

**Stakeholder attitudes towards and wildlife acceptance capacity
for elk (*Cervus elaphus*) in Kansas**

by

Karl E. Noren

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College of Agriculture

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Approved by:

Major Professor
Dr. Ryan L. Sharp

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Abstract

Elk in Kansas were an abundant tallgrass prairie species prior to European settlement. Elk were extirpated in the 1870s and reintroduced in the late 1980s. After three decades, wild populations continue to be low in spite of good biological conditions. Broad, low stakeholder acceptance are a suspected limiting factor. Wildlife stakeholder acceptance capacity (WSAC) and tolerance models helped to frame results from an internet based survey (n=460) directed to all Kansas counties. Respondents reported high mean positive wildlife values, acceptance for elk population increase, and significantly ($p<0.05$) higher personal acceptance for elk than the level of acceptance they perceived in others. Encountering wild elk in Kansas was unrelated to acceptance but strongly predicted providing wildlife habitat on private land. Hunters reported the strongest wildlife attitudes but this result was not correlated with elk acceptance. Intangible benefits (e.g. positive meaningful experiences) strongly affected ($p<0.00$) wildlife attitudes and elk acceptance. Tangible benefits (e.g. money) was unrelated to wildlife values but respondents who reported tangible benefits from four or more wildlife species showed higher acceptance for elk on personal property than groupings based on other variables. WSAC theory suggests social carrying capacity for elk is significantly above the current population and Kansans are more accepting of wildlife than previously thought. Wildlife managers may be encouraged by these results to conduct their own social feasibility study regarding increasing the elk population to a more ecologically sustainable level.

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Dedication

To Mary Linga Samuelson Noren: A Proverbs 31 wife, companion, and inspiration.

Preface

Wildlife biology and ecology are increasingly important fields of study and work in the United States of America and around the world. Biodiversity maintenance and conservation of ecosystem services are issues that relate to human welfare. The scientific and popular conscience has been slowly accepting this view. My work and experiences in wildlife management in Kansas, Ecuador, Congo, Cameroon, and the Central African Republic show we need to live sustainably within the ecological limits of localities and biomes. However, I have seen that most people everywhere have enough technical knowledge and ecosystem understanding to know what is good for them and for long term land health. Why don't they do what they know is good? The answer is easy but hard to address. Each of us is selfish. The human dimension is always the critical challenge.

For example, Central Africans in a dozen countries agree that human practices have led to the disappearance of Lake Tchad. But the real challenge comes when strong social action and agricultural restraint is needed to save the lake. It is easy to say, "those Africans just need to learn how to compromise and make good choices." But what of the mighty Colorado river that sometimes does not even run to the sea? Unsustainable agriculture and development in the South West of the USA continues to deprive Mexico of this cultural and natural resource. Technical solutions may be good, but stakeholder cultural change must take place to resolve both of these man-made ecological travesties. Bigger dams and rerouting other rivers is not the answer. Personal challenges working with stakeholders in park management in Africa is what led me to a stronger interest in human dimensions of park and conservation management. I believe this field will be of critical value in my own future and worldwide in reaching solutions for long term human and wildlife coexistence. This study is one step in that direction.

Chapter 1 - Introduction

Background

Efforts to reintroduce extirpated wildlife, including elk, are complex undertakings that have met with mixed success (Shwartz et al., 2012; Popp, Toman, Mallory, & Hamr, 2014). Ecological factors are the cause of many failed repopulation attempts but social factors may play a more prominent role in these populations adapting to their new environments (Popp et al. 2014). Wild elk (*Cervus elaphus*) were reintroduced to many locations in the past several decades, including eastern Kansas. Elk were an important species in the tallgrass prairie ecosystem found in Kansas until extirpation in the late 1870s and a small population was reintroduced to favorable habitat in the Flint hills region of Kansas in the 1980s (Baasch et al., 2010; Conard, 2009; Deerhake, Murrow, Heller, Cobb, & Howard, 2016). Contrary to other similar reintroductions that seem to be eagerly accepted and promoted, the elk in Kansas have remained at low population levels in spite of favorable ecological conditions, and there is little evidence that they are appreciated by residents which is in sharp contrast to other areas of the country. For example, residents of Kentucky have widely accepted elk to a present population of over 12,000 and spend nearly seven million dollars annually on elk hunting receipts (KDFW, 2017; USFWS, 2016). The goals of this study are to examine the relative wildlife acceptance capacity across stakeholder groups for elk in the Flint Hills region of KS, and second to examine the effects key variables have on wildlife attitudes and elk acceptance capacity.

Kansas is at critical point in its management of the elk population. The tallgrass prairie ecosystem of Kansas is one of the better historical (Conard, Gipson & Peek, 2006; Mead, 1986; Shaw & Lee, 1997) and ecologically suitable elk habitats capable of supporting thousands (Baasch et al., 2010; Chiras & Reganold, 2010; Conard, 2009; Deerhake, Murrow, Heller, Cobb,

& Howard, 2016). However, the few hundred elk in Kansas may be below a minimum viable population genetically due to social and managerial capacities, not landscape/biological limitations (Bolen & Robinson, 2003; Conard, 2009; Johnson et al., 2014; Shawn Stratton, wildlife biologist personal communication, 4/25/2017). This study suggests the current population is significantly below the mean statewide social acceptance capacity even if it is at the level that people believe other stakeholders are willing to accept.

Significant research and work is put into the ecological aspects of most reintroductions to determine probability of success and if the costs justify the benefits (Deerhake et al., 2016). However, less is known about the equally critical social conditions that affect the probability of a species to survive or flourish in a given area (Deerhake et al., 2016; Kansky et al., 2006; McCleery et al., 2006; Schwartz et al., 2012; Popp, Toman, Mallory, & Hamr., 2014). While research and manager utilization of this line of inquiry is growing, there are still many conspicuous gaps, such as understanding (and even being able to predict) why a species becomes socially embraced in some areas but less so in others.

This study addresses some of those important knowledge gaps in science and it addresses management issues identified by the Kansas Comprehensive Wildlife Conservation Plan (KCWCP) and the Kansas Wildlife Action Plan (KWAP). Two issues that identified in both of these plans are directly addressed by this study. The first is “Habitat, population and life history work demands attention beyond just the Department of Wildlife and Parks’ obligation.” (Wasson et al., 2005: p 21) And “Lack of information on public attitudes towards wildlife, their knowledge of wildlife related issues, and their level of participation in wildlife related activities makes it difficult to structure and implement effective programs.” (Wasson et al., 2005: p 22). These ideas are repeated in issues 8 and 9 of the KWAP (Rohweder, 2015).

Wildlife managers, farmers, and agricultural workers are suspected to have more interactions with elk in Kansas than the general urban public. However, the attitudes of Kansans towards elk have not been studied at the level necessary to draw firm conclusions (KDWPT, n.a.; Wasson et al., 2005). Understanding current attitudes may reveal findings that could be used to improve wildlife management, education, and landowner attitudes related to elk interactions. One possible result of this study would be to inform wildlife managers of the diversity and/or consensus in various stakeholders' acceptance for elk populations to decrease, increase, or remain relatively unchanged. A second outcome would be to provide attitudinal information that will encourage and promote dialogue among stakeholders regarding the future of this keystone native species.

Human Dimensions of Wildlife

The global purpose for this study is to contribute to a better understanding of wildlife acceptance and human dimensions of wildlife through the application of previously suggested theories and contributing data to the highly situational specific field of stakeholder attitudes. The immediate practical outcome of this study is to provide evidence, using Wildlife Social Acceptance Capacity (WSAC) (Conover, 2002; Decker, Riley, & Siemer, 2012), to either support or fail to support the proposition that the WSAC for elk in Kansas is sufficient to maintain a sustainable and ecologically meaningful population in the eastern Kansas portion of their historical range. This is not a feasibility study which would need to take into account other social and regulatory capacities, however it represents an understudied and undervalued key element of that process (Enck & Brown, 2005; Vukan, Jenny, & Ulrich, 2017).

The concept and model of cultural carrying capacity (CCC) (Conover, 2002) and the updated concepts from wildlife social acceptance capacity, now called the wildlife stakeholder acceptance capacity model (WSAC), (Decker et al., 2012) has been used to understand how independent variables relate to attitudes about wildlife (McCleery, Ditton, Sell, & Lopez, 2006). Wildlife tolerance models (WTM) have also been proposed that incorporate the key elements of WSAC and add in two levels, outer variables (positive or negative meaningful experiences, tangible benefits, intangible benefits, tangible costs, and intangible costs) and inner variables (wildlife value orientations, interest in animals, empathy, anthropomorphism, taxonomic bias, values, institutions, personal norm, self-efficacy/behavioral control, social norms, and habit) of variables in determining tolerance (Kansky, Kidd, & Knight, 2016). Others have created indexes of tolerance (Kumar, Meena, Pampi, & Meena, 2017) and social capacities that apply more specifically to the species, ecological, social, or managerial setting (Enck et al., 2005).

This study draws from the strengths of the outer variable model from WTM (Kansky et al., 2016) in conjunction with the classical concepts of the WSAC model (Conover, 2002; Decker et al., 2012; McCleery et al., 2006). Tolerance indexes for the seven species studied are also used to link taxonomic bias with tangible and intangible costs and benefits. Some of the pertinent inner variables from the WTM that have been shown to be pertinent in other Midwestern studies involving human-wildlife interactions and attitudes were also considered as variables that influence overall tolerance to elk (Conover, 1998; Crank, Hygnstrom, Groepper, & Hams, 2010). This study surveyed Kansan attitudes towards wildlife in general, towards seven native species, and towards elk acceptance under situational conditions. The study employs the wildlife stakeholder acceptance capacity model to represent Kansan attitudes towards this ecologically and socially poignant species.

Research Objectives and Hypotheses

The central hypotheses of this study are first: the aggregated personal attitudes which determine wildlife social acceptance capacity (WSAC) (Conover, 2002; Decker, Riley, & Siemer, 2012) for elk in Kansas is significantly higher than the regional perceived value, which is predicted to be low and second: attitudes towards elk will strongly correlate with perceptions of benefits from wildlife.

Research Objective 1. To examine the relative wildlife acceptance capacity across stakeholder groups for elk in the region.

Hypotheses

H1. Personal acceptance will be significantly higher than perceived regional acceptance for elk.

H2. Attitudes in Kansas will differ by occupation/land use.

(Crops vs livestock; non-agricultural use vs agricultural use; urban vs rural)

H3. Attitudes in Kansas will differ based on hunting preferences.

Research Objective 2. To examine the relative effect of personal and socio/cultural variables towards wildlife attitudes in general and related to elk particularly.

Hypotheses

H4. Attitudes towards elk in Kansas will differ by size of holdings, defined as small (< 100 acres), medium (100 – 260 acres), large (260 – 1000 acres), and very large (>1000 acres) farms.

H5. Attitudes towards elk in Kansas will differ by increasing education level. (high school, 4 year degree, graduate school)

H6. Attitudes towards elk in Kansas will differ with increased meaningful wildlife experiences.

H7. Attitudes in Kansas will differ by longevity of land ownership.

H8. Attitudes in Kansas will differ by proximity to primary elk range.

H9. Attitudes in Kansas in will differ by perceived level of benefits derived from wildlife.

(Tangible vs Intangible benefits)

Chapter 2 – Stakeholder attitudes towards and wildlife acceptance capacity for elk (*Cervus elaphus*) in Kansas

To be submitted to Human Dimensions of Wildlife

Abstract

Kansas elk were abundant, extirpated during settlement, and reintroduced in the late 1980s. However, wild populations continue to be low. Broad, low stakeholder acceptance are a suspected limiting factor. Wildlife stakeholder acceptance capacity (WSAC) and tolerance models helped to frame results from an internet based survey of a sample (n=460) of Kansans. Kansans reported high mean positive wildlife values, acceptance for population increase, and significantly ($p<0.05$) higher personal acceptance for elk than the level of acceptance they perceived in others. Encountering elk in Kansas was unrelated to acceptance. Hunters reported the strongest wildlife attitudes. Encountering wild elk in Kansas strongly correlated with landowners who improved wildlife habitat on their land. Intangible benefits (eg. Positive meaningful experiences) strongly affected ($p<0.00$) wildlife attitudes and elk acceptance. WSAC theory suggests wildlife managers can implement actions to significantly increase the elk population without exceeding the overall social carrying capacity; but good stakeholder relations are vital.

Key words: Elk, Kansas, Wildlife, Attitudes, Tolerance

Introduction

Human-wildlife conflicts (HWC) is an increasing global phenomenon ranging from elephants defending waterholes in Africa, to grouse farmers in Scotland, and elk eating corn in the mid-west USA (Bolen & Robinson, 2003; Conover, 2002; Hartnett, 2015; Manfredo, 2015; Marshall, White, & Fischer, 2007). The role of perceived threat and negative impacts of wildlife are well documented drivers of contentious wildlife management (WM) situations as seen with baboons in South Africa, wolves in Sweden, and pronghorn in America (Chiras, & Reganold, 2010; Decker, Riley, & Siemer, 2012; du Toit, Cross, & Valeix, 2017; Kumar, Meena, Pampi, & Meena, 2017; Ogada, 2015). However, the growing science of human dimensions of wildlife (HDW) is younger than many professional wildlife managers (Decker et al., 2012; Vukan, Jenny, & Ulrich, 2017) and yet, not only is there an urgency to integrate ecological and human dimensions (Lischka, Riley, & Rudolph, 2007; Prell, Hubacek, & Reed, 2008) but also, “human management gives your biggest bang for your buck” (Brent Johnson, Dallas Parks and Recreation Sr. Environmental Coordinator, personal communication 5/2/2018) and “almost all litigation [in Parks, Recreation, and Management situations in the USA] results from poor public relations” (Dr. Sidney Stevenson, KSU Associate Professor of Recreation Resources, personal communication 3/7/2017). There is a broad need for understanding of the attitudes and acceptance of stakeholders (Riley et al., 2002) to inform management decisions, but “specific circumstances will require continued research on a case-by-case basis” (Zinn, Manfredo, & Vaske, 2000, p. 31; Moore & Driver, 2005). This article investigates one such specific case of elk (*Cervus elaphus*) in Kansas, where elk may be a HWC concern for a handful of key stakeholders but, as in innumerable cases, the deeper conflict may lie between humans (Conard, 2009; Conover, 2002; Decker, Riley, & Siemer, 2012; Marchini, 2014).

The majority of Kansas is privately owned (over 97%), agriculture is the principle economy and land use (KDA, 2018). However, conservation is a concern for the state that boasts the largest piece of remaining tallgrass prairie in the world (Wasson, Yasui, & Ebert, 2005; WWF, 2018). Elk were once an abundant keystone species in the maintenance of the tallgrass prairie ecosystem, but were extirpated by the late 1870s (Conard, Gipson, & Peek, 2006; Mead, 1986; Shaw & Lee, 1997). Elk were experimentally reintroduced to Ft. Riley in the Flint Hills ecoregion in 1986 (54 released over a 8 year period) and the herd grew rapidly to over 200. The herd was reduced by 100 in 1999-2000 in response to crop damage complaints and the current statewide population hovers above 400 (Conard, 2009; Shawn Stratton, Wildlife Biologist personal communication, 4/25/2017).

Although the region is ecologically suitable for elk, and this native species would help “to preserve the integrity, stability and beauty of the biotic community” (Leopold, 1970 p. 224–225), the current statewide population is below the threshold for long term genetic viability of an interbreeding population (Baasch et al., 2010; Conard, 2009; Deerhake, Murrow, Heller, Cobb, & Howard, 2016; WDNR, 2012). The context of having an ecologically healthy population that is genetically vulnerable due to low numbers points to an opportunity to study the critical social conditions that affect the probability of a species, reintroduced or not, to survive or flourish in a given area (Deerhake et al., 2016; Kinsky et al., 2006; McCleery et al., 2006; Schwartz et al., 2012; Popp, Toman, Mallory, & Hamr., 2014) and then to integrate the human dimensions in wildlife management (Lischka et al., 2007; Riley et al., 2002; Sharp, Larson, & Green, 2011; Prell et al., 2008).

Elk management policy is influenced by perceptions of stakeholder attitudes and tolerance, both of which seem to be lower in Kansas than for other species or elk in other settings

(Crank, Hygnstrom, Groepper, & Hams, 2010; Hughes & Gipson, 1996; KDFW, 2017; Lee & Miller, 2003; Wasson et al., 2005). Studies on attitudes towards elk, elk acceptance capacity, and Kansan attitudes towards wildlife are less than abundant in the literature, although there is a plethora concerning deer (Chase, & Decker, 1998; Hegel, Gates, & Eslinger, 2007; Johnson et al., 2014; Johnson & Horowitz, 2014; Lee & Miller, 2003; McCance, Cambell, Bayback, 2015; Popp et al., 2014; Zollinger, 2017). The scientific studies focusing on elk are characterized by a history of conflict with agricultural communities or they anticipate conflict over tangible costs in reintroduction feasibility studies (Crank et al., 2010; Deerhake et al., 2016; Enck, & Brown, 2005; Hegel et al., 2007; Graham, Jain, & Kingery, 2010; Guevara, 2009). The context in Kansas also has a highly localized history of conflict resulting in population reductions that may pose an opportunity cost scenario (management costs may be outbalanced by tourism, biodiversity, and aesthetic benefits) for the state (Conard et al., 2006; Conard, 2009; Sowell, 2010).

If there were evidence supporting a social capacity for a population above the minimum sustainable population suggested by Conard (2009), then more of the benefits reaped from this species in other places may be realized in Kansas as well. This study investigated Kansan general wildlife attitudes, elk wildlife stakeholder acceptance capacity (WSAC), perceived WSAC, and seeks to identify key variables impacting those stakeholder attitudes, acceptance capacities, and perceptions (Conover, 2002; Decker et al., 2012). This is not a feasibility study which would need to take into account other societal, structural, and regulatory capacities; nor is it a study of attitudes towards management techniques; however, it represents a frequently neglected key element of that process and provides insight into stakeholder acceptance (Enck & Brown, 2005; McCance et al., 2015; Vukan, Jenny, & Ulrich, 2017).

Conceptual Framework

Cultural carrying capacity is the maximum wildlife population that human society is willing to coexist with in a given area (Conover, 2002). This is a moving target, just as the ecological carrying capacity “K” is a rapidly fluctuating value contingent upon a myriad of population dependent and independent biological and abiotic variables (Bolen & Robinson, 2003; Chiras & Reganold, 2010; Frank, 2016; McCance et al., 2015). Decades of studies have indicated that one of the most important and growing considerations in acceptance capacity is the stakeholders, more precisely, the stakeholders’ attitudes and tolerance for wildlife, often referred to as wildlife stakeholder acceptance capacity (Bruskotter, Singh, Fulton, & Slagle, 2015; Carpenter, Decker, & Lipscomb, 2000; Manfreda, Teel, & Bright, 2003; Prell et al., 2008).

Attitudes are directional (positive or negative), specific evaluative responses toward objects based on beliefs and value orientations and, as proximate predictors of behavior, they serve to integrate features of behavior with beliefs and emotions (Clayton & Myers, 2015; Heberlein, 2012; Kansky, Kidd, & Knight 2014; McCance et al., 2015; McEnery, 2009; Sponarski, Vaske, & Bath, 2015; Zinn et al., 2000). Tolerance in wildlife literature is the capacity to endure impacts and is expressed by not acting against a species (killing a depredating animal) or opposing management programs (lodging a complaint) and acceptance is the willingness to tolerate conflict and negative impacts (Crank et al., 2010 Frank, 2016; Decker et al., 2012; Goodale, Parsons, & Sherron. 2015; Kumar et al., 2017; Manning, 2011).

The common double negative nature of the use of “acceptance” in HDW literature, reflects the wildlife conflicts and carrying capacity roots of the field (Hegel et al., 2007; Lischka et al., 2007). In this article, acceptance *is the willing consent to receive or bear an object or*

condition and can be expressed by acting for a species (creating habitat) and supporting management programs (habitat improvement on private land). This definition better reflects broad evidence that damage cannot be assumed to be the causal factor in low wildlife tolerance (Gangaas, Kaltenborn, & Andreassen, 2015; Goodale et al., 2015; Kansky et al., 2014). For example, key stakeholder groups, such as farmers, may report losses from wildlife being intolerably high and yet continue to actively improve wildlife habitat on their land and embrace coexisting with wildlife at high personal costs (Conover, 1994; Conover 1998; Di Caprio & von Einsidel, 2014; Goodale et al., 2015; Kumar et al., 2017).

This study employs WSAC to compare stakeholder groups' attitudes towards general wildlife attitudes, tolerance for wildlife conflict, and acceptance for elk under specific conditions. Although each context has its own weighting of factors contributing to attitudes about wildlife, WSAC research provides insight into what factors can be expected to be broadly important (McCleery et al., 2006; Zinn et al., 2000). Kansky, Kidd, and Knight (2016) proposed and tested a Wildlife Tolerance Model (WTM) based on the same authors' 2014 results from a global meta-analysis of attitudes toward damage-causing mammalian wildlife ($N > 80,000$). This model (Figure 1) incorporates the key elements of WSAC with outer variables (exposure, positive or negative meaningful experiences, tangible benefits, intangible benefits, tangible costs, and intangible costs) to explain differences in wildlife attitudes and tolerance.

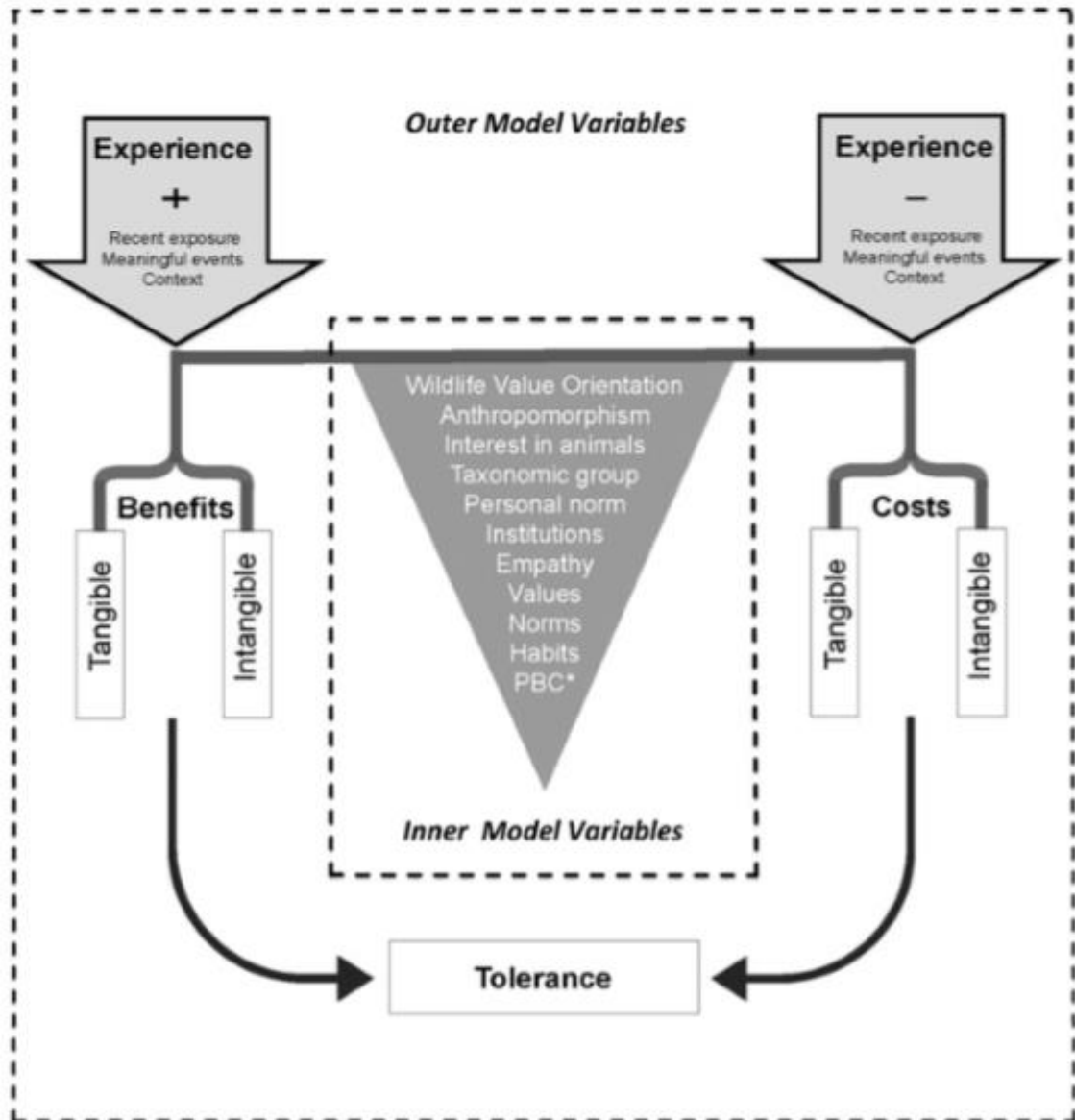


Fig. 1. A diagram of the Wildlife Tolerance Model (WTM) proposed in this paper. The two-tiered model consists of an *outer* and *inner* model. In the *outer* model, *tolerance* is determined by the net perceived *costs* and *benefits* of living with a species based on the extent to which a person *experiences* a species. The *inner* model consists of an additional eleven variables that impact on tolerance through *costs* and *benefits*. The order of *inner* model variables in the triangle is random.*PBC = Perceived Behavioral Control. See Appendix A for additional discussion of variables.

Figure 1. Kansky, Kidd, and Knights' (2016) proposed Wildlife Tolerance Model, copied from R.Kansky et al. / *Biological Conservation* 201 (2016) pg. 138

Kansky's study (2016) found perceptions of intangible costs and benefits explained 60% of tolerance; exposure, positive and negative experiences, and tangible costs were not significantly directly related to tolerance; and the link between positive meaningful experience and intangible benefits was the strongest link in the model followed by intangible benefits as a predictor of tolerance. These findings support Zinn, Manfredo, and Vaske's (2000) earlier conclusion that perceptions of these intangibles "appear to be at least as important" (p.31) as tangible or objective measures. Further studies have created indices of tolerance and social capacities that apply more specifically to the species, ecological, social, or regulatory setting that point to the importance of benefits in HDW (Enck et al., 2005; Kumar et al., 2017; Kansky et al., 2014).

This study considers demographics and stakeholder groups' independent variables along with the outer variables from WTM to inform the WSAC model. Variables that have been shown to be pertinent in other Midwestern studies involving human-wildlife interactions and attitudes were also incorporated as independent variables to examine effects upon wildlife attitudes, elk tolerance, and elk acceptance (Conover, 1998; Crank et al., 2010).

Research Objectives

Research Objective 1. To examine attitudes and wildlife acceptance capacity for elk in Kansas

across three stakeholder groups: ¹landowners, ²agriculturalists, and ³hunters

Research Objective 2. To examine the relative importance of ¹experience with elk in Kansas,

²perceived benefits, and ³perception of social norms towards personal elk acceptance.

Methods

Stakeholder geography

All Kansans are technically stakeholders in wildlife, which is managed by the Kansas Department of Wildlife, Parks, and Tourism (KDWPT) as a public trust. However, citizen groups such as hunters, landowners, and agricultural workers are at higher risk from common impacts such as fence damage or increased competition for habitat (Hegel et al., 2007; Johnson & Horowitz, 2014; Prell, Huback, & Reed, 2017). The state is not evenly divided in physical geography, demography, or in wildlife ecology. This is especially pertinent regarding the issue of elk, as the majority of elk reside in the northeast quarter of the state and if they returned to an ecologically meaningful fraction of their pre-settlement population, the population would concentrate in the eastern tallgrass ecoregion (Conard, Gipson & Peek, 2006, Shaw & Lee, 1997). Therefore, while all Kansan counties were considered in this study, much of the study focused on Eastern Kansas.

For the purposes of this study all counties east of or touching a north-south line through Salina, Kansas, are considered “Eastern Kansas” and all counties to the west are considered “Western Kansas.” Eastern Kansas contains 51 out of 105 counties, slightly less than half the land area, and 75-85% of the 2.9 million Kansas residents (US Census Bureau, 2018).

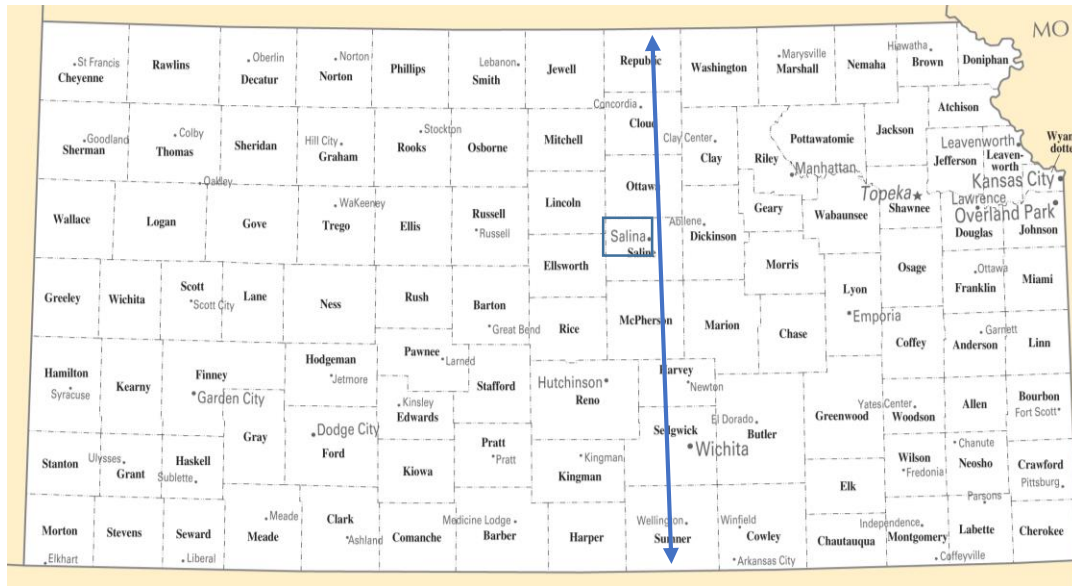


Figure 2. Primary Study area: all counties even with or east of the city of Salina.

Sampling Procedures

Kansas residents were given the opportunity to self-administer an online survey using a Qualtrics individualized link received by email. All residents in 105 Kansas counties are represented by a local Kansas State University Research and Extension (KSRE) agent, who serves as a bridge between university resources and the public on a county or district level. An estimated average of 800 homes per county had direct contact with KSRE agents or programs in 2016 (KSU Research and Extension, n.a.). A cover letter and a link to the survey was sent by the special KSRE agent to all KSRE extension agents with instructions to forward the cover letter to all of their contacts and to report back if they did so and how many stakeholders were asked to complete the survey. Excluding office staff, 322 agents were contacted.

This survey method was chosen for three reasons, the first being the possibility of reaching multiple stakeholder groups across every county in Kansas. Secondly, this means of disbursement incurred no direct monetary cost, which makes the possibility of its replication in the future much higher. The third reason was the availability of in-house research cooperation and

simplicity. We used the bridge that exists to connect university extension agents with local stakeholders.

The email containing the link for the survey was sent out initially on November 20th, 2017. A reminder cover letter was sent out after one week to all agents and another reminder after another week. Due to a lower than expected rate of response, the survey was left open until January 2, 2018. All agents with listed email addresses were contacted. KSRE agents reported sending the invitation email to 2566 individuals and 539 unique responses were recorded for a 21% response rate. This rate was similar to the 21% response rate reported by Zollinger in the 2017 KDWPT landowner opinions study regarding deer (Zollinger, 2017) Seventy-nine (14.66%) responses were discarded due to incompleteness. All responses where a majority of independent and dependent variable questions were answered were retained for a total of 460 usable responses. This is 19.8% above the required sample size to mathematically produce a +/- 5% margin of error at 95% confidence interval according to Dillman, Smith, and Christian (2014).

Data collected

Basic information collected (Conover, 1994; Goodale et al., 2015; Hegel et al., 2007) consisted of demographic information such as age, gender, annual income, education level, race/ethnicity, zip code, land ownership type, land use, occupation, hunting preferences, and experience seeing elk in Kansas. Individuals were asked if they had seen elk in eastern or western Kansas or not at all and if they experienced them on their land or adjacent neighbors' property (Conover, 1998; Guevara, 2009).

One question asked respondents to indicate what benefits they perceived from each of seven native wildlife species: turkey, deer, elk, coyote, cougar, quail, and prairie chicken.

Response choices were: *No benefit at all, direct or indirect financial benefits, improved land health benefits, positive meaningful experience, recreational benefits*. Respondents were free to choose any combination of benefits. Two questions asked how tolerable or intolerable (1= “Very intolerable, 7 = “Very tolerable”) conflict or loss due to that species was perceived by the respondent (Conover, 1994).

Thirteen further questions were a mix of positively and negatively phrased statements about acceptability of specific conditions, primarily related to elk acceptance and elk population change (Conover, 1998; Guevara, 2009; Hegel et al., 2009; Kansky et al., 2016; Zinn et al., 2000).

Analyses

Responses where individuals reported their own attitudes were examined as dependent variables in comparison to the basic independent variables listed above. These self-reported attitudes were in turn correlated with modified conditional statements to evaluate effect of external considerations, such as benefits from wildlife to others, on acceptance capacities.

The means of the four general wildlife attitude questions and the means of the four elk acceptance questions were calculated for the entire sample and for stakeholder groups, such as hunters and agriculturalists. ANOVA tables and eta values were calculated simultaneously and significant results with three or more categories were subjected to post hoc analysis. The same process was repeated with the four benefits as independent variables.

Pairwise T-tests were used to compare acceptance means between stakeholder groups within the sample. Mean responses for these questions were further compared with stakeholder groups using ANOVAs as above. Pearson’s correlation matrix was run to examine significance and relation between dependent and independent variables.

Results

The sample ($n = 460$) was 50% female with a mean age of 59. Almost all respondents identified as white and 68% were landowners (>1 acre) in Kansas. The median land holding was 120 acres and the mean was 470 acres. Fifty-Five percent of respondents identified as non-hunting. Sixty-four percent did not work in agriculture, however, it is unknown how many of these were currently retired from agricultural work. Ninety-one percent had completed high school or higher with 29% possessing a graduate degree. Twenty-eight percent reported an annual income over \$100,000 and 17% reported incomes below \$50,000 annually. Twenty-eight percent reported seeing wild elk in Kansas including those experiencing wild elk on their private land.

Wildlife values

Overall respondents “strongly agreed” on a seven-point scale to two wildlife statements, “*I like seeing wildlife on my property*” ($n = 426$, $M = 1.63$, $S.D. = 1.056$), & “*I feel my land is in a healthy condition when I see a variety of wildlife*” ($n = 422$, $M = 1.87$, $S.D. = 1.200$). They “strongly disagreed” with a third statement “*Wildlife conservation has no benefits for human society*” ($n = 403$, $M = 6.3$, $S.D. = 1.350$). A fourth wildlife question focusing on habitats, “*I purposely provide wildlife habitat on my property,*” scored between “agree” and “somewhat agree” ($n = 416$, $M = 2.55$, $S.D. = 1.641$) on the same scale.

Owning land in Kansas, duration of tenure, inheritance of land, agriculturally oriented work, and age were variables that showed significant ($p < 0.05$) but weak effect ($\eta^2 < .190$) upon one or more the four general wildlife attitude variables listed above. Differences in income, gender, proximity to elk populations, and living on or near agricultural land were not statistically significant and were excluded from the results. Generally, those who are non-landowners, recent

owners (<25years), non-inheritors, those not working in agriculture, not hunters, those with smaller holdings (<260 acres), more educated, younger, and non-farmers reported more positive general wildlife attitudes.

Hunting was the strongest independent variable ($p < 0.005$, $\eta^2 > 0.200$) for both statements regarding attitudes towards wildlife on personal property. Encountering wild elk in Kansas (seeing or presence on property) was a significant ($p < 0.05$) variable in all three land related questions and scored the strongest ($n = 99$, $M = 2.20$, S.D. 1.512) among all basic variables for “*I purposely provide wildlife habitat on my property.*” Although experiencing elk in Kansas significant for this wildlife attitude question it was non-significant to acceptance of elk.

Tangible benefits were not a significant factor in any of the wildlife attitude questions. All three intangible benefits (*improved land health benefits, positive meaningful experience, recreational benefits*) related to wildlife attitudes with the greatest group difference being between those reporting no benefits (0 benefits from any of 7 listed species) to those reporting benefit from more than three species (perceived benefits from 4-7 of listed species) Land health and recreational benefits were significantly positively related to wildlife on personal property (Table 1). Land health benefits were similarly related to purposely providing wildlife habitat. “Meaningful positive experience” was the strongest overall significant variable ($p < 0.000$) for positive wildlife values compared to all variables in the study, exhibiting the highest eta values (Table 1). For example, those with the four or more positive meaningful experiences most strongly agreed ($M = 1.76$, S.D. = 1.132) to “*I purposely provide wildlife habitat on my property*” and most significantly differed ($t(413) = 27.486$, $p < 0.000$) from those reporting none ($M = 3.07$).

Elk acceptance

Total mean scores were mildly positive but close to neutral for the four elk acceptance statements regarding wanting elk in Kansas ($n = 392$, $M = 2.82$, S.D. 1.843), accepting a population increase ($n = 394$, $M = 3.29$, S.D. = 1.844), accepting on personal land (409, $M = 3.8$, S.D. = 1.805), and liking to see more elk ($n = 412$, $M = 3.69$, S.D. = 1.835). Hunting was a very weak variable regarding acceptance of elk. Acceptance of elk on hunters' personal land was the only condition where hunters were significantly ($t(362) = 6.352$, $p < 0.05$) more accepting ($M = 3.48$, S.D. 1.831, $\eta^2 = 0.131$) than non-hunters ($M = 3.96$). Landowners' acceptance of elk population increase ($M = 3.49$) was below the average as it was for those who worked in agriculture ($M = 3.89$), and who owned large tracts (>260 acres) ($M = 4.17$). Gender and income were non-significant.

Although experiencing elk in Kansas was significant for wildlife attitudes it was non-significant to acceptance of elk and tangible benefits were similarly not an important factor in elk acceptance.

The three intangible benefits were important factors in elk acceptance (Table 2). Recreational and land health benefits showed lower acceptability between those who reported one to three species benefits than those who reported no benefits or those who reported benefits from four to more species. "Meaningful positive experience" followed the same pattern as with general wildlife attitudes and was overall the strongest significant variable ($p < 0.000$) of positive elk acceptance compared to all groups and factors (Table 2). For example, those with the four or more positive meaningful experiences agreed ($M = 2.59$, S.D. = 1.569) to allowing the population to increase and most significantly differed ($t(391) = 13.097$, $p < 0.000$) from those reporting none ($M = 3.68$). The few respondents who reported land health benefits from four or

more species ($n = 32$) were the most accepting group for hosting elk on their land ($M = 2.75$, S.D. = 1.832) and increasing the population ($M = 2.50$, S.D. = 1.778).

Personal elk acceptance and perceptions

Personal reported acceptance for elk was hypothesized to be significantly higher than perceived regional tolerance for elk. Four questions were compared in two pairs using a paired sample T-test. The first pair are positively phrased questions answered on a Likert scale (1=strongly agree...7=strongly disagree). The second uses the same scale but is a negative statement. The first statement in each pair is how acceptable the presence of elk is to the individual respondent. The second statement asks the respondent what they think or believe is the acceptability of the same conditions to other stakeholders in their region.

The mean acceptance of elk population growth in the region to the individual ($M = 3.77$, SD = 1.816), compared to what that individual believed of others in the region ($M = 4.02$, SD = 1.535) was significantly more positive ($t(387) = -3.159$, $p = 0.002$). This indicates that individuals rated their own acceptance of elk higher than what they believe others feel.

The mean rejection (“not accept”) of elk on the individual’s property ($M = 4.19$, SD = 1.806), compared to what respondents believed of others in the region ($M = 3.57$, SD = 1.391) was significantly more negatively scored ($t(400) = 6.649$, $p < .001$) meaning a more positive personal acceptance over “other’s” acceptance. Again, on average, individuals statistically significantly rated their personal acceptance as slightly positive but everyone else in the region as slightly negative.

Discussion

People who have more experience with wildlife and who feel that they reap intangible benefits (not money or material goods) from wildlife had the strongest positive attitudes toward

wildlife. These variables were the strongest relation to acceptance as McCleery et al., (2006) and Kansky et al. (2016) found previously. Perceptions of social norms were also very important as Zinn et al. stated (2000). It seems likely that individuals' responses would adhere more closely to the perceived norm on statements about their own land if they believed this was the general view others held of their land.

This study concurs with findings that wildlife experience is more important in determining tolerance than tangible costs (Kumar et al., 2017; Ogada, 2015; Olive, 2015; Zollinger, 2017). This also raises some concerns. The results from this study follow trends in research that suggest, as urbanization increases and more people have less contact with nature, they may be more verbally supportive than landowners to reestablish wildlife populations, but be less willing to pay for it (Kansky et al., 2014; Manfredo et al., 2003; Olive, 2015). This could result in a situation where all agree and then the parties that are the most vulnerable to economic loss would be expected by others to pay for the benefits that are collectively enjoyed (Olive, 2015).

Overall attitudes of Kansans towards elk from this study contradict the perception that elk are not accepted. The positive reported mean in personal acceptability level for elk on one's own land and for population increase scenarios correspond to a social carrying capacity that is above the current population (Carpenter et al., 2000; Conover, 2002). However, the majority of respondents held broad beliefs that most other Kansans will have a low tolerance for elk. Individuals statistically significantly rated their personal acceptance as positive but everyone else in the region as negative. Two logical conclusions can be drawn. First, the sampled respondents are correct in their evaluations of themselves and others and they happen to be a more accepting subpopulation compared to other populations in the state. The second possible conclusion is most

residents are amenable to the presence of elk in the region and on their own property, but they somehow believe that the general opinion is less accepting. This situation raises the question of why. Why do individuals favor elk but believe others do not? Furthermore, what other groups missed by this investigation also hold similar beliefs about others' perceptions of elk? Future investigations should consider this question.

Management Implications

Currently, the state hunting regulates state, "unlimited resident and landowner/tenant elk permits have been available over the counter to allow the harvest of elk causing crop damage or other conflicts and for landowners to have the opportunity to maintain elk at desired numbers on their property" (Kansas Department of Wildlife, Parks, & Tourism, n.a.).

This policy is a response to depredation complaints and may inadvertently influence the perceived attitudes of stakeholders towards elk. The squeaky wheel gets the grease, and for good reason. However, this study indicates there might be sufficient acceptance capacity not only among the general population but also among agriculturalists to entertain more elk across the Kansas landscape. This could not only bring the intangible benefits of increased meaningful experiences, recreational experiences, and land health benefits, but it may also have tangible benefits for individuals and the state through increased tourism and hunting revenues.

Conard (2009) concluded in his five-year study on elk demography and genetics that the current Ft. Riley population would eventually die out due to inbreeding effects of a small population unless interventions were taken on behalf of the elk. The Kansas reintroduction experiment was biologically among the most successful cases nation-wide, although reintroductions into other former ranges have resulted in more abundant and socially accepted

populations (KDFW, 2017; Popp et al. 2014). In Kentucky the reintroduced population has grown rapidly to a population estimated at over 11,000. They processed over 10,000 hunting permit applications and sold 910 permits in 2016 (KDFW, 2017). Kansas reintroduced elk twenty years before Kentucky, has up to 400 individuals, processes over 900 applications for 20 tags given on Ft. Riley, and sells additional sixty across the counter tags (KDWPT, n.a.). Given Kentucky's example and the Kansas' recent agritourism focus, elk are a potential high value resource that could benefit the state economy directly through tourism and hunting (Flannigan, Blackstock, & Hunter, 2014; Eubanks, 2013). In 2016 Kentucky hunters spent at least \$209,000 in elk hunting fees alone. Given the ratio of fees to tourism dollars spent by hunters, hunters spent an estimated \$6,966,666 (not including an estimated 1.4 economic impact factor) in or around Kentucky in 2016 (KDFW, 2017; USFWS, 2016).

Agriculture remains the basis of the Kansas economy and remains an important part of cultural identity. Restoring one of the primary large animals to the prairie may be good for the economy and is certainly good for restoring environmental integrity. This preliminary study concludes elk are viewed very positively by Kansans and the capacity for accepting an expanding and revitalized population exists (Figure 2).

This article concurs with previous studies (Kansky et al., 2016; McCleery et al., 2006; Zinn et al., 200) that, in many wildlife issues where human life is not directly threatened, intangible costs and intangible benefits are the most important considerations in HDW contexts. People want to be heard and know they are valued by managers and this is especially true for those who bear the burden most strongly. A simple \$1 thank you card and a friendly visit by a humble and appreciative ranger may be much more effective than millions of dollars in compensation. An ounce of prevention is worth a pound of cure. Manfredo et al, (2003)

considers urbanization a major factor in wildlife attitudes changing for the positive, and other studies have supported this (George, Slagle, Wilson, Moeller, & Bruskotter, 2016). However, Olive (2015) and others (Goodale et al., 2015; Gangaas et al., 2015) found evidence that this growing urban population are “not in my back yard” supporters of wildlife. Conversely, many agriculturalists worldwide actually “accept” wildlife and pay for it, without their sacrifices ever being acknowledged (Conover, 1994; Kumar et al., 2017). All they want is a warm human to show appreciation and give a little help in a crisis, even if the support is only emotional support. This article indicates a continued need for research into the *willing consent to bear conditions necessary to sustainable wildlife conservation* by urban and rural stakeholders.

Table 1

Means of responses to four wildlife questions and effect size

Four general wildlife attitude questions												
	I like seeing wildlife on my property.			I feel my land is in a healthy condition when I see a variety of wildlife			I purposely provide wildlife habitat on my property.			Wildlife conservation has no benefits for human society. (inverted scores)		
	n	Mean \pm S.D	eta	n	Mean \pm S.D	eta	n	Mean \pm S.D	eta	n	Mean \pm S.D	eta
Total Sample		1.63			1.87			2.55			1.7	
Encountered wild elk in Ks	415	1.44* \pm .971	0.102	411	1.67* \pm 1.097	0.100	405	2.20* \pm 1.512	0.125		1.73	
Benefits from wildlife (from >3 species – vs zero)												
Meaningful positive experience	426	1.18** \pm .469	0.339	422	1.38** \pm .794	0.308	416	1.76** \pm 1.132	0.343	403	1.33** \pm 1.066	0.208
Recreational benefits	426	1.32** \pm .708	0.188	422	1.55** \pm .847	0.160		2.22			1.43	
Land health benefits	426	1.15* \pm .566	0.151	422	1.98** \pm .650	0.193	416	1.52** \pm 1.064	0.187		1.27	

Notes: *p < 0.05, **p < 0.005, scale values from 1 = “strongly agree” to 7 = “strongly disagree”, Mean values and standard deviation shown for groups reporting perceived benefits from more than three species, n = sample in analysis.

Table 2

Means of responses to four elk questions and effect size

Four elk questions												
	I do not want elk in Kansas. (inverted scores)			Given, the 2017 population... I would like to see this population increase.			I would not accept having elk on my property under any conditions. (inverted scores)			I would like to see more elk.		
	n	Mean \pm S.D	eta	n	Mean \pm S.D	eta	n	Mean \pm S.D	eta	n	Mean \pm S.D	eta
Total Sample		2.82			3.29			3.80			3.69	
Benefits from wildlife												
Meaningful positive experience (>3 vs zero)	392	2.09** ± 1.499	0.265	394	2.59** ± 1.569	0.251	409	3.26** ± 1.824	0.186	412	2.89** ± 1.629	0.272
Recreational benefits (>3 vs <3)	392	2.58* ± 1.851	0.129	394	2.97* ± 1.874	0.129	409	3.55* ± 1.802	0.121		3.61	
Land health benefits (>3 vs <3)		2.06		394	2.50* ± 1.778	0.139	409	2.75** ± 1.802	0.17	412	2.81** ± 1.815	0.165

Notes: *p < 0.05, **p < 0.005, scale values from 1 = “strongly agree” to 7 = “strongly disagree”, Mean values and standard deviation shown for groups reporting perceived benefits from more than three species, n = sample in analysis.

Chapter 3 - Summary and Conclusions

Kansas, Elk, Norms – Karl, Edwin, Noren – Two Stories

Introduction

Story telling has been, is, and will continue to be the most effective medium of transmission of human history, information, beliefs, attitudes, and proscribed behavior. Logic, experience, traditions, and holy scriptures from around the world concur. My own personal experience listening to and living among Baka pigmies in Africa, Cofan Indians in South America, Inuit's in North America, Western Europeans, and sundry peoples of mixed background in rural and urban settings supports the centrality and power of story to move both mind and body. This work is about an unfinished story, my unfinished story of personal learning and growth and the unfinished story of a native ungulate whose very existence in Kansas is heavily dependent on the tone and content of the stories people tell.

Kansans want elk in Kansas. Kansans strongly value and support wildlife. Social norms are a restraint on elk population growth. However, obtaining this information is neither the central value nor the chief end of my study. Neither is the search for knowledge nor the proliferation of knowledge penultimate in the scientific process. Science is absent of meaning if not pertinent to people. Although the process of learning, the conclusions of the research, and the experience gained were among my reasons for devoting time, energy, and money to this program of study, I believe that people are what is good and what is wrong with wildlife management. People are the source of our environmental problems and people are the solution; people are the cost and the benefit; and people are infinitely more difficult to understand and work with than plants and animals. We, I more than any, need to internalize the knowledge that however wise

we are dealing with others, we may always misstep in some way. I have made mistakes with people and I need to own those mistakes and discipline myself to rectify them in the present and the future. Experience suggests humility and a respectful demeanor towards stakeholders is a better path than technocratic solutions or exercising the powers of “being in the right,” however appropriate those solutions may also seem to be.

For me, the chief benefit of studying Kansan attitudes and acceptance towards elk was to harken in discipline. To harken is an action which means to pay attention, to listen, to look, to open all the mind, and to align the body and the will to understand the story. I listened to Kansans through the survey. I looked to experts in the literature review. I opened my mind to my advisors. I aligned my body and will to understand the story. I am learning from my own past human dimensions of wildlife experiences and putting myself through the rigors of academic discipline with the intent to learn a new story and to practice telling that story. I welcome and accept the conditions of the academic discipline with the expectation that I will, not only be able to tell a story about elk to wildlife professionals, wildlife scientists, and conservation psychologists, but also be able to be a better listener and storyteller as a wildlife manager, as a student, as a teacher, as a husband, as a father, and as a friend.

Challenges

I call the scientific process a discipline and this work was an exercise in discipline for me as I had to alter my normal habits to conform to the required processes and structures. In a race when difficulties are surmounted they cease to be obstacles and become challenges that strengthen the body and mind of the racer. I encountered numerous difficulties in this two-year adventure race as well.

The first challenge was landing on a subject for my research. None was readily available with funding nor did one present itself at the beginning. Just as radio telemetry often has the researcher wandering in seemingly erratic directions to get a fix on his subject, so my courses, my advisors, my readings in wildlife literature, and my own physical travel helped me get a fix on the subject of stakeholder acceptance towards elk in Kansas.

One great challenge was funding. While the department and my advisors have been exceedingly supportive and helpful, the reality was there was no funding for this study and little funding for me as a student. The personal finance challenge was overcome through numerous means including the blessing of flexible full time employment outside the university. As “necessity is the mother of invention” so the lack of funding for research became the driver for seeking to maximize available resources for data collection and led to the strategy of using research and extension agents as a means to disseminate the survey to Kansans. Perhaps if there had been sufficient moneys to invest in another disbursement system, there may have been more total responses, which would have shorn up the results.

Another challenge was creating the survey in such a way as to be appropriate to Kansans and useful as a tool for data collection. While I would not write the same survey again, there is much that I have learned through the experience of survey writing and the through the headaches I created for myself when it came time to do the analysis and write up. I would not trade the appreciation I now have for the complexities of the process against having it all “done right” but not understanding why. This is not to say that I have arrived and now I know how to do it. I am more aware now than when I started that I’m ignorant in many ways and I yet I now have a personal knowledge of problematic situations that I was unaware of before I waded into that particular mess.

Following the challenge of the data collection was the inevitable analysis and write up. These were not uniquely challenging in themselves but were experiences that caused me to work long hours and to apply the information that I have learned from my classwork. This was the synthesis of all those practice problems and communication theory, whose ultimate goals were to help me in this step of the scientific process. The challenge here was to choose which tools were appropriate to the job at hand and use the wisdom of my advisors along with the knowledge from the courses to make those application decisions.

Discoveries

This project has gifted me with three key points of discovery and learning. First of all, I was personally aware of the growing need in my own work and in global wildlife management issues to pay stronger attention to human dimensions of wildlife. However, I was not aware that this has been a substantially growing field of research and emphasis at multiple managerial levels. I am encouraged by the formal existence of this line of inquiry and how it has already been used to ameliorate wildlife conflict and conservation issues. I am also daunted by the lack of broader interest in the subject that still exists among wildlife practitioners and the great ignorance we all still have in attitudinal science and in understanding people's acceptance.

Second, I have learned much about the practice of science and social science in particular. My background in biology gave me a good foundation in the hard sciences but an ill appreciation of the particularities and complexities of conducting social science. I have learned experientially to trust the process and to compare, question, and evaluate not only results from the literature but to strive to understand why. Why were certain methods, words, theories, and contexts used in research and in reporting the research? I have evaluated my own choices and have often been dissatisfied with my own rationality and gone back to start over again from a

different perspective or research design. I have learned to welcome the grindstone that sharpens the axe into a better tool by accepting advice and criticism that is aimed at improving my work and me as a life-long learner. For this I especially thank my many friends and advisors who spent hours of their limited lifespan to invest in mine.

Finally, I also learned a lot about elk, Kansas, and wildlife acceptance around the world. I learned that while stakeholder acceptance capacities must be carefully evaluated and stakeholders need to be included on a case-by-case basis to ensure effective management, there are global trends and truths that also apply. Whether I work in Kansas, Kentucky, Katanga, or the Kalahari, there will be wildlife conflict. In those settings the human dimensions component will be the key to success in any conservation or wildlife management issue. I will need to harken to the story of those people at least as much as I harkened to the story of elk in Kansas. I will need to go one step further. I will need to listen to individuals and communities and accept their stories before I will be able to earn the right to even think about offering solutions. I would do well to apply this to all of my relationships as well.

Advice

“Plans fail for lack of counsel, but with many advisers they succeed.” – Proverbs 15:22

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Appendix A - IRB Compliance Documentation



University Research Compliance Office

TO: Dr. Ryan Sharp
Horticulture, Forestry, and Recreation Resources
2021 Throckmorton Hall

Proposal Number: 8874

FROM: Rick Scheidt, Chair
Committee on Research Involving Human Subjects

DATE: 07/13/2017

RE: Proposal Entitled, "Investigating wildlife attitudes of landowners related to native ungulates in the Flint Hills region of Kansas."

The Committee on Research Involving Human Subjects / Institutional Review Board (IRB) for Kansas State University has reviewed the proposal identified above and has determined that it is EXEMPT from further IRB review. This exemption applies only to the proposal - as written - and currently on file with the IRB. Any change potentially affecting human subjects must be approved by the IRB prior to implementation and may disqualify the proposal from exemption.

Based upon information provided to the IRB, this activity is exempt under the criteria set forth in the Federal Policy for the Protection of Human Subjects, **45 CFR §46.101, paragraph b, category: 2, subsection: ii.**

Certain research is exempt from the requirements of HHS/OHRP regulations. A determination that research is exempt does not imply that investigators have no ethical responsibilities to subjects in such research; it means only that the regulatory requirements related to IRB review, informed consent, and assurance of compliance do not apply to the research.

Any unanticipated problems involving risk to subjects or to others must be reported immediately to the Chair of the Committee on Research Involving Human Subjects, the University Research Compliance Office, and if the subjects are KSU students, to the Director of the Student Health Center.

Appendix B - Survey Open Comments

Recently purchased 20 acres homestead
How about the County reimburse us for calf losses?
Deer damage caused our farming operation substantial crop losses in 2016.
We own a small acreage. It is not farm or ranch land. It is our home place.
you need to let farmers kill turkey and deer one year take all they want ro reduce them we hate the turkeys a lot.
I like love was seeing the wildlife. But with vehicle damages from deer already, why increase the danger with the Elk? Also, deer hunting brings in enough idiots that drive up land values above agricultural use and start fires, etc.
no thanks
difficult to answer with two parcels, live on smaller one 50 acres, in two counties
I love the native wildlife in Kansas. I am opposed to hunting on my land (exception- humane elimination of badgers, skunks (rabies concern), feral hogs. If a species was starving or killing farm animal then I would reverse my decision.
Feel that Coyote hunters should be required to have a specific license and be required to have permission to hunt on person's property.
Our land is enrolled in the Kansas Walk in hunting program.
Walk in hunting is Ok but surrounding farmers are ones that provide food for birds in most CRP acreages
This survey makes it sound like the state is interested in introducing more cougars to thin the deer population so the elk can thrive. Most of Eastern Kansas is too populated and the land is broken up too much for very many elk in my opinion. There needs to be a survey on the damage the hawk population is doing to the small game Eastern Kansas would benefit more from a better small game opportunities like quail pheasant and rabbit.
Don't encourage the growth of the elk herd in Kansas. We don't need this big of animal eating our crops.
I would like to see more Quail in my area and would be willing to work with KSU to increase the amount of Quail. Also when I was younger we had a lot of Prairie Chickens, now we have NONE. I strongly feel it is due to the increasing number of Turkey over the years.
The main wildlife damage in Eastern Kansas is deer being hit on the highways. I wish they were managed to cut the current population in half. Strongly encourage out of state hunters that pay Kansas for the license and boost the Kansas economy when hunting.
My goal for our property is converting it back to wildlife habitat, have a small apiary buisness
we only allow bow hunting on our land
License to kill cougar should be issued small bounty \$20-\$40 should be paid for coyotes..... state should provide cheap quail / pheasants for landowners to purchase to put on their property state should pay farmer / landowner small fee for letting people hunt .05\$ an acre a day a person to hunt free deer permit given landowners / free turkey permit to landowners
Unable to choose, but we both use our land for Farming AND Ranching

Wildlife is needed. However, they can cause significant damage. I have seen turkeys pick rows clean of planted seed/small wheat plants. Beavers also will clear acres of corn to use the stalks in their dams.
I enjoy seeing whietail deer on my farm. We also have cattle...I rent it out.
Looks like you're gearing up for elk. They are extremely tough on fences and carry disease that affect cattle. NO ELK!
I feel that the state of Kansas should take responsibility for the damage of crops if the so choose start a breeding population of elk.
There needs to be a buffer area for livestock operations to control the hunting whether owned or not to protect their facilities and animals from damage that occurs from hunters that have no idea the factors of shooting and dogs and multiple vehicle hunts.
% reimbursed/cost of loss question was asking two different things in one question. We both farm and ranch, but could not check both. Survey did not include birdwatching or wildflower walks or hiking, biking, or canoeing. Did not include pheasants.
Animals are good so is healthy population control most damaging for me is Canada goose shoot them
This seems like a survery to guage the interest in KDW&P introducing elk to eastern Kansas. We suffer enough crop damage already from Deer and Turkeys. If farmers are paying the price to feed a growing population of elk then they bettter have a plan to feed them!!
We have land in 3 counties. Saline, Riley, and Phillips. My answers reflect that. The land in Phillips county is leased for hunting. I like the income.
I have set up more than ten brush piles and a feeder to attract quail. I have gone from a population of 0 to a covey of nine. I hope to have a population to hunt in a few years. All of us down here have noticed a drop in deer population decrease, we would like to see higher numbers.
I also have family ranches in Montana and Colorado. Elk are not something we as ag producers want in Kansas. They destroy fences, crops and consume a huge amount of range forage.
There should have been a NA option - comment only for the researchers benefit to give more accurate answers.
I would love to learn more about any conservation efforts being done in the central to eastern part of the state.
when stating ? about wildlife should also include fox, pos, racoon ect. they are just as hunted and nec
I live in town so my answers don't apply to farmland. I did grow up in a farming family and most of them still farm. I enjoy viewing wildlife, but not hunting. My son hunts. I think it is important for my grand children to have the chance to see wildlife for their lives and the family that comes in the future. I know wildlife can cause crop dam,age and loss, but I see damage by off road recreation vehicles too. there is always a trade off. Controlled hunting is always a way to thin out
Live in a subdivision 3 miles west of Legends in Western Wyandotte County so coyotes, raccoons and squirrels are the only wildlife in close proximity
Deer are nothing more than nuisance horned rats causing considerable damage to countless people besides farmers. Look at all of the car-deer collisions and the human loss caused by this. Not to mention all of he vehicle damage and insurance expenses we all pay due to deer damage to vehicles. Most of our farm trucks have heavy grille guards just for deer. One has

smashed four deer. It is ridiculous that I have five thousand dollars tied up in grill guards just to protect my vehicles from deer
Deer cause so many accidents here -- elk would be so much worse!
My only qualm with this survey is the last question. If I do not wish to see wild elk in eastern Kansas, then I do not think anyone should have to reimburse for damage from elk herds. This is contradictory and I would think it might effect the survey results,
Deer are major cause of accidents in this area. Elk would be worse!!!
Also realize that quail, etc. do eat a lot of bugs, ticks, etc. and provide a benefit that doesn't show a "monetary" effect. Over population of deer causes many accidents, destruction of crops and spread of lyme and tick related diseases. Have seen increase of that in our area, which is very concerning. Know some depend on for meat source.
While I live adjacent to farmland, I live within the city limits. If I should not have answered all these questions, I apologize.
Need to be able to check a box "Not applicable or NA" or be able to uncheck a box and leave the line blank - if we do not have the animal then might not have answered the question appropriately.
Wildlife is very important and we somehow must learn to live with these animals. Our quality of life is improved by having wildlife in our area.
My land is used both for farming and ranching
I don't mind wildlife until it causes damages to my crops and livestock. Those that introduce additional wildlife should be held responsible for the damages. There should be a requirement that before a buck tag is issued a doe tag is issued and the doe tag should be verified filled by wildlife staff before a buck tag is issued to anyone. This is the only way that the deer population will get under control. Allow shooting of spike bucks under fulfillment of the doe tag also.
A larger animal like elk would be even deadlier on the states highways than deer.
An early section was repeated immediately following the first one. In one section the word THIS appeared next to the word THIS. These glitches make the survey appear unscholarly!
If you live in the country, even animals that are pests to human need to be part of the habitat. Our biggest problems are deer, raccoons, opossums, skunks. The raccoons are so difficult that we can't feed the birds because they eat all the seed. Squirrels also.
Enjoy our natural setting and the wildlife that comes with that; dedicated butterfly/pollinator habitat and pesticide free.
My problem with Elk would have more to do with automobile wrecks than anything else.
I think humans mess things up when they try to introduce species into an area. Deer are the best example of that. I'm afraid the same thing will happen with elk.
KDWP has ruined the wildlife in this state. They are doing nothing but being a resource pimp and "whoreing" out the wildlife. Come to unit 16, the deer population is in trouble, trophy bucks are almost non-existent and the rotten Commissioners haven't changed a thing! I haven't killed a deer on my 3,000 acres of access in 7 years and my neighbors have ruined it.
live in the city, grew up on my father's farm
I live in "town" so to speak. I own and rent my 150 acres to a farmer.
Deer do a lot of damage to autos. Just think how much damage an elk would do. I have hunted elk in nm. An elk hits ur auto it is totaled. Nice thought but no thanks
Survey doesn't make sense for people without farmland

I feel a balance of wildlife is necessary to protect and support the earth. we need to encourage the. wild lifetime support areas less inhabited by humans and their flocks meaning support the wildlife further out from the crops. We all need each other. t
Have a half acre of land, which is visited by owls, assorted songbirds, hawks, foxes, deer, an occasional coyote, assorted rodents of various sizes. Enjoy wildlife, but some have been destructive of ornamentals, we just learn interesting ways to protect the plants, while enjoying the wildlife.
I enjoy watching the birds at our feeder and birdbath
There are flaws in the line of questioning that should invalidate the questionnaire. Autocalculate to 100% doesn't work.
On the subject of re-imbursement for crop losses: The options of reimbursement are way to complicated to manage effectively and truthfully. Farmer's already experience losses for a wide variety of reasons. If the farmer wants to control losses from harvestable wildlife, he can encourage hunters to hunt on his property. And if the hunting is good enough, he can lease hunting rights to real hunters. This will reimburse him for crop losses as well as control the wildlife population on his prop
I was born and raised in a farm community in central Dickinson County. I hunted and fished everything and everywhere in Kansas including Western KS pheasant, quail, prairie chicken. During my later teen years we traveled to South and North Dakota, Wyoming, Colorado and all over Kansas hunting. Running a combine, mower, roller rake, plowing etc. I encounter lots of wild life, much of which we observed and enjoyed, often feeding, etc. to insure they would stay around and help remove pests.
The introduction of Wild Turkeys to Eastern Kansas has decimated the quail population.
I have established a vineyard that has sustained severe deer damage. It has changed the way I now view this animal on my land.
the extent of wildlife in our cul de sac is wild birds. i work hard to maintain backyard that attracts the birds.
I owned 7.4 acres in Weston, MO for 21 yrs but have moved to KC, KS now
Hunting and fishing licenses should be free over 65 years of age
Wildlife has great value. The food chain has value, from plants to invertebrates to vertebrates...
My husband and I love being out doors and are avid bird watchers.
We had land in western ks. Row crops
No coment
Please Increase the Elk Population!
Grew up north of Cheyenne Bottoms surrounde by wildlife. No mention of snakes or rabid skunks which were most feared predators.
Wild hogs have also been a pest in some parts of the state.
You do know there is land that is not West of Salina and not East of Topeka, right?
Conservation is key to our future success.
be advised i answered the Elk questions on damage although i am ignorant of the damage Elk can cause
I feel the purpose of this survey is to justify introducing more elk into Kansas .If thatis it's purpose , I amaginst it . What's next wolves? I would be strongly against that as well

What about pronghorn, pheasants, grouse and so forth? Waterfowl or bear? Lots of opportunities for Kansas if properly managed and that definition varies depending what side of the equation you are on.

Survey is geared to Eastern Kansas - Wish Western Kansas was a thought.

this survey seems to be pointed strongly toward elk and bringing more elk into KS. On one hand I like the idea, but the Canada goose program has turned from an aggravation to almost a disaster in terms of way underestimating their affect on the daily lives of Kansans. Deer have also overpopulated and are a hazard on roadways. Hunting has not slowed either deer or goose populations. Elk will be hazardous on roads. Survey needs more than landowner opinionns. How limit elk to 1/sq mi?

Appendix C - Wildlife Survey

Investigating Wildlife Attitudes

Start of Block: Default Question Block

Q42

The following survey aims to improve the understanding of how Kansas residents feel about wildlife.

The survey should take 10-15 minutes to complete.

Thank you for your contribution to this study.

By continuing on with this survey you have agreed to participate.

This study has been approved by the Institutional Review Board on Human Subjects at KSU and is completely anonymous and confidential. The information collected will not be individually identifiable.

1 Do you own one acre or more of land in Kansas?

☐ yes (1)

☐ no (2)

Skip To: 8 If Do you own one acre or more of land in Kansas? = no

2 How long have you owned land in Kansas?

☐ 0-5 years (1)

☐ 5-10 (2)

☐ 10-25 (3)

☐ >25 (4)

3 Do you own land used for farming, ranching, or other agricultural production in Kansas?

☐ farming (1)

☐ ranching (2)

☐ other agricultural production (3)

4 Do you own land that is primarily used for recreational purposes? (hunting, fishing, etc...)

☐ Hunting (1)

☐ Fishing (2)

☐ Other (3)

☐ no (4)



5 How many acres do you own in Kansas? (please use numeral values like "23")

6 Do you own land that was owned by your family before you came to ownership?

☐ yes (1)

☐ no (2)

7 Do you live on or adjacent to your own agricultural land?

☐ yes (1)

☐ no (2)

Skip To: 9 If Do you live on or adjacent to your own agricultural land? = yes

8 Do you live on or adjacent to agricultural land?

☐ yes (1)

☐ no (2)

Skip To: 9 If Do you live on or adjacent to agricultural land? = yes

9 Do you manage agricultural land that you do not own? If yes, then please indicate for how long.

- ☐ no (1)
 - ☐ 0-5 years (2)
 - ☐ 5-10 (3)
 - ☐ 10-25 (4)
 - ☐ >25 (5)
-

10 Do you lease hunting rights for land that you do not own?

- ☐ yes (1)
 - ☐ no (2)
-

11 For which of the following activities is your property used? (choose all that apply)

☐ Raising row crops and/or small grains (1)

☐ Raising other plant products (2)

☐ Raising cattle (3)

☐ Raising other animals (4)

☐ Hay (5)

☐ CRP (6)

☐ Hunting (7)

☐ Recreation (8)

☐ Oil, wind or other resource extraction (9)

☐ None of the above (10)

12 Which statement(s) describe you? (choose all that apply)

- ☐ I have a full time job other than producing agricultural goods. (1)
- ☐ I am a full time farmer/rancher (2)
- ☐ I am a part time farmer/rancher and supplement my income from another job (3)
- ☐ I mostly work another job and farm/ranch only a little. (4)
- ☐ I am a hunting guide or outfitter. (5)
- ☐ Other (6) _____
-

13 Which single statement most describes you?

- ☐ I have a full time job other than producing agricultural goods. (1)
- ☐ I am a full time farmer/rancher (2)
- ☐ I am a part time farmer/rancher and supplement my income from another job (3)
- ☐ I mostly work another job and farm/ranch only a little. (4)
- ☐ I am a hunting guide or outfitter. (5)
- ☐ Other (6) _____
-

14 Which statement related to hunting best describes you? (choose all that apply)

☐ I do not hunt. (1)

☐ I hunt. (2)

☐ I do not allow any hunting on my land. (3)

☐ I allow family members to hunt on my land. (4)

☐ I allow non-family members to hunt on my land. (5)

☐ I earn equal to 1-10% of my income from hunting on my land. (6)

☐ I earn more than 10% of my income from hunting on my land. (7)

Page Break

15

Please indicate your level of agreement or disagreement to the following statement related to each animal. "I feel this animal is a valuable wildlife species."

	Strongly agree (1)	Agree (2)	Somewhat agree (3)	Neither agree nor disagree (4)	Somewhat disagree (5)	Disagree (6)	Strongly disagree (7)
Turkey (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Elk (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Deer (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Coyote (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cougar (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Quail (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prairie chickens (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

16 If you have ever experienced any conflict with these animals, then please indicate how tolerable you feel the conflict was.

	Very Intolerable (1)	Intolerable (2)	Somewhat Intolerable (3)	Neither (4)	Somewhat Tolerable (5)	Tolerable (6)	Very Tolerable (7)
Turkeys (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Elk (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Deer (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Coyotes (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cougar (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Quail (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prairie chickens (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

17

Please indicate your level of agreement or disagreement to the following statement related to each animal. "I feel that this animal is a pest."

	Strongly agree (1)	Agree (2)	Somewhat agree (3)	Neither agree nor disagree (4)	Somewhat disagree (5)	Disagree (6)	Strongly disagree (7)
Turkey (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Elk (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Deer (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Coyote (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cougar (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Quail (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prairie chickens (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

18 Please indicate your level of agreement or disagreement to the following statement related to each animal.

"I would feel in personal danger encountering this this animal alone on a trail at a distance of one (forty foot) school bus length."

	Strongly agree (1)	Agree (2)	Somewhat agree (3)	Neither agree nor disagree (4)	Somewhat disagree (5)	Disagree (6)	Strongly disagree (7)
Turkey (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Elk (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Deer (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Coyote (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cougar (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Quail (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prairie chickens (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Page Break

19

Please indicate your level of agreement or disagreement to the following statement related to hunting each animal. "I am an avid hunter of this animal."

	Strongly agree (1)	Agree (2)	Somewhat agree (3)	Neither agree nor disagree (4)	Somewhat disagree (5)	Disagree (6)	Strongly disagree (7)
Turkey (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Elk (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Deer (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Coyote (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cougar (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Quail (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prairie chickens (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

20 Please select all of the statements that are true of you.

- ☐ I have not seen wild elk in Kansas. (5)
 - ☐ I have seen wild elk in Western Kansas, west of Salina. (1)
 - ☐ I have seen wild elk in Eastern Kansas, east of Salina. (2)
 - ☐ Property that touches mine has had wild elk on it. (3)
 - ☐ I have had wild elk on my property. (4)
-

21 If you have sustained economic losses or damage due to any of the following species, please indicate how tolerable you feel the loss was.

	Very Intolerable (1)	Intolerable (2)	Somewhat Intolerable (3)	Neither (4)	Somewhat Tolerable (5)	Tolerable (6)	Very Tolerable (7)
Turkeys (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Elk (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Deer (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Coyotes (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cougar (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Quail (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prairie chickens (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

22 Please indicate how the presence of the following species has benefited you.

No benefits	Choose all that apply			
No benefit at all (1)	Direct or indirect financial benefits (1)	Improved land health benefits (2)	Positive meaningful experience (3)	Recreational benefits (4)

Turkeys (1)

☐☐☐☐☐

Elk (2)

☐☐☐☐☐

Deer (3)

☐☐☐☐☐

Coyotes (4)

☐☐☐☐☐

Cougar (5)

☐☐☐☐☐

Quail (6)

☐☐☐☐☐

Prairie
chickens (7)

☐☐☐☐☐

Page Break

End of Block: Default Question Block

Start of Block: Block 2

23

Please indicate how strongly you agree, neither agree nor disagree, or disagree with the following statements about viewing wildlife.

	Strongly Agree (1)	Agree (2)	Somewhat agree (3)	Neither agree nor disagree (4)	Somewhat disagree (5)	Disagree (6)	Strongly disagree (7)
I like seeing wildlife on my property. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel my land is in a healthy condition when I see a variety of wildlife. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would like to see more turkeys. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would like to see more cougars. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would like to see more coyotes. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would like to see more deer. (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would like to see more elk. (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I would
like to
see more
quail. (8)



I would
like to
see more
prairie
chickens.
(9)



24

Please indicate how strongly you agree, neither agree nor disagree, or disagree with the following statements about wildlife on your land.

	Strongly Agree (1)	Agree (2)	Somewhat agree (3)	Neither agree nor disagree (4)	Somewhat disagree (5)	Disagree (6)	Strongly disagree (7)
I purposely provide wildlife habitat on my property. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would not accept having elk on my property under any conditions. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would accept having elk on my property even if their presence caused slight damage to goods on my land. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would accept elk on my property if my neighbors were equally accepting of elk on their property. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I would accept getting rid of all deer in eastern Kansas. (5)

☐☐☐☐☐☐☐

I would accept allowing the elk population to grow to a density of one elk per square mile (640 acres) in the eastern half of the state. (7)

☐☐☐☐☐☐☐

Farmers in my county would not accept having elk on their property. (8)

☐☐☐☐☐☐☐

25

Please indicate how strongly you agree, neither agree nor disagree, or disagree with the following statements.

	Strongly Agree (1)	Agree (2)	Somewhat agree (3)	Neither agree nor disagree (4)	Somewhat disagree (5)	Disagree (6)	Strongly disagree (7)
I would accept having elk on my property if their presence benefited my neighbors and friends. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would accept having elk on my property if their presence helped to boost the Kansas economy through though increased tourism revenue. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would kill an elk that I saw causing me economic loss through damaging my goods. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Given, the
2017
population
estimate is
300 - 400
elk in the
entire state
of Kansas, I
would like to
see this
population
increase. (4)

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------

I do not
want elk in
Kansas. (6)

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------

I believe that
most
landowners
in eastern
Kansas
would
accept
allowing the
elk
population
to grow to a
density of
one elk per
square mile
(640 acres)
in the
eastern half
of the state.
(7)

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------

Wildlife
conservation
has no
benefits for
human
society. (8)

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------

I would like
to have the
opportunity
to hunt elk in
Eastern
Kansas (9)

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------

26

What would be the most appropriate way to ease the burden of loss and bear the cost of damage from wild animals to agricultural assets?

Please indicate what percentage of cost should be paid by each group. For example, if there was \$100 loss to a corn field from elk, what percent of that \$100 should be the responsibility of each group. (Program will auto-compute total for you and will not exceed 100%)

The affected farmer : _____ (1)

Landowners reimbursed from Hunting license revenues : _____ (2)

Landowners reimbursed from state taxes : _____ (3)

Landowners reimbursed by conservation organizations : _____ (4)

Landowners reimbursed by Federal programs : _____ (5)

Total : _____

End of Block: Block 2

Start of Block: Block 1

27 In what year were you born?



28 What is the zip code of where your farmland is located (or home if you don't have farmland)



29 What town is closest to your farmland (or home if you don't have farmland)

30 What is your gender?

☐ Male (1)

☐ Female (2)

31 What is the highest level of education you have completed.

☐ High school (1)

☐ Some college (2)

☐ Bachelor's degree (3)

☐ Graduate or Professional Degree (4)

☐ Do not wish to answer (5)

32 What is your race/ethnicity? (check all that apply)

- ☐ American Indian (1)
 - ☐ Asian (2)
 - ☐ Black or African American (3)
 - ☐ Hispanic or Latino/Latina (4)
 - ☐ White (5)
 - ☐ Other (6)
 - ☐ Do not wish to answer (7)
-

33 27. Which category best describes your total household income in U.S. dollars during 2016 before taxes?

- ☐ up to \$25,000 (1)
 - ☐ \$25,000 - \$50,000 (2)
 - ☐ \$50,000 - \$100,000 (3)
 - ☐ \$100,000 - \$200,000 (4)
 - ☐ more than \$200,000 (5)
 - ☐ Do not wish to answer (6)
-



34 Feel free to write additional comments below. (limit 500 characters)

End of Block: Block 1
