

WILDLIFE AS A PRIORITY IN PARK DEVELOPMENT:
A STUDY OF ILLINOIS PARK PROFESSIONALS

BY

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THESIS

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ABSTRACT

The purpose of this thesis is to consider the factors that impact decision making in city park settings, with specific emphasis given to wildlife. Additionally, professional bias was considered as a possible response determinant. Studies connecting perceptions of wildlife and Illinois park managers have been rare or nonexistent, but offer the potential for the improvement of management strategies and recreational opportunities. Data was collected using mixed methods. City recreation practitioners statewide were invited to complete a self-administered questionnaire considering wildlife as a decision-making factor in land acquisition or restoration decisions. A small follow-up sample of park managers was interviewed via telephone for further explanation of their response. Analysis of responses from questionnaires and interviews suggested that wildlife habitat is a factor in land use decision making, but is not considered one of the highest importance. Respondents identified that nuisance wildlife, access to wildlife, and public value of wildlife were also factors in decision making. Factors associated with a high-ranking of the importance of wildlife were agencies with a high number of natural area acres, a high number of overall park acreage, personnel devoted to natural area management, the presence of hiking trails, and cities with a large population. Professional bias of recreation managers was suggested via anecdotal interview data, but could not be empirically connected with wildlife-related decision-making processes, as no managers identified themselves as having completed formal wildlife-related training. As a result, management implications include separate training for both practitioners and public. This study broadens the understanding of wildlife management in city park settings, and reaffirms that further understanding of public and practitioner values of wildlife will lead to improved land use decisions and recreationally valuable experiences.

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Table of Contents

CHAPTER 1: INTRODUCTION 1

 Human connection with wildlife..... 2

 Wildlife as part of the changing Illinois landscape 4

CHAPTER 2: CONCEPTUAL BACKGROUND 7

 Cultural significance of non-consumptive wildlife values..... 7

 The power of perceptions on park management and wildlife values 9

 Managing people and wildlife for mutual benefits 17

 Illinois wildlife in policy and practice 19

 Professional bias in decision making and park management 22

CHAPTER 3: METHODS 30

 Introduction 30

 Study background 30

 Population 31

 Procedure 32

 Analysis 37

CHAPTER 4: RESULTS 39

 Significant factors for land acquisition decisions 40

 The role of wildlife-related issues in park managers’ decision making processes 41

 Professional bias 55

 Results Summary 57

CHAPTER 5: DISCUSSION 59

 What factors impact land acquisition/restoration-related decision making of Illinois park managers?.. 59

 What if any role do wildlife-related issues play in Illinois park managers’ land acquisition/restoration decision making processes? 60

 What if any role does professional bias play in relation to wildlife in park management? 62

 Limitations 63

 Implications for Research 66

Implications for Management	69
CONCLUSION.....	73
APPENDIX A – SELF-ADMINISTERED QUESTIONNAIRE – LETTER TO AGENCIES	74
APPENDIX B – SELF-ADMINISTERED QUESTIONNAIRE	75
APPENDIX C – ILLINOIS NORTH/CENTRAL/SOUTH MAP	77
APPENDIX D – FOLLOW UP INTERVIEW DISTRIBUTION MAP.....	78
REFERENCES	79
BIBLIOGRAPHY	83

CHAPTER 1: INTRODUCTION

When I was a child, a Virginia Opossum ventured into our north central Illinois backyard. The marsupial was a rare site in our neighborhood; white and gray-haired with a pointy snout and pink nose it was a nocturnal species classified as common, but rarely seen in the dark evening urban landscape. Though we had no pets and it posed no threat to our land, my father proceeded to try to chase the opossum away with a broom. Perched on a cyclone fence, the rodent-like animal struggled to hang on, hissing from the obvious threat. It would eventually move away, finding shelter in its nearby arboreal home. We never saw the opossum again, but the memory lived on in the minds of me, my sister and my parents.

Perhaps most interestingly however is not that these memories persist, but how differently they do for each of us. My parents both regret the incident, pointing out that they simply did not understand that the animal posed no threat. They both insist (and have demonstrated since) that such a creature would now be more than welcome. I also recall the sadness of the scenario, wishing that we had pointed a camera rather the brushy end of a broom at it. On the other hand, my sister, though she is a practicing zookeeper in perpetual contact with native and non-native wildlife, still has a strange fear of opossums. She fully admits there is no logical basis for this apprehension, suggesting that she “cannot explain it.” Nonetheless, her memory is more centered on the animal baring its teeth and growling at my father than of an animal simply trying to retreat.

Perhaps opossums do not have the conventional characteristics of an animal likely to elicit positive emotions, but this scenario helps illustrate the wide-ranging responses that can occur when Illinois residents experience a situation and there is interaction/proximity with such a creature. In Illinois, these are the types of encounters people have with wildlife. So while

literature abounds depicting dramatic, once-in-a-lifetime encounters with large animals, such opportunities generally do not exist in Illinois. Still, the everyday encounters that do occur within Illinois' border are worth examining, both in terms of how the public experiences them and how managers respond.

In essence, the whole of Illinois has multiple purposes if we consider that both humans and non-human animals utilize virtually every square mile of it for some purpose. The Illinois landscape is fragmented, with small chunks of natural areas lumped between urban and agricultural areas. There exists no place in Illinois where there are not both people and animals. Wildlife lives where we play. Wildlife lives where we farm. Wildlife lives where we live. Looking at it from this perspective leaves little question that they should be considered as we make land use decisions.

Human connection with wildlife

Interactions with wildlife are a significant aspect of Illinois life. Stories such as the one of the opossum above are also important as they illustrate the wide range of emotional responses that can occur as the result of these experiences. My sister and I have very different recollections and have been impacted in very different ways as a result of the same encounter. These significant wildlife encounters have been described in literature as “epiphanies,” “magic,” and “connection” among others. A closely related idea came from Arnould and Price (1993) as they discussed the notion of “river magic.” Derived from the narratives of Colorado River outfitters, the concept described the sense of “reverence and mystery” that resulted from experiences on the water. It would not be far-fetched to extend this concept to wildlife experiences, particularly in light of other recent literature describing seminal experiences that led to sacred connections with

wildlife. It should be noted here that the term “magic” is not meant to inspire mysticism or fantasy. Instead it is the sense of awe and wonder that accompanies peak experiences and “the sense that something very special and powerful has occurred” (Vining, 2003).

The feelings of magic inspired by wildlife are perhaps most thoroughly addressed by Vining (2003). In her literature review, she documents a long history of respect and admiration for wildlife, dating back virtually as long as history has been recorded. She suggested that the connections that exist between humans and wildlife are deep seeded, yet not well understood and worth further consideration. Though it would be impractical for the purposes of this paper to explore her research with detail, it should be noted that Vining (2003) would provide robust fodder for anyone seeking to add depth to their knowledge of emotional connection with wildlife.

Personal relationships with wildlife became codified in municipal policy in Estes Park, Colorado, where residents believed that their local wildlife was part of the fabric of their local culture. Wondrak (2002) told of the story of Estes Park residents who opposed the construction of a tourist attraction where local animals would be displayed in plexiglass environments. Their opposition came not as a result of a dislike for the animals. Instead, residents felt as though their wildlife deserved more respect than to be caged. They believed that tourists should search for local wildlife, just as residents do. They went as far as to pass legislation prohibiting the exhibition of those animals because their confinement was found to be contrary to the “character or nature of the Estes Park community.”

Identifying wildlife as part of a community’s character is the type of epiphany that lends credence to the notion of connection. Jacobs (2009) took that idea one step further, applying the

concept not only to localized public populations, but to a wider societal scope. He stated unequivocally: “emotional responses and dispositions influence attitudes, norms and values with respect to animals in various contexts, such as wildlife management, holding companion animals, and agricultural production.” Whether they are called epiphanies, magic, or simply an emotional connection, it is with this wildlife back drop that we now specifically consider the Illinois landscape in which wildlife roams.

Wildlife as part of the changing Illinois landscape

The prairie landscape of the early 1800s that inspired these connections is identified as being composed of numerous objects, including rivers, virgin forests and wild animals (Nash, 2001). However, in the state of Illinois, while all three exist, they do in significantly lesser quantity/quality than the western United States. The wild attributes that once struck fear into the hearts of voyageurs and pioneers have been tamed in the last several hundred years. Indeed, the Prairie State is now largely devoid of the ecosystem that inspired its nickname.

Tallgrass prairie was the dominant Illinois ecotype prior to the development of the plow, and regarded by settlers as no less a wilderness than the forests of the northeast or the canyons of the west. Sixty percent of Illinois was once covered by tallgrass prairie, while the other 40% was lined with forest, river, wetland and other ecosystems. Currently the state is in a condition far different than the one found pre-settlement.

Today, Illinois stands as what some might call a Mecca to agriculture, commerce, and real estate. Ranking 49th out of the 50 United States with regard to the percentage of land intact in its pre-settlement state, only Iowa has less of its native landscape remaining. More than 99% of Illinois prairies have been converted to one (or some combination) of the agriculture,

commerce, or real estate industries. While a noticeably higher percentage of forest remains, it too has been significantly impacted. Pre-settlement, 13.8 million acres of forested areas were present. Today, 4.4 million acres remain – 12% of Illinois' current acreage. In other words, where there were once grasses and trees, predominantly now lay soybeans, subdivisions, and cement.

That considered, wildlife with no better options will fill niches and occupy space, even if it is significantly degraded. Coyotes occur in every county, bobcat in 99 of 102. Each routinely moves through agricultural and major metropolitan areas. Foxes have taken refuge inside suburban spaces, and the once critically endangered Peregrine Falcon now nests in the window wells of Chicago skyscrapers.

Most vital to this research however is noting that the wildlife present in Illinois is not the same as the charismatic megafauna envisioned by Nash (2001) and innumerable other researchers. A grossly different state than many of its western United States counterparts, Illinois is home to a cast of wildlife characters often overlooked in literature. In turn, these same creatures are frequently unnoticed in recreation management circles. Absent from the Illinois wildlife list are the elk, bison, moose, wolves, and mountain lions ever present in western American folklore. Additionally, there are no whales, dolphins, or manatees as in many of the coastal states. To the contrary, the prairie state is occupied by a variety of creatures, most of which are no larger than dogs, and many of which are thought of as non-game animals. Skunks, squirrels, songbirds, and salamanders are just a few. Succinctly, there is no larger Illinois predator than the coyote, and no animal of any sort that out sizes the docile white-tailed deer. Virtually all conventionally dangerous species have been extirpated during settlement, with only four poisonous spiders and four venomous snakes remaining. Even these, primarily confined to

the southern portion of the state, are considered little more of a nuisance than their non-venomous counterparts. Couple that with the fact that common species such as the beaver, raccoon, and catfish – while an important part of localized culture – are generally not considered the charismatic species of American lore, and one finds a scenario that many wildlife tourists, researchers, and writers might find easy to ignore.

Regardless of whether these animals adhere to conventional measures of beauty, they remain an integral part of the Illinois landscape. In turn, they also remain an integral part of park management. Or do they? Little is known about the significance of wildlife-related issues in Illinois park decision making. Keeping that in mind, it is pertinent to pose the following queries:

Question 1: What factors impact land acquisition/restoration-related decision making of Illinois park managers?

Question 2: What if any role do wildlife-related issues play in Illinois park managers' land acquisition/restoration decision making processes?

Question 3: What if any role does professional bias play in relation to wildlife in park management?

To understand the answers to those questions we must also develop a further understanding of the broad significance of wildlife.

CHAPTER 2: CONCEPTUAL BACKGROUND

The literature we will examine makes clear that wildlife is a significant part of everyday life. It also provides ample evidence that humans have complex relationships with wildlife, so much so that different people can have a variety of reactions not only to one species, but to the same individual animal. This section will provide the conceptual framework for the study. Specifically, it will consider how non-consumptive value of wildlife impacts culture, how human perceptions of wildlife are diverse in nature, how managing people is an important part of wildlife management, and what pertinent wildlife-related issues exist in Illinois. Further, we will explore the role of professional bias as it relates to land use and wildlife-related management decisions.

Cultural significance of non-consumptive wildlife values

“Non-consumptive” wildlife values refers to the appreciation of various kinds of wildlife – game and non-game – for reasons including but not limited to aesthetic pleasure, intrinsic worth, and spiritual growth. This value set exists independent of whether or not the species is considered a game animal. Though both hunters and non-hunters may be apt to appreciate the same species, they tend to do so for different reasons. Non-consumptive values are referred to in a variety of manners: “Non-use value” (Randall 1991, Stevens 1994, Richardson, 2009), “existence value” (Stevens 1991), and “non-utilitarian value” (Nelson, 2008) to name a few. Within the confines of this text, “non-consumptive” will be used (Mankin et al., 1999, Donovan & Champ, 2009, Manfredi, 2002). Non-consumptive interactions are those that do not take anything directly from the animal. While hunting and trapping are examples of consumptive use, non-consumptive use generally refers to interactions such as observation and photography. These interactions can have various in-depth and personal significance. Wildlife interactions are

significant to people in some way. People who simultaneously view a deer in a cornfield may have a wide response range, from anger to excitement. Ultimately any reaction other than indifference holds significance. It is also worth noting that non-consumptive significance/value is not necessarily the same as the wildlife connection or magic discussed earlier. Oftentimes it is the initial connection or magical experience that leads to the significance/value discussed here. In other words, one may lead to the other, but they are not interchangeable concepts.

Human encounters with wildlife are an important aspect of modern life. The fascination of humans with wildlife is claimed by many to be the unconscious result of an ancient, primitive time. Further, some suggest that wildlife was first domesticated not for food or agricultural purposes, but for the sake of simple animal companionship. Manfredo (2008) suggested: “People worldwide have different reasons for caring about wildlife: Wildlife are a source of attraction and fear, they have a utilitarian value and symbolic meaning, they have religious or spiritual significance, and they are a barometer measuring people’s concern for environmental sustainability.”

While some might dispute the historical details of human affinity for wildlife, not up for argument are the current ways in which human interest in wildlife manifests itself in popular culture. Within the realms of recreation and tourism, endeavors such as safaris, hunting trips, and national park vacations are enormously popular. Additionally, the Association of Zoos and Aquariums (AZA) noted that in 2008, AZA accredited facilities had 175 million visitors. In reality the number is likely significantly higher as this data only includes United States zoos and aquariums and does not account for unaccredited sites.

In the last several decades, the importance of wildlife has also been demonstrated through organizations such as the World Wildlife Federation and Defenders of Wildlife as well as in legislation by way of the Endangered Species Act. Further, animals in school classrooms and nature centers continue to be a relatively standard occurrence. Within popular culture our school mascots are frequently animals, the popular morning program The Today Show regularly features an animal-focused segment aptly named “Today’s Call of the Wild,” and Animal Planet is an entire television channel featuring continual programming related to animals. Even for individuals who have no particular interest in animals or their well-being, wildlife holds an unquestionably strong presence in our everyday lives.

Not to be overlooked is the monetary impact of wildlife. According to literature from the Association of Zoos and Aquariums (2009): “AZA-accredited zoos and aquariums enhance local and regional economies, collectively generating \$8.4 billion in annual economic activity and supporting more than 100,000 jobs.” Factor into those numbers the proliferation of trips to public lands to observe animals in their native habitats, the expenditures on their periodic trips to the field for game, and the large sums spent on bird watching/feeding, and we begin to understand that wildlife is at the core of several distinct industries – and booming ones at that.

The power of perceptions on park management and wildlife values

In the spring of 2009, the Urbana Park District appealed to the University of Illinois’ restoration ecology course in hopes of solving a novel problem. The stream flowing through the most prominent local park was having its flow inhibited by a sizable beaver dam. Once an agricultural site, the park had undergone intense, long-term restoration efforts. UPD managers were faced opposing public opinions. Park visitors enjoyed the opportunity to see the beavers,

and believed that the pooling effect of the dam added an additional aesthetic nuance. However, nearby residents found the beaver dam less appealing, as the creek was the outlet for runoff. When rain came down, the creek allowed it to be washed away quickly. The beaver dam impeded the water's progress, forcing it to back up into surrounding neighborhoods, flooding low lying areas and basements. The UPD determined that while most agreed the beavers were a welcome species, many also believed they needed to be managed. Further, many neighborhood residents in close proximity to the watershed held the UPD responsible for area flooding. To simplify the problem into pro-beaver versus anti-beaver factions was too simplistic. Indeed, it was not that local residents were opposed to the presence of beavers; they were merely opposed to the presence of flooding. UPD recognized the complexity of the problem and enlisted university assistance in search of a solution that would provide the public with the perception that the district was concerned about both humans and beavers.

City and park managers often find themselves dealing with wildlife as nuisances rather than wildlife as beneficial. Just as Urbana flood waters rise and recede, so too do perceptions of the beavers. The aquatic rodent experiences a perceptual polarization, as many in the public view them as either "good" or "bad" depending on the season. Though the most potentially beneficial management options were perhaps too expensive to implement, the UPD did settle on measures that to this point have been appropriate and effective. Additionally, while the park district was able to reach out to experts, not every organization has that ability. Indeed, some managers are forced to become experts themselves, even where adequate educational resources are not available. Managers of park districts and city recreation departments may find themselves in similar situations: charged with the task of restoring native ecosystems and protecting ecologically sensitive natural areas. Some managers minimize that role, focusing primarily on

human needs. Others like the UPD embrace the opportunity to help human and animal live in harmony. How do managers reach those decisions? More specifically, what roles does wildlife play in park managers' decision making processes? This study begins the process of answering that question by examining the way in which wildlife values are integrated with land-use decision making.

Aldo Leopold's *A Sand County Almanac* (1949) introduced and helped popularize the concepts of restoration ecology to a sizable audience. Prior to *Almanac's* publishing, wildlife management primarily meant minimizing predator impacts on revenue-producing game animals. Focusing on the management of ecosystems rather than their individual parts, the author revolutionized what it means to care for collections of plants, animals, space, etc. as a collective. A collection of short stories and reflections, Leopold (1949) devoted one short chapter to Illinois (and Iowa). The author traveled through the "Land of Lincoln" by bus, making observations as he went. He describes observing an ancient cottonwood tree cut down, a symbol of a prairie-covered past tamed by the plow of agriculture. He noticed that the only native grassland species dwell at the edge of cemeteries, and pondered if the farmers have any knowledge of those precious plants. He suspected not. Leopold describes but one experience with Illinois wildlife: "Through an open window I hear the heart-stirring whistle of an upland plover; time was when his forebears followed the buffalo as they trudged shoulder-deep through an illimitable garden of forgotten blooms. A boy spies the bird and remarks to his father: there goes a snipe."

Leopold illustrated two key concepts: 1) After more than a century of settlement, the prairie is largely absent from Illinois – the Prairie State and 2) Perceptions of wildlife behavior are often very different and are contingent on a wide range of variables. Leopold saw a plover. The boy saw a snipe. To some degree, they were both right. This section profiles Illinois

stakeholders and seeks to illuminate the value they place on “snipes” and the other animals by which they are surrounded.

When Urbana residents moved into newly created subdivisions in the last decade, many did so as a means to have a rural feel in an urban area. Many of these new subdivisions featured amenities designed to provide naturalness. Ditchkoff et al. (2006) specifically suggested that increased green space or “rural quality” in developed areas provides suitable wildlife habitat. So in Urbana, with increased green space in urban areas came increased opportunity for wildlife survival. In fact, not only has wildlife survived, it has flourished. So much so that once beloved symbols of natural beauty and serenity such as white-tailed deer have become nuisances in some neighborhoods, as there have been multiple reports of the generally docile creature breaking through patio windows (Derek Liebert, Personal Communication, March 12, 2010).

This example illustrates two key concepts: 1) Complex relationships exist between people and wildlife, as human perceptions, attitudes, and values are prone to tumult, and may shift as significant events unfold and 2) As urban areas encroach on rural land, wildlife presented with increased opportunities for survival may behave in fashions much different than many would expect.

In Illinois, every resident is a wildlife stakeholder, as every resident directly or indirectly deals with wildlife. Residents’ complex relationships with wildlife will be explored in this section. Whilst documenting some of these complex relationships, we also seek to identify patterns that may exist among these varied stakeholders with regard to the values they place on wildlife and wildlife interaction. Though it will be discussed more in-depth later in this document, at this juncture it is worth noting the wide variety of stakeholder attitudes, values, and

perceptions regarding wildlife that exist among Illinois residents. Attitudes may differ based on one's status as a farmer, land owner, land manager, or perhaps even based on an animal's status as endangered or threatened.

In conducting a nationwide survey of agricultural producers to determine the impacts of wildlife on their farms and ranches, Conover (1998) found that 80% of respondents had suffered wildlife damage in the previous year. Losses were so severe in some cases that nearly a quarter were reluctant to provide habitat for wildlife, and more than a third stated that they would be opposed to the creation of a wildlife sanctuary near their property. Still, just over half took measures to provide habitat for wildlife on their lands. This suggested mixed emotions toward wildlife, as most respondents attempted to nurture wildlife, but at once feared the negative impacts the animals might have on their crops. Of particular note is the observation that over half of respondents encouraged wildlife on their property, but better than three quarters allowed hunting the same animals they encouraged. This is evidence of a multi-faceted value system among agricultural producers. Indeed, farmers appreciate watching wildlife on their land, but they also appreciate killing/harvesting/managing wildlife.

Do similar complex relationships exist within other Illinois wildlife stakeholder groups? An article a year earlier by the same author (Conover 1997) seems to support that assertion. Conover (1997) examined United States urban residents who took part in their own wildlife management. He determined that households endured annual losses of \$3.8 billion in damages caused by wildlife, despite spending \$1.9 billion and 268 million hours trying to solve or prevent these problems. On the other hand, US urban residents also annually spent \$3.6 billion and 1.3 billion hours encouraging wildlife around their homes. The authors suggested this “indicate(s)

that metropolitan residents in the United States are deeply interested in urban wildlife and are willing to spend both their money and time on its management.”

Urban and rural values toward wildlife are distinguished by the species of animal appreciated. Conover (1997) asked respondents in both urban and rural areas which animal species they would like to see increase or decrease in population. Species receiving positive ratings included rabbits, deer, ducks, Canada geese, hummingbirds, woodpeckers, blue jays, American robins, and cardinals. Species receiving negative ratings (defined as more people wanting to see these populations decrease than increase) included moles, bats, raccoons, skunks, tree squirrels, woodchucks, ground squirrels, mice, opossums, pigeons, starlings, house sparrows, blackbirds, and snakes. A few nuances were also revealed. Urban residents were more likely to appreciate deer and Canada geese, while rural residents were more likely to appreciate snakes. These exceptions likely exist as deer and geese can damage cropland, while snakes rid cropland of vermin that might damage crops. These exceptions suggest that while urban and rural residents share wildlife preferences in general, appreciation of individual species is prone to vary..

Beyond urban or rural stakeholders’ significance, the abundance of a species is a source of interest. Kellert (1985) suggested that an animal’s status as an endangered species may affect people’s perceptions of those creatures. He also posited that while social factors and human perceptions are not actively considered in his study, they do play a role in people’s perceptions. For many, using the term “endangered species” might call to mind images of pandas, whales, and spotted owls. Obviously, Illinois is home to none of those species. To be specific, there are 20 animals listed as federally endangered or threatened. Of those, nine are mussels, riverine creatures often referred to as clams. Beyond the mussels, there is also a species of crayfish, two

insects, two bats, a rattlesnake and a sturgeon. Many would argue that the most appealing creatures would be the three shorebirds listed, which include the whooping crane. Regardless, these species are not among those viewed positively in the late 1990s research. This would suggest that in Illinois an animal may not necessarily become more appealing simply because it is rare.

While each of the studies discussed to this point focus on public rather than management perceptions, to have a complete understanding of how wildlife issues play a role in land use decision making it is critical to consider management perceptions and biases. Brookfield (1969) suggests that “decision-makers operating in an environment base their decisions on the environment as they perceive it, not as it is. The action resulting from decision, on the other hand, is played out in a real environment.” This notion provides the framework for a discussion about managers’ perceptions of wildlife, as well as later discussion of the concept of professional bias.

The “real environment” is discussed in Baird (2009), where the author established that a decision maker’s preferences and perceptions were prone to be altered as relationships with governmental policies, economies, local land use strategies, ecological processes, and environmental certainty shift. The author states unequivocally: “Understanding these entangled relationships is of critical importance as we move into an era of increasingly dynamic social and environmental contexts.”

So then what role does wildlife play in these interconnected relationships? Kaltenborn, et al. (2006) suggested that

“Wildlife management policies are often based on expert perceptions of the ecological importance of certain species and poorly informed perceptions of how public attitudes

toward management are formed. Little is known about why preferences vary greatly and how this affects support for management actions.”

This implied that wildlife management policies are often flawed by a strong reliance on potentially incorrect expert perceptions, and a public that may have an incorrect perception of management decisions or functions.

Not only is the public likely to have inaccurate policy perceptions, but Muth et al. (1998) further offered that wildlife managers are also prone to disagree about the appropriateness of various management policies. Muth stated specifically that “Identifying and reconciling disagreement within the agency will allow wildlife agencies to develop a single, cohesive management policy that will be essential in leading the direction of wildlife control in the future.” This quote acknowledges that wildlife managers are prone to disagree not only with the public but with each other. However, it also suggests that effective policies are possible.

However, it is not merely policies and people who are dynamic, so too are wildlife. As urban environments develop an increasingly rural aesthetic, the animals living in “fringe” areas – the spaces between urban and rural habitats – continue to adapt. This adaptation process often leads to wildlife behaviors that are unconventional (consider previous example of white-tailed deer breaking through storm door windows). Ditchkoff et al. (2006) documents the increasing presence of wildlife in urban areas, pointing out how pressure to adapt to such conditions can lead to different behaviors than their non-urban animal counterparts. The greening of urban areas creates opportunities for wildlife survival, but also causes a shift in animals’ once reliable behavior. Changes in stimuli, stresses, etc. from the rural to urban lifestyle lead to “rapid microevolution” – changes in physiology of localized populations. In other words, just as humans who live in rural settings would likely alter their behavior if forced to live in an urban

area, the same can be said for wildlife. For example, a coyote living in the forest will have different survival strategies and behaviors than one living in a prairie, cornfield, or suburban backyard. The food, disease, space, access to mates are all different. This makes managing for wildlife difficult, especially when considering how little research has been devoted to these rapid microevolutions. Ditchkoff et al. (2006) addresses the notion specifically in the abstract:

“Once considered to be unsuitable habitat for most wildlife species, urban/suburban areas now host an array of wildlife populations, many of which were previously restricted to rural or pristine habitats. The presence of some wildlife species in close proximity to dense human populations can create conflict, forcing resource managers to address issues relating to urban wildlife. However, evidence suggests that wildlife residing in urban areas may not exhibit the same life history traits as their rural counterparts because of adaptation to human-induced stresses. This creates difficulty for biologists or managers that must address problems associated with urban wildlife.”

The authors allowed for the idea that there is immeasurable aesthetic value to having wildlife in an urban setting. However, they also suggested that when wild animals are in close, regular proximity to high human densities, there can also be substantial negative connotations. “Wildlife residing in urban landscapes pose considerable challenges to resource managers, biologists, and conservationists. With increasing numbers of wildlife-human conflicts in urban areas, and increasing numbers of wildlife species that inhabit semi-urban/suburban areas, it is essential that we develop a better understanding of urban wildlife.”

Managing people and wildlife for mutual benefits

In an examination of Los Angeles fringe areas, Nelson (2008) discussed that “wildlife management” has increasingly become more about managing humans than animals. This is contradictory to historical/conventional management techniques – including those of Leopold discussed earlier. Conventional wildlife management focuses on hunting and fishing limits,

seasons, and permits. Managing for humans and non-consumptive recreation focuses on public education and the factoring of sociopolitical issues into mainstream biological approaches. Policies (including educational strategies) are in place and initial feedback suggests that managers have been successful in accommodating large wild animals on the urban fringe, while simultaneously offering the opportunity for residents to develop a greater understanding of their surroundings through interactions with those same animals. Further understanding and development of this management strategy may pay dividends for park managers, particularly those in Illinois who may not actively consider such variables.

Nelson (2008) provided insight into how managers might address wildlife-related concerns in rural-urban fringe areas. She also reported that such encounters are meaningful and impact both human and animal in a variety of ways, from very positive to very negative. However, in examining wildlife, she primarily focused on large predators such as cougars and bears; neither are currently present in Illinois. While fringe areas are common in Illinois, dangerous species are not. Though once present, most of the once-dominant predators, including cougar and wolf have been extirpated from the Illinois landscape. Currently, the apex predators are coyotes, a species of little direct threat to humans. Gehrt et al. (2009) considered coyotes within the city of Chicago, and the authors point out that beginning in the 1990s, coyotes have been increasing in population within the city.

Using radiotelemetry, it was determined that while coyotes greatly preferred rural habitats far from significant human habitation, they were capable of tolerating people and had little trouble propagating in urban areas. What this ultimately suggested was that coyote populations will likely persist, regardless of management strategies.

Not all wildlife react to humans like coyotes. Loyd and Miller (2010) considered Illinois residents' preferences regarding feral cat management. Though once house cats, feral cats are those that have "gone wild" and are no longer habituated to humans. Feral cats need to be managed in many areas, as the felines impact Illinois wildlife directly by killing native animals such as birds and rodents, and indirectly by outcompeting animals such as foxes and hawks for the same resource. The authors were unable to determine if the public viewed the cats as wildlife or domestic pets, though the data seems to suggest a healthy mix of both definitions.

Illinois wildlife in policy and practice

Definitions of wildlife vary among the public. With a growing number of Illinois natural areas being preserved or restored, park and recreation management research has embraced the variables that come with such decisions. Key among these variables is that wildlife and naturalness are beneficial to people. Additionally, environmental science and restoration ecology literature has made efforts to further understand the changes in wildlife behavior. This section will explore the public's desire for increased access to natural areas and wildlife and explore some of the Illinois-specific variables relevant to managers. This will be accomplished through the consideration of literature across the spectrums of social and conventional sciences, as social scientists have identified the need for such spaces and conventional scientists have identified strategies for maintaining those spaces.

Backlund et al (2004) pointed out that Illinois land managers need to increase the amount of open space within their jurisdictions. However, open space increases habitat for wildlife. For example, forested areas will likely become habitat for creatures such as raccoons – a species potentially considered as a nuisance to surrounding communities.

While Backlund et al. (2004) considered the whole of Illinois and the need to increase the amount of publicly accessible nature-based lands, Mangun et al. (2009) specifically examined southern Illinois residents' awareness of the Cypress Creek National Wildlife Refuge – an area specifically created to provide habitat for wildlife. Proximity to the site played a role, though not necessarily the expected one; residents nearest to the NWR were least aware of the site, its reputation, and its importance. This suggests that while isolated parks or preserves may be appealing to those unaccustomed such a setting (metropolitan Chicago residents, for example), the same spaces may have less appeal/significance for residents more accustomed to such rural conditions. In terms of management implications, by definition, NWRs are created and maintained specifically for the purpose of maintaining functional habitats for animals. Indeed, recreational opportunities are secondary to ecosystem integrity. However, the authors acknowledged that increasing public awareness of wildlife and wildlife benefits will be a vital ingredient if conservation efforts are going to continue. In other words, Cypress Creek NWR was created for the sake of wildlife conservation, but Mangun et al. also allow for the idea that if managers do not recognize the value the animals they conserve have for people, the NWR may not endure.

Illinois is a large, lengthy state with various attitudes and perceptions spread throughout. The Chicago area, in the north, is not only geographically the polar Illinois opposite of the Shawnee Hills in the south; indeed, the ways of life and values of those residents can be quite dissimilar. That said, while there may be topographic, political, and religious differences in the various regions of Illinois, one theme that seems to remain constant is the appreciation of nature-based recreation areas. Gobster and Westphal (2004) examined the user preferences that relate to a 150 mile stretch of the Chicago River corridor. The area incorporates ecological, recreational,

and heritage greenways, as defined in Fabos (1995). The corridor supports a variety of ecosystems, and, in turn, wildlife. Additionally, the area features popular bike trails, an ever-increasing boating population, and is considered the U.S.'s first "National Heritage Corridor," boasting numerous areas of historical significance.

Just as Backlund et al. (2004) pointed out the desire for increased nature-based recreation opportunities, Gobster and Westphal (2004) similarly found that "naturalness" was a key component to visitor's appreciation for the corridor. Specifically:

"Naturalness is a key dimension that people relate to in any ecosystem, no matter how urban it is. When focus group participants talked about the characteristics of the river that were important to their enjoyment and use, more than 40% of their comments referred to the natural environment, with vegetation and wildlife particularly adding to their experience of the river."

Mankin et al. (1999) is the most comprehensive study that considered the attitudes and perceptions that exist toward Illinois wildlife. The authors classified survey respondents into "metro" (urban) and "non-metro" (rural) Illinois residents. Most noteworthy however is that the article approaches the topic from both social and environmental science perspectives, acknowledging the need to consider each. The authors acknowledge the work that has been done regarding perceptions of wildlife management, suggesting that it

"could logically motivate wildlife agencies to relate to the public in much the same way that market researchers develop and promote products; perhaps wildlife programs need to be carefully marketed to targeted groups based on a thorough understanding of the relevant knowledge, attitudes, and behavior of that group."

This suggests that not only should Illinois park managers be cognizant of the presence of wildlife, but that they should also take into consideration the perceived desirability of those animals. A deeper knowledge of localized public perceptions would allow managers to market their parks by emphasizing the presence of popular species. Further, managers would have the

increased ability to know which negatively-perceived species to leave out of marketing campaigns or which were in greatest need of a public perception facelift.

Additionally, Mankin et al. (1999) provided compelling reasons for Illinois resource managers to communicate “with the various cross-sections of society,” thereby increasing residents’ awareness of wildlife. The article stated that managers have allowed themselves a “crude and conservative indicator” of residents’ interest in wildlife conservation and related issues by only considering their participation in wildlife-related activities. The authors’ solution is to prioritize conservation education as they believe that is preference of residents and that “a high percentage of residents believe that wild animals add value to their lives.”

The premise that wildlife adds value to Illinois residents’ lives is perhaps the chief focus of this manuscript. This section suggested that wildlife is a component of naturalness, and that both wild animals and natural areas are beneficial to people. While both social and conventional scientific literature acknowledges that wildlife and natural areas are beneficial and highly values, there is also research that suggests that managers are not actively considering wildlife in their decision making processes. The next section will explore one possible reason why that may be the case.

Professional bias in decision making and park management

Literature has demonstrated that wildlife and natural areas are important to Illinois residents. However, it is apparent that wildlife is generally not among managers’ chief concerns. It is important to understand why that is the case. One possible reason is the concept of professional bias.

As a northern Illinois outdoor education instructor, it was frequently my job to take students into the forests, prairies, and floodplains surrounding the Kishwaukee River. I would

lead hikes both day and night, fully aware that something as simple as the time of day could dictate the things that we saw and learned. One of the conversations I would regularly have with students involved their favorite Illinois animals. Often, when I pointed out that those species were present in the park we were about to hike through, the student would smile, and their eyes would flash a certain spark of excitement.

Over the course of many years of hiking, I began to notice a pattern. Students would most often “see” their favorite animals. Coyote-lovers saw coyotes; deer-lovers saw deer, and so on. A few students even saw wolves, though that particular canine has been absent from the area for well over a century. What this point is meant to illustrate is that people tend to see what they look for.

Just as many of the students I worked with were prone to see only what they looked for, so too can managers be prone to similar behavior. When hiking, it is incredibly difficult to look to the skies for birds, to the ground for snakes, in the grass for rabbits, and in the water for fish. Indeed, the public expects managers to seek answers, no matter where they may be hidden. Managers look for what they are trained to see or are most able to discern. Further, managers are apt to utilize their training to solve problems. Through their training, managers become sensitized to specific issues. Professional training, formal or otherwise, directly impacts the manner in which people examine a situation and how they go about addressing that situation. For example, how does a person look at a forest? A classically trained forester might only see opportunities for timber harvest. A more modern forester may see multi-use opportunities. A restoration ecologist may view an ecosystem and an opportunity for preservation. A recreationist may notice an area suitable for the development of hiking trails. A baker may only see walnuts suitable for cake making. Examples could continue limitlessly. Easy to forget, however, is that

each of these characters is looking at the same forest; and though they perceive it differently, they are all correct in how they see it.

Professional bias is the notion that decision makers are influenced by their training and professional status. Though there is some varying terminology, it generally refers to situations in which those on the agency/management level are unknowingly disconnected with the attitudes, values, and expectations of the general public. Professional bias has manifested itself in a variety of professional arenas, and land use and wildlife decision makers are no exception. According to Stewart et al. (2009), “the significance of agency cultural bias has spawned a literature stream exploring the impacts of professional bias on decision-making.” DeWit and VanDerWerf (1997) in discussion of training in environment and development went as far as to suggest that “most of today's development experts have professional biases.” Professional bias affects attitudes, feelings, and expectations, and exists in various forums. For example, in possible public use of renovated water, health officials and consulting engineers had two distinct ways of defining the same problem. Sims and Baumann (1976) found that the responses of both groups not only reflect their professional expertise but also reveal their professional biases. As originally discussed by Sewell (1971), when concerned with water quality, public health officials most often focused on health problems while engineers were generally more concerned with increasing costs of production. On the other hand, when concerned with solutions to environmental problems, public health officials relied upon issuance of a warning followed by litigation, whereas engineers emphasized construction of facilities.

In discussing the constraints of environmental information processing, Winter and Koger (2004) refer to a similar concept as “pre-existing biases.” These biases are the culmination of a lifetime of experiences, successes, and failures. The authors suggest that while preexisting

beliefs are necessary to cope with a chaotic world, they can also “potently affect our perception and interpretation of an event.” Just as health officials and engineers viewed the same situation quite differently, so too did Cvetkovich and Earle (1992) describe the following interpretations of a traffic accident involving a trailer carrying 11,000 pounds of radioactive uranium that overturned and burned:

A representative of the antinuclear group Nuclear Information and Resource service (said) that “People should be plenty concerned,” since the accident signaled more trouble in the future: “Accidents happen at the same rate to nuclear shipments as for all other shipments – one per every 150,000 miles the truck travels.” In contrast, a representative for the U.S. Council for Energy Awareness, which is supported by the nuclear industry, took the accident as a signal of assurance: “The system works,” he said. “We had an accident including fire and there was no release of radioactivity.”

In addition to viewing the same events and situations differently, professional bias also manifests itself in other fashions. Freudenburg and Gramling (1994) provided evidence that an effect of professional bias is connected to experts thinking that they merely need to educate the public to bring them in line with managerial thinking or values. Through examination of offshore oil policymaking in Louisiana and northern California, Freudenburg and Gramling (1994) found that Louisiana residents were far more supportive of drilling than their California counterparts. The Mineral Management Service (MMS), whose professional staff often has a background in petroleum engineering and working with oil companies, identified California residents as the outliers, suggesting that they could be sold on the idea of drilling through a simple re-education process. Freudenberg and Gramling (1994) posited that counter to agency beliefs it was not California, but Louisiana residents who did not accurately represent views of the nation as a whole. They further argued that MMS professional bias – of whom managers were most often born and bred in Louisiana or Texas – not only led to that incorrect belief, but also hampered their efforts to effectively deal with the strong public opposition that occurred in California.

Specifically, agency bias often manifests itself in the form of public re-education projects when, in fact, evidence often suggests that it is the agency belief structure that needs to be reconsidered. While oil agency officials began with the idea that off-shore extraction had more positive than negative aspects, that notion became so systemically entrenched that at some point the agency mission evolved into advocacy.

Applying the concept more squarely to land management, Fairfax and Fortmann (1990) documented this notion in an article that asserted that forestry management practices and attitudes developed in the United States in the early 1900s have not been as dynamic as the world around them. Arguing that tenets popularized by Gifford Pinchot have stubbornly held favor, the authors suggest this non-shift in practice has played a role in the forestry failures of some developing countries. Fairfax and Fortmann (1990) posit that “The ideology of renewable resource management is comprehensive, explicitly preached, and has for a long period of time been fervently adhered to.” In this instance, professional bias manifests itself in its purest form – by simply being disconnected from public values. In short, public forest values have moved away from focus on timber to account for a wide range of consumptive and non-consumptive forest values. Gifford Pinchot and the United States Forest Service (USFS) quite literally wrote the book on forestry techniques. As might be expected, a shift in public values may not be readily apparent to agency managers, particularly when that agency has operated for many years utilizing well-tested best practices.

Yaffee (1995) documented issues of professional bias within the USFS specifically related to the Spotted Owl controversy of the 1970s, 1980s and early 1990s. A nationwide debate was sparked involving preservation of the endangered owl and the jobs of foresters charged with the task of logging in the old growth forests in which those owls lived. The USFS was charged

with managing in accordance with both seemingly opposing value sets. Following the nearly decade and a half in which it took to resolve the situation, Yaffee (1995) provided insight into the agency-level miscues that led to the inability to find a resolution. At the top of the list was professional bias. Yaffee (1994) suggested that the Forest Service's organizational culture had an influence on the values of agency personnel. Failure to identify changing public values directly led to their inability to identify strategies to cope with those values.

While some norms are culture-specific and some are created by an individual or organization, all serve to provide predictability for their owners... Norms are energy-conserving, and they help each of us deal with what would otherwise be remarkably complex set of human and human-environment interactions. Organizations similarly develop elaborate sets of rules, or standard operating procedures, that govern the behavior of the individuals within them. For example, the Forest Service has written and unwritten norms and standard procedures that determine who gets hired, who gets promoted, what kind of contractors are awarded timber contracts, what kind of safety procedures are used, what kind of objectives are legitimate or considered a priority, and thousands of others... For organizations like the FS, these sets of rules and norms are critically important, because their staffs cannot deal with every decision on a case-by-case basis... These same norms and rules, so important for dealing with day-to-day operations of an agency, can be ineffective or even counterproductive in dealing with nonroutine situations, like the spotted owl case.

Just as described in Fairfax and Fortmann (1990), the USFS did not recognize that their practices were no longer in line with public opinion, nor did the agency understand the diversity of those opinions. While the USFS treated the initial debate as logging versus environmentalists, it was in reality a much more nuanced dispute. Just a few of the key players included the USFS, the public at-large, the town in which the logging was to take pace, and the Sierra Club. Failure to initially understand the depth of the issue created a situation in which not only could those involved not agree on a solution, in fact, they could not even agree on how to define the problem.

After the debate dust settled, Yaffee (1995) offered solutions to minimize the effects of professional bias. He suggested that agency leaders must encourage and reward the good ideas of their staffs, seek opportunities to promote organizational innovation, and monitor the political

environment in which they function, while responding to associated needs and opportunities. Further, Yaffee (1995) suggested that for agencies in the natural resources and environmental realm, leaders should “encourage their staffs to monitor, develop, and use science and techniques close to the forefront of knowledge.” The author believes that seeking change while simultaneously remembering the lessons of the past will lead to organizations that are time-tested and trustworthy, yet dynamic enough to respond to a variety of challenges. It seems logical that these same premises could be effectively applied to Illinois managers as they consider – or don’t consider – wildlife-related issues.

Neilsen’s (2001) suggestion that “the practice of natural resource management is partly a scientific/technical subject and partly a social decision-making process” falls succinctly in line with Yaffee’s arguments, and provides the backbone for the professional bias section of this manuscript. What one calls “truth,” another might call “bias.” What one calls “bias”, another may call “values.” In the context of park and recreation management, a field that requires expertise across multiple disciplines, there may even be several definitions or manifestations of professional bias. Regardless, managers cannot simply walk away from the manner in which they have been professionalized. That orientation is the way in which they see the world; and while that worldview may not be incorrect, it may also not be reflective of the citizenry who they represent. Within the context of city parks, the interplay of wildlife-related professionalization – or lack thereof – with public values of wildlife is an unexplored phenomenon, but one that could potentially exist based on aforementioned literature. While not stated explicitly in literature that city park managers with wildlife management training are predisposed to a certain worldview, investigation of potential patterns may be a worthwhile endeavor.

The literature examined to this point suggests that:

- 1) Wildlife is a significant part of modern culture;
- 2) Human perception of wildlife is varied and prone to situational effects;
- 3) Wildlife management frequently tends to be a reactive rather than proactive process and there is little evidence that wildlife issues are considered prior to restoration/acquisition decisions;
- 4) Wildlife management is as much about managing people as it is about managing animals;
- 5) Illinois has wildlife management challenges different from many other states;
- 6) Professional bias may influence restoration/acquisition decisions or opinions regarding wildlife.

While Illinois park managers may be responsible for considering a wide range of issues and perceptions, they are at a distinct disadvantage when not given information and insight that is both adequate and accurate. With that in mind, we will attempt to identify what factors impact the decision making of Illinois park managers. Second, we will determine to what extent wildlife-related issues play a role in these same decision making processes. Specifically, we will document if those issues are considered prior to land acquisition/restoration. Third, we must also consider the possibility that professional bias plays a role in wildlife-related decisions. From there, we can offer solutions to management problems of which some park administrators or practitioners may not even be aware and suggest realistic strategies for improving practices effecting both people and animals.

CHAPTER 3: METHODS

Introduction

This study examines the priorities of Illinois city recreation departments and park districts, particularly their prioritization of wildlife habitat and benefits in acquisition and restoration decisions. Further and specifically, this study seeks to answer the following questions:

- 1) What factors impact land acquisition/restoration-related decision making of Illinois park managers?
- 2) What if any role do wildlife-related issues play in Illinois park managers' land acquisition/restoration decision making processes?
- 3) What if any role does professional bias play in relation to wildlife in park management?

A mixed methods approach was utilized to answer these questions. A self-administered questionnaire was distributed statewide to all Illinois park districts and city recreation departments that included a rank order question relating to the role of wildlife in decision making. Responses to the questionnaire were then used to identify a purposive set of managers who would participate in follow up telephone interviews. The primary purpose of the telephone interviews was to gain a deeper understanding of nuances perhaps not fully illuminated by the survey instrument. Additionally, the interviews sought to triangulate findings initially reported in the self-administered surveys, increase the validity of the questionnaire findings, and perhaps reveal additional factors not disseminated through the survey instrument.

Study background

This research project was part of a collaborative effort between the Illinois Department of Natural Resources (IDNR) and the Office of Recreation and Park Resources at the University of

Illinois (ORPR). The primary objective of both parties was to develop a database for future use. The IDNR's intentions were to develop an accurate profile of agencies applying for their grant funding. ORPR was primarily concerned with facilitating discussion about park development in the state.

The collaboration manifested itself in 2008, when ORPR and IDNR partnered to implement a statewide survey of park districts and recreation departments. With analysis provided by ORPR, IDNR utilized that information to develop stronger grant allocation practices.

Seeking to expand and update their existing records, ORPR and IDNR partnered once again in early 2010. IDNR goals were stated as follows: "The information gathered in the survey is used by the planning Division of IDNR in the development and updates to their Statewide Comprehensive Outdoor Recreation Plan (SCORP). The data is also used by the Grant Division in their review processes." Both parties hoped to expand the number of respondents and the depth of their databases, this time defining and taking into consideration previously unexamined topics, including natural areas, environmental centers, dog parks, medical service agreements. The wildlife-related decision making data collected for this study was an additional set of information beyond the objectives of the ORPR/IDNR partnership.

Population

The study population is Illinois park district and city recreation department managers. It is worth noting the differences that exist between the two entities. City recreation departments function as part of city government. Their budgets are generally allocated by city councils and are supported by the same tax revenue used to pay for other public services such as sanitation,

public libraries, and fire departments. Recreation managers generally report directly or indirectly to the city's mayor, who is charged with the task of representing the public good and the interest of the taxpayers.

Park districts are funded through tax revenue independent from that garnered by the city or county. They are self-managing, and answer to publicly-elected Boards of Commissioners that are charged with making decision and recommendations in accordance with the wants and needs of the tax-paying public.

The sampling frame of the self-administered questionnaire was based upon an existing ORPR database of contacts, coupled with missing information provided by the Illinois Association of Park Districts (IAPD) and the Illinois Municipal League (IML). The goal of the sampling frame was to include any and all Illinois agencies that met the definition of a park district or city recreation department. To make the most inclusive list of park districts and city recreation departments, combining the resources of ORPR, IDNR, IAPD, and IML resulted in the most complete sampling frame. Each entry on the sampling frame was sampled; In other words, a census was taken. Of the 463 agencies on the list, 293 (63%) responded to the questionnaire.

Procedure

Self-administered Questionnaire

The survey was conducted April – June 2010. The self-administered questionnaire could be completed either via mail back or online formats. In the initial mailing to each agency, a cover letter explaining the study and requesting a response was sent. The letter informed the prospective respondent that they could complete the questionnaire either through a printed hard

copy or directed them to a website address for an online version. For agencies of which ORPR already had email contact information, these agencies were sent an email encouraging participation in the study using either format. In total, 56% responded via the mail back option and 44% responded via the online option.

The initial mailing revealed that several addresses were no longer accurate. Updated mailing information was gathered with the assistance of the ORPR staff and mailings with corrected addresses sent by early May. For non-respondents, ORPR staff members made phone calls and sent emails approximately every two to three weeks to encourage a response. Responses were gathered over the course of approximately 4 months.

Included as part of the questionnaire was an item directed at the factors considered in land acquisition and restoration decisions. The item asked respondents to rank order a list of nine factors in terms of their importance. The item is stated below:

Table 1: Ranking Factors in Land Management (from questionnaire)

When deciding about the acquisition or restoration of natural areas, where do the following factors rate? Please rank them from most important (1) to least important (9).

- a. ___ adjacent property owners
 - b. ___ aesthetics of property
 - c. ___ community support
 - d. ___ cost
 - e. ___ ecological/environmental value of property
 - f. ___ location of property
 - g. ___ recreational values
 - h. ___ watershed/water management values
 - i. ___ wildlife habitat/benefits
-

The factors listed were developed following conversations with colleagues and experts, personal experience of the author, and review of pertinent research and technical reports.

Interviews

Follow up telephone interviews were conducted after preliminary analysis of the questionnaire. The follow up sample of phone interviews attempted to identify a representative group of Illinois park and recreation managers that: 1) Reflected wildlife ranking variability across a high, medium, and low spectrum, 2) Variability in the size of population served, and 3) Representative of diverse Illinois geographic locations, divided into north, central, and south categories. Information on each of these criteria was gathered from the self-administered questionnaire. See Table 2.

Table 2: Criteria for follow up interview selection

Criteria are defined as follows:

1. Wildlife ranking
 - A. High (Ranked wildlife habitat/benefits between 1 and 3 on survey)
 - B. Medium (Ranked wildlife habitat/benefits between 4 and 6 on survey)
 - C. Low (Ranked wildlife habitat/benefits between 7 and 9 on survey)
 2. Population served
 - A. Large (75,000 or more residents)
 - B. Medium (15,000 – 74,999 residents)
 - C. Small (14,999 or fewer residents)
 3. Geographic location within Illinois (For maps, please see appendices C and D.)
 - A. North
 - B. Central
 - C. South
-

The interviews were conducted to provide additional insight on the importance of wildlife in decision making and to allow an interactive form of response that implemented the questionnaire. The purpose was to gain insight into the role of Wildlife Habitat/Benefits in decision making. The follow up interviews were conducted by telephone in July 2010, and sought to shed further light on roles for wildlife in acquisition/restoration decisions, and effects, if any of professional bias in those decisions. Nine core questions and a varying number of appropriate follow up queries were asked in the unstructured telephone interviews. Each sought to help determine the reasons for which managers ranked variables in a certain manner on the initial survey and/or to clarify points. The phone interview questions are found in Table 3.

Table 3: Semi-structured Phone Interview Core Questions

1. Restatement of survey question: Please list/rank factors that impact decision making regarding land acquisition or restoration.
 2. Do you feel as though public attitudes regarding wildlife affect your decision making? In what ways?
 3. What workshops or training sessions have you attended in the last two years?
 4. Were any of those workshops related to the issue of land acquisition or restoration?
 5. In what subject areas would you like training or further training?
 6. Do you consider habitat preservation a significant part of your job description? Why or why not?
 7. Do you consider wildlife important in your life? How so?
 8. What is your job title?
 9. What is your educational background?
-

Fifteen potential interviewees were contacted. A total of 12 agreed to participate, with three others unresponsive to email inquiries. Of those 12, five ranked wildlife of a high importance, three ranked wildlife of a medium importance, and four ranked it of low importance. Five were located in the northern part of the state, four in the central, and three in the south (For explanatory map, see Appendices 3 and 4). The size of populations served was split evenly three ways, with four in each of the large, medium, and small categories. Six agencies were park districts; the other six were city or village recreation departments. See Table 4 for a list of agencies included in the interviews as well as their general information.

Table 4: Follow up Interview Agency Profiles

<u>Park District/City Dept.¹</u>	<u>Population</u>	<u>Wildlife Significance</u>	<u>IL Region</u>
Alton (City)	Medium	High	South
Benton (PD)	Small	Low	South
Brookfield(City)	Medium	Medium	North
Coal Valley (City)	Small	Low	North
Elgin (City)	Large	Medium	North
Flanagan (PD)	Small	High	North
Metro East Park(City)	Large	Low	South
Pekin (PD)	Medium	High	Central
Peoria (PD)	Large	High	Central
Romeoville (City)	Large	High	North
Wheaton (PD)	Medium	Low	North
Urbana (PD)	Medium	Medium	Central

¹ (City) denotes city or village recreation department; (PD) denotes park district

Managers included those in various roles. The interviewees titles were: Executive Directors or Directors, Park Board Presidents, Planners, Recreation Program Coordinator, Village Administrator, and a dual interview with a Parks Superintendent and a Director of Parks and Recreation. Of these 13 individuals representing 12 organizations, 4 were female. Specific names of individuals and their agency responsibilities will remain anonymous.

Analysis

Interviews were transcribed and analyzed to determine insight into the research questions of this study. The first step was to analyze the rank order of Wildlife Habitat/Benefits in land

acquisition/restoration decision making. Respondents were categorized based upon their answers to the rank order (wildlife) question on the IDNR/ORPR survey. Respondents ranked Wildlife between one (1) and nine (9) with one being most significant and nine being least significant.

A limiting factor was the complexity of the rank order question. Of the responses to this question 18% were not usable due to the question being left blank or with “N/A” inserted on the questionnaire. In addition, a significant portion of unusable responses were instances of the same rank number being used multiple times. In light of the respondent burden of this difficult question and in recognition of the lack of precision with responses, the rank order was collapsed into three categories of High, Medium, and Low. Factors ranked by respondents as first, second, or third are categorized as HIGH, fourth through sixth are categorized as MEDIUM, and seventh through nine are categorized as LOW.

The Chicago Park District (CPD) returned a questionnaire, however their responses were not utilized in the analysis. The CPD is so much larger than any other agency in the state of Illinois that aggregating their responses would require more analysis than is appropriate for this particular study. For example, the CPD reported an annual budget of approximately \$392,000,000; the next highest annual budget reported was approximately \$66,000,000 or 16.8% of CPD. Because of the enormous size of CPD compared to any other agency in the study, we removed them from the analysis.

Numerical analysis was conducted utilizing PASW Statistics 18.

CHAPTER 4: RESULTS

The primary questions addressed in this study are:

- 1) What factors impact land acquisition/restoration-related decision making of Illinois park managers?
- 2) What if any role do wildlife-related issues play in Illinois park managers' land acquisition/restoration decision making processes?
- 3) What if any role does professional bias play in relation to wildlife in park management?

Utilizing the methods outlined in the previous section, which included self-administered surveys as well as telephone interviews, this section will detail the study's findings.

Table 5: Descriptive characteristics of respondents to self-administered questionnaire:

Agency type:

Park District:	61%
Recreation Dept:	39%
Total:	100%

Size of Community Served:

Large:	6%
Medium:	42%
Small:	52%
Total:	100%

Geographic Location:

North:	66%
Central:	21%
South:	14%
Total:	100%

Significant factors for land acquisition decisions

A list of significant factors for land acquisition decisions was developed with insight from literature, and review by ORPR and IDNR staffs. The importance of wildlife factors for decision making was framed in a rank fashion, and asked respondents to order each factor by priority in relation to acquisition of park land within their organization.

Perhaps not surprisingly, cost was cited far and away as the most important factor, and was viewed by respondents as a prohibitive or limiting factor. Fifty four percent of respondents ranked Cost High. On the other end of the spectrum, Adjacent Property Owners was ranked as the least important variable, with 55% of respondents ranking it low. See Table 6.

Table 6: Decision Making Factor Ranking Summary

Factors (ranked in order from most to least significant)	HIGH	MEDIUM	LOW	TOTAL
Cost	54%	27%	20%	100%
Location of Property	44%	30%	26%	100%
Environmental/Ecological Value	42%	34%	24%	100%
Community Support	39%	39%	22%	100%
Recreational Value	36%	39%	25%	100%
Wildlife Habitat/Benefits	23%	37%	40%	100%
Watershed/Water Management Values	27%	30%	44%	100%
Aesthetics of Property	17%	35%	48%	100%
Adjacent Property Owners	19%	26%	55%	100%
N = 239				

Note: Shaded area indicates the modal ranking for that factor.

Factors ranked between second and eighth in importance included (in order): Location, Environmental/Ecological Value, Recreational Value, Community Support, Wildlife Habitat/Benefits, Watershed/Water Management Values, and Aesthetics of Property.

In addition to Cost, Location and Environmental/Ecological Value were also ranked High, at 44% and 42% respectively. Factors ranked Low included Aesthetics of Property (48%) and Watershed/Water Management Values (44%).

Factors ranking Medium were somewhat less clear. This is perhaps not unexpected as these factors represent the statistical middle of the sample. Numbers four through six, ranked in order were Community Support, Recreational Value, and Wildlife Habitat/Benefits.

In the follow up interviews, the inclusiveness of factors affecting decision making was largely reinforced, as 11 of 13 interviewees suggested that they did not feel any decision making factors had been omitted from the list. However, two interviewees made single additions to the survey list: “overall master plan” and “political implications.”

The role of wildlife-related issues in park managers' decision making processes

Of the factors ranked by respondents in the self-administered questionnaire, the factor of greatest interest is Wildlife Habitat/Benefits. This sub-section provides analysis of both the survey, and reflects the analysis of the interviews.

Questionnaire results

The self-administered questionnaires revealed that Wildlife Habitat/Benefits had a wide range of importance levels depending on agency.

The questionnaire sought to measure a wide variety of variables, not simply those related to wildlife. Responses to questions in several other categories were analyzed to determine if positive relationships existed between those variables and Wildlife Habitat/Benefits responses. Using Chi square analysis, five variables were positively associated with Wildlife Habitat/Benefits. These were: 1) If the agency has trails set aside specifically for hiking, 2) Total park acres under management, 3) Number of acres of natural areas, 4) If the agency has a person specifically designated to manage natural areas, and 5) Population size of the community served. These positive associations are illustrated in Tables 7 – 11.

Table 7: The Relationship between Wildlife and Hiking Trails

Wildlife Habitat/Benefits Ranking	Hiking Trails		
	No	Yes	Total
Low	45%	26%	39%
Medium	38%	39%	38%
High	16%	36%	23%
Total	100%	100%	100%

N = 211

$\chi^2 = 12.401$, df=2, p=.002

Table 7 describes the frequency with which agencies with or without natural surface hiking trails ranked Wildlife Habitat/Benefits. As shown in Table 7, agencies without hiking trails listed are almost twice as likely to rank wildlife Low compared to agencies with hiking trails; compare 45% to 26%. Further, agencies that ranked wildlife High were more than twice as likely to have hiking trails as those that ranked wildlife Low; compare 36% to 16%.

Table 8: The Relationship between Wildlife and Total Acres Managed

Wildlife Habitat/Benefits Ranking	Acres under management		
	1000 or less	1001+	Total
Low	42%	16%	39%
Medium	36%	48%	38%
High	22%	36%	23%
Total	100%	100%	100%

N = 235

$\chi^2 = 6.558$, df=2, p=.038

Table 8 describes the positive relationship that existed between Wildlife Habitat/Benefits and the total number of acres under agency management. As shown in Table 8, those agencies who held 1,000 acres of property or less were more than two and half times more likely to rank Wildlife Habitat/Benefits Low as compared with agencies that had more than 1,000 acres; compare 42% to 16%. Whereas those agencies that held 1,001 or more acres of property were better than one and half times more likely to rank Wildlife Habitat/Benefits High; compare 36% to 22%.

Table 9: The Relationship between Wildlife and Natural Area Acres

Wildlife Habitat/Benefits Ranking	Number of natural area acres			Total
	0	1 - 100	101+	
Low	40%	46%	26%	40%
Medium	45%	33%	41%	37%
High	15%	22%	33%	23%
Total	100%	100%	100%	100%

N = 225

$\chi^2 = 9.456, df=4, p=.05$

Table 9 describes the positive relationship that existed between Wildlife Habitat/Benefits and the total number of natural area acres under agency management. In the self-administered questionnaires, this response category was open ended. Respondents provided the amount of natural area space managed by that agency in the number of acres. For the purpose of analysis, the data was trichotomized, and considered agencies without natural areas, as well as those with 100 or more acres of natural areas. As demonstrated in Table 9, agencies with 101 or more acres of natural areas were more than twice as likely as those without natural areas to rank wildlife High; compare 33% to 15%.

Table 10: The Relationship between Wildlife and Natural Area Personnel

Wildlife Habitat/Benefits Ranking	Natural Area Personnel?		Total
	Yes	No	
Low	39%	41%	40%
Medium	30%	44%	37%
High	32%	15%	23%
Total	100%	100%	100%

N = 238

$\chi^2 = 10.821, df=2, p=.004$

Table 10 describes the positive relationship that existed between Wildlife Habitat/Benefits and whether or not the agency employed a staff member (or multiple staff members) specifically for the purpose of developing and/or managing natural areas. Of particular note within Table 10 is that among respondents who ranked Wildlife Habitat/Benefits of a High

importance, they were more than twice as likely to have a staff member devoted specifically to the development and/or management of natural areas; compare 32% to 15%.

Table 11: The Relationship between Wildlife and Community Population

Wildlife Habitat/Benefits Ranking	Size of community served		
	15,000 or less	15,001+	Total
Low	46%	33%	40%
Medium	35%	39%	37%
High	19%	28%	23%
Total	100%	100%	100%

N = 239

$\chi^2 = 4.973, df=2, p=.083$

Table 11 demonstrates the relationship that existed between Wildlife Habitat/Benefits and the size of the community population served by the agency. Though not demonstrated to be statistically significant via the chi square test, the pattern in the table suggests a potential for a systematic relationship.

Not all of the variables compared with Wildlife Habitat/Benefits were statistically significant. Of those that were expected to be but were not significant included: the agency's budget, geographic location, total number of parks, and if they owned/operated a nature/environmental center.

Interviews

While the self-administered questionnaire suggested a varying degree of importance is placed on Wildlife Benefits, what is certain is that wildlife is one of many factors in Illinois park managers' decision making processes. The interviews yielded greater depth and clarity regarding the importance of wildlife. Three themes were identified in the interviews:

1. Nuisance wildlife was a problem or perceived problem in many areas

2. Public value of wildlife was a key factor in decision and policy making
3. Access to wildlife contributed to the value of wildlife

Nuisance wildlife

Nuisance wildlife is any wild animal or group of wild animals that is negatively perceived or causes property damage. Of the 12 agencies interviewed, half took part in sporadic to regular wildlife management and half did not manage wildlife in any capacity. For the most part, complaints from the public were reported to be minor and irregular, and many agencies did not feel compelled to respond. Managers who took part in the follow up interviews also noted that many of the nuisance wildlife situations related to White-tailed deer, Canada geese, and coyotes.

In some situations, wildlife management was deemed necessary. The Peoria Park District put up a deer fence to keep the animals from sensitive plants and, working with the IDNR, hired a sharpshooter to cull the deer herd because “they had become too much of a nuisance and a danger.” The Flanagan Park District did not employ sharpshooters, but have benefitted from the IDNR statewide hunting program which helps keep deer numbers low. “It’s where you grow up and what you learn to live with.”

Meanwhile, though the Urbana Park District is also yet to implement a sharpshooting program, they too acknowledge the situation:

“What many of us are concerned about right now is not how we can incorporate helping wildlife, but how we can avoid nuisance wildlife. It’s just huge because the normal person doesn’t understand how damaging it is to see the deer and the geese and what it does to the park or the natural area because they’re really invasive species there. They don’t belong there anymore. We don’t spend a lot of time talking about how you can get along with wildlife unless you’re talking about enhancing bird habitat.”

Deer were not perceived as a significant problem by the Brookfield Recreation Department, though in the past, staff members had some minor complaints including deer eating plants and raccoons getting into garbage. This has reportedly subsided in recent years. Their only reported instance of active management involved using noisemakers to disperse Canada geese from areas where the birds' fecal matter led to safety concerns. Said the manager:

“I don't think (nuisance wildlife) has grown to an extent in this area to have to worry about any sort of thinning of the deer. Whenever people have concerns about wildlife, that is certainly something I am open to listening to and it's my hope that whatever the situation is we'd be able not to make any radical moves but work in small steps to appease the resident, but also make sure they're not just trying to take their rifles to everything that comes by.”

While not reporting any significant problems with deer or geese, the Wheaton Park District did however note a public outcry over coyotes. Of Illinois predators, coyotes are the largest with stable populations (bobcats are dispersed widely across the state, but with a comparatively small population). While generally not considered a threat to humans, possibly excepting a lone infant, coyotes are opportunists and have been known to attack small pets on occasion. The park district shared this view and saw value in the canines' presence, with the interviewee specifically noting that coyotes are part of a balanced ecosystem and effective predators of nuisance wildlife such as rodents. However, the manager also reported that the public saw the matter differently:

“More recently we've had perceived community problems with coyotes, so much so that the city council was persuaded to hire a trapper and remove three or five of what they considered nuisance coyotes. They're more of a perceptual problem than an actual problem. Don't let your Pomeranian run loose in the yard and we won't have an issue.”

While coyotes are reported to be held in low regard by some Illinois residents, the dislike aimed at them is minimal compared to larger predators such as cougars. Though there are likely no longer stable populations, sightings of the feline predators have been on the rise on recent years. During interviews, two agencies reported cougar sightings; one in Coal Valley, near the Iowa border, the other in the aforementioned Wheaton, a major suburb west of Chicago. This is noteworthy as the mountain lion has been extirpated from Illinois for over a century. The sighting in Wheaton could not be substantiated. In Coal Valley however the interviewee reported that “There have been confirmed sightings of mountain lion back in Illinois now. In fact, here in the Quad Cities there have been two mountain lions killed. The first thing when (people) see a wild animal, they want to shoot it... I don’t understand why they have that reaction but they do.”

These comments about predators serve to illustrate two points: 1) Differing values between public and agency can lead to difficult decisions regarding how to effectively manage wildlife and 2) Predatory animals often elicit a response different than other wildlife perceived to be less dangerous or threatening. While creatures such as geese may be dispersed with comparatively mild strategies such as noise makers, coyotes and cougars are often dealt with using a firm, lethal strategy.

Public value of wildlife

If nothing else, identifying wildlife as a nuisance demonstrates the significance of wildlife – negative as it may sometimes be. However, while many agency representatives expressed concern over the presence of nuisance wildlife in their parks, many of the same managers expressed their enjoyment and in some cases concern for the safety of those animals. This portrays the complex nature of wildlife’s residency in city parks. The same wild creatures

can at once be liked and disliked. Though not every manager interviewed expressed a personal interest in wildlife, each of the interviewees recognized the community and public value that comes with the presence of wildlife. Practitioners were quick to share stories of their positive experiences with wildlife. This section documents a few of those narratives.

For every agency that managed nuisance wildlife, there was another that made conscious decisions to protect wildlife. In fact, Peoria, the same park district that made the decision to cull the deer herd with sharpshooters, concurrently demonstrated a strong effort toward wildlife conservation: In addition to boasting the largest acreage of natural areas, “We have been very involved in breeding the alligator snapping turtle and reintroducing it into natural areas, because it was an endangered/threatened species and for some reason they like breeding here. So we helped the state with that particular problem.”

The Urbana Park District also recognized the inherently complex nature of wildlife management. While they acknowledged the negative impact of wildlife in the previous subsection, they also advocated for the beaver, a species frequently cited as a nuisance. “It’s easier to just get rid of the offending animal and not learn from them. The beavers change the landscape, and our park district culture has gotten to the point where we accept that.” They added:

“One of the things we do whenever we acquire property is to improve the wildlife habitat. We try to evaluate each property for the quality of wildlife habitat that can be created there. It doesn’t necessarily have to be there; in fact we find that a lot of times it is not there and we have to truly create it.”

The Alton Parks and Recreation Department has a 700 acre park featuring access to conventional forms of sports and recreation. The interviewee reported that with regard to decision making, one of the trends in Alton is searching for an effective balance between

“active” (sports-related) and “passive” (nature-related) recreation. Though their 700 acre parcel was initially created with an emphasis on athletic recreation opportunities, they also recognized the value of wildlife and natural areas that are present there:

“But it also has a lot of wildlife. It has turkey, deer. We have a prairie, we have butterflies, birds. And all of those things, to me, are just as important for people that would use the play area, but want to use the space in a passive sense. They want the prairie, they want the green space.”

Furthermore, demonstrating an attitude not present in all Illinois communities, the interviewee added, “We have coyotes out there. Typically people know they’re not going to be bothered by them. If you see one, I consider that a plus.”

In another demonstration of the public value of wildlife, the agency representative from Flanagan shared a story about a group of ducks in which the community took an interest. Someone dropped off a small group of ducks on a lake located in a Flanagan park. Many community members grew fond of the ducks, and made regular trips to the park to see and feed them. Since the ducks didn’t know how to fly, the park district kept them in a barn over the winter and re-released them in spring. “We do whatever we can to preserve the natural environment for fish and maybe a few geese or ducks. I didn’t really like the geese out there, but I know the people in town did.”

Value of wildlife was not merely confined to the public. In addition to the responsibilities that came with their roles as agency decision makers, a number of managers expressed a personal enjoyment of wildlife.

In Wheaton:

“(Wildlife) is really important. That’s why in my own yard I plant natives (referring to native Illinois plants) and have the bird feeders out there. I’m trying to encourage

hummingbirds this spring. There's nothing better than seeing wildlife, especially with the challenges that they have and the environment that we provide for them around here."

In Brookfield:

"To me, (wildlife habitat) is very important. I guess it's sort of a personal thing for me also, but whenever I have the chance to be able to offer an opinion on the open spaces here in town, I am definitely for preserving what wildlife we do have in the area."

Agency decision makers from Benton and Elgin respectively articulated their personal value of wildlife by offering, "I enjoy watching deer and the birds and all kinds of animals" and "Wildlife is a great way to connect with nature."

It is also worth noting that the issue of hunting and reducing wildlife population sizes through lethal means was also mentioned (among other agencies) by Pekin and Coal Valley. The latter offered "I love wildlife. I love to watch the deer. I'm not a hunter. Those animals were here before we were. We have just got to figure out a way to live in harmony with each other." The tone in Pekin was similar. "Everyone wants us to allow hunting in the parks so we won't have so many deer, but we're not going to agree to that. We don't kill things. Our standard reply is 'The deer or the ducks don't belong to us, they belong to God, so we can't control them.' People accept that."

Access to wildlife

The final of three primary themes expressed by park managers involved the notion that for the public to find value in wildlife, they must also have access to areas in which such wildlife is present. For some, the notion that one must have access to wildlife to fully appreciate it may seem like basic intuition. Research has been conducted documenting that among the primary factors in the declining popularity of hunting and fishing is the fact that fewer and fewer children are being exposed to them at young ages. As discussed in the review of literature, wildlife

observation differs from hunting and fishing in that it is not consumptive by definition. However, while the literature documenting that significant of lack of access to non-consumptive recreation resources is less rich, it does not diminish the concept. Furthermore, interviewees stated repeatedly and unequivocally that access to opportunities for wildlife viewing and interaction are quite significant. The topic of access to wildlife can be divided into three categories: Agencies that have space, agencies that do not have space, and agencies have space, but not of the particular variety they would prefer. Interviews suggested that differences between the three categories are generally the result of financial and geospatial issues. Some agencies simply do not have the funds to make such acquisitions. Others are so sufficiently landlocked by either urbanization or topography that only certain types of recreation are possible. In this sub-section we will consider narrative excerpts documenting each spatial issue.

Pekin spoke perhaps most clearly about spatial concerns, and the benefits of having ample access to wildlife. “As we watch sprawl, we’ve come to realize that this public land becomes more valuable.” They added further:

“It’s a little unusual for a park district to have as much property as we’re holding, so we probably are much better at running programs and sporting events and providing facilities than we are at managing natural areas. So our staff and park board became more knowledgeable through (the Land and Water Reserve) registration process and recognized how only how valuable this land was going to be but how valuable it was going to be if we improved it for both habitat and reforestation.”

Alton does not manage as much park space as Pekin. However, the St. Louis-area park district expressed a particular sense of urgency regarding their acquisition decisions. “If we’re going to acquire anything, I don’t want to sterilize it. I don’t want to remove what’s already there,” said the representative from Alton before adding, “People here are very protective of their green space. And I think that encompasses all of it: open land, wildlife.”

Elgin also recognized the importance and feeling of urgency related to wildlife access: “I understand that we are expanding and encroaching on wildlife areas. I think we need to accommodate (wildlife). We are trying to protect stream corridors and green belts. I have the awareness that these are their highways and how they get around.”

Other agencies do not have access to the type of space they would prefer. This is largely a topographic issue. While much of Illinois is the flat, open area that earned it the nickname of the Prairie State, there are also many areas – often aquatic in nature – that are far from level. For example, Peoria’s large quantity of natural areas is not merely the result of an affinity for such spaces, but to some degree is also born of necessity.

“When we’re looking for recreational land, one of our weaknesses is that we don’t have as much flat land as we would like to have. We sit on a river bluff. The topography here makes it very difficult for us now where we’d like to develop a sports complex. I’m probably the only one in the state looking for flat land.”

As it turns out, they are not. Romeoville found itself in a situation similar to that of Peoria. “Out here it’s not like there’s a lot of flat, open areas. The open areas that we are usually able to acquire are wetlands and floodplains and that type of thing. We have so many wetlands here that we need some good flat land” (for playgrounds, etc.).

Of course, in each of the scenarios described so far in this subsection, each agency had access to land that supported wildlife. However, in several other cases, agencies expressed that they were not in possession of such suitable spaces.

In Flanagan the park spokesperson referenced a lack of access. “I wish we had some sort of land that we could acquire around here that had walking trails or something, but we just don’t have that around here. I wish we could purchase some acres with timber on it, but it just isn’t available.” The district was doing the best with its limited resources however: “We plant a lot of

trees at our ball diamond every year. We have a double row of pine trees. We try to leave that as natural as can be. I think that's important for the wildlife."

Benton has a park that is divided by an active set of railroad tracks. The side for which the public has access has been developed and is utilized for conventional sports and features a playground. The other side of the park for which the public does not have access is largely undeveloped and has a population of wildlife. "I wish we could find some use for that land. I think people would enjoy walking around over there and maybe looking for wildlife. That's always been in the back of our mind, but it costs money and that's hard to come by." The Benton spokesperson also offered that while there were currently no plans to allow public access, there was some apprehension about liquidating the space. "I think the public would be very interested" in utilizing the undeveloped space on the other side of the park. There have been calls to sell that space, "but you'll never get that property back if you sell it."

Just as Benton worked to address the issue of accessibility, so too does Coal Valley. Though the city boasts a zoo that allows the public to experience exotic wildlife, there are few outlets to experience native wildlife. The village ranked wildlife as a low priority in their decision making. However, it was suggested that in Coal Valley much of their lower ranking of Wildlife Habitat/Benefits stemmed not from lack of interest, but lack of access:

"Wildlife habitat is not high on our priority list because we just don't have the land for it. I think it's a space issue. Me personally, I'm a big believer in habitat restoration and preservation. But because we don't have that acreage under village control we don't have an active program to do that."

Much like the aforementioned agencies in this subsection, Wheaton discussed the notion of making the most of what they have:

“It’s tough in our specific area balancing the recreational needs with the environmental niche. It’s ongoing. Do you protect the resource or do you love it to death by allowing access? It’s not what I would like to see as an individual, but the reality is Wheaton is a community that has very little land left. There’s not much left here. If we haven’t gotten it already, it’s just not available. (Wildlife Habitat/Benefits) doesn’t rank highly just because it’s not available. We take the little areas we do have remaining and manage those to the highest ability that we can.”

An additional noteworthy nuance in the discussion of access to wildlife related to the perceived divide that existed between sports-based and nature-based recreation. Interviewees repeatedly suggested that they often felt as though they had to choose between the two options. Without any provocation, several referred to sports-based recreation as “active” and nature-based recreation as “passive.”

Each of the agency representatives interviewed demonstrated at minimum a passing interest in wildlife access on either the personal and/or professional level. The overriding theme was that agencies are doing their best with limited resources including funding and/or space. For example, in Romeoville wetlands are pervasive. Because that is what they have access to, decision makers have utilized those spaces as natural areas, even if that is not the preferred option. In Flanagan, decision makers do not have access to natural or wooded areas. In response, they took it upon themselves to plant trees alongside the local ball fields. While few would likely suggest that either situation is ideal or preferred, they are demonstrative of agencies taking active roles in seeking positive outcomes.

These narratives reflected the complex nature of the debate between desirable and undesirable species and the value associated with access to wildlife. Furthermore, the interviews accomplished their intended goals of adding depth to the thought processes of decision makers charged with the task of representing a tax-paying public. Indeed, without the follow up interviews, the initial survey would have yielded an accurate but incomplete representation.

Professional bias

It was hypothesized that professional bias may play a role in Illinois' park managers' decision making processes regarding wildlife habitat and benefits. It was thought that those managers with either an educational or professional background in a wildlife-related field would rank Wildlife Habitat/Benefits as a higher priority compared to those with non-wildlife related backgrounds. The qualitative follow up interviews were utilized to determine if such an assertion could be supported.

Following analysis, the results remain inconclusive, as there were not any interviewees that had backgrounds in wildlife-related fields. More specifically, of the managers interviewed, none had a background in Wildlife Management, Wildlife Biology, Wildlife Conservation or a related field. Professional training and education for those contacted were varied and included: Business, Public Administration, Agriculture Production, Management, Parks and Recreation, Park and Recreation Administration, Horticulture, Recreation Resource Management – Forestry, Computer Management Information Systems, Mathematics, and Landscape Architecture.

However, though there is not adequate evidence to prove the presence of professional bias, some interesting themes resulted from the conversations. For instance, of the 13 interviewees, 11 had never completed any form of wildlife or wildlife management training; Both of the two who had completed such training did so on an informal “in-house” level. Furthermore, 100% of interviewees indicated that they felt training related to wildlife would be beneficial to themselves, their staff members, the general public, or some combination of all three.

Though in this instance we could not fully support the assertion that wildlife-related professional bias played a role in decision making, there was anecdotal evidence that suggested the topic may be worth revisiting, and further evidence that it may exist with regard to other types of training. During follow up interviews, interviewees were asked specific questions about their educational background and which (if any) trainings or workshops they had attended in recent years. As a point of further exploration, interviewees were also asked what inspired them to pursue a career in park management. Responses to the latter question were varied, but included stories of scouting and camping as a child. Others did not find their calling until their adult lives. While not directly beneficial to the study, it informed the line of follow up queries.

When it became apparent that interviewees did not have training in wildlife-related issues, interviewees were asked if they believed professional bias may manifest itself in the decisions of Illinois park agency staff members. Their responses were generally supportive. While the existence of wildlife-related professional bias was not indicated as a result of this study, there is evidence it may exist with regard to other disciplines, including business and recreation. Interviewees shared stories of varying specificity of instances in which they had experienced such biases firsthand:

Flanagan: “Most people that go into wildlife management probably go to school for that. And a business guy that’s running a park district doesn’t have any idea. I run into that a lot: People that think they know everything but they don’t really know that much. I think educating people is the best thing you can do.”

Elgin: “I kind of view us as the experts. We’re not waiting for the public to lead us in that regard. Part of our role is to educate the public on how to get along with the wildlife.”
Further: “I think that for a park director to have the initial background and education in the natural resources is unusual. I see even more of them not coming out of the recreation field but out of the finance world. They’re finance directors. They’re money people. Resources are so scarce, (Director) is just becoming more of a financial-type position. Those people might do a better job managing their resources so they might have more

money to purchase land. On the other hand, some of those people may not care that much about the land.”

Metro East: “I think people have just not been exposed to (wildlife) period. I don’t know that is has anything to do with their professional capacity, but if you’ve not grown up with Mother Nature, then I don’t know how you can relate to it.”

The above quotes suggest that while this study was unable to find sufficient evidence to support wildlife-related professional bias, it may be present in other aspects of management. Specifically, it was suggested that managers with business training are more likely to focus their decisions on monetary or financial considerations. Also suggested was the notion that managers with backgrounds in recreation would be more likely to have a pre-disposition to developing recreational opportunities as they relate to land use. Put concisely business majors value business, while recreation majors value recreation. Interviewees pointed to educating people – both the public and practitioners – about specific values. The above quotes suggest that by exposing others to the lens in which they themselves view the world, managers will be able to persuade others to adopt their value system. Each manager who expressed an opinion seemed to hold the belief that their strategy for decision making was the “right” one.

Results Summary

In this section, through the use of mixed methods of data collection, the study was able to answer its three research questions as well as develop a deeper understanding of the factors related to land use decision making and relationships with wildlife. The factors that impact land acquisition/restoration decision making of Illinois park managers are cost, location of property, environmental/ecological value, community support, recreational value, wildlife habitat/benefits, watershed/water management values, aesthetics of property, and adjacent property owners.

The study also determined that wildlife-related issues play a role in Illinois park managers' land acquisition/restoration decision making processes. This was demonstrated through the ranking of Wildlife Habitat/Benefits as a factor. An additional insight gained as the result of interviews suggested that Nuisance Wildlife and Public Value of Wildlife should also be considered as factors. Additionally, access to wildlife should be noted as a factor connected to both Nuisance Wildlife and Public Value of Wildlife. Furthermore, positive associations were also demonstrated between Wildlife Habitat/Benefits and the presence of hiking trails, total park acres under management, number of acres of natural areas, if the agency had a staff member specifically designated to manage natural areas, and to a lesser degree, the population size of the community served.

Finally, this section documented that professional bias plays an unclear role in wildlife-related decision making. Results were inconclusive, however, anecdotal evidence indicated that professional bias may exist, and may specifically manifest itself as it relates to recreation and business training.

CHAPTER 5: DISCUSSION

The purpose of this study was to explore the role of wildlife in the decision making processes of Illinois park managers. This was accomplished by first identifying a list of possible factors, and followed up by examining professional bias as one possible explanation for the results. Based on the results of this study, each of the three research questions were addressed with evidence from a survey of Illinois park district and municipal recreation managers.

What factors impact land acquisition/restoration-related decision making of Illinois park managers?

Follow up interviews were supportive that each of the nine factors listed in the self-administered survey were worthy of inclusion. Ranked in order from most important to least important, those factors were: cost, location of property, environmental/ecological value, community support, recreational value, wildlife habitat/benefits, watershed/water management values, aesthetics of property, and adjacent property owners. Interviewees also suggested that while the list was accurate and reflected current considerations, political implications and agency master plan were also considerations within the confines of those factors. Furthermore, it became apparent that public value of wildlife, nuisance wildlife, and access to wildlife were considerations that were related but remained separate from wildlife habitat/values. This distinction was significant in that managers acknowledged they may make wildlife habitat decisions based not only on the benefits for wildlife, but also for the sake of the value it provided to public park goers seeking a non-consumptive wildlife experience. Specifically, efforts to preserve areas in which wildlife will likely subsist are not merely for the intrinsic value of wildlife, but for the secondary benefits provided to park users.

What if any role do wildlife-related issues play in Illinois park managers' land acquisition/restoration decision making processes?

Between the self-administered questionnaire and the follow up phone interviews, there was ample evidence to suggest that wildlife-related issues play a role in Illinois park managers' land acquisition/restoration decisions. There was also anecdotal evidence that suggested wildlife-related issues played a role in other decision-making processes, including programming and education.

Evidence from the self-administered survey indicates that Wildlife Habitat/Benefits ranks somewhere in the bottom third of priorities when considering land acquisition and restoration decisions. While this examination positions Wildlife Habitat/Benefits as relatively low in importance, the in-depth interviews suggested that the factors listed are rarely if ever made independently of each other. This notion was first indicated during analysis of the self-administered questionnaire results and reasserted during follow up interviews. For example, while Environmental/Ecological Value may be a primary determinant in an agency's decision making process, Cost, Adjacent Property Owners, etc. will also play a role, even if comparatively less significant. In that sense, decisions are made holistically, with consideration given to a wide variety of factors. Further, those factors are prone to shift based on situational changes. So even if agency priorities stay the same, specific project priorities are likely to be amended as other factors change.

Of additional importance, managers identified the significance of wildlife as it relates to recreational programming, education, management, and park design options. Several recognized the significance of wildlife in their personal lives and cited those personal values as playing a

role in day to day decision making processes. Several other managers who did not articulate wildlife significance in their personal lives expressed their recognition that wildlife is a significant aspect of recreation for others. They conveyed a desire to support public interest in observing and/or interacting with wildlife and the natural areas in which wildlife resides.

There were several agency characteristics associated with ranking Wildlife Habitat/Benefits as high priority. Positive relationships were found between high importance of Wildlife Habitat/Benefits and hiking trails, whether the city managed natural areas, employed staff devoted to natural areas, and held park acreage of greater than 1,000. A potential connection was also identified between wildlife and community size. Of particular note is that the presence of a staff member devoted to natural areas was more strongly connected to a high ranking of Wildlife Habitat/Benefits than the presence of natural areas. This may suggest that mere possession of natural areas does not necessarily connect with wildlife importance, rather that employing people to take care of such areas is a better indicator of wildlife importance.

The most significant empirical connection in the quantitative section was that of Wildlife Habitat/Benefits and the presence of hiking trails. These data suggested that agencies that provide access to public, unpaved hiking trails are more likely to rank wildlife as being of high importance in decision making. What is unclear is whether the high importance of wildlife led to the development of hiking trails, or if access to hiking trails – and, in turn, wildlife – helped create the high importance of wildlife. Indeed, causality cannot be conclusively asserted. However, recalling the previous references to access to wildlife, during interviews, managers suggested that though access to wildlife did not inherently lead to finding value in wildlife, that wildlife value could not be developed without access to it. So while a causal relationship cannot

be proven, access to wildlife would seem to be a prerequisite of sort for the development of public value of wildlife.

One final note regarding the ranking of Wildlife Habitat/Benefits is that prior to dividing factors into High/Medium/Low categories, Wildlife was the least likely to be ranked as the number one factor. Wildlife Habitat/Benefits was ranked as an agency's top priority in only 3% of cases, and was nearly three times less likely to be ranked as the highest priority than any other single ranking (numbers two through nine). This suggests that while Wildlife Habitat/Benefits is a significant factor in decision making, it is unlikely that an agency will identify it as the most significant factor.

What if any role does professional bias play in relation to wildlife in park management?

Although the sample did not identify any managers with formal wildlife management experience, several reflected their belief that wildlife-related, or any other professional training would affect decision making. So while they themselves only indirectly suggested that they personally might have a professional bias, interviewees specifically pointed out their belief that others with specific trainings or educational backgrounds might.

With regard to training, interviewees indicated: 1) Wildlife and wildlife management training has generally not been made available, and certainly not on a widespread level, and 2) There is significant interest from practitioners regarding increasing their wildlife-related knowledge. Several interviewees offered the additional nuance that while they believed they would benefit from the wildlife-related knowledge, they felt as though public education about wildlife would be of greater value. The attitude of public re-education is outwardly similar to attitudes of professional bias reported earlier in this manuscript, specifically by Freudenburg and

Gramling (1994). In documenting the policies and practices of the Mineral Management Service, Freudenburg and Gramling (1994) offered that agency bias often manifests itself in the form of public re-education projects when, in fact, evidence often suggests that it is the agency belief structure that needs to be reconsidered. On the surface level this would likely indicate that Illinois park managers and the agencies that they represent might be out of touch with public values or be so entrenched in their own agency climate that they are unaware of shifts in belief and practice taking place outside agency walls. Perhaps the nuance in this case however is that while the MMS was reluctant and effectively unwilling to examine its belief structure, Illinois recreation agency interviewees expressed a keen interest in reconsidering their own beliefs and practices as they related to wildlife. Interviewees were generally quick to point out their relatively limited experience in matters of dealing with wildlife-related issues, and offered that while they believed the public would benefit from re-education efforts, they were willing to learn as well.

Limitations

On the self-administered questionnaire, the rank order question was challenging to respondents. This was evidenced by a number of respondents who either: 1) Did not respond, 2) Responded “N/A” (“Not Applicable”) or 3) Responded incorrectly. Incorrect responses generally came in the form of using a single ranking on more than one occasion (e.g. reporting that Cost, Location or Property, and Recreational Value were all number one or most important).

Additionally, rankings are the result of a rank order question. Rank order questions are inherently problematic in measuring the strength of response; this is to say that while Cost was the most important factor, the nature of this question does not allow us to accurately measure the difference in priority between one factor or another. So while we can conclusively state that Cost

is more important than Location and Adjacent Property Owners are less important than Wildlife Habitat/Benefits, we cannot accurately assess the degree of importance that separates them.

An area of probable misreporting was in response to the question of annual budget. In the cases of several city recreation departments, larger than expected responses suggested that the entire city budget was reported instead of the parks/recreation department exclusively. This was a frequent enough occurrence that obtaining corrected information was not a reasonable endeavor. In turn, we could not accurately assess the effects of budget size on Wildlife Habitat/Benefits priority.

Terminology may have also been a limitation. Several interviewees used terms such as “nature,” “wildlife,” and “environment” virtually interchangeably. This suggests that managers may have overlapping definitions. In the self-administered questionnaire, one area of particular interest was natural areas. Though a definition was included with the questionnaire’s instructions, it remains unclear if wildlife is included in definition of natural areas.

Also worth noting is the fact that ORPR and IDNR had no control over agency representative(s) who completed the questionnaire. In some cases, executive directors took responsibility for the task; while in other cases, the task was delegated to interns, seasonal staff, or other potentially less informed staff members. If the accuracy of reported figures is tied to the knowledge base of the respondent, the data obtained may have varied levels of accuracy.

It is also reasonable to suggest that social desirability may have played a role in responses. Respondents had knowledge of the intent of the research being conducted. It is not possible that respondents may have responded in ways that presented them in a more socially desirable light. The response could have deviated from how they actually felt. Interviewees were

already familiar with the line of questioning on the self-administered questionnaire, which included queries about natural areas, environmental centers, and wildlife. Survey queries with environmental undertones were then followed by interview queries pertaining to wildlife value and personal background. If respondents that did not want to be viewed as oppositional toward wildlife or the environment adjusted their responses, the data collected would be less accurate.

Another limitation includes the small size of the follow up interview sample. While the 12 interviews added depth to the self-administered questionnaire responses, they were not intended to fully reflect Illinois park managers' decision making processes. The breadth of interviews necessary to develop a complete understanding would likely be beneficial in future studies, but far surpassed the practical limitations of this study.

Finally, county level agencies including forest preserve and conservation districts were not included in this particular mailing, nor were private and other non-for-profit land acquisition agencies. This limits the generalizability of the study and means that a full illustration of significant issues for Illinois park managers cannot be completed utilizing this study alone. Agencies such as the United States Fish and Wildlife Service (USFWS), United States Forest Service (USFS), IDNR, and 19 Forest Preserve and Conservation Districts all operate and make land use decision within the Illinois border. However, though such agencies should be considered in future research, the missions, goals, and objectives of such organizations are sufficiently different from those of park districts and city recreation departments that such consideration should come in the form of a separate and distinct study. In the future, considering the diverse managerial interests of these agencies will provide the most complete insight into how wildlife (or any other factor) is considered by Illinois decision makers.

Implications for Research

The list of nine factors related to Illinois park managers' decision making processes was accurate in that interviewees did not remove any items from the list when offered the opportunity. However, interviewees also repeatedly expressed the theme that the public value of wildlife should be considered as distinct from wildlife habitat. This is consistent with previously cited pertinent literature, including Manfredo (2008) who wrote of the multitude of different reasons people care about wildlife, Vining (2003) who wrote of the "magic" of experiences with wildlife, and Mankin et al. (1999) who wrote specifically that "a high percentage of (Illinois) residents believe that wild animals add value to their lives." Put concisely: future studies should consider Public Value of Wildlife as a unique factor, as it cannot be fully encompassed by Wildlife Habitat/Benefits.

With that said, it is unclear if the list of factors is generalizable outside of Illinois boundary lines. Further, the insight of two managers suggested that as they make decisions regarding the nine factors, the agency's master plan and political implications (and perhaps other variables) are also considered as part of a larger mental framework. This suggests that while a list of ten factors (including Public Value of Wildlife as noted above) would accurately depict Illinois park decision making processes, there may be value in compiling an additional list of overriding themes that play a role as decisions are contemplated. Further, future research conducted on the decision making processes of park managers outside Illinois would likely be well served to consider other locale-specific variables.

Several interviewees cited wildlife epiphanies as significant events that directly or indirectly led to their current occupation or agency role. They shared stories of owls nesting in

their backyard, of feeding geese as a child, and of seeing wolves for the first time. They spoke of these experiences with great reverence for the animals with which they shared space. Though they did not use the terminology specifically, they described the same “magic” as Vining (2003) and Arnould and Price (1993) However, the line of questioning in the follow up interviews was not specifically geared toward linking those epiphanies with professional outcomes. So what was unclear was whether or not their experiences were significant enough that those interactions with wildlife became part of the interviewees character as Wondrak (2002) described. Wildlife epiphanies such as the ones experienced by interviewees of this study are well-chronicled phenomena, and further study should consider the effect – if any – of these epiphanies on decision making. Such a future research topic may yield valuable results.

Kellert (1985) suggested that an animal’s status as an endangered species may contribute to its perceived value. Two of the twelve agencies in our study reported that they managed or assisted with management of endangered/threatened wildlife on their property. Neither agency was required to do so. Unclear is whether measures to preserve and protect those species were taken because the agency valued the animal intrinsically, valued its rarity, or valued something else. Beyond that, did wildlife epiphanies among decision makers lead to this agency practice? Also unclear is how many city-level agencies actively manage (or even consider) a species’ relative rarity in their decisions – a matter that could perhaps be considered in future self-reported questionnaires.

If Illinois wildlife is valued because of rarity, this fact would seem to not be applied to predatory animals. Of the 12 interviews conducted, lethal measures were taken with regard to three species: White-tailed deer, mountain lion, and coyote. Deer were culled as a means to diminish their negative impact on local ecosystems and minimize damage to agricultural areas.

On the other hand, neither the mountain lion nor the coyote are considered overpopulated in Illinois, nor were they cited as having a negative impact on natural or agricultural areas. Indeed, coyotes or mountain lions would be potentially beneficial animals, particularly in areas overpopulated by deer. Both coyotes and mountain lions were locally exterminated in some places despite the fact that they would be capable of directly or indirectly reducing a deer population. Indeed, the reasoning for taking lethal measures against those animals may have resulted solely from negative perceptions. If predatory wildlife is perceived negatively by Illinois managers and/or residents, the reasons for that perception have gone largely unexplored. This is likely due in part to a small population of Illinois predators compared to the state's western U.S. counterparts. Still, interviews suggested that predators such as cougars are present. If that continues to be the case, their presence will begin to have increasingly significant ramifications for researchers, managers and the public.

Finally, though anecdotal evidence suggested the presence of professional bias in city-level agencies, the degree to which that is the case is unclear. In the future, a larger study sample and a more pointed interview question set would likely encourage clarity in this matter. Specifically, future questionnaires sent to practitioners statewide would be more useful if they contained queries about educational and professional background and professional development, including training seminars and conferences. This would allow researchers to develop a more thorough decision maker profiles and provide insight into what agencies utilize the talents of managers with wildlife management training.

Implications for Management

While new ideas emerge and paradigms shift, practitioners require solutions effective solutions. Illinois park managers hail from diverse personal and professional backgrounds. This diversity of interests and training provides richness for recreationists. On the surface, the concept of professional bias likely carries negative connotations. It is worth noting however that those with professional biases are not villains. Instead, they make decisions and behave in a fashion reflective of their training. Managers in this study suggested a willingness and enthusiasm to learn about wildlife-related issues. This openness to new information hints at the idea that managers of Illinois park district and municipal recreation departments are in some ways seeking paradigm shifts of their own.

This study found that wildlife and natural areas are growing areas of interest in Illinois parks. Indeed, in many areas, agency focus is shifting from sports fields and botanical gardens toward prairie and wetland restoration. As with anything new, it can be hard to learn how it works without an instruction manual. Still, these ecosystems should be recognized as a growing commodity. Developing and understanding of the value and management implications of such spaces as well as the wildlife that inhabits them will likely be one of the most significant and necessary undertakings for agency decision makers in upcoming years.

A full understanding of natural areas, wildlife, and their public values can only come about as the result of education. In this instance, education as a solution is two-pronged. One prong relates to public education regarding wildlife. The other relates to managers developing their own wildlife-related educational backgrounds. This should include developing biological

understanding of the wildlife present or desired for their natural areas. It should also include developing a greater understanding of value of wildlife of their taxpaying public.

Managers suggested that both they and/or members of their staff would benefit from wildlife management training, as much of their current strategies involve a reactionary style that is not always effectual. Managers also posited that public wildlife education would hold great value. For instance, both Peoria and Urbana cited their long-standing environmental education programs as key contributors to the public value placed in wildlife in those cities. Meanwhile, the self-administered questionnaires empirically illustrate that fewer than one fifth (18%) of city recreation departments and park districts have an environmental/nature center facility at their disposal. This statistic begs the question, is 18% enough to accomplish the important educational goals managers suggest? If environmental/nature centers are not present, what other programs are in place to accomplish those educational objectives? Is this a case of agencies not practicing what they preach? Practitioners are at once suggesting that education is a key component to instilling an appreciation of wildlife into the public, but are in many cases failing to put such a belief into practice through the construction of facilities/programs specifically designed to address environmental education needs. This suggests that before the public can be educated about the value of natural areas and wildlife, agencies must first shift their own values and practices. As interviewees pointed out, this can be accomplished through agency-level wildlife education. Only once agencies embrace those values can they expect the public to follow suit.

The logic for practitioners is that by teaching the public about wildlife, the public will be more likely to care about it. By the same token however, interviews suggest that virtually no practitioners have had wildlife training. If the public needs education to appreciate wildlife, should not the same be true of practitioners? Perhaps the lack of agency-level wildlife training

points to one reason why more environmental programs/facilities do not exist. Just as Illinois decision makers suggested that the public would benefit from wildlife training/education, the findings of this study suggest that the same may be true of those decision makers.

Interviews revealed a distinct absence of professionals with wildlife management training. With the increasing number of agencies managing natural areas, access to wildlife management training in the future will be imperative, particularly if managers hope to avoid often ineffective and unpopular reactionary responses. Additionally, encouraging wildlife in natural areas and managing the spaces in a fashion that allows for wildlife viewing is a venture that would be reflective of public values. As a further nuance, marketing those wildlife experiences to the public could also potentially pay financial dividends for both the agency and the local economy as wildlife enthusiasts continue to seek new wildlife viewing opportunities and equipment.

Another theme that presented itself in interviews involved a perceived divide between sports-related recreation and nature-based recreation. Frequently referring to the former as “active recreation” and the latter as “passive recreation,” interviewees noted that they often felt as though they had to choose one or the other. This is notable as interviewees identified: 1) an oppositional relationship between nature and sports-based recreation styles; 2) a perceived inability to mix the two styles; and 3) a semantic difference in styles suggesting that sports were active endeavors but hiking, etc. were not. Interviewees identified parks with both sports and natural amenities as being among their greatest successes. So then why have managers adopted the perception that sports-related recreation is in direct competition with nature-based recreation? Perhaps a more holistic approach to park management is necessary, one in which sports and nature are considered in tandem rather than in opposition. Encouraging agencies to adopt a less

dichotomous view – one in which nature and sports are not in competition with each other – would likely be a beneficial effort.

While there were different degrees of interest in wildlife expressed, there was not a single decision maker who expressed a dislike for the creatures that roam their parks. Oftentimes, decisions to keep Wildlife Habitat/Benefits on the proverbial back burner stem from a lack (or perceived lack) of experience and/or resources. Providing strategies for or encouraging practitioners to increase their knowledge bases and/or resource pools will likely be the first step toward ensuring outcomes amenable to the largest number. As already alluded to, education should be chief among those strategies. Managers must first be put in a position to understand the wildlife residing in city parks. While most managers were interested in learning more about wildlife management, they had never been offered the opportunity. If city-level agencies can partner with the other state, federal, and county-level recreation agencies, perhaps positive solutions can be reached. Only then, once managers have an understanding and respect for the role of wildlife in their parks, can they implement an effective program teaching the public of the mutually beneficial relationships between people and wildlife that can potentially exist. Finding that statewide level of co-existence, in which practitioners and the public are of similar minds, will inevitably make for more valuable dialogues and recreation experiences.

CONCLUSION

This study has demonstrated that Illinois park district and recreation agency managers have a complex relationship with wildlife. Managers protect natural areas. Wildlife lives in those natural areas. Therefore, managers and wildlife are inherently tied. It has been widely reported that the definition of a nuisance animal differs from scenario to scenario. Put simply, what one person views as a nuisance, another may find value in. With that in mind, shifting the presence of nuisance animals may less about shifting the animals themselves and more about shifting the ideas people have about those animals. Hopefully, if this study encourages anything, it is the idea that both people and wildlife are good, and that mutually beneficial relationships can be forged between the two. As potential advocates for both humans and wildlife, park managers are at the forefront of that opportunity.

Several of those interviewed for this study cited leaving a positive legacy as among their most significant personal motivators. Indeed, if Illinois park managers could find a balance between the needs of humans and wildlife, it would not only be one of the finest legacies prairie state residents could ever hope for, but it could also serve as a template for communities worldwide searching for solutions to novel problems between humans and wildlife. It is not as simple as an opossum walking on a fence rail... Yet, in some ways, it is. Will decision makers charge outside with broom in hand, chasing the opossum away? Or will they learn to live alongside and even appreciate the opossum for what it brings to the neighborhood? The fashion in which managers respond may be what most determines their legacy.

APPENDIX A – SELF-ADMINISTERED QUESTIONNAIRE – LETTER TO AGENCIES

Dear Colleague,

The Office of Recreation and Park Resources (ORPR) at the University of Illinois is under contract with the Illinois Department of Natural Resources (IDNR), Division of Planning and Division of Grant Administration, to conduct a survey of city park and recreation departments and park districts in the State of Illinois.

The information gathered in the survey is used by the planning Division of IDNR in the development and updates to their Statewide Comprehensive Outdoor Recreation Plan (SCORP). The data is also used by the Grant Division in their review processes. Any city or park district that submits a completed survey and applies for an OSLAD grant receives extra credit in their grant review process. By filling out the survey, you also help the Illinois Department of Natural Resources, the Office of Recreation and Park Resources, the Illinois Municipal League (IML) and the Illinois Association of Park Districts (IAPD) develop a more complete inventory of community park and recreation facilities in our State.

This year we ask for some information that was not included in the 2008 survey i.e. boat and canoe launch ramps, campsites and more details concerning trails and paths. IDNR and ORPR are also interested in identifying cities and park districts that provide “natural areas”. For the purpose of this study, “natural areas” are defined as “space specifically preserved for the functions of habitat restoration/preservation, species biodiversity, public health and appreciation of native plants and wildlife.” (Barry).

We respectfully request that you or an appointed staff member please complete the survey on-line.

If you have any questions, please contact Robin Hall through e-mail at rrhall@illinois.edu or by phone at (217) 244-3891.

Thank you for your consideration and time.

Robin Hall, Director
Office of Recreation and Park Resources

APPENDIX B – SELF-ADMINISTERED QUESTIONNAIRE

ILLINOIS DEPARTMENT OF NATURAL RESOURCES
CITY/PARK DISTRICT RECREATION FACILITY AND PARK LANDS INVENTORY

I. Community Information

- A. Agency/Department Name _____
- B. Population _____
- C. County _____
- D. Current Total Operating Budget _____

II. Parks

- A. Number of sites _____
- B. Total acres under your management _____
- C. Leased acres _____
- D. Does your department/agency have a land dedication ordinance? Yes ___ No ___
- E. Acres of natural areas included in II. B _____
- F. Does your department/agency have a staff person(s) responsible for the development and/or management of natural areas? Yes ___ No ___
- G. When deciding about the acquisition or restoration of natural areas, where do the following factors rate. Please rank the from most important (1) to least important (9).
 - b. ___ adjacent property owners
 - c. ___ aesthetics of property
 - d. ___ community support
 - e. ___ cost
 - f. ___ ecological/environmental value of property
 - g. ___ location of property
 - h. ___ recreational values
 - i. ___ watershed/water management values
 - j. ___ wildlife habitat/benefits

III. Water Based Facilities

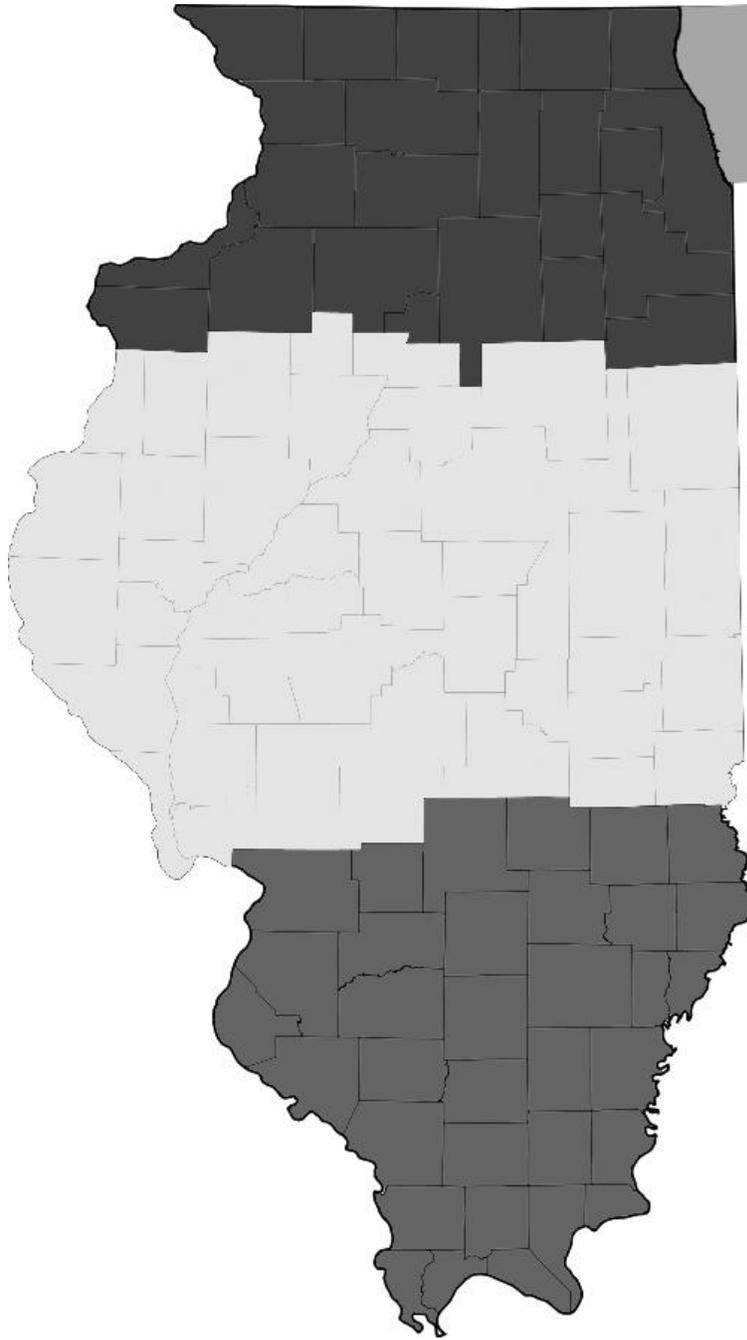
- A. Number of Fishing Piers/Docks _____
- B. Number of Outdoor Pools/Aquatic Centers _____
- C. Ages of Aquatic facilities (if 5 or fewer) ___/___/___/___/___
- D. Number of Spray Grounds _____
- E. Number of boat launch ramps (motorized) _____
- F. Number of canoe launch ramps (non-motorized) _____

IV. Trails (alternate)

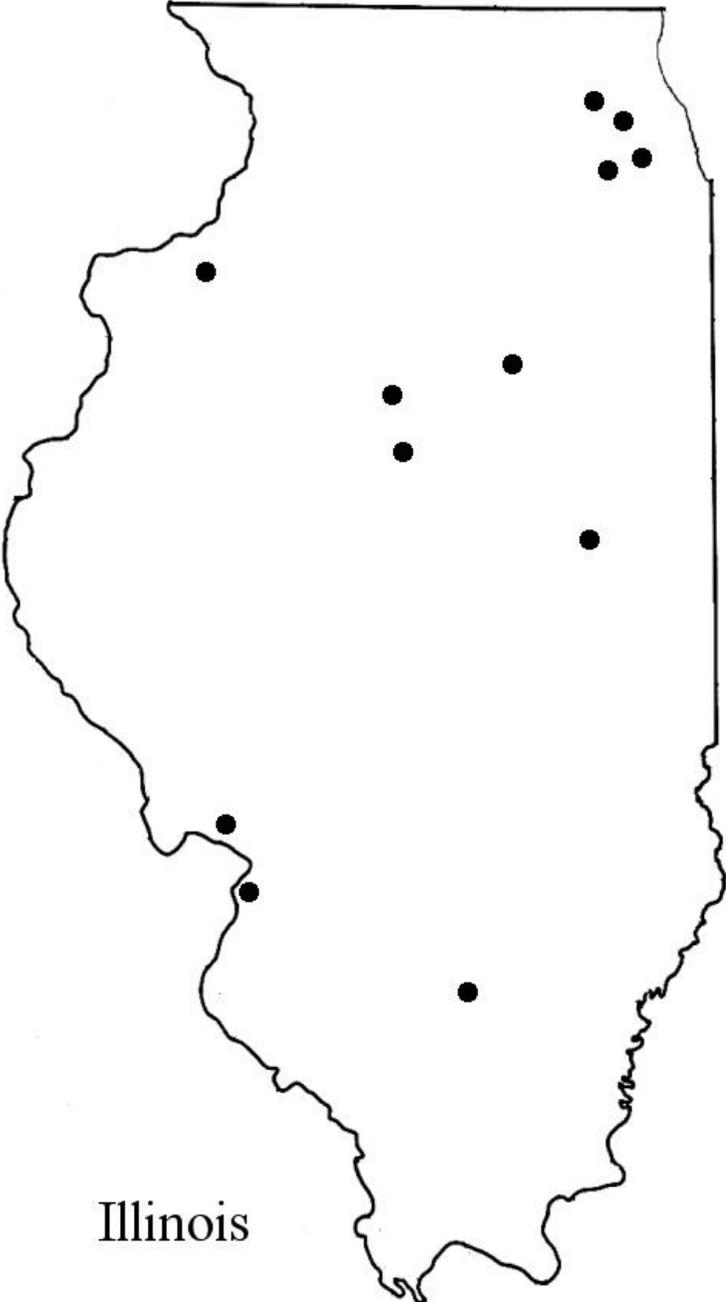
- A. Miles of trails in parks _____
- B. Miles of trails outside park boundaries _____
- The following information relates to segments of the information provided in A and B.**
- C. Number of miles of bike trail, paved surface (asphalt, concrete, or oil & chip) _____
- D. Number of miles of bike trail, crushed limestone surface _____
- E. Number of miles of on-road bike trail (not bike route), may be connector segments of a trail or a trail designated entirely on-road _____

- F. Number of miles of mountain bike trail, natural surface designated specifically for mountain bike use _____
- G. Number of miles of walking path, natural or paved surface _____
- H. Number of miles of interpretive trails, natural or paved surface _____
- I. Number of miles of hiking trails, natural surface _____
- J. Number of miles of equestrian trails, designated specifically for horse use or multi-use trails permitting horses _____
- K. Number of miles of snowmobile trails, designated specifically for snowmobiles or multi-use trails permitting snowmobiles _____
- V. Sports Courts and Fields
- A. Number of Outdoor Basketball Courts _____
- B. Number of Baseball Fields _____
- C. Number of Softball Fields _____
- D. Number of Soccer Fields _____
- E. Number of Football Fields _____
- VI. Campsites
- A. Number of improved campsites _____
- B. Number of primitive campsites _____
- C. Number of equestrian campsites _____
- VII. Facilities
- A. Number of Picnic Shelters _____
- B. Number of Playgrounds _____
- C. Number of Dog Parks _____
- D. Number of Disc Golf Courses _____
- E. Number of Skate Parks _____
- F. Number of Archery Ranges _____
- G. Number of Environmental/Nature Centers _____
- H. Number of Museums _____
- I. Number of Botanic Gardens/Arboretums _____
- VIII. Operation questions
- A. Does your department/agency have a fitness center? Yes ___ No ___
- B. Does your department/agency have a written agreement with a hospital, medical center, clinic, etc. that provides for the collaborative delivery of services? Yes ___ No ___
- IX. Contact Information
- A. Name of Contact Person _____
- B. Phone Number _____
- C. Email Address _____
- D. Mail Address _____
- X. Notes/comments

APPENDIX C – ILLINOIS NORTH/CENTRAL/SOUTH MAP



APPENDIX D – FOLLOW UP INTERVIEW DISTRIBUTION MAP



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