ($M = 3.09$). PCIs also differed significantly between these two residency groups ($d = 2.21$).

**Affiliation**

While significance testing did not identify any differences between respondents based on affiliation, PCIs (affiliation) differed significantly ($d = 2.05$) between residents, both full- and part-time, and vacation visitors. As in the residency category, somewhat mixed vacation visitors (PCI = .552) considered an impartial facilitator more important ($M = 4.16$) than fairly disparate residents (PCI = .791). Residents ($M = 3.296$) and public agency employees ($M = 3.593$) were similarly situated with respect to the importance of an impartial facilitator, including mixed to disparate opinions within each of these groups.
Figure 5.6: PCIs: Affiliation and Impartial Facilitator

PCIs overall and through the five sociodemographic categories call attention to great areas of dissensus. Respondents within sociodemographic groups believed an impartial facilitator was moderately important to important, whereas 30.3% of the respondents surveywide considered this condition very important. Using simple frequencies and overall survey results alone to prepare for a community problem-solving process would likely leave a third party ill-prepared and not fully understanding the vantage points the parties are likely to bring to the meeting. With significance testing and
potential for conflict analyses, it is possible to identify the areas where differences between parties may arise, and prepare for them.

5.3.3 Summary of Background Survey Analysis

The background survey and analyses identified two striking results. Consistent with earlier studies, strong gender differences between the respondents, especially in their opinions about wildlife and black bear management, were clearly evident (Kellert & Berry, 1987; Thornton & Quinn, 2009). It also revealed strong mixed feelings about the need for an impartial facilitator. Although surveywide responses suggested that respondents supported the idea of an impartial facilitator leading a community problem-solving process, significance testing and analyses using the potential for conflict index revealed the support was situated most with parties who have less of a stake in the community, especially vacation visitors. Neither full-time residents nor part-time residents considered this dimension of a process very important, and part-time residents even less so, even though there was quite a lot of disparity within both groups. These results suggest the need to investigate community opinions on the role of an impartial facilitator further. Learning more about its members’ ideas and expectations for engaging a third party intervenor versus maintaining the status quo where the wildlife agency makes all of the decisions would help in planning any collaborative efforts. In studies examining preferences for stakeholder involvement, both communities and agencies have varied on the degree to which they prefer to collaborate or share in wildlife decision-making processes (Chase et al., 2002). Having a more clear understanding of these interests and expectations for members of the study community would help.
The background survey and analyses also provided insights into the community’s preferences for black bear management outcomes while potential for conflict indices shed light on the levels of acceptance between community constituencies. Although almost half (41%) of the respondents surveywide supported the wildlife management agency making final decisions about problem black bears, there were clear and significant differences between residents and public agencies. Chase et al. illustrated the variability within communities in a study comparing stakeholder involvement preferences over deer and elk management (2002, p. 946). One community preferred that the wildlife agency make final decisions about managing problem wildlife while the second community preferred a majority vote of citizens. This study’s results and those of Chase et al.’s underscore the importance of exploring management preferences within a community to assess the potential for disagreements or conflicts about both the approaches, and who implements these approaches.

The variability among community constituencies was also apparent over the acceptability of destroying a black bear for damaging property versus threatening a person with bodily harm. In both instances, the parties with the least stake in the community (vacation visitors and campers) disagreed the most on destroying a black bear that has damaged property, and agreed the least on destroying a black bear that has threatened a person. PCIs also differed significantly ($d = 2.38$) between part-time residents and vacation visitors, and all residents and vacation visitors ($d = 2.24$) over destroying a black bear that has damaged property. In both instances residents were mixed in their opinions while vacation visitors were in consensus with one another.
These results are similar to the results of a study that measured public acceptance of possible management actions for wolf–people conflicts in the Greater Yellowstone area (Vaske, 2006).

Respondents differed significantly in their ideas about community for two issues, the community land ethic and a superior right to decide. Differences occurred between males and females, and between both residents and public agencies and residents and vacation visitors with respect to the scope of a community land ethic. Females agreed more than males on the scope of the land ethic and were in similar agreement within each respective demographic group. Residents (both full- and part-time), like females, agreed more than public agencies and vacation visitors. While each of these subgroups was strongly in agreement on this issue, females and residents were in greater agreement than other groups within its respective demographic category. Respondents also differed based on the highest education level regarding their superior right to make decisions for their community.

Frequencies and potential conflict indices also provided information about similarities between respondents, and especially with respect to ideas about community. Residents agreed more than public agency employees and vacation visitors on each of the survey questions related to their ideas about community. They agreed slightly more than public agencies about knowing their community better than outsiders, agreed twice as much as public agencies and vacation visitors about their superior right to make decisions that will affect their community, and agreed slightly more than public agencies and vacation visitors about the importance of face-to-face dialogue versus decisions made by
outsiders. These results suggest continuity among the residents, both full- and part-time. PCIs, on the other hand, indicate the greatest consensus among public agency employees on each of these issues. Although these PCIs differed significantly with respect to community knowledge and a superior right to make decisions, respondents in all affiliation sub-categories were largely to strongly in agreement among themselves. PCIs were similarly situated between residents and vacation visitors regarding the superior right to decide \( (d = .20) \) and the importance of dialogue versus decisions made by outsiders \( (d = .17) \). Taken together these results begin to provide insights into the levels of agreement and consensus between and within the respondents regarding their ideas and interests in public involvement.

Although frequencies suggested that residents, public agency employees, and vacation visitors in the affiliation demographic believed inclusiveness in community decision-making processes was generally very important, PCIs indicated mixed to disparate opinions within these subcategories. Public agencies, for instance, were disparate \( (PCI = .70) \) about inviting the input of all community members when making bear management decisions. However, they were in agreement \( (PCI = .46) \) and more supportive of seeking ideas from all members in efforts to manage bears, presumably as long as this did not include making actual decisions. These preliminary results suggest that public agencies prefer to retain the locus of control on black bear management decisions rather than sharing it, and use a passive-receptive approach at best where interested community members take it upon themselves to contact the agencies about
their concerns, but are not in a situation to share in decisions or co-manage (Chase et al., 2002).

This research included attempts to learn about the community’s interest and preferences for participating in decision-making processes affecting black bears and their management. Its goal was to build on the work of earlier researchers who surveyed communities about participation in public processes. Chase et al. (2002) surveyed members of two communities prior to public involvement processes to gauge opinions about stakeholder involvement and preferences for personal involvement, and used this information to design stakeholder involvement strategies. Anthony et al. (2004) explored the influences of gender on the motivations of citizens to participate in wildlife-related management decisions, including preferred process characteristics, and criteria used to evaluate the success of the outcome (p. 396). This research, like Chase et al.’s public involvement study and Anthony et al.’s gender and citizen participation study, surveyed respondents about the conditions or settings they believed would be important to include in a collaborative problem-solving process. These survey inquiries, which supplement more detailed interviews, provide some preliminary insights into the study community’s views for designing a community process and their potential interest in participating. The degree of uncertainty in the importance of an impartial facilitator was especially surprising, and merits further investigation.

In addition to using the potential for conflict index as a visual tool to display results, this research also attempted to use PCI as a statistic, which according to its creators is a novel approach (J. J. Vaske, personal communication, 2012). PCIs and PCI
difference data produced through multiple calculations and comparisons was extensive (some three thousand calculations). Exploring ways to more effectively organize, consolidate, and compare the study’s data would probably improve its interpretation. Still, PCIs provided far more insights into the data than simple frequencies or even significance testing alone would have, with particularly good examples in the survey question related to final decisions about problem black bears. Surveywide responses suggested general consensus on this point, but evaluating PCIs and means across the various sociodemographic categories, especially affiliation, suggested otherwise. Examining differences between affiliation groups (residents, public agencies, vacation visitors) was used as a way to ascertain potential latent or emergent conflicts between these parties. Using PCI to gauge potential conflict between parties also appears to be a novel approach.

5.4 Synthesis of Interview Findings and Background Survey Results

5.4.1 Introduction

This research adopted a mixed methods approach to blend the strengths of approaches used in conflict analysis and resolution with methods used to study human–wildlife conflicts. These approaches were best suited to understand the continuum of intra-, interpersonal, and social dimensions that influenced the ideas research participants formed about black bears, and the roles these ideas played in the transition from an encounter with a black bear to a problem or conflict (Erzberger & Kelle, 2003). Emphasizing qualitative methods through semi-structured interviews and supplementing the interviews with survey research that included significance testing and evaluating the
potential for conflict between participants accomplished these goals. The partially mixed concurrent dominant status design (Leech & Onwuegbuzie, 2009) used in this research reflects the dominant use of qualitative ethnographic approaches in semi-structured interviews concurrently with a quantitative background survey and significance testing, each of which were conducted and analyzed separately. While numerous typologies or approaches for combining qualitative and quantitative methods (Leech & Onwuegbuzie, 2009) and data were possible (Sandelowski, 2000) the goals for this research were best accomplished with each qualitative and quantitative data set remaining analytically distinct, including as the data are linked here to make inferences in this final interpretation. For mixed methods approaches, Tashakkori and Teddlie (2003) distinguish between interpretations or inferences versus results, or the outcomes of the data collection and analysis. The inferences encompass the interpretations and expansions of the results produced through data reduction in the form of themes and numeric relationships stemming from analyses.

Together, the interview findings and survey results begin to provide some understanding about the range of ideas participants hold about black bears as well as the approaches they use when seeking to address situations that are beyond their capabilities. Five themes organize the interview findings and include 12 individual findings that reflect both the initial research questions as well as the research’s evolution to a broader community study. The themes represent (1) the breadth and stability of the ideas participants have about black bears, (2) the problems they have encountered living in a community with black bears, (3) the approaches and gaps in the processes they use to
address the problems, (4) the support systems that would help them address these problems more effectively, and ultimately, (5) the multiple communities that share the same space, but function separately within what is otherwise considered a uniform community (Halseth, 1993). The background survey data provided supplemental information about the respondents’ ideas about wildlife, black bears, and black bear management. It also provided some insights into the respondents’ ideas about community and their interests in public participation as well as the importance they attached to conditions for a community decision-making process. Analysis of the survey data identified two striking results—one related to a survey issue, the importance of an impartial facilitator, and the second to sociodemographic and gender characteristics of the respondents. Significance testing and potential for conflict analyses shed light on numerous other characteristics and potential areas of conflict about and between the respondents, especially differences between respondents based on their affiliations, the community land ethic they support, and the black bear management approaches and intervenors they prefer.

5.4.2 Integration of Findings and Results

With an emphasis on the qualitative semi-structured interviews in this research, this discussion links and compares the interview and survey data through four themes that emerged in the interviews. The background survey supplemented the interview findings in several ways. It provided additional information about participants’/respondents’ ideas about black bears and black bear management, and identified clear differences between male and female respondents in the study. Through information about participant-
respondent management preferences in problem black bear situations, the survey data focused the varied opinions expressed in interviews for interventions, and provided some hints about the sources of disagreements among participants. Survey data examining participant-respondent preferences in collaborative problem-solving processes produced several important results. On the importance of an impartial facilitator in such a process it identified a disparate community, and provided insights into participant-respondent preferences for a collaborative problem-solving process including how they differed based on gender and affiliation. Finally, survey data examining participant-respondent ideas about community and participating in community decisions reinforced the interview finding of partitioning or fracturing in the community. Full-time residents expressed the strongest opinions about connections with their community, while part-time residents expressed the strongest opinions about their primacy in community decisions as well as the desire for face-to-face dialogue. Details of these comparisons and connections are described through these four themes.

5.4.2.1 Ideas about Bears

Interview participants conveyed a rich array of ideas about wildlife and black bears and the ways they came to know these things. The interviews also provided some hints about the resiliency of these ideas. It was clear that ideas varied depending on a participant’s source of information. First responders and other participants with a lot of firsthand experience clearly formed different ideas about black bears (Siemer et al., 2009). To one first responder a black bear was like a “big dog.” To a resident, a black
bear was a “wild beast that can change at any time.” The disparity between these two vantage points illustrates one example of how differences might lead to larger problems.

Through the interview analyses, some consideration was given to the impacts of media (Palmer, 2010) on not only the ideas participants formed, but the malleability of those ideas in the hands of a filmmaker or producer motivated to entertain. While this research explored the ideas formed through film or television, including the ways those ideas might influence participants’ perceptions of wildlife as adults, other research suggests that substantiating the impacts of television viewing would require documenting the volume and content of programming focusing on danger, attacks, or other threats (Siemer et al., 2009).

Survey data, on the other hand, provided information on specific issues that concerned participants/respondents as a whole, and through numerous demographic constituencies. Most respondents (69%) disagreed that black bears were dangerous, while the remaining respondents either agreed (19%) or had no opinion (12%). Respondents were largely split in their views about animals and people having similar rights. Forty-seven percent agreed while 43% disagreed, and 9% had no opinion. Half of the respondents (51%) disagreed that hunting was cruel and inhumane to the animals while a third (33%) of respondents agreed, and the remaining 15% had no opinion. A little over half (52%) of the respondents disagreed on managing wildlife for human benefits while a third (33%) agreed, and the remaining respondents (13.6%) had no opinion. While the breadth of the survey issues related to ideas about black bears and wildlife is somewhat narrow, it provides an overall view that the respondents are
generally supportive of black bears (Kellert, 1994) and somewhat mixed about wildlife management. While they did not find black bears dangerous, there were of mixed opinions about wildlife management priorities. More respondents disagreed on managing wildlife for human benefit, for instance, while at the same time more respondents disagreed that hunting is cruel and inhumane to animals than agreed. These mixed opinions were also reflected in the split between respondents on the idea that animals and people should have similar rights. These results provide some insights into the varied opinions expressed in the interviews and suggest there are somewhat mixed wildlife values among the respondents. The influence of these wildlife values may help to explain the uncertainty in the occurrence of problem encounters versus peaceful coexistence with black bears in the community. Significant differences between men and women regarding animal rights, black bear danger, hunting, and human-centered wildlife management may also help to explain the variability seen in the interviews.

Numerous interview participants mentioned the issue of black bears in the community and the potential for encounters with children or grandchildren. Participants clearly had opinions about the two encountering each other. Some participants raised concerns about the safety of their grandchildren; others acknowledged and understood the fears some people have about bears, but were frustrated in attempting to address what they considered unfounded fears about “grandchildren being eaten by bears.” Survey responses indicated differences between respondents based on age for one wildlife management issue, which focused on whether humans should manage wildlife for human benefit. Significant differences occurred between two groups of respondents and those
aged 70+. All respondents disagreed to some extent, but respondents aged 70+ agreed, and were in fair agreement within this group (PCI = .29). Respondents aged 70+ also disagreed the least that black bears were dangerous even though there were no significant differences between respondents based on age. Respondents’ ideas about the perceived danger to children from black bears are contrary to recent research which found no effects of age on perceived danger (Campbell & Lancaster, 2010). Campbell and Lancaster, moreover, found that more people believed bears were not a danger to children than they were, but observed that more women than men expressed this concern and curiously found younger people more than older people found bears a danger to adults. The interviews suggest, and surveys support, the likelihood of older (70+) members of the community expressing concerns about black bear presence and the danger it presents to children or grandchildren. The research learned about these concerns through interviews and did not directly assess these aspects of ideas through the background survey. As a consequence, gauging the significance of these concerns would require further inquiry and analysis regarding the potential for conflicts versus a normal concern any parents or grandparents would have for their children.

5.4.2.2 Problems Arising in Black Bear Encounters

The interviews also provided a rich understanding of how participants conceived of problems with black bears and their tolerances for the problems. They demonstrated that there is great variability among the participants about what constitutes a problem with black bears (Forester, 2009). Problems ranged from the relaxed approaches participants took over time and the resultant conditions that developed, annoyance with
the growing frequency of incidents, environmental conditions such as drought and loss of
habitat, the damage that occurred in encounters, how readily or easily one can report and
seek assistance when a problem arises (including the multiple jurisdictions that aggrieved
parties must often navigate), and what processes are acceptable for addressing problem
situations. Interviews also brought to light the synergistic relationships that the
community has with black bears, whether acknowledged in their actions, or not.
Participants tolerated damaged property and bears that entered houses less when
reconciling the situation involved spending money. While some participants believed the
source of the problems was situated with the bears, others pointed to people and trash,
sometimes acknowledging the connection between people and trash.

The survey did not explore specific situations that respondents considered
problems, but it did query them about the acceptability of a number of interventions and
their agreement that the wildlife agency should be the final decision maker in problem
situations.

Over half (56%) of the respondents disagreed on destroying a black bear for
damaging property while the remaining third (33%) of the respondents agreed or had no
opinion (10%). Only women differed significantly from men when they disagreed, while
men agreed on this approach. More respondents (60%) agreed on destroying a black bear
for threatening a person with bodily harm than disagreed (30%), but once again women
had largely no opinion or disagreed ($M = .03$) while men clearly agreed on this approach
($M = 1.48$). Although respondents were not offered a range of encounter scenarios
between people and black bears, they displayed substantially less tolerance for troubles
compared to a Canadian community facing cougar interactions (Thornton & Quinn, 2009). In most instances respondents in the Canadian study preferred relocation or monitoring over killing. Killing was the preferred management action only when a person had been killed and there was a history of aggression, or it occurred in a neighborhood or on a trail with no other details. In a study examining wildlife values in western states, however, California residents were more tolerant of nuisance and safety threats and less inclined to support population-level management interventions compared to respondents in the 18 other states (Teel, Dayer, Manfredo, & Bright, 2005). They expressed less support than all other states but one for controlled hunts when bears had wandered into areas searching for food and human deaths from bear attacks had occurred. Although the study of the western states focused on population-level interventions versus an individual animal, respondents in the study area appear to express comparable tolerances for nuisance, threat, and safety issues as others in California (Teel et al.). Even though the survey results highlight the differences in respondent tolerances between damaged property and the threat of bodily harm, the interviews provided substantially more information about how participants responded in real situations where intrusion and escalating levels of damage had occurred.

Despite the fact that over three quarters of the respondents (77%) agreed that final decisions about problem black bears should rest with the wildlife management agency, significant differences occurred between residents and public agency employees (all-inclusive) on this approach. Strongly cohesive public agency employees agreed more than twice ($M = 2.17$) as much as residents ($M = .96$) on this point. And while men and
women both agreed on this point, men were much more cohesive and strongly supportive of this approach than women. These results begin to create some contours in respondent opinions and may help to explain interview findings that suggest the possibility for conflicts arising between participants about interventions.

5.4.2.3 Community Problem Solving

The interviews explored two broad dimensions of community problem solving. The first dimension, and the one most emphasized by participants, focused on the independent and assisted measures taken in the community to both prevent and intervene in problem black bear encounters. The second dimension focused on learning about the occurrence of, and participants’ attendance in, communitywide collaborative efforts that discuss black bears and problem encounters in their community.

The interviews provided insights into the scope and sentiments of the community about the measures they are willing to take independently to prevent problem black bear encounters, and the assistance they seek when a situation is beyond their capacity. While most participants expressed the need for self-sufficiency when it came to preventing and intervening in problem encounters, their sentiments sometimes varied over the dilemma of taking preventive measures, or not, and the success these efforts would secure.

Although interview participants emphasized more of their personal experiences with independent problem-solving approaches, discussions also included their awareness of and attendance in community gatherings focusing on black bears. Participants attended gatherings largely focused on information dissemination and collection in the forms of public information programs, hot lines, public hearings and community-
sponsored/homeowners association meetings (Pacione, 1988). In the absence of having attended a collaborative problem-solving community meeting, participants were asked about the people and topics they considered important to include if such a meeting occurred. Even though there seemed to be little experience with this problem-solving approach, in addition to identifying people and topics, a few participants readily offered conditions they believed would be important in a collaborative problem-solving setting. Residents expressed the need for a safe place where they could discuss concerns without fear of ridicule or recrimination. Participants also expressed the desire for structured dialogue when discussing polarized issues. Given the predominant focus on what a community gathering should include over how it ought to occur, the surveys provided valuable information that would have otherwise been absent from the findings.

The survey queried respondents about the importance of four possible conditions in a community decision-making process. They included the importance of (1) an impartial facilitator, (2) seeking ideas from all community members in efforts to manage bears, (3) inviting the input of all community members in bear management decisions, and (4) a successful process exploring all non-lethal approaches to manage bears.

Overall, the respondents found that exploring non-lethal approaches for a successful community process was most important (53%), followed by seeking ideas from all community members (48.7%), and management decisions inviting the input of all community members (45.4%). The least important condition of the four was the need for an impartial facilitator (30.3%). However, there was great dissensus within respondents not only surveywide (PCI = .74), but within and between respondents for several
sociodemographic categories. Females found three of the four conditions (1, 3, and 4) more important than males, and differed significantly with them on the importance of an impartial facilitator as in Anthony et al.’s research (2004). Females and males believed that seeking ideas from all parties in managing bears was equally important, however.

Significant differences also occurred between respondents based on age, with the youngest and oldest respondents believing an impartial facilitator was less important than all other respondents. Respondents also differed significantly based on residency, with vacation visitors believing an impartial facilitator was more important than all other respondents, especially part-time residents. Anthony et al. reported results for differences between men and women in conjunction with their age and education (2004, p. 404). Like Anthony et al.’s respondents in the low age category, this research found an impartial facilitator less important, but differed with the high age category respondents who believed an impartial facilitator was of greater import. These results seem somewhat counterintuitive in light of the schoolyard mediation and whole school conflict resolution programs to which the low age group was more likely to have been exposed. One explanation for these results may be the low number of participants in this age category compared to other respondent age categories. Future studies could benefit from exploring these differences further at both at the low and high ends of the age continuum.

This research appears to report the first instances of evaluating the importance of conditions for collaborative efforts based on residency and affiliation. Differences between respondents based on residency may be explained by their respective levels of engagement in the community. It is probably far easier for visitors to agree with the need
for an impartial facilitator because they have less at stake than a resident who may have experienced problems and/or damage. In these instances, decisions appear to stem more from the values of the vacation visitors than the pragmatic problems the residents seek to address. Some interview participants also clearly expressed their desire for an “insider partial,” or someone from within the community who is trusted and respected and who understands the situations with black bears personally (Wehr & Lederach, 1991). Chase (2002) and Chase et al.’s (2004) studies examined resident preferences for stakeholder involvement in problem wildlife management situations. These studies surveyed residents in two communities, but wildlife agencies did not appear to participate in the survey even though there were known differences among wildlife agency managers. Working directly with state wildlife agencies that were interested in learning about stakeholder involvement may explain this choice. This research, on the other hand, emphasized affiliation as a way to learn about differences between residents, public agencies, and seasonal visitors.

5.4.2.4 Communities

The interviews provided unintended insights into the differences among the 75 participants about what the study area meant to them and how that translated to a sense of community, or not. For some participants it was home; for others it was a home away from home.

The [second home] was our refuge. This is where we went to get away. No cell phones, basically, no computers. That is where we went for the weekend twice a month to relax and see friends. Driving into the Basin was a feeling of pressure lifting off your shoulders. That is the reason you buy the house up there.
While the interviews did not specifically explore what “community” meant to a participant, it was readily apparent that there was a sentiment of us and them, or those who were insiders versus outsiders (Wondolleck, Gray, & Bryan, 2003). These sentiments are common in communities facing change, particularly when the community is transitioning largely from a small rural setting to an urbanizing vacation resort. While the study area has seen a steady transition over a long period (Murphy, 2000; Strong, 1999), it is no less troubling to the long-time residents of the community. Through the interviews, participant observation, and time spent in the study area it became apparent that multiple communities shared the same space, but did not necessarily interact as an integrated whole. The presence and development of problem black bear situations rattled the boundaries between long-time and year-round residents and part-time residents and seasonal visitors because it required them to work together to address the situations. Working together was also exacerbated by the characterizations directed toward the “others” who were considered the source of the problems (Wondolleck et al., 2003). A bumper sticker seen in a West Shore community captured this division and sentiment as it declared, “It’s tourist season. Can we shoot them?”

The surveys attempted to measure the respondents’ ideas about community and community participation through four questions. These questions focused on their agreement with (1) the scope of a community land ethic, and their (2) comparative knowledge about their community, (3) primacy in making decisions affecting their community, and (4) beliefs that face-to-face dialogue is inclusive in a way that decisions made by outsiders cannot be. Respondents’ beliefs about the scope of a community land
ethic produced the strongest responses (45% strongly agreed), and significant differences were evident between them based on gender and affiliation. Women agreed more strongly than men, and residents agreed more strongly than both public agency employees and vacation visitors/campers. For the remaining questions respondents agreed most on the inclusiveness of face-to-face dialogue over decisions made by outsiders, followed by their primacy in making decisions that affect their community, and knowledge of their community over researchers studying their community (Weible, 2007). These results suggested an interest in face-to-face dialogue and participation in decisions affecting their community. Men tended to agree more than women on these issues as did residents (combined), respondents in their 50s, and those with some college. Part-time residents agreed more than full-time residents on their primacy and face-to-face dialogue while full-time residents agreed more on knowledge about their community.

It was hoped that through these questions, it might be possible to learn more about the potential for engaging the community in participatory processes. While the survey suggests some interest, it seems somewhat fractured among the parties. It is unclear if these results stem from real (but not statistically significant) differences between the parties, or if the questions themselves created some confusion through the use of the words “your community.” Respondents were most clear, however, in their opinions about a community land ethic. Residents (full- and part-time), especially, agreed with the idea that a land ethic encompasses both people and natural resources in an interdependent community.
While the survey results provided some glimpses into the community’s interest and capacity for participatory processes, they also identified areas that would benefit from further investigation and development. The results suggested the need to investigate community interest in participatory processes further. They also appeared to support the interview findings that suggested the need to familiarize community members with participatory and collaborative decision-making processes. Moreover, the fractured state of the community also suggests the need for community-building projects.

Community- or capacity-building projects can create a more receptive environment for cooperation and collaboration through the familiarity and trust built among participants. One organization’s work came to light through time spent in the study area. The Truckee River Watershed Council provides learning and volunteer opportunities for community members through two projects: the Adopt a Stream Aquatic Monitoring Lab, and its Weed Warriors who detect, contain, and remove non-native invasive weeds in the watershed. The BEAR League as a community advocate for peaceful co-existence with bears also encourages participation and trains volunteers to assist fellow community members in need of assistance. An interview participant suggested the idea of restoring native habitat for black bears as a way to create opportunities for building community through these efforts. Yet another participant described the community of golf course managers around the Lake that meets regularly. They suggested broadening the group to include other land managers such as ski resort managers and park rangers as a way to share resources and ideas and build lines of communication. It is clear that there are many interested, resourceful people in the
community, but mechanisms to connect them are needed. A more comprehensive review of these possibilities follows in the conclusions and recommendations.
6. CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

This research focused on learning more about human–black bear encounters that become problems or conflicts. It examined the ideas the research participants form about black bears as well as explored any roles these ideas might have in the decisions they make when an encounter becomes a problem. Five themes emerged and organized the 12 findings stemming from semi-structured interviews. Analyses of a supplemental background survey identified significant differences between respondents based on their gender, and significant differences and highly mixed opinions between respondents on the importance of an impartial facilitator. Other significant differences were found between residents and public agencies about wildlife agencies making final management decisions about problem black bears, and between men and women, and residents and public agencies and residents and vacation visitors on the strength of their commitment to a land ethic for their community.

This research also found at least three distinct communities sharing the same geographic space, but functioning separately until a problem bear encounter occurs. Full-time or year-round residents, part-time or seasonal residents, and short-term vacation visitors and campers compose these three groups. Year-round residents appear to form a fairly strong community within themselves. Part-time and seasonal residents
communicate among themselves, and in part through facilitated caretakers. Vacation visitors and campers may be short- or long-time visitors, but their connections with the residential communities seem limited, at best. Bears act as catalysts for creating bridges between the communities when problem encounters arise. Otherwise, these three groups occupying the study area appear to function mostly separately and within their distinct communities.

The community as a whole cannot respond coherently because of the fractures between these separate communities, which are exacerbated by multiple, unclear, institutional means for response. When a problem encounter occurs, it is unclear where to turn for help. The bears expose the vulnerabilities created by the fractures, and simultaneously point to an opportunity for the community to seek ways that will build connections for working together more constructively as it addresses problem situations.

Four of the five themes organizing the findings of the research begin to map the social, psychological, and political dimensions of how problem black bear encounters arise in the community and offer some insights into the recurring paths they take. The first of the four themes emphasizes the findings from exploring the intrapersonal dimensions of ideas about black bears and encounters with them. The next three themes illustrate symptoms of the fractures, and/or ways in which the fractures manifest in social and institutional relationships. Together these themes culminate in the fifth set of findings focusing on community. These findings encompass both human and natural resource dimensions, and conclude that the divisions in the community keep it from
addressing the roots of problem encounters from both social and natural resource perspectives.

Three themes, in particular exemplify the fractures. The first theme organizes findings related to the problems arising in the black bear encounters. These included three aspects: (1) the widely varying ways in which participants perceived of the problems as well as how to address them, (2) the multiple jurisdictions that participants must navigate when a problem encounter arises, and (3) the synergistic relationships between community activities and black bears. A second theme organized the ways that the community has been addressing problem encounters. These findings included discussions of: (1) the independent direct deterrents and informal community and formal networks of escalating agency interventions, (2) the weaknesses in efforts to prevent and address problem encounters, and (3) the apparent absence of and attendance in communitywide collaborative problem-solving gatherings to address these situations. The third theme called attention to the community’s need for support systems, including: (1) the desire for a more broadly trusted, impartial contact, or intervenor, (2) the need for empathy for both those who suffer break-ins as well as the responders who are looking out for the bears, and (3) a constructive environment to address conflicts between people about black bears and interventions.

6.2 Conclusions

6.2.1 Ideas about Bears

This research explored the variety of ways community members formed their ideas about black bears. Implicit in this exploration was a question of whether the ideas
and how they were formed played a role in the development and escalation of human–
black bear conflicts. I believe that the way participants formed an idea does indeed
matter, and it appears to matter more than what the idea is. The sources of the ideas
appear to carry different weights. Someone who formed an idea based on information
learned from a trusted family member was more likely to retain that idea over time, but
someone who formed ideas from television and film media seemed to assign different
levels of importance to it. Documentaries, however, appeared to leave participants with
more lasting impressions and ideas than did TV programs.

When ideas stemmed from these trusted sources such as a family member, a
college professor, or an inspiring documentary, they seemed fairly resistant to change.
Only one situation seemed to have the capacity to change ideas once formed: experience.
Experience with black bears was transformational. It replaced ideas formed through
popular culture, and it changed the nature of the conflicts that arise in encounters. The
challenge, of course, is how to create or support opportunities to view black bears in
ways that minimize impacts on bears while enabling people to observe and experience
them in a natural setting. Developed bear viewing in a ski area provides one example of
a possibility (Needham et al., 2004).

6.2.2 Problems Arising in Human–Black Bear Encounters

The widely varying expressions of how problems arise in black bear encounters,
coupled with a complicated institutional structure, and an evolving synergistic
relationship with black bears, illustrates how the community is unable to accurately
assess or comprehend the scope and extent of the encounters, much less address them as a
community. Without a more comprehensive review and accounting of, or substantiation of “the problem,” situations are likely to continue under the status quo. Some community members will not experience problems; those who do will continue to face a range of alternatives for addressing them, which may or may not be acceptable or helpful to them, and the sources of problems will remain unexplored and unaddressed.

A fractured community and complex institutional environment of multiple states, counties, and local jurisdictions complicates assessing the full extent of human–black bear encounters that become problems. Yet it is also quite possible that not knowing the full extent of the situation has spared decision makers from intervening with more than a stopgap response. At some level the community is abandoned to those who are obligated to respond because it is their job, and the remaining burden is carried by those in the community who seek to promote peaceful co-existence with the bears. On the other hand, community and agency responders may already be operating at their capacities and are therefore unable to expand their efforts beyond simple aversion.

A further complication arises in the synergistic relationships that encounters create between people and bears, especially because the awareness of these relationships is only partially recognized by community members. Agency efforts to interrupt these relationships with non-lethal approaches or depredations are minimized without commensurate efforts on the part of the community.

6.2.3 Community Problem Solving

The community’s strategies for addressing problem encounters with black bears lack an evaluative dimension. As a consequence, feedback is not available on the
effectiveness of the approaches used to prevent and deter problem situations, nor on the relationships of these measures to each other. An evaluation could provide important information about the approaches that are working well, and those approaches that could work better through improvements. The community presently relies on educational outreach, community members’ use of preventive direct deterrents, and informal community and formal agency interventions to address problem situations. Previous studies evaluating similar dimensions of the community’s response program may provide helpful insights, but directly knowing the effectiveness of the measures they implement could mean the difference between the status quo and an improved situation. A Tahoe Basin study evaluating deterrence and interventions found these methods of limited value for longer than one month, and recommended the use of aggressive public education and enforcement of laws and ordinances to stem the occurrence of nuisance bear encounters (Beckmann et al., 2004).

Studies evaluating interpretive and educational programs support the importance of feedback. One study evaluating a neighborhood bear watch program that included educational materials (posters, pamphlets, and articles), for instance, found no evidence of changes in behavior following its implementation (Gore, Knuth, Scherer, & Curtis, 2008). Another study conducted in Yosemite National Park measured how well visitors recall interpretive information about black bear conflicts there. Although target populations confirmed hearing and learning from the messages, they did not respond with the same rates of compliance to reduce encounters (Lackey & Ham, 2003). Yet another study in a mountain resort found that only proactive enforcement (i.e., issuing warning
notices) was effective in changing people’s behavior to reduce bear attractants compared to other management tools evaluated (education, daily patrols) (Baruch-Mordo, Breck, Wilson, & Broderick, 2011). These studies and the results of this research suggested other factors are at work, providing an added incentive to learn more about the relationships between educational outreach and other measures, and their success.

6.2.4 Community Support Systems

The lack of a constructive outlet or support system in the community to help its residents cope with problem black bear encounters increases the potential for overt conflicts to emerge. Evidence of these possibilities was observed in the conflicts that arose around a community member’s choice to seek a depredation permit for problems he or she had encountered. Community mediation programs, or a trusted impartial contact or intervenor, could provide that outlet. A support system that fosters constructive communication, encourages empathy through role reversals, and provides parties with ways to discuss differences can help to release tension as well as promote opportunities for increased understanding among the community’s residents.

Potential support systems could include community mediation and partnerships with local universities. Community mediation programs provide a way for members to meet and work through a variety of disputes, including interpersonal ones. These resources exist outside of the community in two county seats, which may account for the community and its residents not knowing about them. They may provide the type of constructive outlet that some community members seek. Area universities offer another possibility for providing an impartial contact or intervenor.
6.2.5 Community

The community as a whole cannot respond coherently to the problems that arise in black bear encounters because it is divided institutionally and through the separate communities of residents that share the land, but do not necessarily interact. Bears are catalysts for revealing these divisions in the community. The fractured community has three separate sub-communities which function largely within themselves until an encounter with a bear becomes problem. Because of the fractures, it is unclear where to turn for help. The bears as catalysts reveal the vulnerabilities in the social, political, and ecological relationships that would enable the community to withstand the stressors of a problem encounter. Recognizing these vulnerabilities can provide the community with opportunities for seeking ways to build connections between the individual sub-communities so that they can work together more constructively to solve problems.

These fractures between the sub-communities may also contribute to conflicts arising about who gets to speak for the bears in problem encounters.

Fractures in the greater community also keep conflicts between people about problem black bears in a latent to emergent state. That is, conflicts are unlikely to attain a ripeness that would call the whole community to action. Precipitating events such as multiple break-ins in the same location over a short period of time, or a black bear shot in the community, will continue to signal the inability of a fractured community to address anything more than the event at hand. The inability to develop a long-term solution means these individual precipitating events will continue to be addressed as they occur because they never reach the level of a communitywide dispute.
Should the Tahoe area be faced with addressing a community-level issue (e.g., hosting another Olympics), the black bear problems would roar to the surface, most likely around a catalyzing incident. Unless the community as a whole (i.e., all residents and visitors together) finds ways to address black bear problems, the status quo will remain, and the community will continue to address them without much hope for reducing the number of problem encounters or the nature of the conflicts between people about them. Since the local bear advocacy group is the only organization fully dedicated to addressing these issues, they will continue to “bear” the brunt for the decisions they make individually because the community as a whole is not behind them.

6.3 Recommendations

6.3.1 Problems Arising in Human–Black Bear Encounters

6.3.1.1 Assessing the Scope and Extent of Problem Encounters

At no time during the research was it possible to identify a comprehensive accounting of the number and type of problem black bear encounters occurring in the study area. Each jurisdiction and community had different ways of collecting this information, and community information gathered through the research was largely anecdotal. As a consequence the scope and extent of problem encounters was never fully known. Many residents were keenly interested in accessing this information. An impartial clearinghouse to report and collect this information would be helpful because the inability of community members to know the true nature of the types of encounters that were occurring led to anxiety, rumors, and general uneasiness. An organization that does not have direct jurisdiction over wildlife (but has an interest), such as an
environmental management organization, might serve the role of central repository. In
the absence of a central repository, great strides could be made if data were at least
collected in a similar manner or using a uniform form.

The literature review and research identified two systems used to document
incidents. Yosemite National Park provides one model. It tracks incident locations in
three different ways, the incident type, the corrective action taken, whether food was
present, why food was left out, whether food was obtained, the amount of food obtained,
property damage, and detailed information on the bear, including any distinguishing tags
or features ("Bear Incident Form," 2008). A second system developed and standardized
data collection on human–bear interactions for Alaska’s national parks (Wilder,
DeBruyn, Smith, & Southwould, 2007). It distinguishes three types of bear data
including sightings, bear–human interactions, and natural history data. Human–bear
interactions were further described as encounters, incidents, or legal harvests. Encounters
were defined and distinguished from sightings as a mutual awareness between people and
bears having occurred. The database created to manage the data also included a spatial
feature in a geographic information system and the ability to query up to 40 fields. The
benefit of a system that includes a spatial feature means it is possible to observe densities
and frequencies of activities by location. These features in turn can help evaluate the
effectiveness of bear management strategies, highlight the need for modifications, and
promote greater safety for both people and bears.

Efforts to prevent and address problem encounters should embrace the idea of
synergy in its approaches. Numerous accounts of black bear adaptability to deterrents
that require further adaptations in the community suggest the need to acknowledge synergy in approaches. Efforts to change black bear behavior should be matched by in-kind efforts to change human behavior. Proactive warnings, for instance, were found most effective in changing people’s habits around attractants.

6.3.2 Community Problem Solving

Study area year-round and seasonal residents could benefit from exploring ways to build connections between their communities. Survey data suggested that full-time and part-time residents equally agreed on the scope of a community land ethic, for instance. Differences in how they achieve that vision were evident in both survey data and interviews, but the motivations for those endpoints have not been communicated or shared. Forums to facilitate that communication may help to create some understanding across these communities. Community-building projects and efforts are the most likely first steps for creating the familiarity that could lead to wider forums.

The community would also benefit from identifying leadership and organization(s) that could partner with university researchers who have conducted evaluations of efforts to prevent problem encounters and deter bears. One study in the community that evaluated the use of aversive conditioning (with and without dogs) might provide a stepping stone to evaluations focusing on the effectiveness of education programs.
6.3.3 Community Support Systems

6.3.3.1 Impartial Contacts and Resources

Community mediation may provide an outlet for addressing conflicts arising between people about black bears and interventions. Services are available to residents through two county centers. Both are located in the county seats for two of the four counties surrounding the Lake. One service is available to county residents at no charge; the second center provides services on a sliding scale. Creating an awareness of these resources among residents would be a good start. County environmental agencies as organizations that monitor and track infractions of ordinances related to securing trash and preventing access to black bears would be a likely repository for this information. Law enforcement agencies (who already work with community mediation centers in one county) responding to problem black bear encounters might provide this information just as they provide informational pamphlets about black bears.

Forging partnerships with university researchers already working in the Tahoe Basin may provide a second support system in the form of an impartial contact or intervenor. The Tahoe Environmental Research Center (TERC) is one possibility. Established in 2004, and building on more than 40 years of previous research in the area, TERC emphasizes research, education, and public outreach on the Lake and its watersheds and airsheds (Tahoe Environmental Research Center, n.d.). A second, and perhaps more promising, possibility may exist through a partnership with the Lake Tahoe Policy Research Project, which is part of the Center for Environmental Policy and Behavior, and like TERC is also located at UC Davis. Although both of these projects
focus on water quality and the Lake, they include components affiliated with its watershed and the human perceptions and causes of impacts to the Lake.

**6.3.3.2 Tools for Reflection**

Descriptions of the circumstances surrounding break-ins suggested that moments for private reflection could help prevent such circumstances. Developing “tools for reflection” that would be geared toward prevention could provide private opportunities for parties to critically assess their vulnerabilities with respect to bear break-ins. This sort of reflection is unlikely to occur publicly, and may be even more difficult following a break-in. One participant suggested developing a card akin to a poison control card that would collect agency contacts and telephone numbers. One side of this card could include the reflective tools. They might encourage reflection about attractants outside such as bird feeders, barbecues, and pet foods as well as attractants in the vicinity of windows and doors inside a dwelling. Experience gained by the local bear advocacy organization and environmental health agencies could inform and sharpen the kinds of information that the reflection tools should encompass.

**6.3.4 Community Building**

Numerous ideas surfaced through conversations with interview participants for activities that would not only address problem attractants, but also encourage team-building among community members. Participants expressed an interest in habitat restoration teams that focus on restoring black bear habitat and roving citizen volunteers functioning as “trash check teams.” Volunteer teams in national parks have helped to identify and monitor the presence of invasive weeds using GPS units. Teams working in
concert with environmental health organizations might help in the same way by collecting information on unsecured trash or attractants created from unsecured trash. Coupling these statistics with information on break-ins or other problem encounters could potentially identify patterns and target locations for increased education.

6.3.5 Other Recommendations

6.3.5.1 Agency Recommendations

In times of drought, agencies and communities can benefit from anticipating and preparing for increased black bear activity. Based on the experiences of parties in the study area during 2007 (Bryant & Stringham, 2011), studies examining the effects of El Nino (Zack, Milne, & Dunn, 2003) and the use of diversionary feeding (Priestley, 2009; Rogers, 2011), it appears that problematic encounters could be minimized, if not mitigated. Managers may want to consider contingency planning and supplemental/diversionary feeding. Diversionary feeding in times of low natural food supplies appears to address shortages without adverse impacts to bears.

Research has also shown that state and local ordinances that address feeding bears/wildlife and enforcing infractions by issuing warnings helps to break the chain of intentional/unintentional feeding of wildlife (Baruch-Mordo et al., 2011). While some communities in the study area already issue warnings either formally through local organizations or informally through citizen action volunteers, follow up and enforcement of these actions are essential (Spencer et al., 2007).

Finally, interviews revealed that local agencies have developed and use a variety of approaches to address bear situations in their immediate communities, but counterparts
on other parts of the Lake are unaware of these measures. One example illustrates the need for better communication and collaboration. While one organization subsidizes and puts bear-resistant rolling carts into use immediately following a trash–wildlife violation, another organization struggles to find an affordable container for residents in its county—unaware of its counterpart’s efforts. Developing a way for organizations around the Lake to share ideas and resources could go a long way toward building community and enhancing efforts to prevent problem situations with black bears.
APPENDIX 1. SOCIODEMOGRAPHIC DATA

Figure 1.1: Age by Decade

Figure 1.1: Age by Decade
Figure 1.2: Highest Level of Education
Figure 1.3: Childhood Community
## APPENDIX 2. SIGNIFICANCE TESTING RESULTS

### Gender

Table 2.1: Gender and Opinions about Wildlife and Black Bears—Mann-Whitney U Results

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Male Mean</th>
<th>SD</th>
<th>N</th>
<th>Female Mean</th>
<th>SD</th>
<th>Z</th>
<th>df</th>
<th>Asymp Sig. 2-tail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Final decisions about how to deal with a black bear that has become a problem should rest with the wildlife management agency.</td>
<td>57</td>
<td>1.737</td>
<td>1.642</td>
<td>61</td>
<td>1.33</td>
<td>2.039</td>
<td>-0.659</td>
<td>0.510</td>
<td></td>
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</tbody>
</table>
Table 2.2: Gender and Community and Community Decisions—Independent Samples t-test Results

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Male Mean</th>
<th>SD</th>
<th>N</th>
<th>Female Mean</th>
<th>SD</th>
<th>t-value</th>
<th>df</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>As a resident of your community you:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>know your community far better than scientists who gather data in the field for a season or two and return home.</td>
<td>56</td>
<td>0.75</td>
<td>1.47</td>
<td>62</td>
<td>0.58</td>
<td>1.70</td>
<td>0.58</td>
<td>116</td>
<td>0.57</td>
</tr>
<tr>
<td>have a superior right to make decisions because you will bear the heaviest consequences of those decisions.</td>
<td>55</td>
<td>0.73</td>
<td>1.55</td>
<td>62</td>
<td>0.58</td>
<td>1.84</td>
<td>0.46</td>
<td>115</td>
<td>0.64</td>
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<tr>
<td>believe face-to-face dialogue about options and consequences is democratic in a way that decisions made by outsiders can never be.</td>
<td>56</td>
<td>1.32</td>
<td>1.38</td>
<td>61</td>
<td>1.38</td>
<td>1.38</td>
<td>-0.22</td>
<td>115</td>
<td>0.83</td>
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</table>

Table 2.3: Gender and Community Decision-Making Processes and Important Conditions—Mann-Whitney U Results

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<thead>
<tr>
<th></th>
<th>N</th>
<th>Male Mean</th>
<th>SD</th>
<th>N</th>
<th>Female Mean</th>
<th>SD</th>
<th>Z</th>
<th>df</th>
<th>Asymp. Sig. 2-tailed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Efforts to manage bears should seek ideas from all parties in the community.</td>
<td>56</td>
<td>4.21</td>
<td>0.909</td>
<td>60</td>
<td>4.23</td>
<td>1.079</td>
<td>-0.573</td>
<td>0.567</td>
<td></td>
</tr>
<tr>
<td>Bear management decisions should invite the input of all community members.</td>
<td>56</td>
<td>3.839</td>
<td>1.218</td>
<td>60</td>
<td>4.167</td>
<td>1.167</td>
<td>-1.729</td>
<td>0.084</td>
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</tr>
<tr>
<td>A successful community process explores all non-lethal approaches to manage bears.</td>
<td>55</td>
<td>4.055</td>
<td>1.079</td>
<td>62</td>
<td>4.258</td>
<td>1.144</td>
<td>-1.435</td>
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### Table 2.4: Age and One-Way ANOVA Results

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<th>Variable</th>
<th>Age</th>
<th>N</th>
<th>Mean</th>
<th>SD (±)</th>
<th>F Value</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Animals should have rights similar to the rights of humans</td>
<td>20 &amp; 30s</td>
<td>14</td>
<td>-1.14</td>
<td>1.791</td>
<td>1.699</td>
<td>0.156</td>
</tr>
<tr>
<td></td>
<td>40s</td>
<td>30</td>
<td>0.53</td>
<td>2.224</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>50s</td>
<td>32</td>
<td>0.31</td>
<td>2.191</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>60s</td>
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<td>0.57</td>
<td>2.087</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>70+</td>
<td>15</td>
<td>0.07</td>
<td>2.463</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hunting is cruel and inhumane to the animals</td>
<td>20 &amp; 30s</td>
<td>13</td>
<td>-1.77</td>
<td>1.363</td>
<td>1.715</td>
<td>0.152</td>
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<tr>
<td></td>
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<td>2.28</td>
<td></td>
<td></td>
</tr>
<tr>
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<td>50s</td>
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<td>2.227</td>
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</tr>
<tr>
<td></td>
<td>60s</td>
<td>20</td>
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<td>2.328</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>70+</td>
<td>16</td>
<td>-0.06</td>
<td>2.205</td>
<td></td>
<td></td>
</tr>
<tr>
<td>It is acceptable to destroy a black bear that has threatened a person with bodily harm.</td>
<td>20 &amp; 30s</td>
<td>14</td>
<td>1.29</td>
<td>1.816</td>
<td>0.696</td>
<td>0.596</td>
</tr>
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<td>29</td>
<td>0.31</td>
<td>2.466</td>
<td></td>
<td></td>
</tr>
<tr>
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<td>50s</td>
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<td>0.72</td>
<td>2.083</td>
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<td>60s</td>
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<td>1.15</td>
<td>2.059</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>70+</td>
<td>16</td>
<td>0.56</td>
<td>2.337</td>
<td></td>
<td></td>
</tr>
<tr>
<td>It is acceptable to destroy a black bear that has damaged property.</td>
<td>20 &amp; 30s</td>
<td>14</td>
<td>-0.36</td>
<td>2.098</td>
<td>0.306</td>
<td>0.873</td>
</tr>
<tr>
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<td>40s</td>
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<td>2.144</td>
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<td>2.416</td>
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<td>60s</td>
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<td>-0.43</td>
<td>2.087</td>
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</tr>
<tr>
<td></td>
<td>70+</td>
<td>16</td>
<td>-0.25</td>
<td>2.113</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black bears are dangerous to humans.</td>
<td>20 &amp; 30s</td>
<td>14</td>
<td>-1.50</td>
<td>1.557</td>
<td>0.498</td>
<td>0.737</td>
</tr>
<tr>
<td></td>
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<td>1.832</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>50s</td>
<td>32</td>
<td>-1.28</td>
<td>2.052</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>60s</td>
<td>21</td>
<td>-1.00</td>
<td>1.897</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>70+</td>
<td>16</td>
<td>-0.63</td>
<td>2.125</td>
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<td></td>
</tr>
</tbody>
</table>

#### Community and Community Decisions

<table>
<thead>
<tr>
<th>As a resident of your community you:</th>
<th>Age</th>
<th>N</th>
<th>Mean</th>
<th>SD (±)</th>
<th>F Value</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>know your community far better than scientists who gather data in the field for a season or two and return home.</td>
<td>20 &amp; 30s</td>
<td>14</td>
<td>0.36</td>
<td>1.216</td>
<td>0.556</td>
<td>0.695</td>
</tr>
<tr>
<td></td>
<td>40s</td>
<td>30</td>
<td>0.73</td>
<td>1.574</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>50s</td>
<td>31</td>
<td>1.00</td>
<td>1.528</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>60s</td>
<td>21</td>
<td>0.48</td>
<td>1.632</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>70+</td>
<td>16</td>
<td>0.63</td>
<td>1.928</td>
<td></td>
<td></td>
</tr>
<tr>
<td>have a superior right to make decisions because you will bear the heaviest consequences of those decisions.</td>
<td>20 &amp; 30s</td>
<td>14</td>
<td>0.00</td>
<td>1.569</td>
<td>0.921</td>
<td>0.455</td>
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<td>1.455</td>
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<td></td>
<td>50s</td>
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<td>0.97</td>
<td>1.516</td>
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<tr>
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<td>60s</td>
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<td>0.57</td>
<td>1.805</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>70+</td>
<td>15</td>
<td>0.93</td>
<td>2.344</td>
<td></td>
<td></td>
</tr>
<tr>
<td>believe face-to-face dialogue about options and consequences is democratic in a way that decisions made by outsiders can never be.</td>
<td>20 &amp; 30s</td>
<td>14</td>
<td>1.07</td>
<td>1.328</td>
<td>0.883</td>
<td>0.477</td>
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<td></td>
<td>40s</td>
<td>30</td>
<td>1.33</td>
<td>1.446</td>
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</tr>
<tr>
<td></td>
<td>50s</td>
<td>31</td>
<td>1.58</td>
<td>1.089</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>60s</td>
<td>21</td>
<td>1.05</td>
<td>1.532</td>
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</tr>
<tr>
<td></td>
<td>70+</td>
<td>16</td>
<td>1.69</td>
<td>1.401</td>
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</tr>
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</table>
Table 2.5: Age and Kruskal-Wallis ANOVA Results

<table>
<thead>
<tr>
<th>Variable</th>
<th>Age</th>
<th>N</th>
<th>Mean</th>
<th>SD (±)</th>
<th>K-W Chi²</th>
<th>Asymp. Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Final decisions about how to deal with a black bear that has become a problem should rest with the wildlife management agency.</td>
<td>20 &amp; 30s</td>
<td>14</td>
<td>1.571</td>
<td>1.697</td>
<td>0.081</td>
<td>0.999</td>
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<td></td>
<td>40s</td>
<td>30</td>
<td>1.600</td>
<td>1.850</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>50s</td>
<td>32</td>
<td>1.344</td>
<td>2.194</td>
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</tr>
<tr>
<td></td>
<td>60s</td>
<td>21</td>
<td>1.524</td>
<td>1.834</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>70 +</td>
<td>16</td>
<td>1.625</td>
<td>1.708</td>
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</tbody>
</table>

Community Land Ethic

<table>
<thead>
<tr>
<th>Variable</th>
<th>Age</th>
<th>N</th>
<th>Mean</th>
<th>SD (±)</th>
<th>K-W Chi²</th>
<th>Asymp. Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>“[T]he individual is a member of a community of interdependent parts. The land ethic simply enlarges the boundaries of the community to include soils, waters, plants, and animals, or collectively, the land.”</td>
<td>20 &amp; 30s</td>
<td>13</td>
<td>1.538</td>
<td>1.330</td>
<td>5.858</td>
<td>0.210</td>
</tr>
<tr>
<td></td>
<td>40s</td>
<td>28</td>
<td>1.429</td>
<td>1.752</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>50s</td>
<td>31</td>
<td>1.871</td>
<td>1.360</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>60s</td>
<td>20</td>
<td>2.250</td>
<td>1.410</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>70 +</td>
<td>15</td>
<td>1.533</td>
<td>1.767</td>
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</tbody>
</table>

Table 2.6: Age and Kruskal-Wallis ANOVA Results—Community Decision-Making Processes and Important Conditions

<table>
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<th>Age</th>
<th>N</th>
<th>Mean</th>
<th>SD (±)</th>
<th>K-W Chi²</th>
<th>Asymp. Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Efforts to manage bears should seek ideas from all parties in the community.</td>
<td>20 &amp; 30s</td>
<td>13</td>
<td>3.538</td>
<td>1.330</td>
<td>7.322</td>
<td>0.120</td>
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<tr>
<td></td>
<td>40s</td>
<td>30</td>
<td>4.467</td>
<td>0.860</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>50s</td>
<td>31</td>
<td>4.161</td>
<td>1.036</td>
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<tr>
<td></td>
<td>60s</td>
<td>20</td>
<td>4.300</td>
<td>0.571</td>
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</tr>
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<td></td>
<td>70 +</td>
<td>16</td>
<td>4.312</td>
<td>1.078</td>
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<tr>
<td>Bear management decisions should invite the input of all community members.</td>
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<td>16</td>
<td>4.188</td>
<td>1.167</td>
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<tr>
<td>A successful community process explores all non-lethal approaches to manage bears.</td>
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<td>14</td>
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<td>1.139</td>
<td>7.204</td>
<td>0.126</td>
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<td>30</td>
<td>4.467</td>
<td>0.937</td>
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</tr>
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<td>50s</td>
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<td>4.194</td>
<td>1.138</td>
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<tr>
<td></td>
<td>60s</td>
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<td>3.905</td>
<td>1.338</td>
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<td></td>
</tr>
<tr>
<td></td>
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<td>16</td>
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<td>1.063</td>
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334
### Table 2.7: Residency and One Way ANOVAs Results

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<th>Variable</th>
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<th>N</th>
<th>Mean</th>
<th>SD (±)</th>
<th>F    Value</th>
<th>P Value</th>
</tr>
</thead>
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<tr>
<td>Humans should manage wildlife populations so that humans benefit</td>
<td>Full-time</td>
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<td>-0.70</td>
<td>1.916</td>
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<td></td>
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<td>1.888</td>
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<td></td>
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<td></td>
<td>Vacation Visitor</td>
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<td>-0.59</td>
<td>1.845</td>
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<tr>
<td></td>
<td>Seasonal Worker</td>
<td>8</td>
<td>-0.50</td>
<td>2.138</td>
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</tr>
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<td>Animals should have rights similar to the rights of humans</td>
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<td>55</td>
<td>0.33</td>
<td>2.169</td>
<td>0.228</td>
<td>0.876</td>
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<td>8</td>
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<td>Hunting is cruel and inhumane to the animals</td>
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<td>Black bears are dangerous to humans.</td>
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</table>

### Community and Community Decisions

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<tr>
<th>As a resident of your community you:</th>
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<th>1.465</th>
<th>0.439</th>
<th>0.726</th>
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<tr>
<td>know your community far better than scientists who gather data in the field for a season or two and return home.</td>
<td>Part-time</td>
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<td>0.48</td>
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<td>1.604</td>
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<tr>
<td>have a superior right to make decisions because you will bear the heaviest consequences of those decisions.</td>
<td>Full-time</td>
<td>56</td>
<td>0.64</td>
<td>1.531</td>
<td>0.331</td>
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<tr>
<td>believe face-to-face dialogue about options and consequences is democratic in a way that decisions made by outsiders can never be.</td>
<td>Full-time</td>
<td>56</td>
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<td>1.959</td>
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</tbody>
</table>
Table 2.8: Residency and Oneway ANOVA Results—Community Decision-Making Processes and Important Conditions

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<tr>
<th>Variable</th>
<th>Residency Status</th>
<th>N</th>
<th>Mean</th>
<th>SD (±)</th>
<th>F Value</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>An impartial facilitator should lead the community process.</td>
<td>Full-time</td>
<td>55</td>
<td>3.60</td>
<td>1.241</td>
<td>3.184</td>
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<td></td>
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Table 2.9: Residency and Kruskal-Wallis ANOVA Results

<table>
<thead>
<tr>
<th>Variable</th>
<th>Affiliation</th>
<th>N</th>
<th>Mean</th>
<th>SD (±)</th>
<th>K-W Chi²</th>
<th>Asymp. Sig.</th>
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</thead>
<tbody>
<tr>
<td>Final decisions about how to deal with a black bear that has become a problem should rest with the wildlife management agency.</td>
<td>Full-time</td>
<td>56</td>
<td>1.375</td>
<td>2.041</td>
<td>1.316</td>
<td>0.725</td>
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<td>0.512</td>
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<td></td>
<td>Part-time</td>
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<td>1.909</td>
<td>1.770</td>
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<tr>
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Table 2.10: Residency and Kruskal-Wallis ANOVA Results—Residency and Community Decision-Making Processes and Important Conditions

<table>
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<tr>
<th>Variable</th>
<th>Affiliation</th>
<th>N</th>
<th>Mean</th>
<th>SD (±)</th>
<th>K-W Chi²</th>
<th>Asymp. Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Efforts to manage bears should seek ideas from all parties in the community.</td>
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<td>56</td>
<td>4.357</td>
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<td>4.000</td>
<td>1.087</td>
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<tr>
<td></td>
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<td>26</td>
<td>4.038</td>
<td>1.248</td>
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<td>4.29</td>
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<td>Bear management decisions should invite the input of all community members.</td>
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<td>4.038</td>
<td>1.248</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
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<td>3.86</td>
<td>1.464</td>
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<tr>
<td>A successful community process explores all non-lethal approaches to manage bears.</td>
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<td>4.000</td>
<td>1.087</td>
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<td>4.074</td>
<td>1.141</td>
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<td>Seasonal Worker</td>
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<td>1.464</td>
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Table 2.11: Affiliation and One-Way ANOVA Results

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<th>Mean</th>
<th>SD (±)</th>
<th>F Value</th>
<th>P Value</th>
</tr>
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<td><strong>Humans should manage wildlife populations so that humans benefit</strong></td>
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<td>2.185</td>
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<td><strong>Hunting is cruel and inhumane to the animals</strong></td>
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<td>2.215</td>
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<tr>
<td><strong>It is acceptable to destroy a black bear that has threatened a person with bodily harm.</strong></td>
<td>Resident</td>
<td>53</td>
<td>0.83</td>
<td>2.182</td>
<td>0.244</td>
<td>0.865</td>
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<td>0.69</td>
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<td></td>
<td>Vacation Visitor – Camper</td>
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<td>2.118</td>
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<tr>
<td></td>
<td>Seasonal Worker</td>
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<td>1.29</td>
<td>2.215</td>
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<tr>
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<tr>
<td><strong>Black bears are dangerous to humans.</strong></td>
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Community and Community Decisions

<table>
<thead>
<tr>
<th>As a resident of your community you:</th>
<th>Affiliation</th>
<th>N</th>
<th>Mean</th>
<th>SD (±)</th>
<th>F Value</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>know your community far better than scientists who gather data in the field for a season or two and return home.</td>
<td>Resident</td>
<td>54</td>
<td>0.76</td>
<td>1.682</td>
<td>0.240</td>
<td>0.868</td>
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<td></td>
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<td>28</td>
<td>0.75</td>
<td>1.206</td>
<td></td>
<td></td>
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<tr>
<td></td>
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<td>28</td>
<td>0.46</td>
<td>1.753</td>
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<td></td>
<td>Seasonal Worker</td>
<td>7</td>
<td>0.57</td>
<td>1.813</td>
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</tbody>
</table>
have a superior right to make decisions because you will bear the heaviest consequences of those decisions.

Resident 53 0.87 1.755 0.583 0.627
Public Agency 28 0.46 1.347
Vacation Visitor – Camper 28 0.43 1.773
Seasonal Worker 7 0.86 2.410

believe face-to-face dialogue about options and consequences is democratic in a way that decisions made by outsiders can never be.

Resident 53 1.49 1.325 0.989 0.401
Public Agency 28 1.32 1.090
Vacation Visitor – Camper 28 1.25 1.531
Seasonal Worker 7 0.57 1.988

Table 2.12: Affiliation and Oneway ANOVAs Results—Community Decision-Making Processes and Important Conditions

<table>
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<th>Variable</th>
<th>Affiliation</th>
<th>N</th>
<th>Mean</th>
<th>SD (±)</th>
<th>F Value</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>An impartial facilitator should lead the community process.</td>
<td>Resident</td>
<td>54</td>
<td>3.30</td>
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Table 2.13: Affiliation & Kruskal-Wallis ANOVA Results—Community Decision-Making Processes and Important Conditions

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<th>Affiliation</th>
<th>N</th>
<th>Mean</th>
<th>SD (±)</th>
<th>K-W Chi²</th>
<th>Asymp. Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Efforts to manage bears should seek ideas from all parties in the community.</td>
<td>Resident</td>
<td>54</td>
<td>4.22</td>
<td>0.945</td>
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<td>28</td>
<td>4.32</td>
<td>0.945</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vacation Visitor – Camper</td>
<td>26</td>
<td>4.04</td>
<td>1.248</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seasonal Worker</td>
<td>7</td>
<td>4.43</td>
<td>0.535</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bear management decisions should invite the input of all community members.</td>
<td>Resident</td>
<td>54</td>
<td>4.02</td>
<td>1.141</td>
<td>0.347</td>
<td>0.951</td>
</tr>
<tr>
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<td>28</td>
<td>3.93</td>
<td>1.386</td>
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<tr>
<td>Vacation Visitor – Camper</td>
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<td>4.04</td>
<td>1.248</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seasonal Worker</td>
<td>7</td>
<td>4.00</td>
<td>0.816</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A successful community process explores all non-lethal approaches to manage bears.</td>
<td>Resident</td>
<td>54</td>
<td>4.22</td>
<td>1.022</td>
<td>2.588</td>
<td>0.460</td>
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<td>Public Agency</td>
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<td>0.989</td>
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<td>Vacation Visitor – Camper</td>
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<td>Seasonal Worker</td>
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<td>3.29</td>
<td>1.890</td>
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</tbody>
</table>
## Education

Table 2.14: Highest Level of Education and One-way ANOVA Results

<table>
<thead>
<tr>
<th>Variable</th>
<th>Highest Education</th>
<th>N</th>
<th>Mean</th>
<th>SD (±)</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Humans should manage wildlife populations so that humans benefit</strong></td>
<td>Some HS/Diploma or GED</td>
<td>6</td>
<td>1.17</td>
<td>0.983</td>
<td>2.155</td>
<td>0.079</td>
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<td></td>
<td>Some College</td>
<td>31</td>
<td>-0.84</td>
<td>1.968</td>
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</tr>
<tr>
<td></td>
<td>Bachelor- 4 yr degree</td>
<td>34</td>
<td>-0.53</td>
<td>1.926</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Some Graduate</td>
<td>10</td>
<td>-1.10</td>
<td>1.101</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Graduate/ Professional Degree</td>
<td>36</td>
<td>-0.06</td>
<td>1.999</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Animals should have rights similar to the rights of humans</strong></td>
<td>Some HS/Diploma or GED</td>
<td>6</td>
<td>1.17</td>
<td>1.472</td>
<td>0.523</td>
<td>0.719</td>
</tr>
<tr>
<td></td>
<td>Some College</td>
<td>31</td>
<td>0.45</td>
<td>2.406</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bachelor- 4 yr degree</td>
<td>34</td>
<td>0.03</td>
<td>2.125</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Some Graduate</td>
<td>10</td>
<td>-0.10</td>
<td>2.025</td>
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<td></td>
<td>Graduate/ Professional Degree</td>
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<td>0.06</td>
<td>2.242</td>
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</tr>
<tr>
<td><strong>Hunting is cruel and inhumane to the animals</strong></td>
<td>Some HS/Diploma or GED</td>
<td>5</td>
<td>0.80</td>
<td>2.168</td>
<td>0.458</td>
<td>0.766</td>
</tr>
<tr>
<td></td>
<td>Some College</td>
<td>31</td>
<td>-0.45</td>
<td>2.406</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bachelor- 4 yr degree</td>
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<td>-0.41</td>
<td>2.105</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Some Graduate</td>
<td>10</td>
<td>-0.30</td>
<td>2.627</td>
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<td></td>
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<tr>
<td></td>
<td>Graduate/ Professional Degree</td>
<td>36</td>
<td>-0.64</td>
<td>2.167</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>It is acceptable to destroy a black bear that has threatened a person with bodily harm.</strong></td>
<td>Some HS/Diploma or GED</td>
<td>6</td>
<td>0.83</td>
<td>1.329</td>
<td>0.064</td>
<td>0.992</td>
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<td></td>
<td>Some College</td>
<td>30</td>
<td>0.80</td>
<td>2.369</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Bachelor- 4 yr degree</td>
<td>35</td>
<td>0.66</td>
<td>2.182</td>
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<td></td>
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<tr>
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<td>0.50</td>
<td>2.677</td>
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</tr>
<tr>
<td></td>
<td>Graduate/ Professional Degree</td>
<td>35</td>
<td>0.83</td>
<td>2.065</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Some HS/Diploma or GED</td>
<td>Some College</td>
<td>Bachelor- 4 yr degree</td>
<td>Some Graduate</td>
<td>Graduate/ Professional Degree</td>
<td></td>
</tr>
<tr>
<td>-----------------------------------------</td>
<td>------------------------</td>
<td>--------------</td>
<td>-----------------------</td>
<td>--------------</td>
<td>-------------------------------</td>
<td></td>
</tr>
<tr>
<td><strong>It is acceptable to destroy a black bear that has damaged property.</strong></td>
<td>6</td>
<td>-0.17</td>
<td>2.137</td>
<td>0.198</td>
<td>0.939</td>
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</tr>
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<td></td>
<td>10</td>
<td>-0.50</td>
<td>2.321</td>
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<tr>
<td></td>
<td></td>
<td>36</td>
<td>-0.69</td>
<td>2.266</td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Black bears are dangerous to humans.</strong></th>
<th>Some HS/Diploma or GED</th>
<th>Some College</th>
<th>Bachelor- 4 yr degree</th>
<th>Some Graduate</th>
<th>Graduate/ Professional Degree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>6</td>
<td>1.00</td>
<td>1.414</td>
<td>2.383</td>
<td>0.056</td>
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<tr>
<td></td>
<td></td>
<td>31</td>
<td>-1.03</td>
<td>1.958</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>35</td>
<td>-1.43</td>
<td>1.787</td>
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<td></td>
<td></td>
<td>10</td>
<td>-1.40</td>
<td>1.430</td>
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<tr>
<td></td>
<td></td>
<td>36</td>
<td>-1.31</td>
<td>1.939</td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Community and Community Decisions</strong></th>
<th>Some HS/Diploma or GED</th>
<th>Some College</th>
<th>Bachelor- 4 yr degree</th>
<th>Some Graduate</th>
<th>Graduate/ Professional Degree</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>As a resident of your community you:</strong></td>
<td>6</td>
<td>0.00</td>
<td>1.673</td>
<td>1.179</td>
<td>0.324</td>
</tr>
<tr>
<td></td>
<td></td>
<td>31</td>
<td>1.10</td>
<td>1.640</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>35</td>
<td>0.63</td>
<td>1.395</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>10</td>
<td>0.10</td>
<td>1.729</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>35</td>
<td>0.57</td>
<td>1.685</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>believe face-to-face dialogue about options and consequences is democratic in a way that decisions made by outsiders can never be.</strong></th>
<th>Some HS/Diploma or GED</th>
<th>Some College</th>
<th>Bachelor- 4 yr degree</th>
<th>Some Graduate</th>
<th>Graduate/ Professional Degree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>6</td>
<td>1.50</td>
<td>1.643</td>
<td>1.746</td>
<td>0.145</td>
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<td></td>
<td></td>
<td>31</td>
<td>1.55</td>
<td>1.261</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>34</td>
<td>1.47</td>
<td>1.308</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>10</td>
<td>0.30</td>
<td>1.567</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>35</td>
<td>1.31</td>
<td>1.388</td>
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</tr>
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</table>
Table 2.15: Highest Level of Education and Community Decision-Making Processes and Important Conditions and Oneway ANOVA Results

<table>
<thead>
<tr>
<th>Variable</th>
<th>Highest Education</th>
<th>N</th>
<th>Mean</th>
<th>SD (±)</th>
<th>F Value</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>An impartial facilitator should lead the community process.</td>
<td>Some HS/Diploma or GED</td>
<td>4</td>
<td>4.25</td>
<td>0.957</td>
<td>0.413</td>
<td>0.799</td>
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<tr>
<td></td>
<td>Some College</td>
<td>31</td>
<td>3.61</td>
<td>1.308</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Bachelor- 4 yr degree</td>
<td>33</td>
<td>3.64</td>
<td>1.319</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Some Graduate Graduate/ Professional Degree</td>
<td>9</td>
<td>3.56</td>
<td>0.726</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Some Graduate Graduate/ Professional Degree</td>
<td>35</td>
<td>3.40</td>
<td>1.576</td>
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</tr>
</tbody>
</table>

Table 2.16: Highest Level of Education and Kruskal-Wallis ANOVAs Results

<table>
<thead>
<tr>
<th>Variable</th>
<th>Highest Education</th>
<th>N</th>
<th>Mean</th>
<th>SD (±)</th>
<th>K-W Chi²</th>
<th>Asymp. Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Final decisions about how to Deal with a black bear that has become a problem should rest with the wildlife management agency.</td>
<td>Some HS/Diploma or GED</td>
<td>6</td>
<td>2.33</td>
<td>1.211</td>
<td>2.665</td>
<td>0.615</td>
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<td></td>
<td>Some College</td>
<td>31</td>
<td>1.710</td>
<td>1.697</td>
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<tr>
<td></td>
<td>Bachelor- 4 yr degree</td>
<td>34</td>
<td>1.559</td>
<td>1.910</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Some Graduate Graduate/ Professional Degree</td>
<td>10</td>
<td>1.600</td>
<td>1.897</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Some Graduate Graduate/ Professional Degree</td>
<td>36</td>
<td>1.167</td>
<td>2.063</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community Land Ethic “[T]he individual is a member of a community of interdependent parts. The land ethic simply enlarges the boundaries of the community to include soils, waters, plants, and animals, or collectively, the land.”</td>
<td>Some HS/Diploma or GED</td>
<td>6</td>
<td>2.33</td>
<td>0.816</td>
<td>2.736</td>
<td>0.603</td>
</tr>
<tr>
<td></td>
<td>Some College</td>
<td>26</td>
<td>1.885</td>
<td>1.275</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Bachelor- 4 yr degree</td>
<td>33</td>
<td>1.727</td>
<td>1.506</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Some Graduate Graduate/ Professional Degree</td>
<td>10</td>
<td>2.300</td>
<td>1.059</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Some Graduate Graduate/ Professional Degree</td>
<td>36</td>
<td>1.333</td>
<td>1.927</td>
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<td></td>
</tr>
</tbody>
</table>
Table 2.17: Highest Level of Education and Community Decision-Making Processes and Important Conditions—Kruskal-Wallis ANOVA Results

<table>
<thead>
<tr>
<th>Variable</th>
<th>Highest Education</th>
<th>N</th>
<th>Mean</th>
<th>SD (±)</th>
<th>K-W Chi²</th>
<th>Asymp. Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Efforts to manage bears should seek ideas from all parties in the community.</td>
<td>Some HS/Diploma or GED</td>
<td>5</td>
<td>4.60</td>
<td>0.894</td>
<td>7.204</td>
<td>0.126</td>
</tr>
<tr>
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<td></td>
<td>Some Graduate</td>
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<td>3.400</td>
<td>1.578</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Graduate/ Professional Degree</td>
<td>35</td>
<td>4.057</td>
<td>1.056</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bear management decisions should invite the input of all community members.</td>
<td>Some HS/Diploma or GED</td>
<td>5</td>
<td>4.60</td>
<td>0.894</td>
<td>5.811</td>
<td>0.214</td>
</tr>
<tr>
<td></td>
<td>Some College</td>
<td>31</td>
<td>4.290</td>
<td>0.973</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bachelor- 4 yr degree</td>
<td>34</td>
<td>4.000</td>
<td>1.231</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Some Graduate</td>
<td>10</td>
<td>3.700</td>
<td>1.494</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Graduate/ Professional Degree</td>
<td>35</td>
<td>3.743</td>
<td>1.268</td>
<td></td>
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</tbody>
</table>
APPENDIX 3. POTENTIAL FOR CONFLICT (PCI₂) INDEX TESTING

Table 3.1: PCIs Results & Difference Tests – Gender

<table>
<thead>
<tr>
<th>Statement</th>
<th>N</th>
<th>Male Mean PCI₂</th>
<th>Female Mean PCI₂</th>
<th>d Difference Test*</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Humans should manage wildlife populations so that humans benefit</td>
<td>56</td>
<td>-0.071</td>
<td>0.41</td>
<td>-0.79</td>
<td>0.77</td>
</tr>
<tr>
<td>Animals should have rights similar to the rights of humans</td>
<td>56</td>
<td>-0.52</td>
<td>0.472</td>
<td>0.89</td>
<td>0.580</td>
</tr>
<tr>
<td>Hunting is cruel and inhumane to the animals</td>
<td>57</td>
<td>-1.175</td>
<td>0.359</td>
<td>0.283</td>
<td>0.538</td>
</tr>
<tr>
<td>It is acceptable to destroy a black bear that has threatened a person with bodily harm.</td>
<td>56</td>
<td>1.482</td>
<td>0.418</td>
<td>0.033</td>
<td>0.551</td>
</tr>
<tr>
<td>It is acceptable to destroy a black bear that has damaged property.</td>
<td>57</td>
<td>0.05</td>
<td>0.508</td>
<td>-1.17</td>
<td>0.487</td>
</tr>
<tr>
<td>Final decisions about how to deal with a black bear that has become a problem should rest with the wildlife management agency.</td>
<td>57</td>
<td>1.737</td>
<td>0.277</td>
<td>1.33</td>
<td>0.440</td>
</tr>
<tr>
<td>Black bears are dangerous to humans.</td>
<td>57</td>
<td>-0.79</td>
<td>0.417</td>
<td>-1.52</td>
<td>0.318</td>
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</tbody>
</table>

Community and Community Decisions

<table>
<thead>
<tr>
<th>Category</th>
<th>N</th>
<th>Male Mean PCI₂</th>
<th>Female Mean PCI₂</th>
<th>d Difference Test*</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community Land Ethic**</td>
<td>54</td>
<td>1.463</td>
<td>0.227</td>
<td>1.98</td>
<td>0.244</td>
</tr>
<tr>
<td>As a resident of your community you:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>know your community far better than scientists who gather data in the field for a season or two and return home.</td>
<td>56</td>
<td>0.75</td>
<td>0.241</td>
<td>0.58</td>
<td>0.343</td>
</tr>
<tr>
<td>have a superior right to make decisions because you will bear the heaviest consequences of those decisions.</td>
<td>55</td>
<td>0.727</td>
<td>0.254</td>
<td>0.581</td>
<td>0.449</td>
</tr>
</tbody>
</table>
believe face-to-face dialogue about options and consequences is democratic in a way that decisions made by outsiders can never be.

Note. * If \( d > 1.96 \), difference is statistically significant at \( p < .05 \). **Community Land Ethic “[T]he individual is a member of a community of interdependent parts. The land ethic simply enlarges the boundaries of the community to include soils, waters, plants, and animals, or collectively, the land.”

Table 3.2: Community Decision-Making Processes and Important Conditions

<table>
<thead>
<tr>
<th></th>
<th>Male Mean</th>
<th>PCI_2</th>
<th>Female Mean</th>
<th>PCI_2</th>
<th>d*</th>
<th>Test</th>
<th>P Value</th>
</tr>
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<tbody>
<tr>
<td>An impartial facilitator should lead the community process.</td>
<td>3.20</td>
<td>0.799</td>
<td>3.91</td>
<td>0.609</td>
<td>2.41</td>
<td>0.005</td>
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<tr>
<td>Efforts to manage bears should seek ideas from all parties in the community.</td>
<td>4.21</td>
<td>0.462</td>
<td>4.23</td>
<td>0.512</td>
<td>0.54</td>
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<tr>
<td>Bear management decisions should invite the input of all community members.</td>
<td>3.839</td>
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<td>A successful community process explores all non-lethal approaches to manage bears.</td>
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<td>0.533</td>
<td>0.29</td>
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* If \( d > 1.96 \), difference is statistically significant at \( p < .05 \).
Table 3.3: Potential for Conflict Indices (PCI₂) Results – Age

<table>
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<tr>
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<th>Age</th>
<th>N</th>
<th>Mean</th>
<th>PCI₂</th>
</tr>
</thead>
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<tr>
<td>Humans should manage wildlife populations so that humans benefit</td>
<td>20 &amp; 30s</td>
<td>14</td>
<td>-0.071</td>
<td>0.313</td>
</tr>
<tr>
<td></td>
<td>40s</td>
<td>30</td>
<td>-1.033</td>
<td>0.411</td>
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<td>32</td>
<td>-0.875</td>
<td>0.346</td>
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<tr>
<td></td>
<td>60s</td>
<td>20</td>
<td>-0.150</td>
<td>0.593</td>
</tr>
<tr>
<td></td>
<td>70 +</td>
<td>16</td>
<td>0.625</td>
<td>0.292</td>
</tr>
<tr>
<td>Animals should have rights similar to the rights of humans</td>
<td>20 &amp; 30s</td>
<td>14</td>
<td>-1.143</td>
<td>0.384</td>
</tr>
<tr>
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<td>40s</td>
<td>30</td>
<td>0.533</td>
<td>0.570</td>
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<tr>
<td></td>
<td>50s</td>
<td>32</td>
<td>0.312</td>
<td>0.618</td>
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<td>0.571</td>
<td>0.464</td>
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<td>Hunting is cruel and inhumane to the animals</td>
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<td>0.530</td>
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<td>0.650</td>
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<td>16</td>
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<td>0.385</td>
</tr>
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<td>It is acceptable to destroy a black bear that has threatened a person with bodily harm.</td>
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<td>0.737</td>
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<td>32</td>
<td>0.719</td>
<td>0.496</td>
</tr>
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<td>60s</td>
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<td>1.150</td>
<td>0.370</td>
</tr>
<tr>
<td></td>
<td>70 +</td>
<td>16</td>
<td>0.562</td>
<td>0.578</td>
</tr>
<tr>
<td>It is acceptable to destroy a black bear that has damaged property.</td>
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<td>0.527</td>
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<td>0.483</td>
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<td>50s</td>
<td>31</td>
<td>-0.645</td>
<td>0.681</td>
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<td>60s</td>
<td>21</td>
<td>-0.429</td>
<td>0.456</td>
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<tr>
<td></td>
<td>70 +</td>
<td>16</td>
<td>-0.250</td>
<td>0.581</td>
</tr>
<tr>
<td>Final decisions about how to deal with a black bear that has become a problem should rest with the wildlife management agency.</td>
<td>20 &amp; 30s</td>
<td>14</td>
<td>1.571</td>
<td>0.197</td>
</tr>
<tr>
<td></td>
<td>40s</td>
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<td>1.600</td>
<td>0.357</td>
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<td></td>
<td>50s</td>
<td>32</td>
<td>1.344</td>
<td>0.599</td>
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<td>60s</td>
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<td>1.524</td>
<td>0.309</td>
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<td>70 +</td>
<td>16</td>
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<td>Black bears are dangerous to humans.</td>
<td>20 &amp; 30s</td>
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<td>70 +</td>
<td>16</td>
<td>-0.625</td>
<td>0.495</td>
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<table>
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<tr>
<th>Community and Community Decisions</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Community Land Ethic*</td>
<td>20 &amp; 30s</td>
<td>13</td>
<td>1.538</td>
<td>0.175</td>
</tr>
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<td></td>
<td>40s</td>
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<td>1.429</td>
<td>0.273</td>
</tr>
<tr>
<td></td>
<td>50s</td>
<td>31</td>
<td>1.871</td>
<td>0.161</td>
</tr>
<tr>
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<td>60s</td>
<td>20</td>
<td>2.250</td>
<td>0.135</td>
</tr>
<tr>
<td></td>
<td>70 +</td>
<td>15</td>
<td>1.533</td>
<td>0.372</td>
</tr>
<tr>
<td>As a resident of your community you:</td>
<td>20 &amp; 30s</td>
<td>14</td>
<td>0.357</td>
<td>0.173</td>
</tr>
<tr>
<td></td>
<td>40s</td>
<td>30</td>
<td>0.733</td>
<td>0.310</td>
</tr>
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<td>1.000</td>
<td>0.219</td>
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<td>60s</td>
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<td>0.476</td>
<td>0.245</td>
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<td>70 +</td>
<td>16</td>
<td>0.625</td>
<td>0.573</td>
</tr>
</tbody>
</table>
have a superior right to make decisions because you will bear the heaviest consequences of those decisions.

believe face-to-face dialogue about options and consequences is democratic in a way that decisions made by outsiders can never be.

Note. *Community Land Ethic “[T]he individual is a member of a community of interdependent parts. The land ethic simply enlarges the boundaries of the community to include soils, waters, plants, and animals, or collectively, the land.”

Table 3.4: PCI$_2$ Results – Age and Community Decision-Making Processes and Important Conditions

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<th>N</th>
<th>Mean</th>
<th>PCI$_2$</th>
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</thead>
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<tr>
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<td>3.700</td>
<td>0.685</td>
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<tr>
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<td>70 +</td>
<td>15</td>
<td>3.000</td>
<td>0.893</td>
</tr>
<tr>
<td>Efforts to manage bears should seek ideas from all parties in the community.</td>
<td>20 &amp; 30s</td>
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<td>3.538</td>
<td>0.714</td>
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<td>0.384</td>
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<td></td>
<td>50s</td>
<td>31</td>
<td>4.161</td>
<td>0.517</td>
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<td></td>
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<td>4.300</td>
<td>0.275</td>
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<td></td>
<td>70 +</td>
<td>16</td>
<td>4.312</td>
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<td>Bear management decisions should invite the input of all community members.</td>
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<td>3.308</td>
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<td>40s</td>
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<td>0.619</td>
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<td>31</td>
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<td>4.150</td>
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<td>16</td>
<td>4.188</td>
<td>0.551</td>
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<td>A successful community process explores all non-lethal approaches to manage bears.</td>
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<td>3.714</td>
<td>0.602</td>
</tr>
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<td>70 +</td>
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<td>4.062</td>
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Table 3.5: PCI\textsubscript{2} Results – Residency

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<th>N</th>
<th>Mean</th>
<th>PCI\textsubscript{2}</th>
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<td></td>
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<tr>
<td>Humans should manage wildlife populations so that humans benefit</td>
<td>Full-time</td>
<td>56</td>
<td>-0.696</td>
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<td>Seasonal Worker</td>
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<td>-0.50</td>
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</tr>
<tr>
<td></td>
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<td></td>
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</tr>
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<td>Animals should have rights similar to the rights of humans</td>
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<td>55</td>
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</tr>
<tr>
<td></td>
<td>Part-time</td>
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<td>0.043</td>
<td>0.625</td>
</tr>
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<td>Vacation Visitor</td>
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<td>0.429</td>
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<td>Seasonal Worker</td>
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<td>-0.13</td>
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<tr>
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<td>Hunting is cruel and inhumane to the animals</td>
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<td>-0.673</td>
<td>0.530</td>
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<td>0.000</td>
<td>0.667</td>
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<td>0.361</td>
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<td>Seasonal Worker</td>
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<td>0.38</td>
<td>----</td>
</tr>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Final decisions about how to deal with a black bear that has become a problem should rest with the wildlife management agency.</td>
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<td>56</td>
<td>1.375</td>
<td>0.512</td>
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<td>Part-time</td>
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<td>1.636</td>
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<td>1.679</td>
<td>0.158</td>
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<td>Seasonal Worker</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Black bears are dangerous to humans.</td>
<td>Full-time</td>
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<td>-1.357</td>
<td>0.357</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Part-time</td>
<td>23</td>
<td>-0.826</td>
<td>0.456</td>
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<td>0.233</td>
</tr>
<tr>
<td></td>
<td>Seasonal Worker</td>
<td>8</td>
<td>-1.50</td>
<td>----</td>
</tr>
</tbody>
</table>

Community and Community Decisions

| Community Land Ethic: The individual is a member of a community of interdependent parts. The land ethic simply enlarges the boundaries of the community to include soils, waters, plants, and animals, or collectively, the land. | Full-time | 53   | 1.830 | 0.135                |
| As a resident of your community you: |                  |      |       |                      |
| know your community far better than scientists who gather data in the field for a season or two and return home. | Full-time | 56   | 0.768 | 0.210                |
|          |                  |      |       |                      |
|          | Part-time        | 23   | 0.478 | 0.385                |
|          | Vacation Visitor | 28   | 0.464 | 0.395                |
|          | Seasonal Worker  | 8    | 1.00  | ----                 |
| have a superior right to make decisions because you will bear the heaviest consequences of those decisions. | Full-time | 56   | 0.643 | 0.295                |
|          |                  |      |       |                      |
|          | Part-time        | 22   | 0.909 | 0.441                |
|          | Vacation Visitor | 28   | 0.429 | 0.375                |
|          | Seasonal Worker  | 8    | 0.75  | ----                 |
| believe face-to-face dialogue about options and consequences is | Full-time | 56   | 1.339 | 0.111                |
|          |                  |      |       |                      |
|          | Part-time        | 22   | 1.636 | 0.236                |
democratic in a way that decisions made by outsiders can never be.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Residency Status</th>
<th>N</th>
<th>Mean</th>
<th>PCI₂</th>
</tr>
</thead>
<tbody>
<tr>
<td>An impartial facilitator should lead the community process.</td>
<td>Full-time</td>
<td>55</td>
<td>3.600</td>
<td>0.682</td>
</tr>
<tr>
<td></td>
<td>Part-time</td>
<td>23</td>
<td>3.087</td>
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<tr>
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<td>Full-time</td>
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<td>----</td>
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Table 3.7: PCI results – Affiliation

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<th>N</th>
<th>Mean</th>
<th>PCI&lt;sub&gt;2&lt;/sub&gt;</th>
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<tr>
<td>Humans should manage wildlife populations so that humans benefit</td>
<td>Resident</td>
<td>54</td>
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<td>0.504</td>
</tr>
<tr>
<td></td>
<td>Public Agency</td>
<td>29</td>
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<td>0.329</td>
</tr>
<tr>
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<td>Seasonal Worker</td>
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<td>Animals should have rights similar to the rights of humans</td>
<td>Resident</td>
<td>53</td>
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<td>0.661</td>
</tr>
<tr>
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<tr>
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<td>Seasonal Worker</td>
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<td>0.71</td>
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<tr>
<td>Hunting is cruel and inhumane to the animals</td>
<td>Resident</td>
<td>53</td>
<td>-0.094</td>
<td>0.540</td>
</tr>
<tr>
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<td>Public Agency</td>
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<td>0.393</td>
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<tr>
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<td>Vacation Visitor – Camper</td>
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<td>0.037</td>
<td>0.515</td>
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<td>-1.29</td>
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<td>0.563</td>
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<td>0.576</td>
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<td></td>
<td>Seasonal Worker</td>
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<td>1.29</td>
<td>-----</td>
</tr>
<tr>
<td>It is acceptable to destroy a black bear that has damaged property.</td>
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<td>0.625</td>
</tr>
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<td>0.361</td>
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<td>0.14</td>
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<td>Final decisions about how to deal with a black bear that has become a problem should rest with the wildlife management agency.</td>
<td>Resident</td>
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<td>0.962</td>
<td>0.542</td>
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<td>0.215</td>
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<td>1.679</td>
<td>0.158</td>
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<td></td>
<td>Seasonal Worker</td>
<td>7</td>
<td>2.43</td>
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</tr>
<tr>
<td>Black bears are dangerous to humans.</td>
<td>Resident</td>
<td>54</td>
<td>-1.093</td>
<td>0.464</td>
</tr>
<tr>
<td></td>
<td>Public Agency</td>
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<td>-1.310</td>
<td>0.329</td>
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<td>0.233</td>
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</table>

Community and Community Decisions

<table>
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<tr>
<th>Community Land Ethic</th>
<th>Affiliation</th>
<th>N</th>
<th>Mean</th>
<th>PCI&lt;sub&gt;2&lt;/sub&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>“[T]he individual is a member of a community of interdependent parts. The land ethic simply enlarges the boundaries of the community to include soils, waters, plants, and animals, or collectively, the land.”</td>
<td>Resident</td>
<td>51</td>
<td>2.118</td>
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<td>0.290</td>
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<td>Seasonal Worker</td>
<td>6</td>
<td>1.33</td>
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</tr>
</tbody>
</table>

349
As a resident of your community you:

| Variable | Affiliation | N  | Mean  | PCI$_2$
<table>
<thead>
<tr>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>know your community far better than scientists who gather data in the field for a season or two and return home.</td>
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<td>54</td>
<td>0.759</td>
<td>0.333</td>
</tr>
<tr>
<td></td>
<td>Public Agency</td>
<td>28</td>
<td>0.750</td>
<td>0.115</td>
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<tr>
<td></td>
<td>Vacation Visitor – Camper</td>
<td>28</td>
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<td>0.395</td>
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<td>Seasonal Worker</td>
<td>7</td>
<td>0.57</td>
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</tbody>
</table>

have a superior right to make decisions because you will bear the heaviest consequences of those decisions.

| Variable | Affiliation | N  | Mean  | PCI$_2$
<table>
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<tr>
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<td>0.375</td>
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<td>Seasonal Worker</td>
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<td>0.86</td>
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</table>

believe face-to-face dialogue about options and consequences is democratic in a way that decisions made by outsiders can never be.

| Variable | Affiliation | N  | Mean  | PCI$_2$
<table>
<thead>
<tr>
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### Table 3.8: PCI$_2$ Results – Affiliation and Community Decision-Making Processes and Important Conditions

| Variable | Affiliation | N  | Mean  | PCI$_2$
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<td></td>
<td>Seasonal Worker</td>
<td>7</td>
<td>3.29</td>
<td>-----</td>
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</tbody>
</table>

Efforts to manage bears should seek ideas from all parties in the community.

| Variable | Affiliation | N  | Mean  | PCI$_2$
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<th></th>
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<td>Vacation Visitor – Camper</td>
<td>26</td>
<td>4.038</td>
<td>0.605</td>
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<td>Seasonal Worker</td>
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<td>4.43</td>
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Bear management decisions should invite the input of all community members.

| Variable | Affiliation | N  | Mean  | PCI$_2$
<table>
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<td>4.00</td>
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</table>

A successful community process explores all non-lethal approaches to manage bears.

| Variable | Affiliation | N  | Mean  | PCI$_2$
<table>
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Table 3.9: PCI2 Results – Highest Level of Education

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<td>Some HS/Diploma or GED</td>
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<td>Graduate/Professional Degree</td>
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<td>0.509</td>
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<tr>
<td>Animals should have rights similar to the rights of humans</td>
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<td>1.17</td>
<td>-----</td>
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<td>Some College</td>
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<td>0.642</td>
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<td>0.500</td>
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<td>Graduate/Professional Degree</td>
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<td>0.056</td>
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<td>Bachelor- 4 yr degree</td>
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<td>0.447</td>
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<td>0.556</td>
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<td>0.500</td>
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<td></td>
<td>Graduate/Professional Degree</td>
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<td>-0.500</td>
<td>0.667</td>
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<td>Graduate/Professional Degree</td>
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<td>-0.694</td>
<td>0.667</td>
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<td>Black bears are dangerous to humans.</td>
<td>Some HS/Diploma or GED</td>
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<td>1.00</td>
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<td>Graduate/Professional Degree</td>
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</table>
### Community and Community Decisions

#### Community Land Ethic

“[T]he individual is a member of a community of interdependent parts. The land ethic simply enlarges the boundaries of the community to include soils, waters, plants, and animals, or collectively, the land.”

<table>
<thead>
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<th>Community Land Ethic</th>
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<tr>
<td>Graduate/Professional Degree</td>
<td>36</td>
<td>1.333</td>
<td>0.403</td>
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#### As a resident of your community you:

<table>
<thead>
<tr>
<th>Education Level</th>
<th>know your community far better than scientists who gather data in the field for a season or two and return home.</th>
<th>Some HS/Diploma or GED</th>
<th>6</th>
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<td>0.373</td>
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<tr>
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<th>have a superior right to make decisions because you will bear the heaviest consequences of those decisions.</th>
<th>Some HS/Diploma or GED</th>
<th>6</th>
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<table>
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<th>Education Level</th>
<th>believe face-to-face dialogue about options and consequences is democratic in a way that decisions made by outsiders can never be.</th>
<th>Some HS/Diploma or GED</th>
<th>6</th>
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<td>0.380</td>
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<td>Graduate/Professional Degree</td>
<td>35</td>
<td>1.314</td>
<td>0.218</td>
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Table 3.10: PCI$_2$ Results – Highest Level of Education and Community Decision-Making Processes and Important Conditions

<table>
<thead>
<tr>
<th>Variable</th>
<th>Highest Education</th>
<th>N</th>
<th>Mean</th>
<th>PCI$_2$</th>
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<tr>
<td>An impartial facilitator should lead the community process.</td>
<td>Some HS/Diploma or GED</td>
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<td></td>
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<td>3.636</td>
<td>0.700</td>
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<td></td>
<td>Some Graduate</td>
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<td>3.56</td>
<td>------</td>
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<td>Efforts to manage bears should seek ideas from all parties in the community.</td>
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<td>Graduate/Professional Degree</td>
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<td>Bear management decisions should invite the input of all community members.</td>
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<td>A successful community process explores all non-lethal approaches to manage bears.</td>
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APPENDIX 4. LEGAL AND REGULATORY FRAMEWORKS GOVERNING
THE TAHOE BASIN

4.1 The Jurisdictions: states, counties, local communities, state parklands, federal national forests, county parks?

The Lake Tahoe Basin is governed by two states (California and Nevada), four counties (Placer and El Dorado in California, Washoe and Douglas in Nevada), and includes both state parks and federal national forest lands in California and Nevada. Two cities in Nevada (Incline Village, Carson City) and one city in California (South Lake Tahoe) also provide frameworks for governing land use and public safety within these two states and four counties. Taken together, there are numerous and overlapping opportunities through laws, regulations, ordinances and homeowners’ associations rules to address the presence of bears and prevent encounters from becoming problems.

4.2 Laws, Regulations, Ordinances & Rules

California and Nevada laws and regulations address wildlife management (including bears) requirements and guidelines as well as safety considerations and proper storage of food in campgrounds while county ordinances largely address trash containment and disposal of solid wastes. In a few instances local jurisdictions (Incline Village, Carson City, South Lake Tahoe) also specifically address concerns related to containing trash in bear country. The many unincorporated towns and communities rely on county ordinances and in a few cases homeowners associations’ rules to address these issues.

4.2.1 States

California

Two state organizations (California Department of Fish & Game (CDFG) and California State Parks) in the Tahoe Basin implement California laws and regulations related to wildlife, bears, and proper storage of food. Fish and Game regulations prevent harassing animals, including feeding them (Cal. Admin. Code, Title 14, § 251.1), while State Park regulations require properly storing food while camping (Cal. Admin. Code, Title 14, § 4326 (a)). In addition to these regulations, both agencies have developed black bear management policies to address black bear incidents and response, including depredation (Statewide Black Bear Policy 2071), public safety issues (Public Safety Wildlife Guidelines 2072), and human–bear management objectives, including food storage and aversive conditioning of problem black bears on state parklands in the Sierra District of California State Parks.
(Human–Bear Management Plan, Sierra District Directive # 2, California Department of Parks & Recreation, May 9, 2008).

**Nevada**

Nevada, similarly, through its Department of Wildlife (NDOW) approved policies and procedures to address conflicts arising in black bear confrontations (Black Bear Conflict Management, Effective November 2007). This policy outlines procedures for both preventing and managing conflicts with bears through a range of escalating situations, including the situations that warrant lethal control.

**Memorandum of Agreement between CDFG and NDOW**

In the spring of 2008, CDFG and NDOW entered into a memorandum of agreement (MOA) to share resources. This agreement, instigated largely due to the record number of problem bear encounters in 2007 created numerous avenues for cooperation. It enabled the agencies to share information about incidents and prevention, cooperate in their efforts with local governments to adopt coordinated bear management policies, assist one another in addressing and resolving nuisance bear situations, and meet jointly with the public to assure that they address black bear concerns consistently. (Memorandum of Agreement between the Nevada Department of Wildlife and the California Department of Fish and Game Concerning Nuisance and Depredation Black Bear Management, May 1, 2008)

4.2.2 Counties: Placer, El Dorado, Douglas, Washoe

Three of the four counties rimming Lake Tahoe had passed ordinances that specifically address the need to secure and contain trash from bears while the field research was underway. In 2010, Washoe County’s District Board of Health also adopted regulations requiring the use of animal-resistant containers. Generally, these ordinances require residents and commercial operations to secure trash from animals, including bears, and impose escalating penalties and the requirement to use a bear-resistant container for failure to comply.

**Placer County**

Placer County adopted an ordinance requiring bear resistant containers in 2001, which applied to locations above 5000 feet in elevation, and new construction, or construction that added 500 sq-ft of living space (Placer Co., California, Ordinance 5114-B, August 7, 2001). The county amended the ordinance in 2003 to permit an integral design option that allows using an integrated pre-fabricated bear resistant container in a garage or carport. It allowed the use of “architecturally integrated garbage rooms” in these spaces as long as they were “clad in stone, cement, metal, or other material that resists damage from attempts by bears to gain entry.” (Placer County, California, Chapter 8, Health & Sanitation, Article 8.16 Solid Waste Collection & Disposal, Part 1. Enforcement, Division III. Prevention of Bear Access to Garbage Can Enclosure, § 8.16.266.C.2., Ordinance 5241-B, April 29, 2003) Most recently, Placer County has extended the interpretation of bear bin to include separate buildings “clad in stone, etc.” that house an approved bear-resistant garbage can enclosure.
Placer County also provides through Wildlife Services of its Agriculture, Weights and Measures Department a trapping service for parties who have received depredation permits from the California Department of Fish and Game.

El Dorado County

El Dorado County adopted an ordinance similar to Placer County’s in 2002 for locations above 4,000 feet in elevation. (El Dorado County, California, Health & Safety Code, Chapter 8.74, § 8.74.010 et. seq., Recodified at Chapter 8.76). Escalating penalties over a two-year period result in warnings, the requirement to purchase a bear-proof container, and ultimately a fine no less than $100 for more than two, successive violations. An amendment in 2003 modified the scope of the ordinance by removing the elevation requirement and re-defining boundaries within the Tahoe Truckee area to those considered most prone to bear problems. It also clarified where to locate bear resistant containers with respect to county maintained roads. (El Dorado County, California, Health & Safety Code, § 8.76.010 and § 8.76.030(C), Ordinance 4629, May 13, 2003)

Douglas County

As in the two California counties, Douglas County, Nevada approved an ordinance in 2001 adding a new chapter to Title 6 Animals requiring bear-proof collection bins (Douglas County, Nevada Code, Title 6, Chapter 6.32 Bear Proof Collection Bins, Containers & Structures, Ordinance 963, 7/01). The ordinance applied to Tahoe Township (Stateline and Zephyr Cove, NV) and contained language similar to El Dorado County regarding proper upkeep and maintenance of trash containers and progressive violations and sanctions, including incidents that trigger the requirement to install a bear-proof collection bin. A 2007 amendment expanded the applicability of the ordinance, clarified violations and penalties, and provided code enforcement officers the authority to issue citations (Douglas County, Nevada Code, Title 6, Chapter 6.32 Bear Proof Collection Bins, Containers & Structures, Ordinance 1218, Amending § 6.32.020, and Amending § 6.32.040, and Adding § 6.32.035, § 6.32.040 (A) & (B), 11/07). The requirement for bear-proof containers expanded to all of Douglas County for anyone with two or more violations, but excluded Gardnerville and Minden Townships. The timeline for installing a bear-proof collection system increased from 30 to 90 days, but also included penalties and sanctions for failing to comply with a notice of violation.

Washoe County

Washoe County District Board of Health amended its Solid Waste Management regulations to include requirements for animal-resistant containers in 2010 (Washoe County, NV, District Board of Health, § 040.111 and § 040.112 (2010)). Section 040, Solid Waste Storage requires a minimum of weekly garbage collection to prevent public health nuisances from animals (Section 040.030), removal of waste containers from the street within 24 hours of waste pickup by a franchised hauler (Section 040.110), and requires waste disposal storage practices that will prevent access by animals (Section 040.111). Should a chronic animal-related problem occur twice within a 12 month period, both residential and commercial owners are required
to install an animal-resistant container within 90 days of the second incident (Section 040.112).

4.2.3 Local Cities and Communities

Local cities and communities include Incline Village General Improvement District and Carson City, Nevada, South Lake Tahoe, California, and many small unincorporated communities around the Lake. Although there are many homeowners associations around the Lake, membership is not always required nor do they necessarily have rules that address trash containment and bears.

A review of publicly accessible websites for homeowners associations around the Lake confirmed that most homeowners associations rely on county ordinances to address issues related to trash and bears. Among those reviewed, seven homeowners associations provided widely varying information ranging from strategies and precautions for living peacefully with bears to bear warnings, bear alerts of activity, and/or proper ways to dispose and secure trash from animals, including bears. One homeowners association included explicit rules for securing trash from bears and prohibited feeding wildlife (Rules of the PineWild Homeowners Association, pp 5, 6).

Several larger cities and communities adopted ordinances to address the need for bear-proofing trash, but they too, varied, in scope and form.

**South Lake Tahoe, California**

South Lake Tahoe in 2002 included an option to mandate trash collection for repeat offenders who fail to secure their trash from animals or create a nuisance when it added Title 23 Refuse and Garbage to its city code. Corrective enforcement actions for repeat offenders of single and multi-family residences include the requirement to use bear-proof refuse containers for a minimum of one year. (South Lake Tahoe, California City Code, § 23-12.4, Title 23 Refuse and Garbage, Section 12 Residential Refuse Containers, Subsection 4 (H) Mandatory collection, Ordinance 921, July 16, 2002)

**Incline Village General Improvement District, Nevada**

Incline Village General Improvement District (IVGID) approved two amendments to its Solid Waste Ordinance #1 during the field research, which incrementally increased the penalties for non-compliance, including provisions related to pests (IVGID Ordinance 1, Garbage, Rubbish, Waste Matter & Refuse, Resolution No. 1764, June 8, 2005), and wildlife violations (IVGID Ordinance 1, Solid Waste, Resolution No. 1777, April 11, 2007 and IVGID Ordinance 1, Solid Waste, Resolution No. 1786, June 11, 2008). With these successive revisions, IVGID created an ordinance that addressed infractions and remedies promptly, imposed substantial, but equitable penalties by including refunds, and minimized the allowable time that unsecured trash containers can sit unattended (i.e., between placing trash on a curb and its pick up.)

**Carson City, Nevada**

Carson City passed an ordinance in 2009 that added a new chapter to Title 7 (Animals) of its code (Ordinance No. 2009-25 § II-VIII et. seq., October 15, 2009). The language in Chapter 7.01 echoes Douglas County’s amended ordinance requiring
the installation of a bear-proof collection system. As in Douglas County, anyone with two or more violations must use a bear-proof containment system. Escalating penalties for violations (warning, second incident within two years, and successive incidents within two years of second incident) similarly apply.
APPENDIX 5. INTERVIEW QUESTIONS

Potential Questions Follow Below. Use of additional subquestions depends on responses to main questions.

1. Who would you say has most influenced your ideas about (1) wildlife, (2) bears?
   a. In what ways?

2. Where (from whom) have you received the most information about black bears?

3. Tell me about memorable (a) stories, (b) songs, (c) poems, (d) documentaries, anything else about bears from your childhood?
   a. What is most memorable about them?
   b. How did it affect what you think about bears?
   c. What thoughts stood out most?
   d. What about the same things you remember as an adult?

4. When you are at home (or camping), what is the range of wildlife experiences you hope to have?
   a. Describe your desire to see (1) wildlife, (2) bears
   b. Close-up encounters with bears
   c. What would you be willing to do to ensure that experience?

5. When you encounter a bear on your property (in the campground) what would you like to see happen next?
   a. Where do you turn for help when a bear is/ becomes a problem on your property?
   b. What kinds of models, processes, support systems would help you navigate a situation where a bears’ presence creates a problem?
   c. What would help more?

6. Tell me about your first/ a recollection of a problem bear.
   a. What was happening in that situation that qualified the bear as a problem?
   b. Were you personally involved in the situation?
   c. What happened next?
   d. What sorts of things might have prevented the situation from happening?
   e. How would you, personally, change the (1) circumstances, and (2) ways to address the situation, now that it is considered a problem?
7. What are the most likely reasons for problems with black bears?

8. What is your (personal) experience with (property) damage due to wildlife?
   a. Where did this damage occur?
   b. What sort of animal do you think/know caused the damage?
   c. What did you do upon discovering/learning of the damage?

9. How do you feel about (how important is it) living in a community with bears?
   a. What sorts of things are you willing to do to prevent encounters with bears that are/become a problem?
   b. What sorts of things are you unwilling to do?
   c. What would make living with bears peacefully most possible for you?

10. Questions around other ways to solve problems around bear/human encounters (built from the conflict resolution practice literature)
   a. What sorts of community gatherings have you attended to talk about bears?
   b. Who sponsored these gatherings?
   c. What did you like most about these gatherings? Least?
   d. What sort of activities (if any) resulted from these gatherings?
   e. How have you involved yourself in these activities?

11. Questions around lethal/non-lethal approaches to manage bears.
   a. Describe options that you know of for managing bears.
   b. Which way(s) do you prefer most? (describe strengths/advantages)
   c. Which way(s) do you prefer least? (describe weaknesses/drawbacks)
   d. Who should be responsible for implementing these approaches?
   e. Possibly describe the elements of a non-lethal approach and query for knowledge about these aspects of a program.

12. What else would you like to tell me or talk about?

Questions for Resource/Regulatory Agencies:

13. For resource/regulatory participants
   a. How does your agency set policy for (1) wildlife, (2) bear encounters?
   b. What criteria are used to qualify an encounter as a problem?
   c. Who determines these criteria?
   d. Describe the avenues available to the public for contributing to, setting these policies.
APPENDIX 6. BACKGROUND SURVEY QUESTIONS

Background Information
Human–Black Bear Conflicts & Their Peaceful Resolution
Community Survey

Please continue only if you have read, agreed to, and signed the Informed Consent Form

The purpose of this survey is to obtain information about your views on wildlife and your background

Your answers will be kept confidential. Please answer every question with the answer most true for you.

Thank you for your willingness to participate.

Kathryn Mazaika, Doctoral Candidate
Institute for Conflict Analysis & Resolution
3330 N. Washington Blvd., Truland Building, 5th Floor
Arlington, VA 22201
We are interested in understanding how you feel about wildlife and bears. Please circle the category that best fits how you feel.

1 = Strongly Agree       4 = Neither Agree nor Disagree
2 = Moderately Agree     5 = Slightly Disagree
3 = Slightly Agree       6 = Moderately Disagree
6 = Moderately Disagree
7 = Strongly Disagree

1. Humans should manage wildlife populations so that humans benefit.
   1  2  3  4  5  6  7

2. Animals should have rights similar to the rights of humans.
   1  2  3  4  5  6  7

3. Hunting is cruel and inhumane to the animals.
   1  2  3  4  5  6  7

4. It is acceptable to destroy a black bear that has threatened a person with bodily harm.
   1  2  3  4  5  6  7

5. It is acceptable to destroy a black bear that has damaged property.
   1  2  3  4  5  6  7

6. Final decisions about how to deal with a black bear that has become a problem should rest with the wildlife management agency.
   1  2  3  4  5  6  7

7. Black bears are dangerous to humans.
   1  2  3  4  5  6  7

8. To what extent do you agree or disagree with this statement as it relates to a land ethic for this community?
   “[T]he individual is a member of a community of interdependent parts. The land ethic simply enlarges the boundaries of the community to include soils, waters, plants, and animals, or collectively, the land.”

   1 = Strongly Agree       4 = Neither Agree nor Disagree
   2 = Moderately Agree     5 = Slightly Disagree
   3 = Slightly Agree       6 = Moderately Disagree
   7 = Strongly Disagree

Please circle the category that best fits how you feel.

   1  2  3  4  5  6  7

362
We are also interested in your views about your community and community decisions. Please circle the category that best fits how you feel.

<table>
<thead>
<tr>
<th>1 = Strongly Agree</th>
<th>2 = Moderately Agree</th>
<th>3 = Slightly Agree</th>
<th>4 = Neither Agree nor Disagree</th>
<th>5 = Slightly Disagree</th>
<th>6 = Moderately Disagree</th>
<th>7 = Strongly Disagree</th>
</tr>
</thead>
</table>

9. As a resident of your community you:

a. know your community far better than scientists who gather data in the field for a season or two and return home.  
   1 2 3 4 5 6 7

b. have a superior right to make decisions because you will bear the heaviest consequences of those decisions.  
   1 2 3 4 5 6 7

c. believe face-to-face dialogue about options and consequences is democratic in a way that decisions made by outsiders can never be.  
   1 2 3 4 5 6 7

Think about how important the following conditions are to you in a community decision-making process that includes local residents, public wildlife agencies, public land managers, and law enforcement officials. Please circle the category that best fits how you feel.

<table>
<thead>
<tr>
<th>1 = Very important</th>
<th>2 = Important</th>
<th>3 = Moderately Important</th>
<th>4 = Slightly Important</th>
<th>5 = Not important at all</th>
<th>6 = Don’t Know</th>
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</thead>
</table>

10. An impartial facilitator should lead the community process.  
   1 2 3 4 5 6

11. Efforts to manage bears should seek ideas from all parties in the community.  
   1 2 3 4 5 6

12. Bear management decisions should invite the input of all community members.  
   1 2 3 4 5 6

13. A successful community process explores all non-lethal approaches to manage bears.  
   1 2 3 4 5 6
14. Please tell us about your connection with this community and your background.

a. How would you describe where you mostly lived as a child? Check one

- □ Farm, ranch or rural area outside of town
- □ Small town (Fewer than 10,000 people)
- □ Larger town or small city (10,001 to 50,000 people)
- □ Medium-sized city (50,001 to 100,000 people)
- □ Exurb (outer suburb)
- □ Large City/ suburb of large city (100,001 to 500,000 people)
- □ Metropolitan area (500,001 people or more)

b. How would you describe where you live most of the time now? Check one

- □ Farm, ranch or rural area outside of town
- □ Small town (Fewer than 10,000 people)
- □ Larger town or small city (10,001 to 50,000 people)
- □ Medium-sized city (50,001 to 100,000 people)
- □ Exurb (outer suburb)
- □ Large City/ suburb of large city (100,001 to 500,000 people)
- □ Metropolitan area (500,001 people or more)

Please also tell us about the amount of time you have lived or spent in this community.

c. How many years have you lived in this community full-time? Check one

If you are a part-time resident only, skip to question (d).

- □ < 1 year
- □ 1-5
- □ 6-10
- □ 11-15
- □ 16-20
- □ > 20 years

d. How many years have you lived in this community part-time? Check one

- □ < 1 year
- □ 1-5
- □ 6-10
- □ 11-15
- □ 16-20
- □ > 20 years

e. How many years have you been visiting this community for vacation? Check one

If you visit this community for seasonal work only, skip to question (f).

- □ < 1 year
- □ 1-5
- □ 6-10
- □ 11-15
- □ 16-20
- □ > 20 years

f. How many years have you been visiting this community for seasonal work? Check one

- □ < 1 year
- □ 1-5
- □ 6-10
- □ 11-15
- □ 16-20
- □ > 20 years

g. What was your age on your last birthday? _____ Rather not say_____

h. Are you male or female?

- □ Male
- □ Female
i. How would you describe your race/ethnicity? Check one

☐ White Non Hispanic
☐ African American/ Black
☐ Hispanic or Latino/a
☐ Native American or Alaska Native
☐ Asian/ Pacific Islander
☐ Multiracial
☐ Rather not say

j. What is your highest level of formal education? Check one

☐ No formal education
☐ Grade school
☐ Some high school
☐ High school diploma/GED
☐ Some college
☐ Bachelor's/Four-year degree (specify major)_______________
☐ Some Graduate
☐ Graduate/ Professional degree (specify major)_______________

k. Occupation/ Industry? Check one

☐ Management, professional and related occupations
☐ Administrative or waste management services
☐ Agriculture, forestry, fishing and hunting, and mining
☐ Construction
☐ Manufacturing
☐ Wholesale trade
☐ Retail trade
☐ Transportation and warehousing, and utilities
☐ Publishing, broadcasting, telecommunications
☐ Finance, insurance, real estate, and rental and leasing
☐ Educational, health and social services
☐ Arts or entertainment
☐ Recreation, accommodation and food services
☐ Other services (except public administration)
☐ Public administration / Government (local, state, and federal)
   ☐ Wildlife-related
   ☐ Public land management
   ☐ Law enforcement
☐ Retired
☐ Other _______________

Thank You for Your Time and Effort!
APPENDIX 7. PROTOCOL – INVOLVING HUMAN PARTICIPATION

1. There are no direct benefits to the participants in this study. Some participants may benefit indirectly from the new understandings this study gains. Through the participant interviews, I expect to gain insights into the factors, and particularly the views and experiences, which influence conflicts when humans and black bears interact. I also expect this study to produce insights into more peaceful ways to address those conflicts.

2. The potential participants in this research will be identified through public documents (e.g., newspapers, internet) and preliminary conversations, and will be approached to participate in the study based on their involvement in human black bear encounters.

3. The researcher will provide the study participants with two (2) copies of the informed consent form (see attached consent form). One copy of the form will be left with the participant, while the second signed copy will be kept by the researcher.

4. Participants in this study will not receive any compensation.

5. Minors might participate in this study. Certain minors (approx. 8-17 years old) identified through artwork they produced may be contacted through their parent or guardian for an interview. A parental consent form as well as an assent form for the minor will be provided and kept as above in #3.

6. Participants will not be asked to do anything in this study other than answer questions in interviews lasting one (1) to two (2) hours.

7. The data collected in this study will be treated as confidential. Only the researcher will have access to tapes and transcriptions, which will be secured over the course of the research and destroyed upon completion of this dissertation. The researcher will place a code rather than names on tapes, interview transcripts, notes, surveys and all other data collected, and use an identification key to link these collected data to a participant. Only the researcher will have access to the identification key.

8. There are no foreseeable risks to participants other than possible discomforts associated with discussing a bear encounter that involved a conflict.
9. Audio tapes and any transcripts and notes from them will be kept in a locked box/ file cabinet over the duration of the research, and destroyed upon successful defense of the dissertation.

10. Participants will be informed about the true nature of the project.
APPENDIX 8. PROTOCOL # 4860 – AMENDMENT 1 – INVOLVING HUMAN PARTICIPATION

2.
(a) The potential participants in this research will be identified through public documents (e.g., newspapers, internet) and preliminary conversations, and will also be approached to participate in the study to learn about their views through a simple survey on wildlife, bears, human black bear encounters and problem solving.

3.
(a) The researcher will provide the survey participant with one copy of the informed consent form, which will read in either English or Spanish (see attached consent forms). The participant will be asked to provide their verbal consent to participate in the research and agreement to anonymously completing the survey. The researcher will make a note of the participant’s consent as well as the date and location of where the survey was administered.
APPENDIX 9. PROTOCOL # 4860 – AMENDMENT 2 – INVOLVING HUMAN PARTICIPATION

2. 
(a) The potential participants in this research will be identified through public documents (e.g., newspapers, internet, subscriber-based websites) and preliminary conversations, and will also be approached to participate in the study to learn about their views through a simple survey on wildlife, bears, human black bear encounters and problem solving.

3. 
(a) The researcher will provide the survey participant with one copy of the informed consent form, which will read in either English or Spanish (see attached consent forms). The participant will be asked to provide their verbal consent to participate in the research and agreement to anonymously completing the survey. The researcher will make a note of the participant’s consent as well as the date and location of where the survey was administered.
APPENDIX 10. INTERVIEW INVITATION AND INTRODUCTION

I am a doctoral student at George Mason University’s Institute for Conflict Analysis & Resolution, and I am conducting a study to learn more about the conflicts that develop when people and black bears encounter one another. Your experiences and ideas about wildlife and black bears, in particular, are important because as a resident/visitor/or employee in the study area you live with and respond to situations in your community involving black bears. Your contributions and participation in this study will provide valuable insights into both how these conflicts develop, and the options possible for addressing them peacefully. Participating in the study will take about an hour or so of your time for an interview, which will really be more like a conversation.

There are no right or wrong answers. Your experiences and views about these situations are what matters most. Your answers and anything we talk about will be completely confidential. I may quote your comments, but I will never use your name, unless you have explicitly permitted me to do so for publication or to present the studies results.

If it’s okay with you, I would like to record our conversation to make sure I don’t miss anything or change your words somehow. If, at any time, you would like to stop recording, all you have to do is push this button and the recorder will stop.
APPENDIX 11. INFORMED CONSENT FORM FOR INTERVIEW PARTICIPANTS

Kathryn Mazaika, Doctoral Candidate
Institute for Conflict Analysis & Resolution
3330 N. Washington Blvd., Truland Building, 5th Floor
Arlington, VA 22201

Human Black Bear Encounters: Examining Conflicts & Opportunities for Peaceful Resolution

INFORMED CONSENT FORM

RESEARCH PROCEDURES
The purpose of this research is to learn more about human black bear conflicts and peaceful ways to resolve them. If you agree to participate, you will be asked to answer questions about your experiences and views on wildlife in general, and black bears, in particular, as well as any encounters with them. The interview will take one (1) to two (2) hours of your time, and may include follow-up interviews.

RISKS
There are no foreseeable risks for participating in this research other than possible discomforts associated with discussing bear encounters involving a conflict.

BENEFITS
There are no benefits to you as a participant other than to further research in understanding human black bear conflicts and their peaceful resolution.

CONFIDENTIALITY
The data in this study will be confidential. With your consent, interviews will be taped to preserve details for later analysis. Only the researcher will have access to tapes and transcriptions, which will be secured over the course of the research and destroyed upon completion of this dissertation. Your name will not be included on tapes, interview transcripts, notes, surveys and other collected data. Instead, the researcher will place a code on tapes, transcripts and all other collected data. Using an identification key, the researcher will be able to link your tapes,
transcripts and other collected data to your identity. Only the researcher will have access to the identification key.

Please specify your preference below regarding the use of your name in published or publicly presented study results.

**PARTICIPATION**
Your participation is voluntary, and you may withdraw from the study at any time and for any reason. If you decide not to participate or if you withdraw from the study, there is no penalty or loss of benefits to which you are otherwise entitled. There are no costs to you or any other party.

**CONTACT**
This research is being conducted by Kathryn Mazaika of the Institute for Conflict Analysis and Resolution at George Mason University. You can reach her at (415) 271-2560 for questions or to report a research-related problem. You can reach her faculty advisor, Kevin Avruch, Ph.D. at (703) 993-3607. You may contact the George Mason University Office of Research Subject Protections at (703) 993-4121 if you have questions or comments regarding your rights as a participant in the research.

This research has been reviewed according to George Mason University procedures governing your participation in this research.

☐ I agree to be audio taped. ☐ I do not agree to be audio taped.

☐ It is **okay** to use my name in published or publicly presented study results.

☐ It is **not okay** to use my name in published or publicly presented study results.

**CONSENT**
I have read this form and agree to participate in this study.

________________________________________________________
Name

________________________________________________________
Signature

________________________________________________________
Date
INFORMED CONSENT FORM

RESEARCH PROCEDURES
The purpose of this research is to learn more about human black bear conflicts and peaceful ways to resolve them. If you agree to participate, you will be asked to answer questions about your views on wildlife, black bears, and your community and community decision-making as well as to provide brief information about your background. Completing the survey will take five (5) to ten (10) minutes of your time.

RISKS
There are no foreseeable risks for participating in this research other than possible discomforts associated with discussing bear encounters involving a conflict.

BENEFITS
There are no benefits to you as a participant other than to further research in understanding human black bear conflicts and their peaceful resolution.

CONFIDENTIALITY
The data in this study will be confidential. Your name will not be included on the survey or other collected data. Instead, the researcher will place a code on the survey in order to link the data collected to a date and location about the survey administration.

PARTICIPATION
Your participation is voluntary, and you may withdraw from the study at any time and for any reason. If you decide not to participate or if you withdraw from the study, there is no penalty or loss of benefits to which you are otherwise entitled. There are no costs to you or any other party.
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This research is being conducted by Kathryn Mazaika of the Institute for Conflict Analysis and Resolution at George Mason University. You can reach her at (415) 271-2560 for questions or to report a research-related problem. You can reach her faculty advisor, Kevin Avruch, Ph.D. at (703) 993-3607. You may contact the George Mason University Office of Research Subject Protections at (703) 993-4121 if you have questions or comments regarding your rights as a participant in the research.

This research has been reviewed according to George Mason University procedures governing your participation in this research.

**CONSENT**
Please acknowledge that you have read this form and provide your verbal consent (in lieu of your signature) that you agree to participate in this study.
REFERENCES
REFERENCES


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Kathryn Mazaika works to protect natural resources both as a professional and a volunteer in national parks around the San Francisco Bay Area and uses her knowledge of conflict analysis to help resolve problems related to natural resources. She holds a bachelor’s in Chemistry from Antioch College, and master’s degrees in Conflict Analysis and Resolution from George Mason University and Environmental Law from Vermont Law School. Kathryn worked as an independent researcher while completing doctoral studies at George Mason University’s School for Conflict Analysis and Resolution. She brings experience gained through earlier work on transportation and air quality planning, forestry, and Superfund investigations with the U.S. Environmental Protection Agency to her focus on natural resource issues. Kathryn has studied conflicts surrounding endangered species, water in the American West, and restoration of the Mesopotamian Marshlands. She also produced early curricula with a team as the School for Conflict Analysis and Resolution developed its graduate certificate program in Conflict Analysis and Resolution. Her publications include chapters in the edited book *Braving the Currents: Evaluating Environmental Conflict Resolution in the River Basins of the American West* and the article “Local and National Protection of Endangered Species: An Assessment” in *Environmental Science and Policy*. She enjoys bridging disciplines in her work, especially bringing the robust nature of conflict analysis and resolution to growing concerns arising in human–wildlife encounters that become problems.