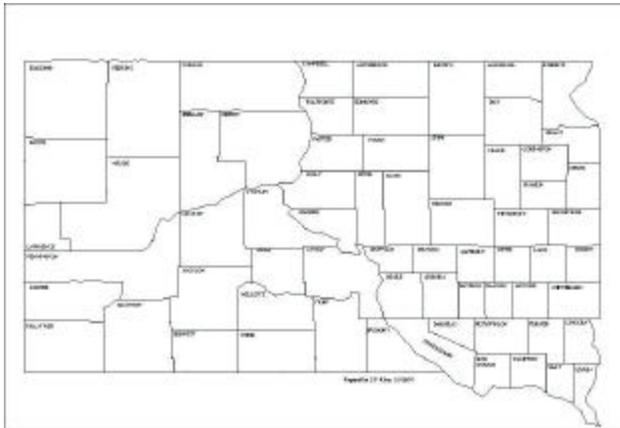


Wildlife Values and Beliefs of South Dakota Residents – 2004

HD-2-06.AMS

By
Larry M. Gigliotti, Ph.D.
South Dakota Game, Fish and Parks



Results in this report are from the data collected for the following study:

Teel, T. L., Dayer, A. A., Manfredo, M. J., & Broght, A. D. (2005). Regional results from the research project entitled "**Wildlife Values in the West.**" (Project Rep. No. 58). Project Report for the Western Association of Fish and Wildlife Agencies. Fort Collins, CO: Colorado State University, Human Dimensions in Natural Resources Unit.



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South Dakota State-Specific Report

Gigliotti, L. M. (2006). Wildlife values and beliefs of South Dakota residents. South Dakota Game, Fish and Parks Report: HD-2-06.AMS. Division of Wildlife, Pierre, SD.

This agency report was produced for Game, Fish and Parks' wildlife staff and administrators to learn about South Dakota residents' opinions related to wildlife diversity issues. Recommendations made in this report are solely my opinion and are intended as suggestions for future discussion and consideration by GFP wildlife staff. Recommendations in this report do not reflect any final decisions by wildlife staff or GFP policy.

Executive Summary

Wildlife Values and Beliefs of South Dakota Residents – 2004

HD-2-06.AMS

Larry Mark Gigliotti, Ph.D.
South Dakota Game, Fish and Parks

This is a descriptive study of attitudes of South Dakota residents in relation to wildlife diversity issues. Specifically, five topic areas are addressed: 1) overall importance of wildlife diversity and funding, 2) prairie ecosystems, 3) bat species, 4) Topeka shiners, and 5) value priorities for managing the Missouri River. This information was used to produce a five-group model that is essentially a measure of peoples' underlying value system related to wildlife diversity. This information has a number of valuable uses:

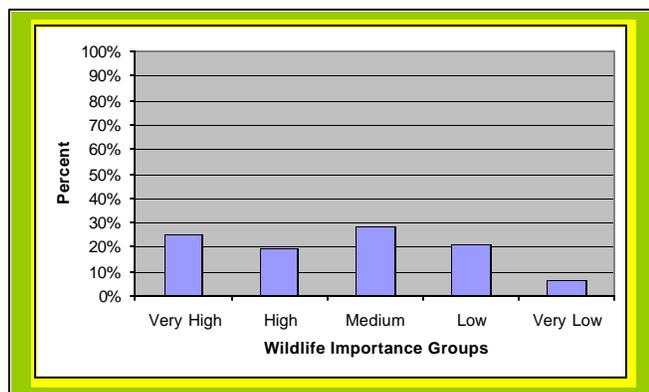
1. **Better management decisions**: This information provides a valuable understanding of the public's attitudes in relation to nongame species management and wildlife diversity issues, which in turn can lead to better management decisions by the South Dakota Game Fish and Parks Department.
2. **Improved ability to predict public responses to wildlife issues**: A better understanding of the public's attitudes on specific topics may also lead to an improved predictive ability on related topics.
3. **Improved public trust in the agency**: In addition, being able to demonstrate that GFP listens to and understands the public's attitudes, opinions, desires, needs, etc. can increase the public's trust in the agency.
4. **Public involvement tool**: Most wildlife issues are the result of conflicting values and attitudes. Often each side in such conflicts holds the view that their opinion is held by a significant majority of the public and/or they have a poor understanding of the other side's position. When sound scientific public attitude data is shared with the public it often tends to moderate the conflict and the groups tend to become more willing to accept compromise solutions.

5. **Measure trends and evaluate projects, programs or policy changes:**
Human dimensions information is especially valuable in measuring trends and evaluating project or program effectiveness and impacts.
6. **Collection of public opinion information relevant to Wildlife Action Plans:**
Plans: With the development of Wildlife Action Plans by every state and the increase in national attention on nongame species management, nongame issues will likely increase. One important aspect of this issue for wildlife agencies will be the public's understanding of and support for nongame species management. This is especially important, as each state will need to identify 50% matching funds to receive federal funding for their nongame management projects.

Summary of Major Findings

- The majority of South Dakota residents have high general support for conserving and protecting wildlife diversity in South Dakota.
- South Dakota residents seem to be very supportive of spending money on nongame programs, including redirecting existing taxes to fund nongame programs. However, support for increasing taxes was very low.
- This study produced a wildlife importance model (wildlife diversity model) based on respondents' opinion on various wildlife diversity issues.

This five-group model measures the underlying value system related to wildlife diversity and is a very good tool for predicting specific attitudes towards wildlife diversity issues and related management actions.



- This study produced profiles for fishing, hunting and wildlife viewing participants (non-participants, inactive participants and active participants) and for the wildlife value orientations and wildlife importance model.

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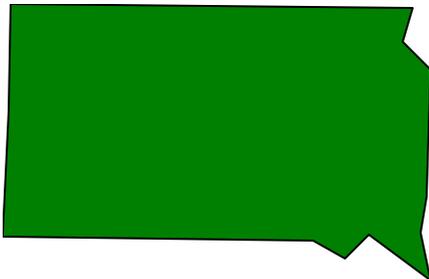
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South Dakota State-Specific Report

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WILDLIFE VALUES AND BELIEFS OF SOUTH DAKOTA RESIDENTS – 2004

HD-2-06.AMS

LARRY M. GIGLIOTTI, PH.D.
SOUTH DAKOTA GAME, FISH AND PARKS

The purpose of this report is to gain a better understanding of South Dakota residents in relation to wildlife diversity issues. The report has five topic areas related to wildlife diversity issues: 1) overall importance of wildlife diversity and funding, 2) prairie ecosystems, 3) bat species, 4) Topeka shiners, and 5) value priorities for managing the Missouri River.

METHODS

This study was conducted as part of a larger project (Wildlife Values in the West 2004) summarized below (Teel, et al., 2005). A complete description of project background and methods can be found in the Wildlife Values in the West 2004 report. This document only reports on the South Dakota state-specific section of the study (Appendix A).

Project Overview - Wildlife Values in the West 2004

"Wildlife Values in the West 2004" is a project of the Western Association of Fish and Wildlife Agencies (WAFWA) Human Dimensions Committee in cooperation with Colorado State University. The survey instrument for this project was divided into two parts: 1) a regional section, and 2) a state-specific section.

The purpose of the regional section of the survey, which was the same across all states, was to measure public values and wildlife value orientations, sociodemographic characteristics, and participation in wildlife-related recreation activities among residents of each state. The regional section also contained questions addressing public reactions to key "regional" wildlife management issues deemed important across a majority of participating states. Issues were selected largely on the basis of their ability to provide information about how changes in public values could affect responses to management issues and decisions.

The state-specific section provided an opportunity to gather information about key, timely management issues affecting a particular state. The questions appearing in this part of the survey were developed by each participating state, with input and suggestions from Colorado State University and other members of the project work group.

The report is organized into five parts. Part one, "*Overview of Attitudes and Beliefs of South Dakota Residents*", summarizes the attitudes and beliefs of South Dakota residents for each of the five topic areas in the survey (overall importance of wildlife diversity and funding, prairie ecosystems, bat species, Topeka shiners, and value priorities for managing the Missouri River).

Part two, "*Wildlife Importance Groups*", identifies and describes five distinct groups of South Dakota related to the topic of importance of wildlife diversity. Part three (*Attitudes and Beliefs of Fishing, Hunting and Wildlife Viewing Participants and Wildlife Value Orientations in South Dakota – Who are our customers?*) describes the attitudes and beliefs related to wildlife diversity from the perspective of anglers, hunters and wildlife viewers and different wildlife value orientations of South Dakota residents.

Part four provides demographic descriptions of anglers, hunters and wildlife viewers, identifying the significant demographic variables between participants and non-participants. Part five provides demographic descriptions of the four different wildlife value orientations (pluralist, utilitarian, mutualist, and distanced) held by South Dakota residents and the five different types of residents based on their relative ratings of the importance of various wildlife diversity issues.

RESULTS

Part 1 – Overview of Attitudes and Beliefs of South Dakota Residents

Section A: General Attitudes (Tables 1.1 – 1.4)

A significant proportion of South Dakota residents feel that it is very important (69%) or moderately important (26%) that South Dakota conserves/protects as much fish and wildlife as possible, where appropriate (Table 1.1). This value is slightly higher in 2004 compared to when it was measured in 1997 and 2002. Also a significant proportion of South Dakota residents feel that healthy fish and wildlife populations are very important (78%) or moderately important (19%) to the economy and well-being of South Dakota residents (Table 1.2). This value is much higher in 2004 compared to when it was measured in 1997 and 2002.

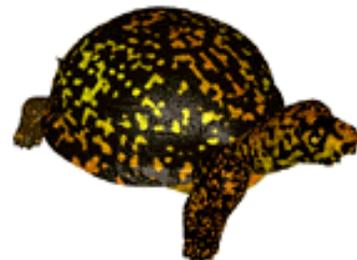
About two-thirds of South Dakota residents rated Game, Fish and Parks' (GFP) efforts to conserve and protect the diversity of fish and Wildlife in South Dakota as "just

Wildlife Values and Beliefs of South Dakota Residents – 2004

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about right", about one-fourth rated GFP's effort as "too little" and about 9% rated GFP's effort as "too much" (Table 1.3).

With the development of Wildlife Action Plans by every state and the increase in national attention on nongame species management, nongame issues will likely increase. One important aspect of this issue for wildlife agencies will be the public's understanding of and support for nongame species management. This is especially important, as each state will need to identify 50% matching funds to receive federal funding for their nongame management projects. Nearly 40% of South Dakota residents selected using money generated from hunting and fishing license sales and about 22% selected using a portion of current state taxes and 13% a portion of current federal taxes as their most preferred choice for money to pay for nongame management projects in South Dakota (Table 1.4). Only about 11% selected the choice that "only" money from voluntary contributions should be used, which is an easy option to select if you are opposed to nongame projects and only 3% felt that "no" money should even be spent for nongame projects. In spite of the willingness to spend money on nongame projects, new taxes (increasing taxes) was not a preferred choice for very many South Dakota residents.



Wildlife Values and Beliefs of South Dakota Residents – 2004

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Table 1.1. Comparing 1997, 2002 and 2004 – South Dakota has a great diversity (variety) of fish and wildlife. How important is it to you that South Dakota conserves/protects as much fish and wildlife as possible where appropriate?

Importance (scale)	South Dakota General Public Opinion Surveys				
	1997		2002		2004
	Sample Percent	Corrected Percent ¹	Mt. Lion Survey ²	Values Survey ³	Values Survey ⁴
Very Important (0)	64.2%	56.7%	60.7%	62.3%	69.3%
Moderately Important (1)	20.0%	32.5%	28.9%	26.9%	25.6%
Slightly Important (2)	5.6%	6.1%	7.9%	7.9%	4.0%
Not Important (3)	1.2%	3.1%	1.5%	1.7%	0.5%
No Opinion (missing)	2.0%	1.6%	1.0%	1.2%	0.6%
Sample Size	2,147		1,101	400	735

¹This question item was corrected for non-response bias.

²Question included at the beginning of the mountain lion public opinion survey (Gigliotti, et al., 2002).

³Question included in the “Wildlife Values in the West” survey (WAFWA and HDNRU, 2002).

⁴Mean (95% C.I.) = 2.65 (2.61 – 2.69)

Table 1.2. Comparing 1997, 2002 and 2004 – How important do you think healthy fish and wildlife populations are to the economy and well-being of South Dakota residents?

Importance (scale)	South Dakota General Public Opinion Surveys			
	1997	2002		2004
	Sample Percent	Mt. Lion Survey ¹	Values Survey ²	Values Survey ⁴
Very Important (0)	59.3%	58.8%	58.6%	78.2%
Moderately Important (1)	29.4%	30.4%	32.5%	18.7%
Slightly Important (2)	7.3%	8.5%	7.5%	2.3%
Not Important (3)	1.1%	1.3%	0.5%	0.4%
No Opinion (missing)	2.8%	1.1%	0.9%	0.4%
Sample Size	2,147	1,106	404	738

¹Question included at the beginning of the mountain lion public opinion survey.

²Question included in the “Wildlife Values in the West” survey (WAFWA and HDNRU, 2002).

⁴Mean (95% C.I.) = 2.75 (2.72 – 2.79)

Wildlife Values and Beliefs of South Dakota Residents – 2004

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Table 1.3. In general, how would you rate GFP's effort to conserve and protect the diversity (variety) of fish and wildlife of South Dakota?

GFP's focus on wildlife diversity issues is... (scale)	Number	Percent
... far too little. (-3)	12	1.7%
... moderately too little. (-2)	30	4.1%
... slightly too little. (-1)	106	14.4%
... just about the right amount. (0)	400	54.7%
... slightly too much. (1)	34	4.6%
... moderately too much. (2)	13	1.7%
... far too much. (3)	6	0.9%
No Opinion (missing)	131	17.9%
Total	731	100%
Mean / 95% C.I.	-0.21	-0.28 – -0.14
SUMMARIZED RESULTS		
TOO LITTLE	148	24.6%
JUST ABOUT RIGHT	400	66.7%
TOO MUCH	52	8.7%
Total	600	100%

Table 1.4. Which would be the most appropriate source of money to pay for projects in South Dakota to keep nongame fish and wildlife (those not fished or hunted) from becoming rare, endangered or extinct?

Source of Money for Nongame Projects	Number	Percent
Money generated from hunting and fishing license sales.	285	39.5%
A portion of the state revenue presently being collected from taxes.	159	22.0%
A portion of the federal revenue presently being collected from taxes.	93	12.9%
Only money from voluntary contributions should be used.	78	10.8%
No Opinion.	71	9.8%
No money should be spent for nongame projects.	22	3.0%
Increasing state sales tax.	11	1.5%
Increasing federal taxes.	4	0.6%
Total	722	100%

Section B: Prairie Ecosystems (Tables 1.5 – 1.12)

SITUATION 1. Prairie wildlife conservation faces different challenges in different regions of South Dakota. In eastern South Dakota, where most of the prairie has been converted to cropland, one of the challenges is finding and conserving large enough landscapes of prairie vegetation and its associated wildlife. In western South Dakota, where there still are large tracts of native grassland, the current challenges are more related to the specific needs of certain wildlife species like black-footed ferrets, swift fox, and black-tailed prairie dogs.

Most (89%) South Dakota residents feel that maintaining healthy native prairie ecosystems are important and most (88%) support using some money from hunting license fees for projects designed to conserve and enhance native prairie ecosystems and associated wildlife (Tables 1.5 and 1.6). Also, most (70%) South Dakota residents support efforts by private landowners to reintroduce swift fox to their land if permitted by GFP; only 16% disagreed with the statement (Table 1.7). On the other hand, prairie dog management in South Dakota is somewhat controversial. Only about 57% agreed that prairie dogs are an important component of native prairie ecosystems and need some degree of protection, with 30% disagreeing with the statement (Table 1.8). Compare this to the 72% that agreed with the statement that state agencies should take steps to maintain/restore healthy populations of all native prairie wildlife species in South Dakota (Table 1.10), while only 44% disagreed with the statement that publicly-owned native grasslands should be managed for game animals or forage production, NOT for rare native prairie wildlife species (Table 1.9). Also, only 55% disagreed with the statement that prairie dogs are a destructive agricultural pest that should be eliminated from South Dakota; 23% agreed with this statement (Table 1.11). And, only 52% disagreed with the statement that federal tax money should NOT be spent to save the black-footed ferret, a federally endangered species; 32% agreed with this statement (Table 1.12).



Wildlife Values and Beliefs of South Dakota Residents – 2004

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Table 1.5. General attitudes related to prairie ecosystems – Maintaining a healthy native prairie ecosystem in South Dakota is important to me.

Attitude (scale)	2004		2002
	Number	Percent	Percent
Strongly Disagree (-3)	12	1.6%	0.4%
Moderately Disagree (-2)	14	1.9%	0.7%
Slightly Disagree (-1)	8	1.1%	1.0%
Neither (0)	46	6.3%	11.1%
Slightly Agree (1)	202	27.8%	18.5%
Moderately Agree (2)	248	34.1%	31.8%
Strongly Agree (3)	198	27.2%	36.6%
Total	728	100%	404
Mean (95% C.I.)	1.68 (1.59 – 1.77)		1.88 (1.77 – 1.99)
SUMMARIZED RESULTS			
Disagree	34	4.6%	2.0%
Neither	46	6.3%	11.1%
Agree	649	89.1%	86.9%

Table 1.6. General attitudes related to prairie ecosystems – I support using some money from hunting license fees for projects designed to conserve and enhance native prairie ecosystems and their associated wildlife.

Attitude (scale)	2004		2002
	Number	Percent	Percent
Strongly Disagree (-3)	12	1.6%	3.5%
Moderately Disagree (-2)	13	1.8%	3.6%
Slightly Disagree (-1)	27	3.6%	5.9%
Neither (0)	40	5.5%	11.9%
Slightly Agree (1)	200	27.3%	22.9%
Moderately Agree (2)	236	32.3%	25.9%
Strongly Agree (3)	204	27.9%	26.4%
Total	731	100%	404
Mean (95% C.I.)	1.64 (1.54 – 1.73)		1.30 (1.15 – 1.46)
SUMMARIZED RESULTS			
Disagree	51	7.0%	13.0%
Neither	40	5.5%	11.9%
Agree	640	87.5%	75.2%

Wildlife Values and Beliefs of South Dakota Residents – 2004

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Table 1.7. General attitudes related to prairie ecosystems – I support efforts by private landowners to reintroduce swift fox to their land if the re-introduction is permitted by the state wildlife agency (GFP).

Attitude (scale)	Number	Percent
Strongly Disagree (-3)	41	5.6%
Moderately Disagree (-2)	22	3.0%
Slightly Disagree (-1)	54	7.3%
Neither (0)	105	14.2%
Slightly Agree (1)	202	27.5%
Moderately Agree (2)	152	20.7%
Strongly Agree (3)	159	21.6%
Total	736	100%
Mean (95% C.I.)	1.03 (0.92 – 1.15)	
SUMMARIZED RESULTS		
Disagree	118	16.0%
Neither	105	14.2%
Agree	513	69.8%

Table 1.8. General attitudes related to prairie ecosystems – Prairie dogs are an important component of native prairie ecosystems and need some degree of protection.

Attitude (scale)	2004		2002
	Number	Percent	Percent
Strongly Disagree (-3)	104	14.1%	9.8%
Moderately Disagree (-2)	74	10.1%	7.0%
Slightly Disagree (-1)	123	16.7%	13.0%
Neither (0)	78	10.6%	13.7%
Slightly Agree (1)	200	27.1%	30.2%
Moderately Agree (2)	101	13.7%	13.2%
Strongly Agree (3)	57	7.8%	13.2%
Total	738	100%	404
Mean (95% C.I.)	-0.01 (-0.15 – 0.12)		0.40 (0.22 – 0.57)
SUMMARIZED RESULTS			
Disagree	301	40.9%	29.8%
Neither	78	10.6%	13.7%
Agree	358	48.6%	56.6%

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Table 1.9. General attitudes related to prairie ecosystems – Publicly-owned native grasslands should be managed for game (fished or hunted) animals or forage production, NOT for rare native prairie wildlife species.

Attitude (scale)	2004		2002
	Number	Percent	Percent
Strongly Disagree (-3)	74	10.0%	14.4%
Moderately Disagree (-2)	127	17.2%	14.2%
Slightly Disagree (-1)	170	23.1%	15.6%
Neither (0)	138	18.7%	22.4%
Slightly Agree (1)	109	14.8%	13.6%
Moderately Agree (2)	76	10.3%	12.0%
Strongly Agree (3)	43	5.8%	7.9%
Total	736	100%	403
Mean (95% C.I.)	-0.35 (-0.47 – -0.23)		-0.26 (-0.44 – -0.08)
SUMMARIZED RESULTS			
Disagree	371	50.4%	44.2%
Neither	138	18.7%	22.4%
Agree	227	30.9%	33.5%

Table 1.10. General attitudes related to prairie ecosystems – State agencies should take steps to maintain/restore healthy populations of all native prairie wildlife species in South Dakota.

Attitude (scale)	2004		2002
	Number	Percent	Percent
Strongly Disagree (-3)	18	2.4%	3.3%
Moderately Disagree (-2)	25	3.3%	3.0%
Slightly Disagree (-1)	67	9.1%	7.7%
Neither (0)	54	7.4%	14.6%
Slightly Agree (1)	269	36.7%	27.3%
Moderately Agree (2)	166	22.6%	27.0%
Strongly Agree (3)	136	18.5%	17.0%
Total	735	100%	403
Mean (95% C.I.)	1.14 (1.04 – 1.25)		1.09 (0.94 – 1.23)
SUMMARIZED RESULTS			
Disagree	109	14.9%	13.9%
Neither	54	7.4%	14.6%
Agree	572	77.8%	71.5%

Wildlife Values and Beliefs of South Dakota Residents – 2004

Larry M. Gigliotti

Table 1.11. General attitudes related to prairie ecosystems – Prairie dogs are a destructive agricultural pest that should be eliminated from South Dakota.

Attitude (scale)	2004		2002
	Number	Percent	Percent
Strongly Disagree (-3)	128	17.4%	20.8%
Moderately Disagree (-2)	92	12.4%	18.5%
Slightly Disagree (-1)	183	24.8%	15.9%
Neither (0)	114	15.5%	22.1%
Slightly Agree (1)	89	12.1%	10.1%
Moderately Agree (2)	69	9.3%	7.6%
Strongly Agree (3)	63	8.5%	4.9%
Total	737	100%	403
Mean (95% C.I.)	-0.46 (-0.59 – -0.32)		-0.75 (-0.92 – -0.58)
SUMMARIZED RESULTS			
Disagree	402	54.6%	55.1%
Neither	114	15.5%	22.1%
Agree	220	29.9%	22.8%

Table 1.12. General attitudes related to prairie ecosystems – Federal tax money should NOT be spent to save the black-footed ferret, a federally endangered species.

Attitude (scale)	2004		2002
	Number	Percent	Percent
Strongly Disagree (-3)	136	18.5%	14.8%
Moderately Disagree (-2)	123	16.8%	16.1%
Slightly Disagree (-1)	173	23.5%	21.4%
Neither (0)	92	12.6%	15.8%
Slightly Agree (1)	97	13.2%	13.0%
Moderately Agree (2)	57	7.8%	10.5%
Strongly Agree (3)	56	7.7%	8.4%
Total	734	100%	404
Mean (95% C.I.)	-0.61 (-0.74 – -0.48)		-0.39 (-0.57 – -0.21)
SUMMARIZED RESULTS			
Disagree	431	58.8%	52.2%
Neither	92	12.6%	15.8%
Agree	210	28.6%	31.9%

Section C: Managing Bats in South Dakota (Tables 1.13 – 1.18)

SITUATION 2. Twelve species of bats are found in South Dakota. Bats roost (rest/sleep) in trees, buildings, caves, mines, and crevices. They play an important role in nature because they feed on insects. Places where bats feed and roost are vulnerable to disturbance and destruction. The South Dakota Bat Management Plan was designed to protect bats and their habitats in South Dakota. The main goal of the plan is to provide guidance for individuals and agencies for promoting long-term protection of bat species through research, management, and education.

Overall, there was approximately 60% general support for managing bats in South Dakota, about 20% opposition and 20% undecided (Tables 1.13 – 1.15, and 1.17). However, there was a little less support (40-50%) when it comes to living in proximity to bats (Tables 1.16 and 1.18).



Table 1.13. General attitudes related to managing bats – Maintaining healthy populations and diversity of bat species in South Dakota is important to me.

Attitude (scale)	Number	Percent
Strongly Disagree (-3)	49	6.7%
Moderately Disagree (-2)	44	6.1%
Slightly Disagree (-1)	53	7.2%
Neither (0)	142	19.4%
Slightly Agree (1)	200	27.3%
Moderately Agree (2)	142	19.4%
Strongly Agree (3)	102	14.0%
Total	733	100%
Mean (95% C.I.)	0.69 (0.57 – 0.81)	
SUMMARIZED RESULTS		
Disagree	146	20.0%
Neither	142	19.4%
Agree	444	60.7%

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Table 1.14. General attitudes related to managing bats – Bats pose an unacceptable health risk to people.

Attitude (scale)	Number	Percent
Strongly Disagree (-3)	117	16.1%
Moderately Disagree (-2)	155	21.4%
Slightly Disagree (-1)	178	24.5%
Neither (0)	98	13.5%
Slightly Agree (1)	102	14.1%
Moderately Agree (2)	47	6.4%
Strongly Agree (3)	29	4.0%
Total	725	100%
Mean (95% C.I.)	-0.77 (-0.89 – -0.65)	
SUMMARIZED RESULTS		
Disagree	450	62.0%
Neither	98	13.5%
Agree	178	24.5%

Table 1.15. General attitudes related to managing bats – Bats are important and should have some legal protection from harm.

Attitude (scale)	Number	Percent
Strongly Disagree (-3)	45	6.1%
Moderately Disagree (-2)	35	4.8%
Slightly Disagree (-1)	75	10.2%
Neither (0)	144	19.7%
Slightly Agree (1)	214	29.4%
Moderately Agree (2)	124	17.0%
Strongly Agree (3)	92	12.7%
Total	728	100%
Mean (95% C.I.)	0.63 (0.51 – 0.75)	
SUMMARIZED RESULTS		
Disagree	154	21.2%
Neither	144	19.7%
Agree	430	59.1%

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Table 1.16. General attitudes related to managing bats – Bats should NOT be allowed to thrive in urban areas where they can come in contact with people.

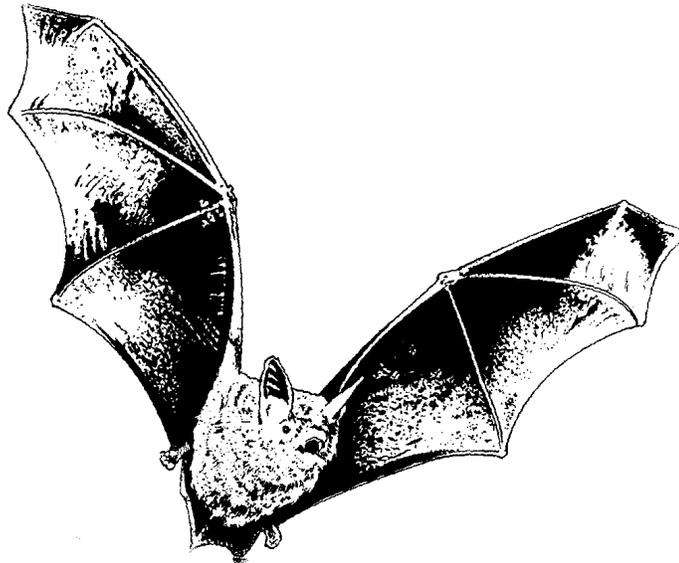
Attitude (scale)	Number	Percent
Strongly Disagree (-3)	87	11.9%
Moderately Disagree (-2)	113	15.4%
Slightly Disagree (-1)	155	21.2%
Neither (0)	95	13.0%
Slightly Agree (1)	132	18.0%
Moderately Agree (2)	83	11.4%
Strongly Agree (3)	67	9.1%
Total	732	100%
Mean (95% C.I.)	-0.20 (-0.33 – -0.06)	
SUMMARIZED RESULTS		
Disagree	355	48.5%
Neither	95	13.0%
Agree	282	38.5%

Table 1.17. General attitudes related to managing bats – I support the South Dakota Bat Management Plan's goal of promoting long-term protection of bat species.

Attitude (scale)	Number	Percent
Strongly Disagree (-3)	38	5.1%
Moderately Disagree (-2)	31	4.2%
Slightly Disagree (-1)	48	6.5%
Neither (0)	164	22.3%
Slightly Agree (1)	191	26.1%
Moderately Agree (2)	149	20.3%
Strongly Agree (3)	114	15.5%
Total	734	100%
Mean (95% C.I.)	0.83 (0.71 – 0.94)	
SUMMARIZED RESULTS		
Disagree	116	15.8%
Neither	164	22.3%
Agree	454	61.9%

Table 1.18. General attitudes related to managing bats – I would enjoy having bats living and feeding near my house.

Attitude (scale)	Number	Percent
Strongly Disagree (-3)	146	20.0%
Moderately Disagree (-2)	99	13.5%
Slightly Disagree (-1)	101	13.7%
Neither (0)	84	11.5%
Slightly Agree (1)	110	15.0%
Moderately Agree (2)	103	14.1%
Strongly Agree (3)	91	12.3%
Total	733	100%
Mean (95% C.I.)	-0.20 (-0.35 – -0.06)	
SUMMARIZED RESULTS		
Disagree	346	47.2%
Neither	84	11.5%
Agree	303	41.4%



Section D: Topeka Shiner Management in South Dakota (Tables 1.19 – 1.25)

SITUATION 3. The Topeka shiner is a small minnow (fish) native to the prairie streams of the Great Plains. Topeka shiners prefer small, quiet prairie streams with cool temperatures and good water quality found in Eastern South Dakota. The presence of Topeka shiners in a community often signals a healthy stream system. The Topeka shiner (*Notropis topeka*) was listed as a federally endangered species in 1999. The Topeka Shiner State Management Plan is a document that will establish conservation guidelines for the Topeka shiner in South Dakota. Research in South Dakota has shown that the Topeka shiner currently inhabits similar waters to those it did historically. However, studies show that the places that Topeka shiners inhabit have greatly declined in other states. The plan will allow for management of the Topeka shiner at the state level while still supporting national recovery efforts.

Overall, general support for Topeka shiner management in South Dakota ranged from about 64% to 82%, with general opposition ranging from about 7-12% (Tables 1.19, 1.21 – 1.23, and 1.25). However, about one-fourth of South Dakota residents felt that federal tax money should NOT be spent to save the Topeka shiner, although 57% disagreed with this statement in support of spending Federal taxes for Topeka shiner management (Table 1.20). Also, most residents felt that it was appropriate to pay incentives to landowners to help maintain habitat for Topeka shiners compared to 23% that disagreed with this statement (Table 1.25).



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Table 1.19. General attitudes related to Topeka shiner management – Maintaining a healthy prairie ecosystem that supports populations of Topeka shiners in South Dakota is important to me.

Attitude (scale)	Number	Percent
Strongly Disagree (-3)	17	2.3%
Moderately Disagree (-2)	26	3.6%
Slightly Disagree (-1)	32	4.4%
Neither (0)	190	26.0%
Slightly Agree (1)	214	29.4%
Moderately Agree (2)	155	21.3%
Strongly Agree (3)	96	13.1%
Total	729	100%
Mean (95% C.I.)	0.93 (0.83 – 1.03)	
SUMMARIZED RESULTS		
Disagree	75	10.2%
Neither	190	26.0%
Agree	465	63.8%

Table 1.20. General attitudes related to Topeka shiner management – Federal tax money should NOT be spent to save the Topeka shiner, an endangered species.

Attitude (scale)	Number	Percent
Strongly Disagree (-3)	91	12.6%
Moderately Disagree (-2)	126	17.3%
Slightly Disagree (-1)	197	27.1%
Neither (0)	132	18.1%
Slightly Agree (1)	100	13.8%
Moderately Agree (2)	40	5.4%
Strongly Agree (3)	41	5.7%
Total	728	100%
Mean (95% C.I.)	-0.58 (-0.70 – -0.46)	
SUMMARIZED RESULTS		
Disagree	415	57.0%
Neither	132	18.1%
Agree	181	24.9%

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Table 1.21. General attitudes related to Topeka shiner management – Topeka shiners are an important component of native prairie ecosystems and need some degree of protection.

Attitude (scale)	Number	Percent
Strongly Disagree (-3)	12	1.7%
Moderately Disagree (-2)	21	2.9%
Slightly Disagree (-1)	43	6.0%
Neither (0)	125	17.1%
Slightly Agree (1)	313	43.0%
Moderately Agree (2)	133	18.2%
Strongly Agree (3)	81	11.1%
Total	727	100%
Mean (95% C.I.)	0.96 (0.87 – 1.05)	
SUMMARIZED RESULTS		
Disagree	77	10.6%
Neither	125	17.1%
Agree	526	72.3%

Table 1.22. General attitudes related to Topeka shiner management – It would be OK with me if the Topeka shiner went extinct because there are enough other species of shiners (small fish) to take their place.

Attitude (scale)	Number	Percent
Strongly Disagree (-3)	185	25.5%
Moderately Disagree (-2)	136	18.6%
Slightly Disagree (-1)	203	27.9%
Neither (0)	119	16.3%
Slightly Agree (1)	59	8.1%
Moderately Agree (2)	18	2.5%
Strongly Agree (3)	7	1.0%
Total	727	100%
Mean (95% C.I.)	-1.26 (-1.36 – -1.15)	
SUMMARIZED RESULTS		
Disagree	524	72.0%
Neither	119	16.3%
Agree	85	11.6%

Wildlife Values and Beliefs of South Dakota Residents – 2004

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Table 1.23. General attitudes related to Topeka shiner management – I support the South Dakota Topeka Shiner State Management Planning effort to manage Topeka shiners while minimizing the impact on landowners.

Attitude (scale)	Number	Percent
Strongly Disagree (-3)	11	1.6%
Moderately Disagree (-2)	10	1.4%
Slightly Disagree (-1)	40	5.5%
Neither (0)	152	20.9%
Slightly Agree (1)	242	33.2%
Moderately Agree (2)	168	23.1%
Strongly Agree (3)	103	14.1%
Total	727	100%
Mean (95% C.I.)	1.09 (1.00 – 1.18)	
SUMMARIZED RESULTS		
Disagree	62	8.6%
Neither	152	20.9%
Agree	513	70.5%

Table 1.24. General attitudes related to Topeka shiner management – I think that it would appropriate to pay incentives to landowners that help maintain habitat for Topeka shiners.

Attitude (scale)	Number	Percent
Strongly Disagree (-3)	48	6.6%
Moderately Disagree (-2)	26	3.6%
Slightly Disagree (-1)	94	13.0%
Neither (0)	149	20.6%
Slightly Agree (1)	237	32.7%
Moderately Agree (2)	109	15.0%
Strongly Agree (3)	62	8.6%
Total	724	100%
Mean (95% C.I.)	0.49 (0.37 – 0.60)	
SUMMARIZED RESULTS		
Disagree	168	23.1%
Neither	149	20.6%
Agree	408	56.3%

Table 1.25. General attitudes related to Topeka shiner management – I support federally-funded agricultural programs (for example, Farm bill programs) designed to improve water quality, which in turn benefits many wildlife species, including Topeka shiners.

Attitude (scale)	Number	Percent
Strongly Disagree (-3)	13	1.8%
Moderately Disagree (-2)	12	1.6%
Slightly Disagree (-1)	25	3.4%
Neither (0)	85	11.7%
Slightly Agree (1)	209	28.7%
Moderately Agree (2)	201	27.7%
Strongly Agree (3)	183	25.1%
Total	728	100%
Mean (95% C.I.)	1.47 (1.38 – 1.57)	
SUMMARIZED RESULTS		
Disagree	50	6.8%
Neither	85	11.7%
Agree	593	81.5%

Section E: Missouri River Management (Table 1.26)

SITUATION 4. The Missouri River provides benefits to many different groups of people. However, conflicts can occur when making decisions on how the Missouri River resources can be used. How strong of a focus should each of these 4 categories of uses be for managing the entire Missouri River? *Please distribute 100 points among these 4 categories to show how much focus you feel each category should receive in management of the Missouri River.*

South Dakota residents assigned the highest overall priority for Missouri River management decisions to home uses (31%), followed by 24% for agriculture and industry use, 23% for wildlife species and 22% for recreational use (Table 1.26). Overall, the priorities were relatively evenly split among the four categories.

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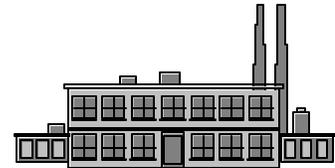
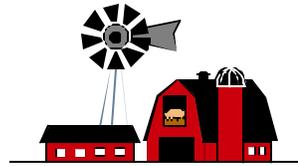
Table 1.26. Managing the Missouri River – Priorities assigned by South Dakota residents.

Points	Managing the Missouri River for...			
	Agriculture & Industry	Home Uses	Recreation	Wildlife (game and non-game)
0	1.1%	0.0%	1.7%	1.3%
1 – 9	3.1%	0.3%	3.4%	3.2%
10 – 19	17.0%	9.1%	27.9%	22.3%
20 – 29	47.7%	36.4%	46.9%	50.3%
30 – 39	19.8%	26.2%	12.0%	15.1%
40 – 49	6.7%	12.4%	4.3%	3.7%
50 – 59	3.1%	9.9%	2.9%	3.3%
60 – 69	1.2%	3.6%	0.5%	0.8%
70 – 79	0.2%	1.8%	0.4%	0.1%
80 – 89	0.2%	0.3%	0.1%	0.0%
90 – 100	0.0%	0.0%	0.0%	0.0%
Number	697	697	697	697
Mean	24.3	31.4	21.7	22.6
95% C.I.	23.5 – 25.1	30.4 – 32.4	20.9 – 22.5	21.8 – 23.4

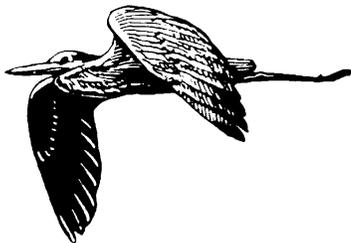
Home uses → 31%



Agriculture & Industry Uses → 24%



Wildlife → 23%



Recreation → 22%



Part 2 – Wildlife Importance Groups

A k-means cluster analysis solving for five clusters using the 21 variables in situations one through three produced five groups named according to their rating of the general importance of conserving/protecting wildlife diversity in South Dakota (Table 2.1). Note that more people are in the high end (very high and high – 44%) compared to the low end (very low and low – 28%) of the continuum.

Table 2.1. Assigned names and frequency distribution of the five wildlife importance groups.

Group Name - Wildlife Importance	Number	Percent
Very High	168	24.7%
High	131	19.2%
Medium	193	28.3%
Low	145	21.4%
Very Low	44	6.4%
Total	681	100%

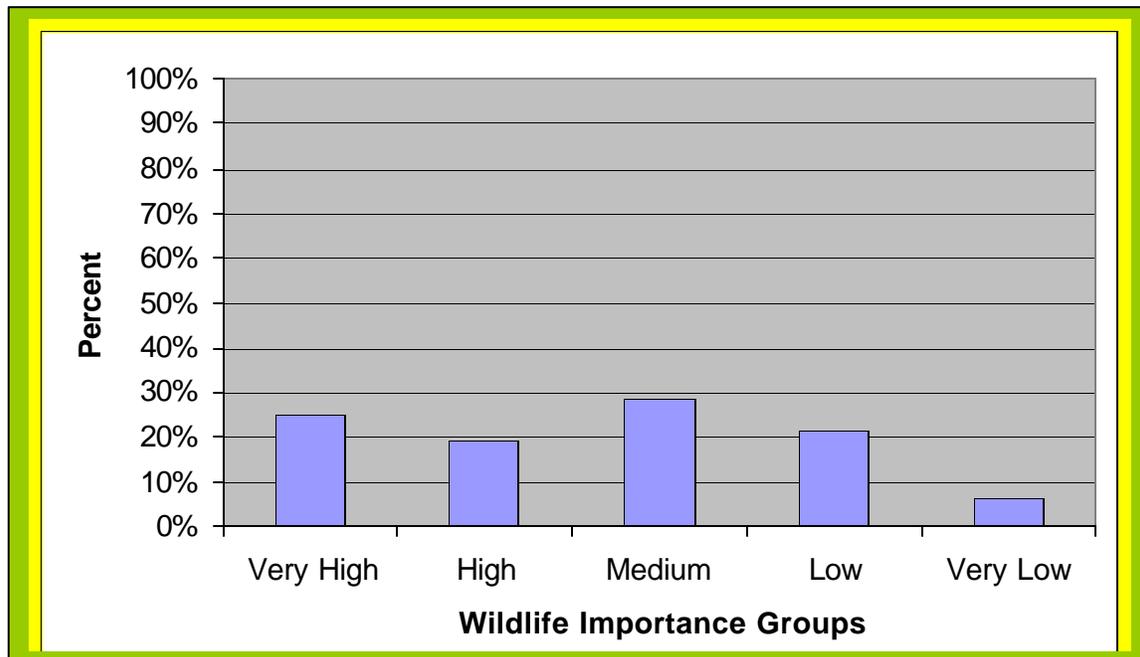


Figure 2.1. Frequency distribution of the five wildlife importance groups (data from Table 2.1).

Section A: General Attitudes Analyzed by Wildlife Importance Groups (Tables 2.2 –2.5)

The wildlife importance groups form a relative continuum ranging from placing very high importance on wildlife diversity to a lower level of importance, however, even the very low wildlife importance group places a moderate level of importance on wildlife diversity (Table 2.2 and Figure 2.2). All levels of wildlife importance groups feel that healthy fish and wildlife populations are very important to the economy and well-being of South Dakota residents, although the very low wildlife importance group had a slightly lower importance rating for this variable compared to the other four groups (Table 2.3 and Figure 2.3).

Four of the five wildlife importance groups rated GFP's effort to conserve and protect wildlife diversity in South Dakota as "*slightly too little*", while the very low wildlife importance group rated it as "*slightly too much*" (Table 2.4 and Figure 2.4).

Preferred Funding Sources for Nongame Projects. The five wildlife importance groups were relatively similar in the percent preferring using "money generated from hunting and fishing license sales", ranging from 36% to 46% (Table 2.5). However, there were some large differences among the groups in their preference for using a proportion of current taxes, ranging from higher preference to lower preference along the continuum of wildlife importance groups. Also, there was an increase in percent preferring "only voluntary contribution" from the very high wildlife importance group to the very low wildlife importance group (4% to 28%). The very low wildlife importance group had a relatively high percent preferring that "no money should be spent for nongame species" compared to the other four wildlife importance groups (16% vs. 1-3%).

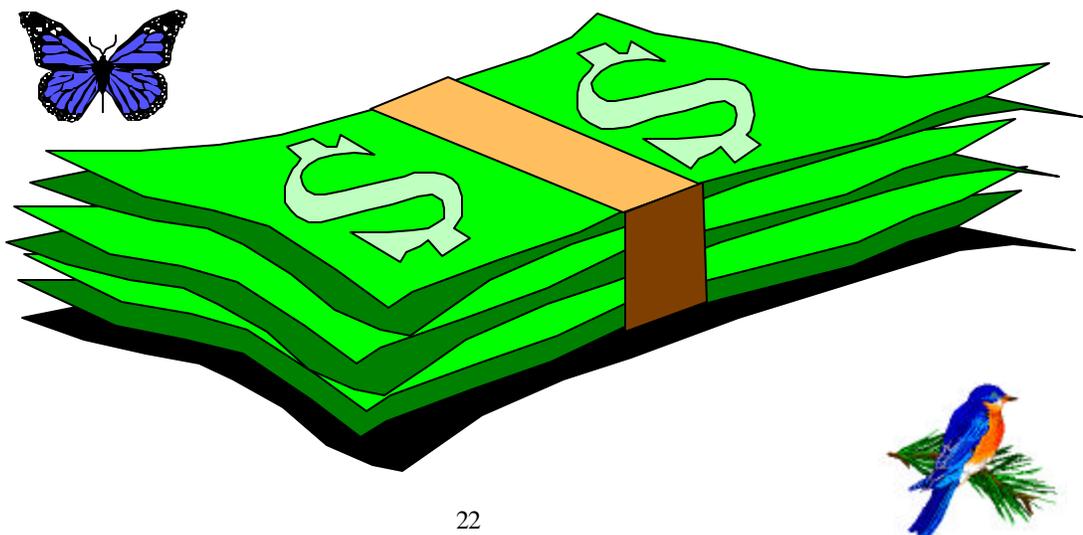


Table 2.2. Wildlife Importance Groups – South Dakota has a great diversity (variety) of fish and wildlife. How important is it to you that South Dakota conserves/protects as much fish and wildlife as possible where appropriate?

Wildlife Importance Group	Mean¹	95% C.I.
Very High	2.92	2.88 – 2.96
High	2.71	2.62 – 2.80
Medium	2.65	2.57 – 2.73
Low	2.43	2.32 – 2.53
Very Low	2.14	1.87 – 2.41
Average	2.65	2.61 – 2.69

ANOVA: $F=26.79$; $df=4/668$; $p<0.001$

¹Scale: 0 = Not Important, 1 = Slightly Important, 2 = Moderately Important, and 3 = Very Important

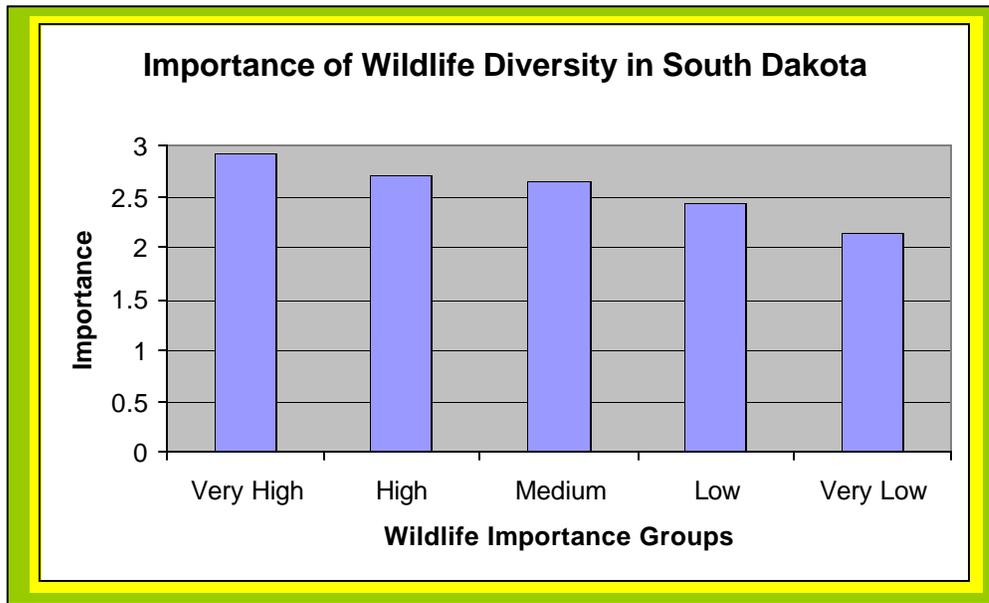


Figure 2.2. Importance of conserving/protecting wildlife diversity in South Dakota analyzed by wildlife importance groups (data from Table 2.2).



Table 2.3. Wildlife Importance Groups – How important do you think healthy fish and wildlife populations are to the economy and well-being of South Dakota residents?

Wildlife Importance Group	Mean¹	95% C.I.
Very High	2.83	2.75 – 2.91
High	2.83	2.77 – 2.90
Medium	2.71	2.63 – 2.78
Low	2.73	2.65 – 2.81
Very Low	2.42	2.17 – 2.67
Average	2.75	2.71 – 2.79

ANOVA: F=7.10; df=4/673; p<0.001

¹Scale: 0 = Not Important, 1 = Slightly Important, 2 = Moderately Important, and 3 = Very Important

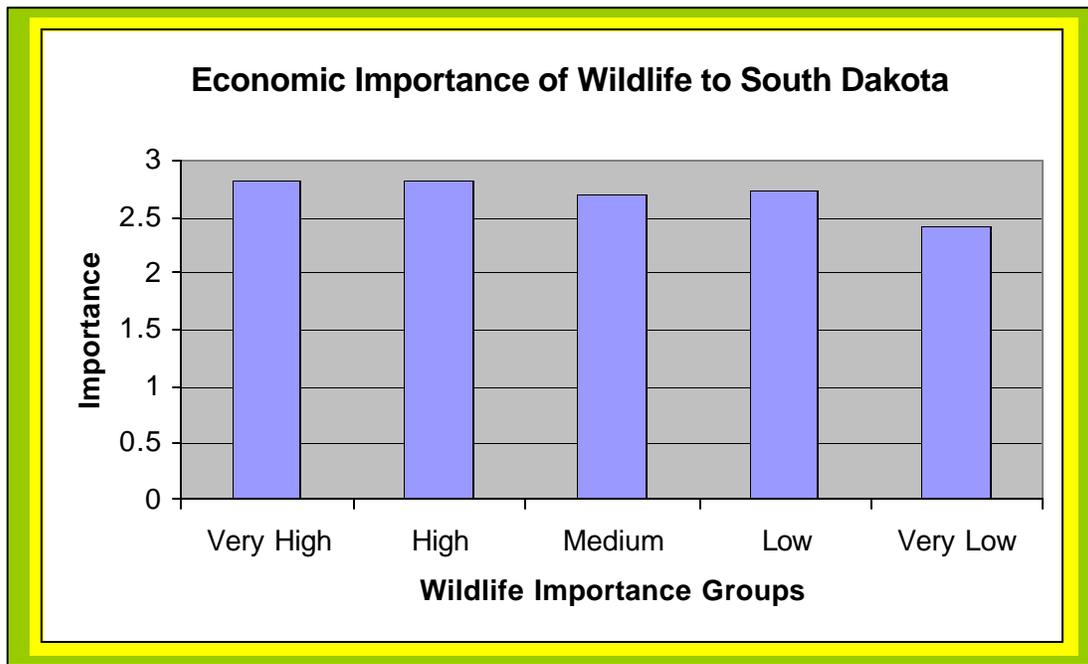


Figure 2.3. Economic importance of wildlife to South Dakota Economy analyzed by wildlife importance groups (data from Table 2.3).



Table 2.4. Wildlife Importance Groups – Rating of GFP's effort to conserve and protect the diversity (variety) of fish and wildlife of South Dakota.

Wildlife Importance Group	Mean¹	95% C.I.
Very High	-0.56	-0.70 – -0.41
High	-0.28	-0.43 – -0.12
Medium	-0.10	-0.22 – 0.01
Low	-0.09	-0.19 – 0.01
Very Low	0.30	-0.19 – 0.79
Average	-0.22	-0.29 – -0.15

ANOVA: F=11.13; df=4/553; p<0.001

¹Scale: -3 = Far Too Little, -2 = Moderately Too Little; -1 = Slightly Too Little, 0 = Just About the Right Amount, 1 = Slightly Too Much, 2 = Moderately Too Much, 3 = Far Too Much

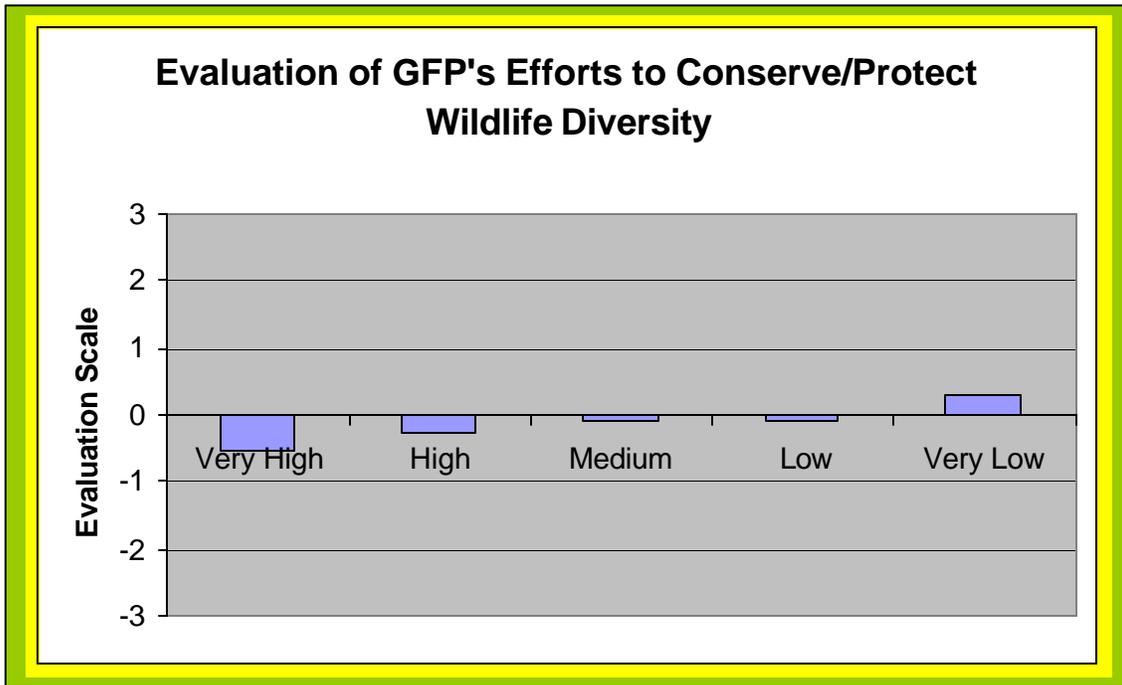


Figure 2.4. Rating of GFP's effort to conserve and protect the diversity (variety) of fish and wildlife of South Dakota analyzed by wildlife importance groups (data from Table 2.4).

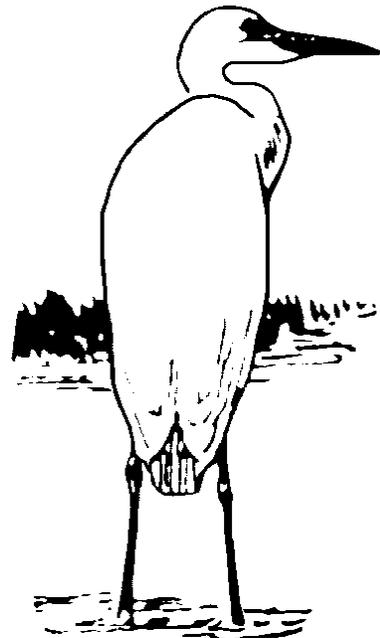


Wildlife Values and Beliefs of South Dakota Residents – 2004

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Table 2.5. Wildlife Importance Groups – Which would be the most appropriate source of money to pay for projects in South Dakota to keep nongame fish and wildlife (those not fished or hunted) from becoming rare, endangered or extinct?

Source of Money for Nongame Projects	Wildlife Importance Group				
	Very High	High	Medium	Low	Very Low
Money generated from hunting and fishing license sales.	36.4%	40.3%	35.8%	45.9%	39.5%
A portion of the state revenue presently being collected from taxes.	33.9%	24.8%	26.7%	10.3%	2.3%
A portion of the federal revenue presently being collected from taxes.	15.8%	14.0%	19.8%	5.5%	4.7%
Only money from voluntary contributions should be used.	4.2%	6.2%	7.5%	17.8%	27.9%
No Opinion.	4.8%	12.4%	7.0%	15.1%	9.3%
No money should be spent for nongame projects.	1.2%	1.6%	1.1%	3.4%	16.3%
Increasing state sales tax.	3.0%	0.0%	2.1%	1.4%	0.0%
Increasing federal taxes.	0.6%	0.8%	0.0%	0.7%	0.0%
Total	165	129	187	146	43
Chi-square: $X^2=128.87$; $df=28$; $p<0.001$					



**Section B: Prairie Ecosystems Analyzed by Wildlife Importance Groups
(Tables 2.6 – 2.13)**

SITUATION 1. Prairie wildlife conservation faces different challenges in different regions of South Dakota. In eastern South Dakota, where most of the prairie has been converted to cropland, one of the challenges is finding and conserving large enough landscapes of prairie vegetation and its associated wildlife. In western South Dakota, where there still are large tracts of native grassland, the current challenges are more related to the specific needs of certain wildlife species like black-footed ferrets, swift fox, and black-tailed prairie dogs.

For all eight statements related to prairie ecosystems there was a strong linear relationship with the attitude responses by the continuum of wildlife importance groups (very high *to* very low) (Tables 2.6 – 2.13 and Figures 2.5 – 2.12). The very high group expressed a strong environmental attitude while the very low group tended to express an anti-environmental attitude with the three middle groups' attitudes somewhere in-between. All five wildlife importance groups expressed a positive attitude towards maintaining healthy native prairie ecosystems in South Dakota, ranging from very important to only slightly important (Table 2.6 and Figure 2.5). Also, all groups had a positive attitude towards using some money from hunting license fees for managing native prairie ecosystems in South Dakota, ranging from very strong support to only slight support (Table 2.7 and Figure 2.6). Attitudes towards specific species like the swift fox, prairie dogs and black-footed ferret showed very large differences along the continuum of the five wildlife important groups. Overall, the wildlife importance model was very good for predicting attitudes related to prairie ecosystems in South Dakota.



Table 2.6. Wildlife Importance Groups – Maintaining a healthy native prairie ecosystem in South Dakota is important to me.

Attitude (scale)	Wildlife Importance Group				
	Very High	High	Medium	Low	Very Low
Strongly Disagree (-3)	0.0%	0.0%	1.0%	2.1%	11.4%
Moderately Disagree (-2)	0.0%	0.8%	2.1%	2.1%	9.1%
Slightly Disagree (-1)	0.0%	0.8%	0.5%	1.4%	6.8%
Neither (0)	0.0%	6.9%	4.7%	13.8%	13.6%
Slightly Agree (1)	6.5%	23.7%	38.0%	44.1%	34.1%
Moderately Agree (2)	35.1%	42.0%	39.6%	26.9%	15.9%
Strongly Agree (3)	58.3%	26.0%	14.1%	9.7%	9.1%
Total	168	131	192	145	44
Chi-square: $X^2=252.22$; $df=24$; $p<0.001$					
Mean	2.52	1.83	1.50	1.14	0.35
95% C.I.	2.43 – 2.61	1.66 – 2.00	1.35 – 1.66	0.95 – 1.34	-0.20 – 0.90
ANOVA: $F=55.69$; $df=4/675$; $p<0.001$					
SUMMARIZED RESULTS					
Disagree	0.0%	1.5%	4.1%	5.5%	27.3%
Neither	0.0%	6.9%	4.7%	13.8%	13.6%
Agree	100%	91.6%	91.2%	80.7%	59.1%
Chi-square: $X^2=97.98$; $df=8$; $p<0.001$					

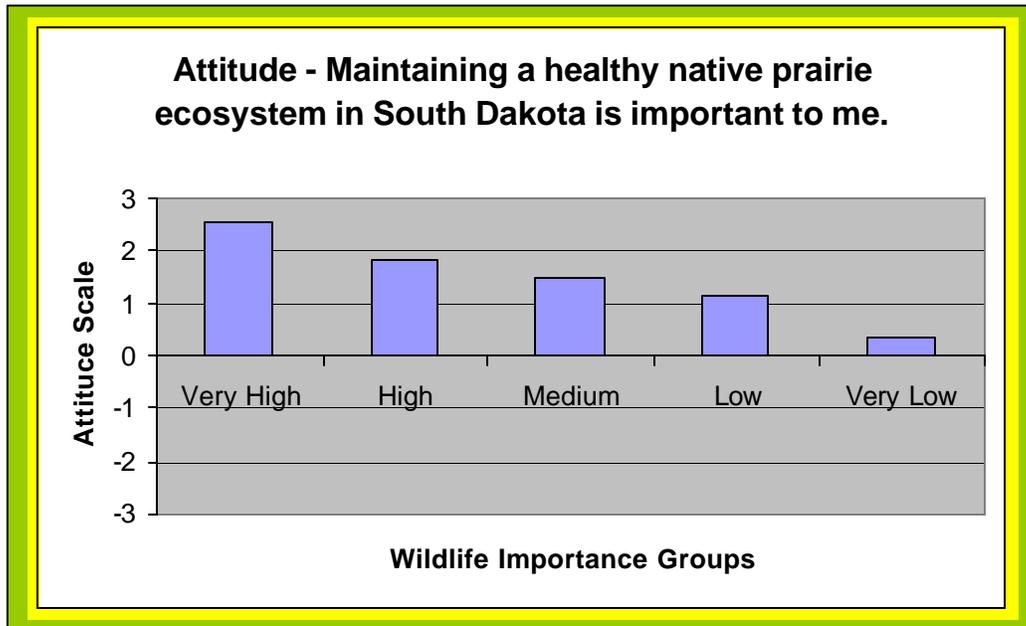


Figure 2.5. Mean attitude towards – *Maintaining a healthy native prairie ecosystem in South Dakota is important to me*, analyzed by wildlife importance groups (data from Table 2.6).

Table 2.7. Wildlife Importance Groups – I support using some money from hunting license fees for projects designed to conserve and enhance native prairie ecosystems and their associated wildlife.

Attitude (scale)	Wildlife Importance Group				
	Very High	High	Medium	Low	Very Low
Strongly Disagree (-3)	0.0%	0.0%	3.1%	0.7%	4.5%
Moderately Disagree (-2)	0.0%	0.8%	1.6%	2.1%	13.6%
Slightly Disagree (-1)	1.2%	2.3%	3.1%	6.3%	11.4%
Neither (0)	1.2%	4.5%	5.7%	9.7%	9.1%
Slightly Agree (1)	10.1%	22.0%	33.7%	44.4%	38.6%
Moderately Agree (2)	19.0%	47.0%	39.9%	29.2%	13.6%
Strongly Agree (3)	68.5%	23.5%	13.0%	7.6%	9.1%
Total	168	132	193	144	44
Chi-square: $X^2=283.96$; $df=24$; $p<0.001$					
Mean	2.53	1.85	1.36	1.14	0.41
95% C.I.	2.41 – 2.65	1.68 – 2.01	1.18 – 1.55	0.96 – 1.32	-0.09 – 0.91
ANOVA: $F=52.56$; $df=4/675$; $p<0.001$					
SUMMARIZED RESULTS					
Disagree	1.2%	2.3%	7.8%	9.0%	29.5%
Neither	1.2%	4.6%	5.7%	9.7%	9.1%
Agree	97.6%	93.1%	86.5%	81.4%	61.4%
Chi-square: $X^2=64.84$; $df=8$; $p<0.001$					

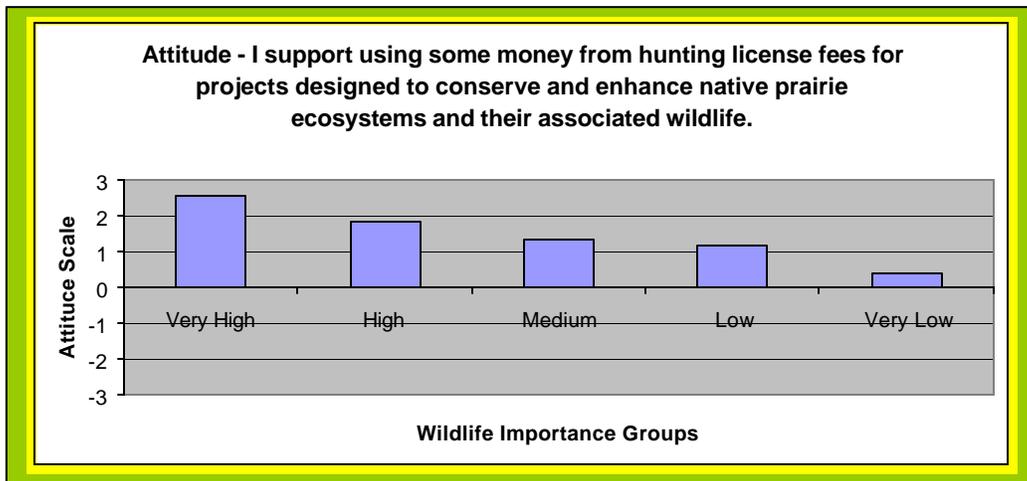


Figure 2.6. Mean attitude towards – I support using some money from hunting license fees for projects designed to conserve and enhance native prairie ecosystems and their associated wildlife, analyzed by wildlife importance groups (data from Table 2.7).

Table 2.8. Wildlife Importance Groups – I support efforts by private landowners to reintroduce swift fox to their land if the re-introduction is permitted by the state wildlife agency (GFP).

Attitude (scale)	Wildlife Importance Group				
	Very High	High	Medium	Low	Very Low
Strongly Disagree (-3)	0.0%	4.6%	3.6%	8.8%	18.2%
Moderately Disagree (-2)	0.0%	0.0%	0.5%	6.8%	15.9%
Slightly Disagree (-1)	0.6%	4.6%	5.7%	17.0%	15.9%
Neither (0)	5.4%	12.2%	13.5%	27.9%	13.6%
Slightly Agree (1)	12.0%	34.4%	40.4%	28.6%	18.2%
Moderately Agree (2)	24.0%	29.0%	23.8%	8.2%	11.4%
Strongly Agree (3)	58.1%	15.3%	12.4%	2.7%	6.8%
Total	167	131	193	147	44
Chi-square: $X^2=332.29$; $df=24$; $p<0.001$					
Mean	2.32	1.20	1.09	-0.05	-0.45
95% C.I.	2.17 – 2.47	0.96 – 1.44	0.90 – 1.27	-0.29 – 0.19	-1.02 – 0.12
ANOVA: $F=78.33$; $df=4/675$; $p<0.001$					
SUMMARIZED RESULTS					
Disagree	0.6%	9.2%	9.8%	32.9%	51.2%
Neither	5.4%	12.2%	13.5%	28.1%	14.0%
Agree	94.0%	78.6%	76.7%	39.0%	34.9%
Chi-square: $X^2=170.56$; $df=8$; $p<0.001$					

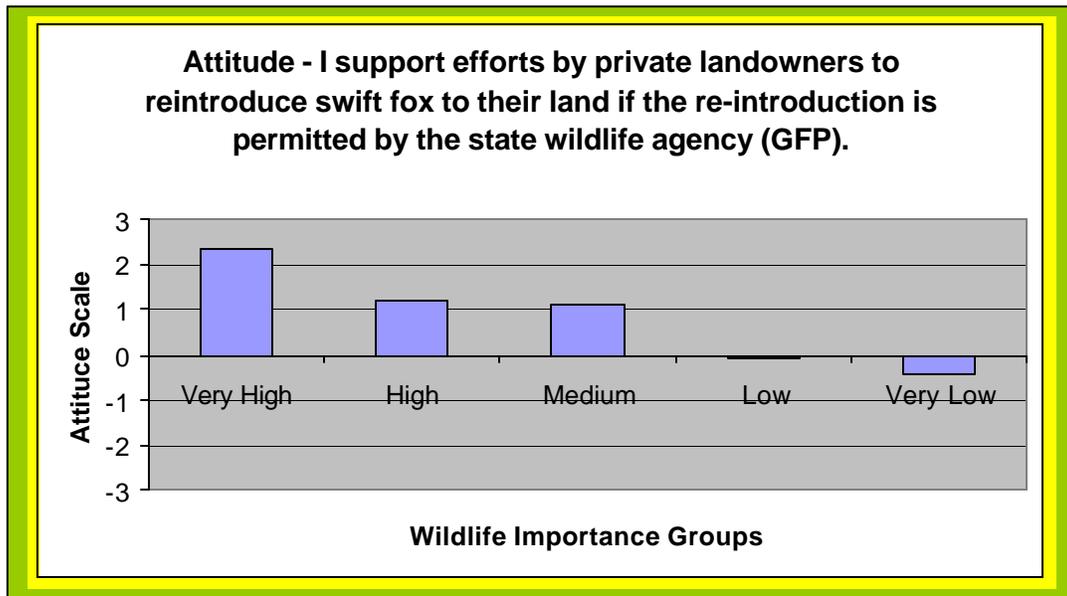


Figure 2.7. Mean attitude towards – *I support efforts by private landowners to reintroduce swift fox to their land if the re-introduction is permitted by the state wildlife agency (GFP)*, analyzed by wildlife importance groups (data from Table 2.8).

Table 2.9. Wildlife Importance Groups – Prairie dogs are an important component of native prairie ecosystems and need some degree of protection.

Attitude (scale)	Wildlife Importance Group				
	Very High	High	Medium	Low	Very Low
Strongly Disagree (-3)	0.0%	6.9%	12.5%	13.0%	83.7%
Moderately Disagree (-2)	2.4%	6.1%	17.2%	15.8%	11.6%
Slightly Disagree (-1)	6.5%	17.6%	18.8%	30.1%	2.3%
Neither (0)	5.3%	13.0%	10.9%	18.5%	0.0%
Slightly Agree (1)	28.4%	36.6%	34.4%	19.9%	2.3%
Moderately Agree (2)	32.5%	17.6%	5.7%	2.1%	0.0%
Strongly Agree (3)	24.9%	2.3%	0.5%	0.7%	0.0%
Total	169	131	192	146	43
Chi-square: $X^2=467.17$; $df=24$; $p<0.001$					
Mean	1.59	0.26	-0.41	-0.74	-2.71
95% C.I.	1.40 – 1.77	0.00 – 0.52	-0.64 – -0.19	-0.97 – -0.52	-2.95 – -2.47
ANOVA: $F=111.05$; $df=4/675$; $p<0.001$					
SUMMARIZED RESULTS					
Disagree	8.3%	31.3%	47.9%	58.9%	97.7%
Neither	5.4%	13.0%	10.9%	18.5%	0.0%
Agree	86.3%	55.7%	41.1%	22.6%	2.3%
Chi-square: $X^2=240.84$; $df=8$; $p<0.001$					

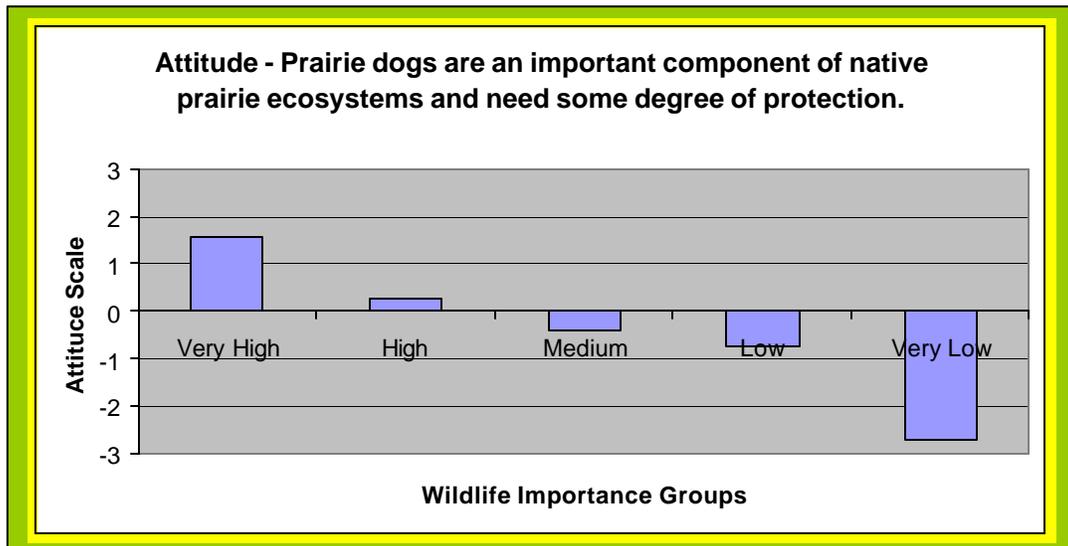


Figure 2.8. Mean attitude towards – *Prairie dogs are an important component of native prairie ecosystems and need some degree of protection*, analyzed by wildlife importance groups (data from Table 2.9).



Table 2.10. Wildlife Importance Groups – Publicly-owned native grasslands should be managed for game (fished or hunted) animals or forage production, NOT for rare native prairie wildlife species.

Attitude (scale)	Wildlife Importance Group				
	Very High	High	Medium	Low	Very Low
Strongly Disagree (-3)	26.8%	6.2%	4.1%	0.7%	2.3%
Moderately Disagree (-2)	25.6%	25.4%	14.5%	6.2%	9.1%
Slightly Disagree (-1)	23.2%	31.5%	30.1%	14.5%	11.4%
Neither (0)	10.1%	17.7%	19.7%	31.7%	11.4%
Slightly Agree (1)	8.9%	6.2%	16.1%	26.9%	20.5%
Moderately Agree (2)	3.6%	10.0%	9.3%	15.9%	25.0%
Strongly Agree (3)	1.8%	3.1%	6.2%	4.1%	20.5%
Total	168	130	193	145	44
Chi-square: $X^2=208.92$; $df=24$; $p<0.001$					
Mean	-1.33	-0.65	-0.19	0.41	0.95
95% C.I.	-1.57 – -1.11	-0.91 – -0.40	-0.40 – 0.03	0.20 – 0.62	0.43 – 1.47
ANOVA: $F=39.12$; $df=4/675$; $p<0.001$					
SUMMARIZED RESULTS					
Disagree	75.6%	63.4%	48.7%	21.9%	22.7%
Neither	10.1%	17.6%	19.7%	31.5%	11.4%
Agree	14.3%	19.1%	31.6%	46.6%	65.9%
Chi-square: $X^2=126.92$; $df=8$; $p<0.001$					

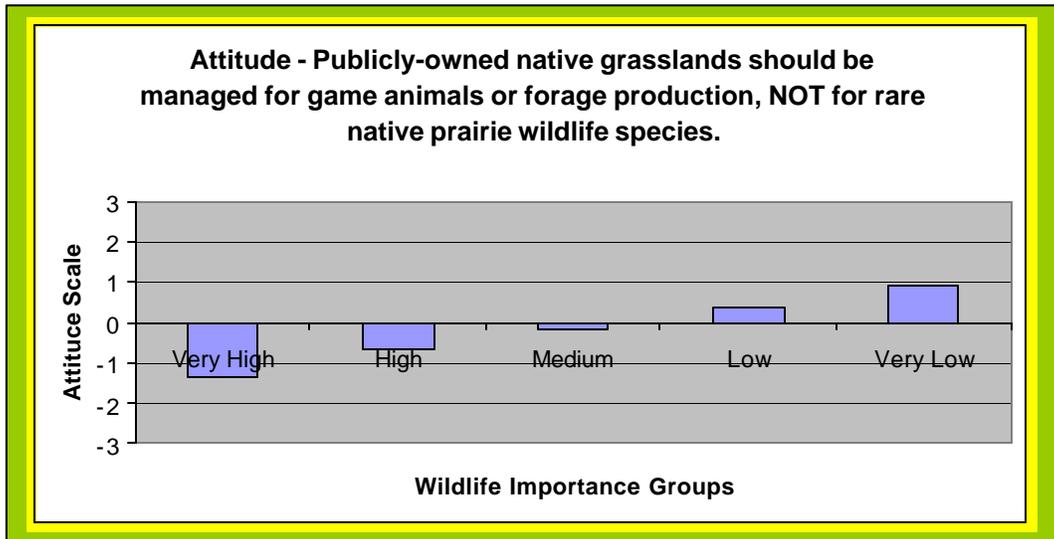


Figure 2.9. Mean attitude towards – Publicly-owned native grasslands should be managed for game (fished or hunted) animals or forage production, NOT for rare native prairie wildlife species, analyzed by wildlife importance groups (data from Table 2.10).

Table 2.11. Wildlife Importance Groups – State agencies should take steps to maintain/restore healthy populations of all native prairie wildlife species in South Dakota.

Attitude (scale)	Wildlife Importance Group				
	Very High	High	Medium	Low	Very Low
Strongly Disagree (-3)	0.0%	0.0%	1.0%	0.0%	18.2%
Moderately Disagree (-2)	0.0%	2.3%	3.1%	4.8%	20.5%
Slightly Disagree (-1)	1.8%	5.3%	10.8%	17.9%	18.2%
Neither (0)	3.6%	3.1%	8.8%	11.0%	9.1%
Slightly Agree (1)	21.3%	39.7%	49.5%	46.2%	20.5%
Moderately Agree (2)	31.4%	29.8%	18.6%	17.2%	6.8%
Strongly Agree (3)	42.0%	19.8%	8.2%	2.8%	6.8%
Total	169	131	194	145	44
Chi-square: $X^2=300.72$; $df=24$; $p<0.001$					
Mean	2.08	1.48	0.91	0.61	-0.63
95% C.I.	1.93 – 2.23	1.28 – 1.68	0.74 – 1.08	0.42 – 0.81	-1.19 – -0.07
ANOVA: $F=61.75$; $df=4/675$; $p<0.001$					
SUMMARIZED RESULTS					
Disagree	1.8%	7.6%	14.6%	22.8%	58.1%
Neither	3.6%	3.1%	8.9%	11.0%	9.3%
Agree	94.6%	89.3%	76.6%	66.2%	32.6%
Chi-square: $X^2=118.27$; $df=8$; $p<0.001$					

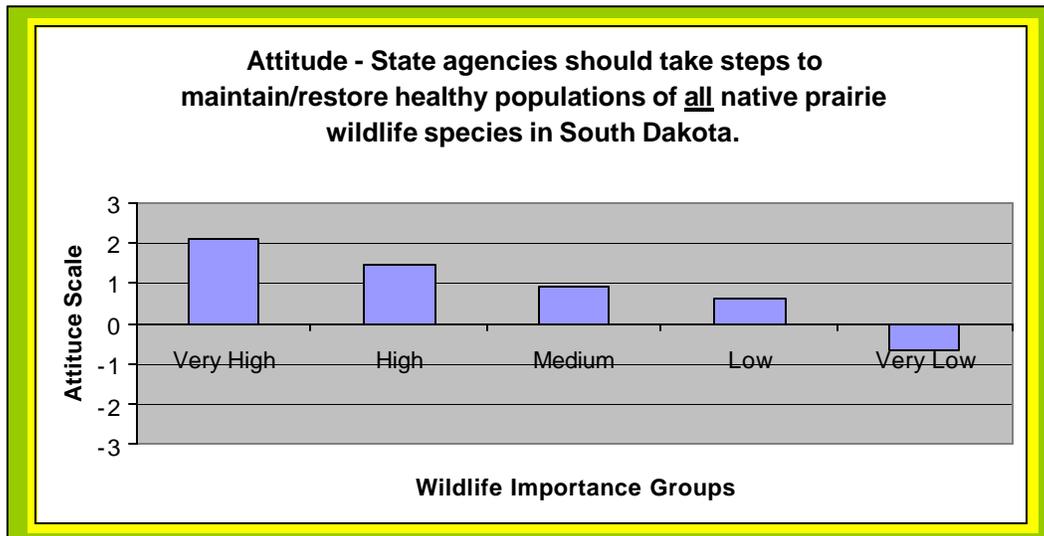


Figure 2.10. Mean attitude towards – State agencies should take steps to maintain/restore healthy populations of all native prairie wildlife species in South Dakota, analyzed by wildlife importance groups (data from Table 2.11).

Table 2.12. Wildlife Importance Groups – Prairie dogs are a destructive agricultural pest that should be eliminated from South Dakota.

Attitude (scale)	Wildlife Importance Group				
	Very High	High	Medium	Low	Very Low
Strongly Disagree (-3)	43.5%	18.3%	5.7%	2.1%	0.0%
Moderately Disagree (-2)	21.4%	15.3%	12.5%	5.5%	0.0%
Slightly Disagree (-1)	17.9%	35.9%	38.5%	15.1%	4.5%
Neither (0)	11.3%	14.5%	13.5%	27.4%	0.0%
Slightly Agree (1)	4.8%	5.3%	16.1%	24.7%	11.4%
Moderately Agree (2)	0.0%	6.9%	9.9%	17.1%	31.8%
Strongly Agree (3)	1.2%	3.8%	3.6%	8.2%	52.3%
Total	168	131	192	146	44
Chi-square: $X^2=412.93$; $df=24$; $p<0.001$					
Mean	-1.81	-0.92	-0.34	0.51	2.25
95% C.I.	-2.02 – -1.60	-1.19 – -0.65	-0.55 – -0.13	0.28 – 0.74	1.94 – 2.57
ANOVA: $F=97.67$; $df=4/675$; $p<0.001$					
SUMMARIZED RESULTS					
Disagree	82.1%	69.5%	56.8%	22.6%	4.7%
Neither	11.3%	14.5%	13.5%	27.4%	0.0%
Agree	6.5%	16.0%	29.7%	50.0%	95.3%
Chi-square: $X^2=218.81$; $df=8$; $p<0.001$					

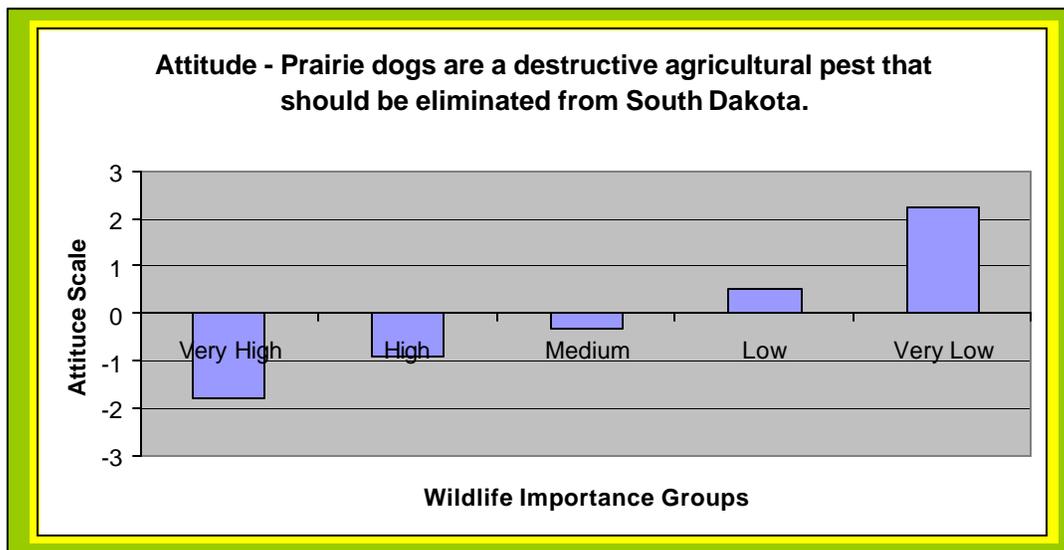


Figure 2.11. Mean attitude towards – *Prairie dogs are a destructive agricultural pest that should be eliminated from South Dakota*, analyzed by wildlife importance groups (data from Table 2.12).



Table 2.13. Wildlife Importance Groups – Federal tax money should NOT be spent to save the black-footed ferret, a federally endangered species.

Attitude (scale)	Wildlife Importance Group				
	Very High	High	Medium	Low	Very Low
Strongly Disagree (-3)	53.6%	19.1%	5.2%	0.0%	0.0%
Moderately Disagree (-2)	25.6%	25.2%	19.8%	1.4%	0.0%
Slightly Disagree (-1)	14.3%	35.9%	41.7%	8.3%	6.8%
Neither (0)	0.6%	9.2%	18.2%	25.5%	4.5%
Slightly Agree (1)	4.2%	8.4%	10.9%	30.3%	13.6%
Moderately Agree (2)	0.0%	1.5%	3.1%	20.7%	25.0%
Strongly Agree (3)	1.8%	0.8%	1.0%	13.8%	50.0%
Total	168	131	192	145	44
Chi-square: $X^2=584.66$; $df=24$; $p<0.001$					
Mean	-2.17	-1.29	-0.76	1.02	2.05
95% C.I.	-2.35 – -1.98	-1.51 – -1.06	-0.93 – -0.58	0.82 – 1.22	1.67 – 2.43
ANOVA: $F=191.51$; $df=4/675$; $p<0.001$					
SUMMARIZED RESULTS					
Disagree	93.5%	80.0%	66.3%	9.7%	6.8%
Neither	0.6%	9.2%	18.1%	25.5%	4.5%
Agree	6.0%	10.8%	15.5%	64.8%	88.6%
Chi-square: $X^2=354.60$; $df=8$; $p<0.001$					

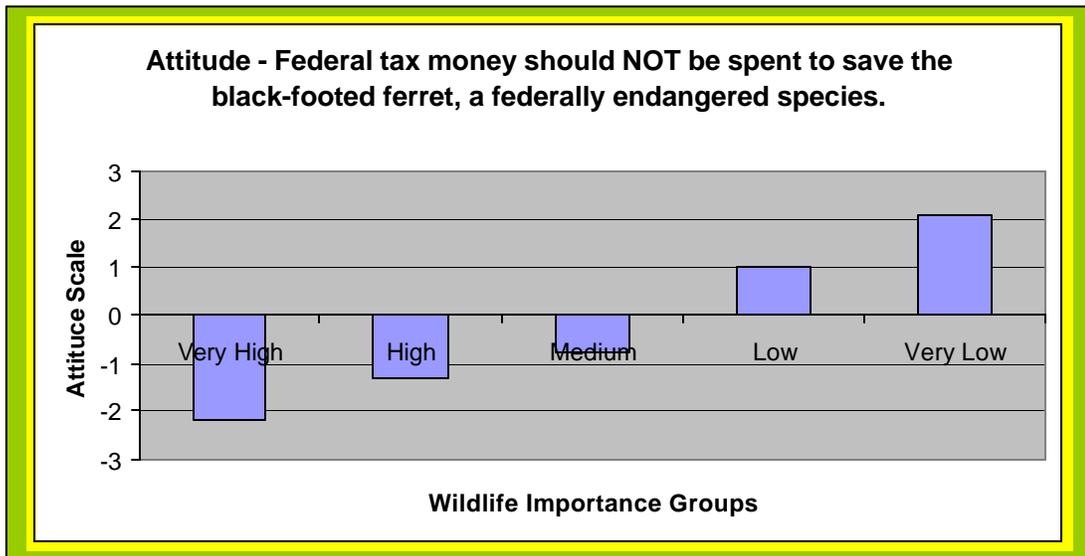


Figure 2.12. Mean attitude towards – Federal tax money should NOT be spent to save the black-footed ferret, a federally endangered species, analyzed by wildlife importance groups (data from Table 2.13).



Section C: Managing Bats in South Dakota (Tables 2.14 – 2.19)

SITUATION 2. Twelve species of bats are found in South Dakota. Bats roost (rest/sleep) in trees, buildings, caves, mines, and crevices. They play an important role in nature because they feed on insects. Places where bats feed and roost are vulnerable to disturbance and destruction. The South Dakota Bat Management Plan was designed to protect bats and their habitats in South Dakota. The main goal of the plan is to provide guidance for individuals and agencies for promoting long-term protection of bat species through research, management, and education.

The set of six statements related to managing bats in South Dakota reveal that the five wildlife importance groups do not exhibit a continuum of positive to negative attitudes towards bats (Tables 2.14 – 2.19 and Figures 2.13 – 2.18). The "high" wildlife importance group expressed attitudes very similar to the "low" wildlife importance group. Overall the "very high" and the "medium" wildlife importance groups (representing about 53% of the adult population) tended to express positive attitudes towards bats while the other three wildlife importance group (high, low and very low) tended to express neutral to negative attitudes towards bats.

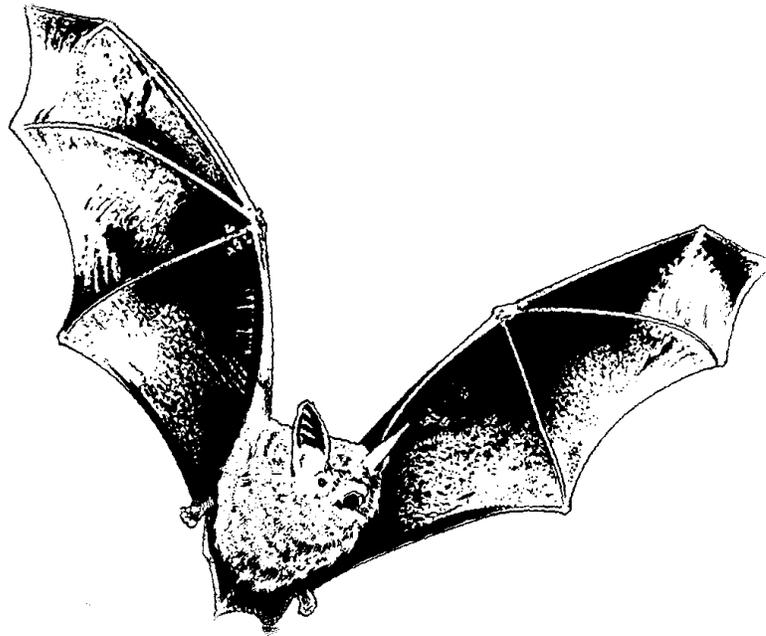


Table 2.14. Wildlife Importance Groups – Maintaining healthy populations and diversity of bat species in South Dakota is important to me.

Attitude (scale)	Wildlife Importance Group				
	Very High	High	Medium	Low	Very Low
Strongly Disagree (-3)	0.0%	9.9%	0.5%	7.5%	36.4%
Moderately Disagree (-2)	1.2%	8.4%	1.0%	13.0%	9.1%
Slightly Disagree (-1)	0.0%	12.2%	2.6%	18.5%	6.8%
Neither (0)	1.2%	32.8%	17.6%	27.4%	31.8%
Slightly Agree (1)	16.7%	26.0%	46.1%	25.3%	13.6%
Moderately Agree (2)	35.7%	9.9%	23.8%	6.8%	0.0%
Strongly Agree (3)	45.2%	0.8%	8.3%	1.4%	2.3%
Total	168	131	193	146	44
Chi-square: $X^2=461.34$; $df=24$; $p<0.001$					
Mean	2.21	-0.12	1.13	-0.24	-1.16
95% C.I.	2.08 – 2.35	-0.37 – 0.13	0.99 – 1.27	-0.47 – 0.00	-1.66 – -0.66
ANOVA: $F=134.42$; $df=4/675$; $p<0.001$					
SUMMARIZED RESULTS					
Disagree	1.2%	30.8%	4.1%	38.6%	53.5%
Neither	1.2%	33.1%	17.6%	27.6%	32.6%
Agree	97.6%	36.2%	78.2%	33.8%	14.0%
Chi-square: $X^2=258.21$; $df=8$; $p<0.001$					

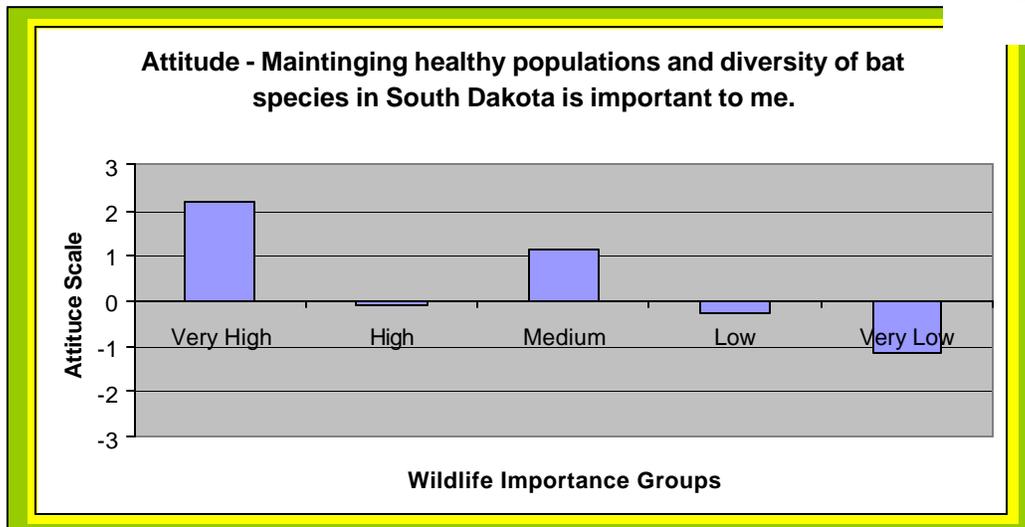


Figure 2.13. Mean attitude towards – *Maintaining healthy populations and diversity of bat species in South Dakota is important to me*, analyzed by wildlife importance groups (data from Table 2.14).

Table 2.15. Wildlife Importance Groups – Bats pose an unacceptable health risk to people.

Attitude (scale)	Wildlife Importance Group				
	Very High	High	Medium	Low	Very Low
Strongly Disagree (-3)	44.4%	0.8%	15.0%	0.0%	4.5%
Moderately Disagree (-2)	31.4%	7.6%	38.3%	4.1%	9.1%
Slightly Disagree (-1)	17.2%	21.4%	36.8%	26.2%	20.5%
Neither (0)	4.7%	25.2%	4.7%	22.8%	27.3%
Slightly Agree (1)	1.8%	32.8%	4.1%	25.5%	15.9%
Moderately Agree (2)	0.0%	9.9%	0.0%	15.2%	9.1%
Strongly Agree (3)	0.6%	2.3%	1.0%	6.2%	13.6%
Total	169	131	193	145	44
Chi-square: $X^2=416.45$; $df=24$; $p<0.001$					
Mean	-2.11	0.20	-1.52	0.41	0.18
95% C.I.	-2.27 – -1.96	-0.01 – 0.41	-1.66 – -1.37	0.19 – 0.62	-0.33 – 0.69
ANOVA: $F=137.77$; $df=4/675$; $p<0.001$					
SUMMARIZED RESULTS					
Disagree	93.5%	29.8%	90.2%	30.1%	34.1%
Neither	4.8%	25.2%	4.7%	22.6%	27.3%
Agree	1.8%	45.0%	5.2%	47.3%	38.6%
Chi-square: $X^2=277.04$; $df=8$; $p<0.001$					

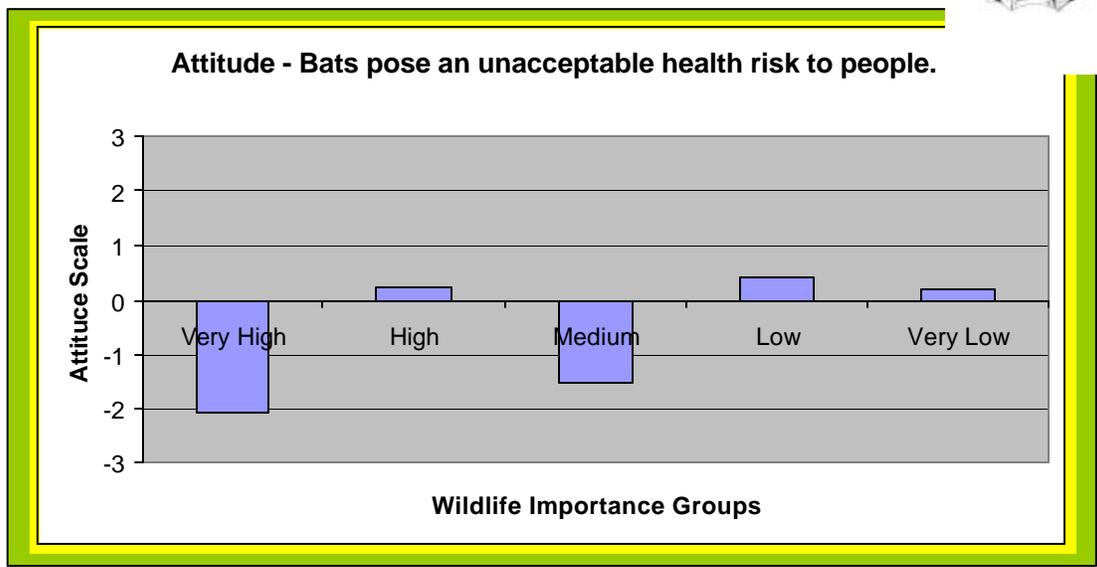


Figure 2.14. Mean attitude towards – *Bats pose an unacceptable health risk to people*, analyzed by wildlife importance groups (data from Table 2.15).

Table 2.16. Wildlife Importance Groups – Bats are important and should have some legal protection from harm.

Attitude (scale)	Wildlife Importance Group				
	Very High	High	Medium	Low	Very Low
Strongly Disagree (-3)	1.2%	6.1%	0.0%	6.2%	34.1%
Moderately Disagree (-2)	1.8%	5.3%	1.6%	6.8%	20.5%
Slightly Disagree (-1)	0.0%	13.0%	5.7%	20.5%	27.3%
Neither (0)	2.4%	32.1%	17.6%	34.2%	13.6%
Slightly Agree (1)	18.3%	37.4%	48.7%	24.7%	4.5%
Moderately Agree (2)	38.5%	6.1%	17.6%	5.5%	0.0%
Strongly Agree (3)	37.9%	0.0%	8.8%	2.1%	0.0%
Total	169	131	193	146	44
Chi-square: $X^2=466.25$; $df=24$; $p<0.001$					
Mean	2.03	0.09	1.01	-0.10	-1.64
95% C.I.	1.86 – 2.19	-0.13 – 0.30	0.87 – 1.16	-0.31 – 0.11	-2.02 – -1.26
ANOVA: $F=128.06$; $df=4/675$; $p<0.001$					
SUMMARIZED RESULTS					
Disagree	3.0%	24.4%	7.3%	33.1%	81.8%
Neither	2.4%	32.1%	17.6%	34.5%	13.6%
Agree	94.6%	43.5%	75.1%	32.4%	4.5%
Chi-square: $X^2=278.91$; $df=8$; $p<0.001$					

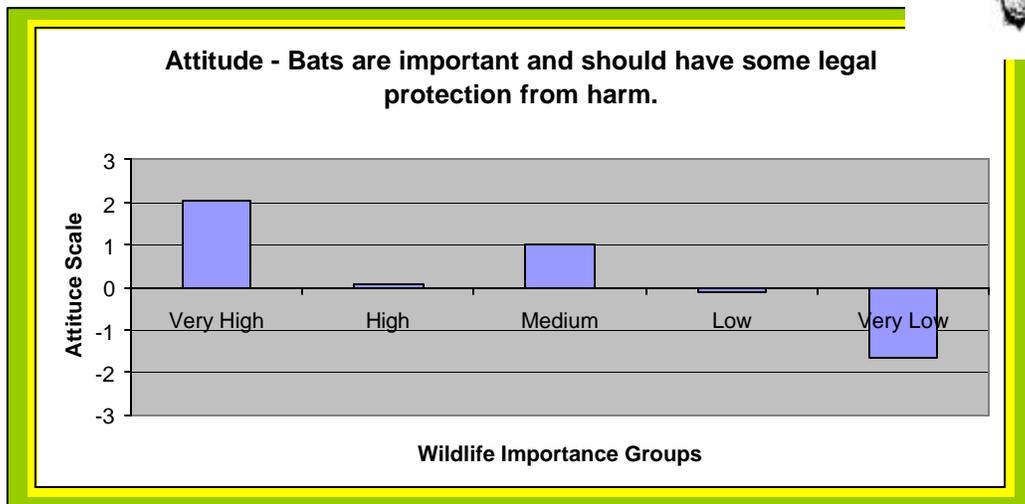


Figure 2.15. Mean attitude towards – *Bats are important and should have some legal protection from harm*, analyzed by wildlife importance groups (data from Table 2.16).

Table 2.17. Wildlife Importance Groups – Bats should NOT be allowed to thrive in urban areas where they can come in contact with people.

Attitude (scale)	Wildlife Importance Group				
	Very High	High	Medium	Low	Very Low
Strongly Disagree (-3)	27.5%	0.0%	14.1%	1.4%	7.0%
Moderately Disagree (-2)	36.5%	2.3%	16.8%	1.4%	11.6%
Slightly Disagree (-1)	22.2%	12.1%	44.5%	8.3%	9.3%
Neither (0)	4.8%	16.7%	14.7%	17.2%	11.6%
Slightly Agree (1)	7.2%	32.6%	8.9%	31.7%	20.9%
Moderately Agree (2)	0.6%	26.5%	1.0%	22.1%	16.3%
Strongly Agree (3)	1.2%	9.8%	0.0%	17.9%	23.3%
Total	167	132	191	145	43
Chi-square: $X^2=411.31$; $df=24$; $p<0.001$					
Mean	-1.64	0.99	-1.09	1.15	0.70
95% C.I.	-1.84 – -1.44	0.78 – 1.20	-1.25 – -0.93	0.93 – 1.37	0.10 – 1.29
ANOVA: $F=144.16$; $df=4/675$; $p<0.001$					
SUMMARIZED RESULTS					
Disagree	85.7%	13.7%	75.5%	11.0%	27.9%
Neither	4.8%	16.8%	14.6%	17.1%	11.6%
Agree	9.5%	69.5%	9.9%	71.9%	60.5%
Chi-square: $X^2=326.48$; $df=8$; $p<0.001$					

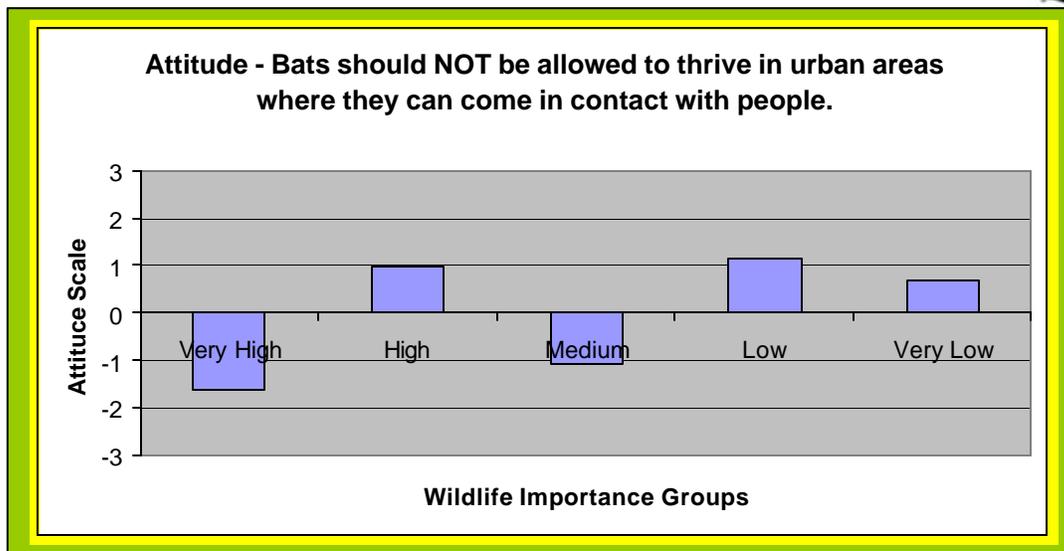


Figure 2.16. Mean attitude towards – *Bats should NOT be allowed to thrive in urban areas where they can come in contact with people*, analyzed by wildlife importance groups (data from Table 2.17).

Table 2.18. Wildlife Importance Groups – I support the South Dakota Bat Management Plan's goal of promoting long-term protection of bat species.

Attitude (scale)	Wildlife Importance Group				
	Very High	High	Medium	Low	Very Low
Strongly Disagree (-3)	0.0%	3.8%	0.5%	4.1%	27.9%
Moderately Disagree (-2)	0.0%	9.8%	0.5%	6.8%	11.6%
Slightly Disagree (-1)	0.0%	11.4%	1.0%	11.6%	25.6%
Neither (0)	3.6%	40.2%	11.9%	42.5%	32.6%
Slightly Agree (1)	12.5%	24.2%	46.4%	27.4%	2.3%
Moderately Agree (2)	31.0%	9.8%	33.5%	5.5%	0.0%
Strongly Agree (3)	53.0%	0.8%	6.2%	2.1%	0.0%
Total	168	132	194	146	43
Chi-square: $X^2=564.33$; $df=24$; $p<0.001$					
Mean	2.33	0.05	1.29	0.09	-1.29
95% C.I.	2.20 – 2.46	-0.17 – 0.26	1.16 – 1.41	-0.10 – 0.29	-1.68 – -0.89
ANOVA: $F=175.14$; $df=4/675$; $p<0.001$					
SUMMARIZED RESULTS					
Disagree	0.0%	24.4%	2.1%	22.1%	65.1%
Neither	3.6%	40.5%	11.9%	42.8%	32.6%
Agree	96.4%	35.1%	86.0%	35.2%	2.3%
Chi-square: $X^2=325.56$; $df=8$; $p<0.001$					

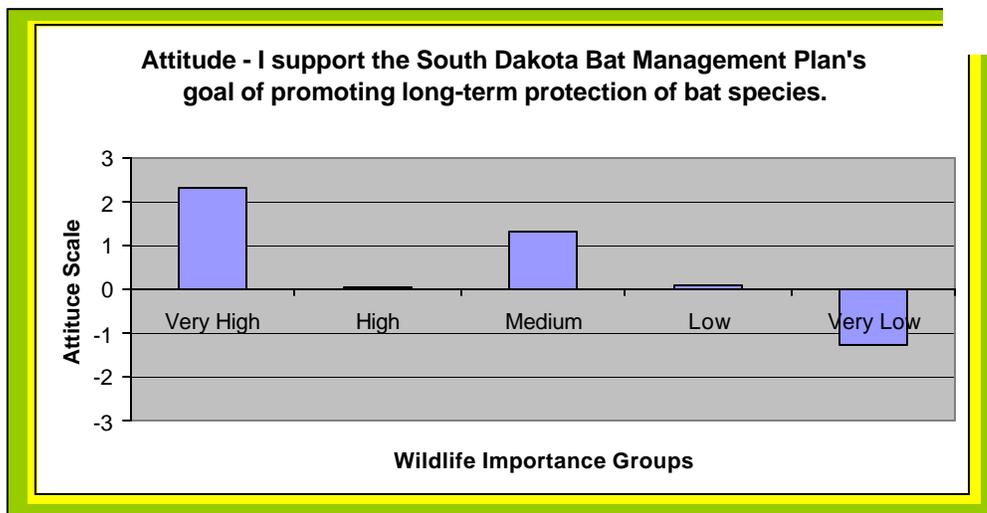


Figure 2.17. Mean attitude towards – I support the South Dakota Bat Management Plan's goal of promoting long-term protection of bat species, analyzed by wildlife importance groups (data from Table 2.18).

Table 2.19. Wildlife Importance Groups – I would enjoy having bats living and feeding near my house.

Attitude (scale)	Wildlife Importance Group				
	Very High	High	Medium	Low	Very Low
Strongly Disagree (-3)	0.0%	39.7%	0.0%	37.7%	50.0%
Moderately Disagree (-2)	3.6%	29.0%	5.7%	22.6%	14.3%
Slightly Disagree (-1)	8.9%	24.4%	13.5%	13.7%	16.7%
Neither (0)	4.8%	5.3%	19.3%	16.4%	7.1%
Slightly Agree (1)	19.6%	1.5%	28.1%	7.5%	4.8%
Moderately Agree (2)	31.5%	0.0%	20.3%	1.4%	4.8%
Strongly Agree (3)	31.5%	0.0%	13.0%	0.7%	2.4%
Total	168	131	192	146	42
Chi-square: $X^2=453.59$; $df=24$; $p<0.001$					
Mean	1.61	-1.99	0.82	-1.59	-1.67
95% C.I.	1.40 – 1.83	-2.17 – -1.82	0.62 – 1.02	-1.83 – -1.36	-2.19 – -1.15
ANOVA: $F=207.18$; $df=4/675$; $p<0.001$					
SUMMARIZED RESULTS					
Disagree	12.5%	93.1%	19.3%	74.0%	79.5%
Neither	4.8%	5.3%	19.3%	16.4%	6.8%
Agree	82.7%	1.5%	61.5%	9.6%	13.6%
Chi-square: $X^2=373.07$; $df=8$; $p<0.001$					

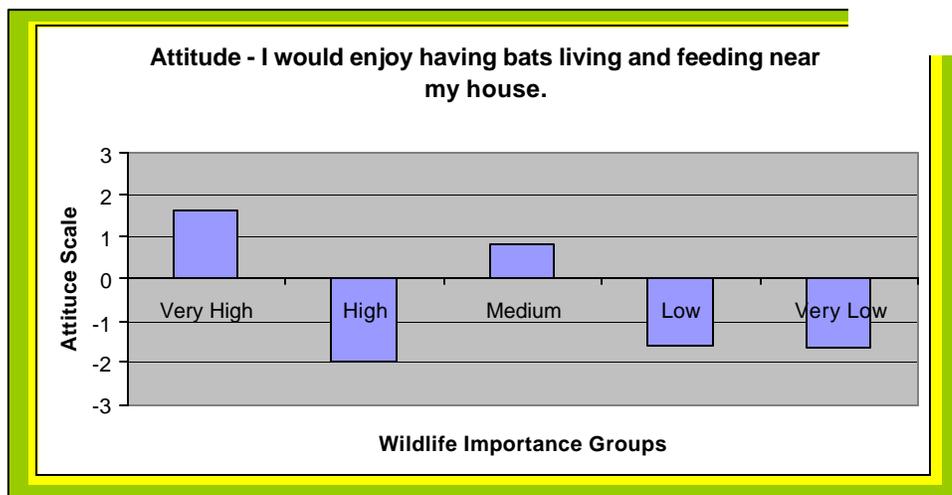


Figure 2.18. Mean attitude towards – *I would enjoy having bats living and feeding near my house*, analyzed by wildlife importance groups (data from Table 2.19).

Section D: Topeka Shiner Management in South Dakota (Tables 2.20 – 2.26)

SITUATION 3. The Topeka shiner is a small minnow (fish) native to the prairie streams of the Great Plains. Topeka shiners prefer small, quiet prairie streams with cool temperatures and good water quality found in Eastern South Dakota. The presence of Topeka shiners in a community often signals a healthy stream system. The Topeka shiner (*Notropis topeka*) was listed as a federally endangered species in 1999. The Topeka Shiner State Management Plan is a document that will establish conservation guidelines for the Topeka shiner in South Dakota. Research in South Dakota has shown that the Topeka shiner currently inhabits similar waters to those it did historically. However, studies show that the places that Topeka shiners inhabit have greatly declined in other states. The plan will allow for management of the Topeka shiner at the state level while still supporting national recovery efforts.

For all seven statements related to Topeka shiner management in South Dakota there was a strong linear relationship with the attitude responses by the continuum of wildlife importance groups (very high to very low) (Tables 2.20 – 2.26 and Figures 2.19 – 2.25). The wildlife importance groups had a similar relationship to both the attitudes towards prairie ecosystems and attitudes towards Topeka shiner management. In general, the very high group expressed a strong environmental attitude while the very low group tended to express an anti-environmental attitude with the three middle groups' attitudes somewhere in-between. Overall, the wildlife importance group model was very good for predicting attitudes related to Topeka shiner management in South Dakota.



Table 2.20. Wildlife Importance Groups – Maintaining a healthy prairie ecosystem that supports populations of Topeka shiners in South Dakota is important to me.

Attitude (scale)	Wildlife Importance Group				
	Very High	High	Medium	Low	Very Low
Strongly Disagree (-3)	0.0%	0.0%	4.1%	1.4%	15.9%
Moderately Disagree (-2)	0.0%	3.1%	3.6%	6.1%	15.9%
Slightly Disagree (-1)	0.0%	0.0%	3.1%	12.2%	13.6%
Neither (0)	0.0%	23.7%	32.1%	45.6%	34.1%
Slightly Agree (1)	12.0%	43.5%	40.9%	25.2%	20.5%
Moderately Agree (2)	44.3%	24.4%	14.0%	7.5%	0.0%
Strongly Agree (3)	43.7%	5.3%	2.1%	2.0%	0.0%
Total	167	131	193	147	44
Chi-square: $X^2=453.68$; $df=24$; $p<0.001$					
Mean	2.31	1.03	0.53	0.18	-0.70
95% C.I.	2.21 – 2.42	0.85 – 1.20	0.36 – 0.70	0.00 – 0.35	-1.12 – -0.28
ANOVA: $F=128.87$; $df=4/675$; $p<0.001$					
SUMMARIZED RESULTS					
Disagree	0.0%	3.1%	10.9%	19.9%	44.2%
Neither	0.0%	23.7%	32.1%	45.9%	34.9%
Agree	100%	73.3%	57.0%	34.2%	20.9%
Chi-square: $X^2=222.94$; $df=8$; $p<0.001$					

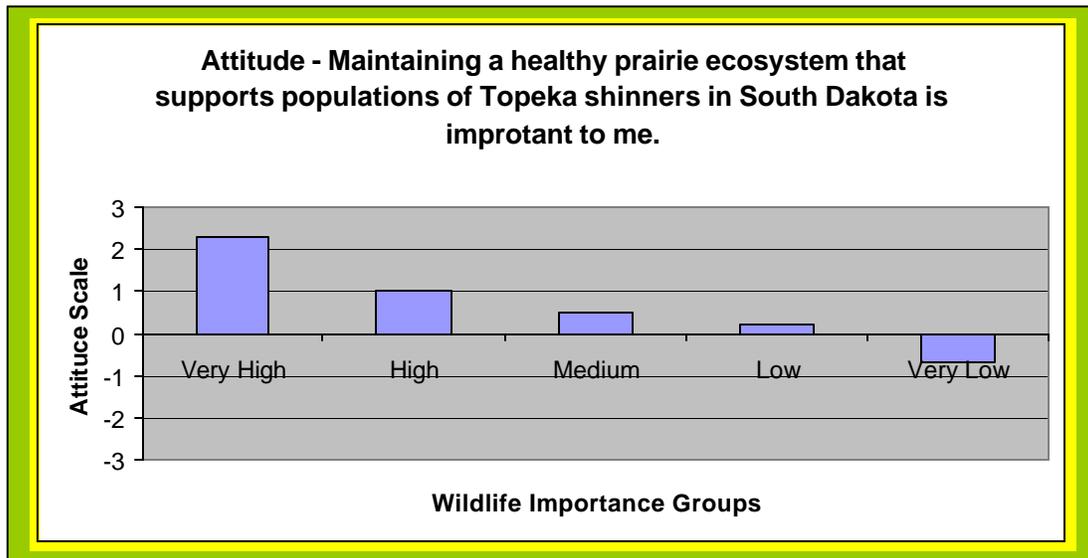


Figure 2.19. Mean attitude towards – *Maintaining a healthy prairie ecosystem that supports populations of Topeka shiners in South Dakota is important to me*, analyzed by wildlife importance groups (data from Table 2.20).

Table 2.21. Wildlife Importance Groups – Federal tax money should NOT be spent to save the Topeka shiner, an endangered species.

Attitude (scale)	Wildlife Importance Group				
	Very High	High	Medium	Low	Very Low
Strongly Disagree (-3)	38.7%	6.9%	2.6%	0.7%	8.9%
Moderately Disagree (-2)	44.6%	18.3%	7.8%	4.1%	0.0%
Slightly Disagree (-1)	11.3%	41.2%	49.5%	15.2%	2.2%
Neither (0)	3.0%	22.9%	21.9%	25.5%	6.7%
Slightly Agree (1)	2.4%	9.9%	11.5%	32.4%	20.0%
Moderately Agree (2)	0.0%	0.8%	3.6%	12.4%	20.0%
Strongly Agree (3)	0.0%	0.0%	3.1%	9.7%	42.2%
Total	168	131	192	145	45
Chi-square: $X^2=572.65$; $df=24$; $p<0.001$					
Mean	-2.13	-0.87	-0.44	0.59	1.63
95% C.I.	-2.27 – -1.99	-1.06 – -0.69	-0.61 – -0.27	0.37 – 0.80	1.09 – 2.16
ANOVA: $F=149.83$; $df=4/675$; $p<0.001$					
SUMMARIZED RESULTS					
Disagree	94.6%	66.4%	59.6%	20.5%	9.3%
Neither	3.0%	22.9%	21.8%	25.3%	7.0%
Agree	2.4%	10.7%	18.7%	54.1%	83.7%
Chi-square: $X^2=284.48$; $df=8$; $p<0.001$					

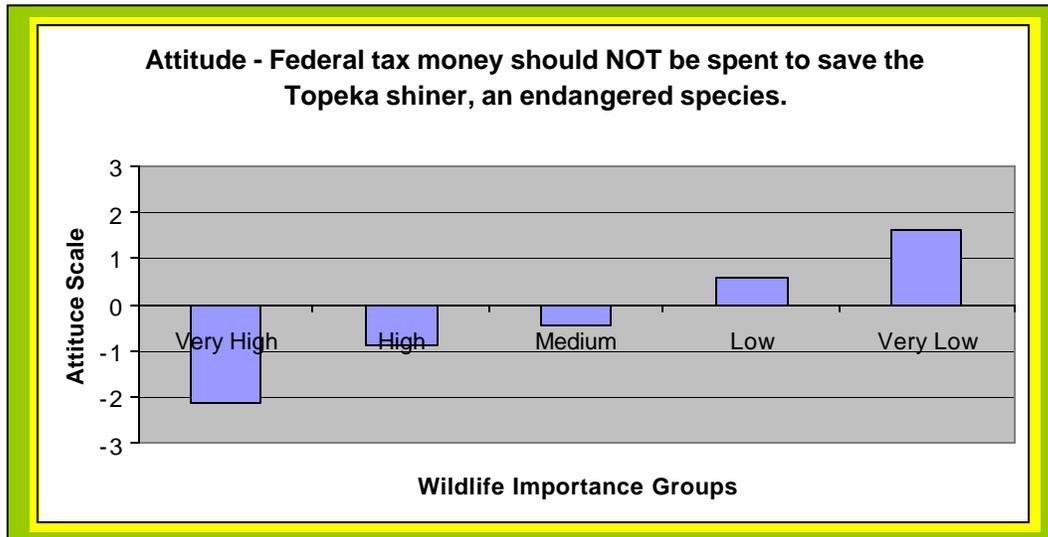


Figure 2.20. Mean attitude towards – *Federal tax money should NOT be spent to save the Topeka shiner, an endangered species*, analyzed by wildlife importance groups (data from Table 2.21).

Table 2.22. Wildlife Importance Groups – Topeka shiners are an important component of native prairie ecosystems and need some degree of protection.

Attitude (scale)	Wildlife Importance Group				
	Very High	High	Medium	Low	Very Low
Strongly Disagree (-3)	0.6%	0.0%	2.1%	0.7%	11.1%
Moderately Disagree (-2)	0.6%	3.1%	1.0%	2.7%	20.0%
Slightly Disagree (-1)	0.0%	2.3%	5.2%	12.2%	17.8%
Neither (0)	0.0%	14.5%	16.1%	36.1%	33.3%
Slightly Agree (1)	22.6%	58.8%	64.6%	38.1%	17.8%
Moderately Agree (2)	39.3%	16.0%	9.9%	9.5%	0.0%
Strongly Agree (3)	36.9%	5.3%	1.0%	0.7%	0.0%
Total	168	131	192	147	45
Chi-square: $X^2=445.13$; $df=24$; $p<0.001$					
Mean	2.10	0.99	0.73	0.40	-0.71
95% C.I.	1.96 – 2.23	0.83 – 1.15	0.59 – 0.87	0.25 – 0.56	-1.10 – -0.32
ANOVA: $F=106.57$; $df=4/675$; $p<0.001$					
SUMMARIZED RESULTS					
Disagree	1.2%	5.3%	8.8%	15.2%	47.7%
Neither	0.0%	14.5%	16.1%	36.6%	34.1%
Agree	98.8%	80.2%	75.1%	48.3%	18.2%
Chi-square: $X^2=196.42$; $df=8$; $p<0.001$					

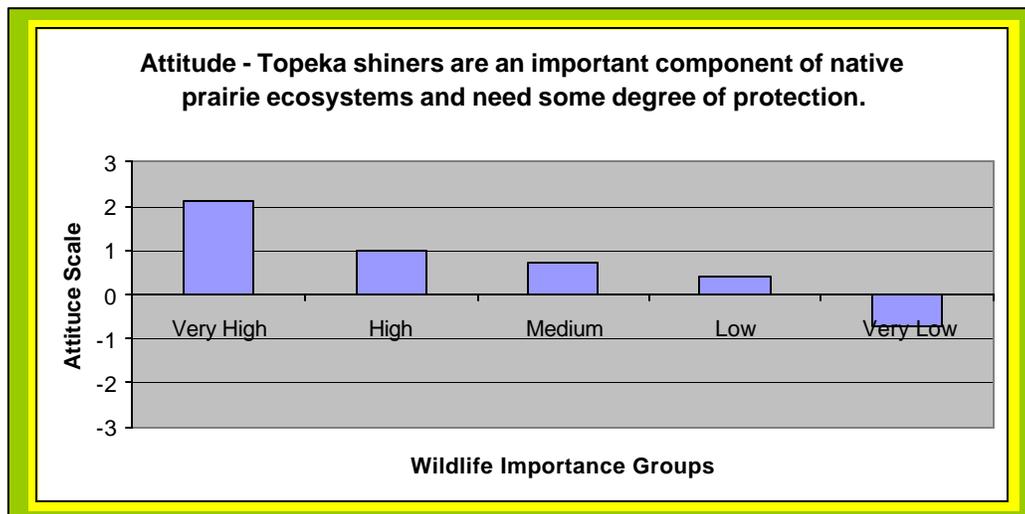


Figure 2.21. Mean attitude towards – *Topeka shiners are an important component of native prairie ecosystems and need some degree of protection*, analyzed by wildlife importance groups (data from Table 2.22).

Table 2.23. Wildlife Importance Groups – It would be OK with me if the Topeka shiner went extinct because there are enough other species of shiners (small fish) to take their place.

Attitude (scale)	Wildlife Importance Group				
	Very High	High	Medium	Low	Very Low
Strongly Disagree (-3)	76.2%	12.9%	11.4%	0.7%	6.7%
Moderately Disagree (-2)	21.4%	29.5%	24.9%	6.2%	2.2%
Slightly Disagree (-1)	2.4%	40.9%	40.9%	35.6%	15.6%
Neither (0)	0.0%	11.4%	15.0%	37.7%	20.0%
Slightly Agree (1)	0.0%	3.8%	5.7%	14.4%	37.8%
Moderately Agree (2)	0.0%	0.8%	2.1%	3.4%	13.3%
Strongly Agree (3)	0.0%	0.8%	0.0%	2.1%	4.4%
Total	168	132	193	146	45
Chi-square: $X^2=522.09$; $df=24$; $p<0.001$					
Mean	-2.73	-1.30	-1.15	-0.23	0.39
95% C.I.	-2.81 – -2.65	-1.49 – -1.11	-1.31 – -1.00	-0.40 – -0.06	-0.04 – 0.81
ANOVA: $F=158.27$; $df=4/675$; $p<0.001$					
SUMMARIZED RESULTS					
Disagree	100%	83.2%	77.2%	42.5%	22.7%
Neither	0.0%	11.5%	15.0%	37.7%	20.5%
Agree	0.0%	5.3%	7.8%	19.9%	56.8%
Chi-square: $X^2=242.78$; $df=8$; $p<0.001$					

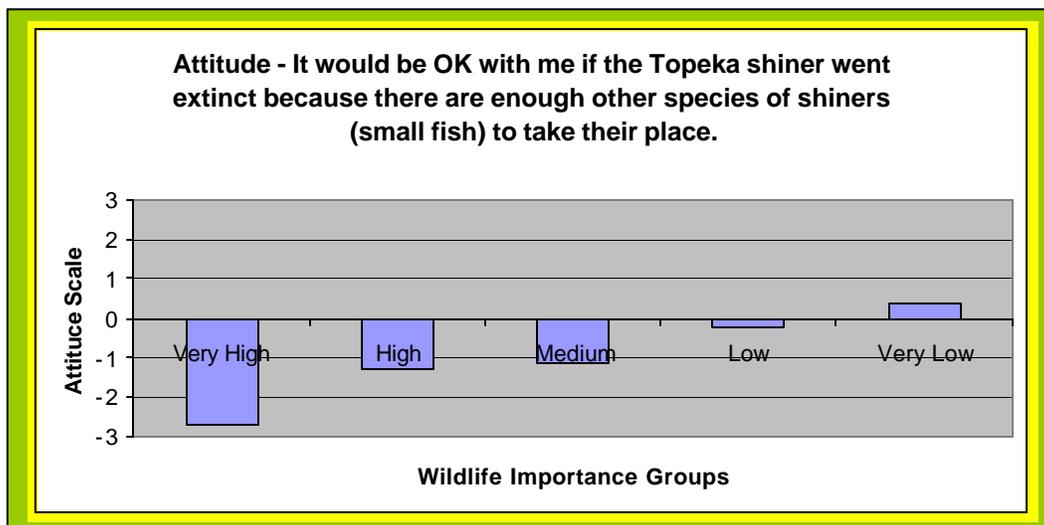


Figure 2.22. Mean attitude towards – *It would be OK with me if the Topeka shiner went extinct because there are enough other species of shiners (small fish) to take their place,* analyzed by wildlife importance groups (data from Table 2.23).

Table 2.24. Wildlife Importance Groups – I support the South Dakota Topeka Shiner State Management Planning effort to manage Topeka shiners while minimizing the impact on landowners.

Attitude (scale)	Wildlife Importance Group				
	Very High	High	Medium	Low	Very Low
Strongly Disagree (-3)	0.0%	0.0%	2.1%	0.7%	8.9%
Moderately Disagree (-2)	0.0%	0.0%	0.5%	0.7%	13.3%
Slightly Disagree (-1)	0.0%	6.9%	3.1%	11.0%	15.6%
Neither (0)	1.2%	16.0%	21.2%	42.1%	37.8%
Slightly Agree (1)	13.2%	43.5%	44.6%	37.9%	20.0%
Moderately Agree (2)	44.9%	22.1%	24.4%	6.9%	4.4%
Strongly Agree (3)	40.7%	11.5%	4.1%	0.7%	0.0%
Total	167	131	193	145	45
Chi-square: $X^2=401.82$; $df=24$; $p<0.001$					
Mean	2.24	1.16	0.95	0.41	-0.41
95% C.I.	2.13 – 2.35	0.97 – 1.34	0.79 – 1.10	0.27 – 0.55	-0.81 – -0.02
ANOVA: $F=104.22$; $df=4/675$; $p<0.001$					
SUMMARIZED RESULTS					
Disagree	0.0%	6.9%	5.7%	12.3%	38.6%
Neither	1.2%	16.0%	21.2%	41.8%	38.6%
Agree	98.8%	77.1%	73.1%	45.9%	22.7%
Chi-square: $X^2=185.90$; $df=8$; $p<0.001$					

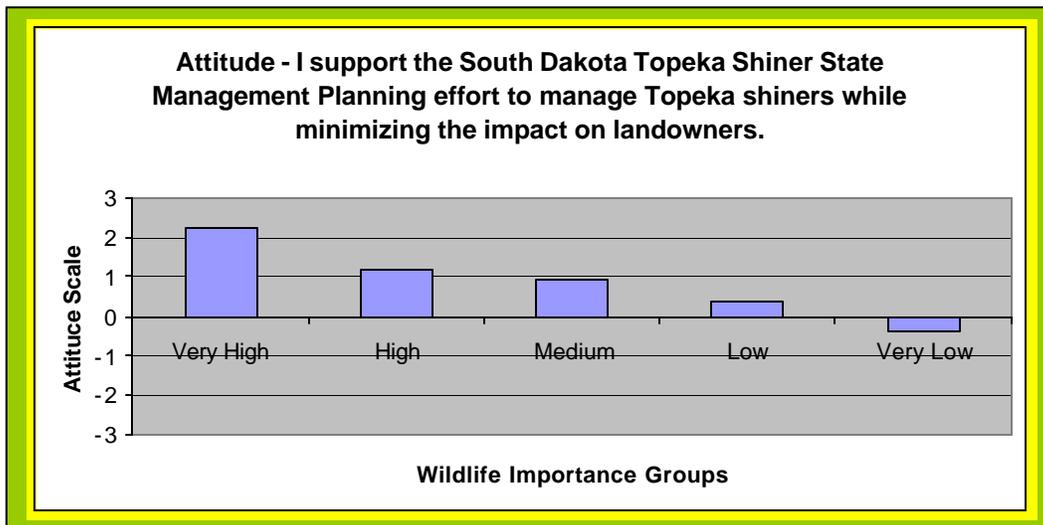


Figure 2.23. Mean attitude towards – *I support the South Dakota Topeka Shiner State Management Planning effort to manage Topeka shiners while minimizing the impact on landowners*, analyzed by wildlife importance groups (data from Table 2.24).

Table 2.25. Wildlife Importance Groups – I think that it would appropriate to pay incentives to landowners that help maintain habitat for Topeka shiners.

Attitude (scale)	Wildlife Importance Group				
	Very High	High	Medium	Low	Very Low
Strongly Disagree (-3)	4.2%	3.1%	5.7%	3.5%	31.8%
Moderately Disagree (-2)	1.2%	1.5%	1.6%	8.3%	11.4%
Slightly Disagree (-1)	3.0%	12.2%	13.5%	21.5%	22.7%
Neither (0)	7.1%	28.2%	23.4%	27.8%	11.4%
Slightly Agree (1)	26.2%	35.1%	45.8%	29.2%	18.2%
Moderately Agree (2)	37.5%	9.2%	7.8%	6.9%	4.5%
Strongly Agree (3)	20.8%	10.7%	2.1%	2.8%	0.0%
Total	168	131	192	144	44
Chi-square: $X^2=266.36$; $df=24$; $p<0.001$					
Mean	1.46	0.59	0.34	0.04	-1.15
95% C.I.	1.25 – 1.67	0.36 – 0.82	0.16 – 0.52	-0.18 – 0.25	-1.65 – -0.65
ANOVA: $F=42.59$; $df=4/675$; $p<0.001$					
SUMMARIZED RESULTS					
Disagree	8.3%	16.9%	20.7%	33.1%	65.9%
Neither	7.1%	28.5%	23.3%	27.6%	11.4%
Agree	84.5%	54.6%	56.0%	39.3%	22.7%
Chi-square: $X^2=125.43$; $df=8$; $p<0.001$					

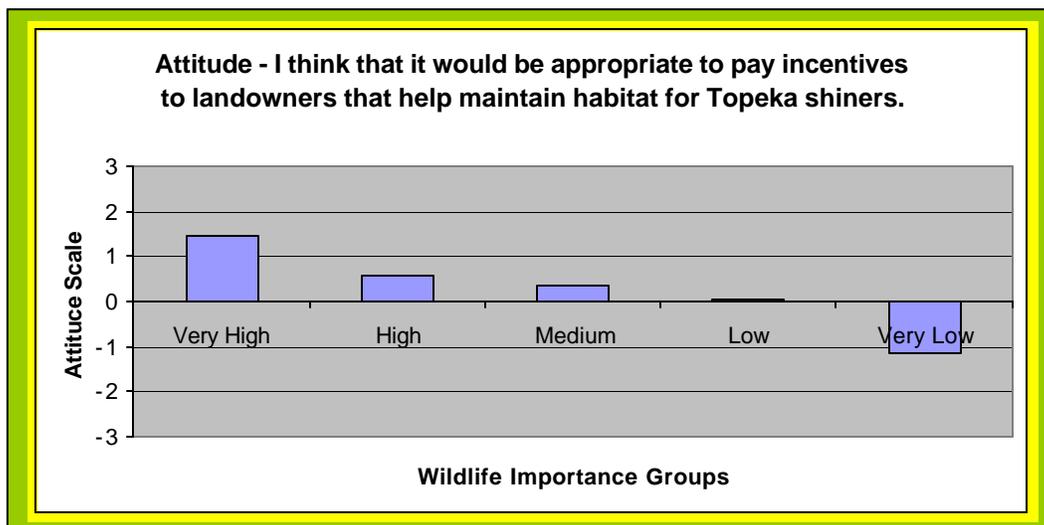


Figure 2.24. Mean attitude towards – *I think that it would appropriate to pay incentives to landowners that help maintain habitat for Topeka shiners*, analyzed by wildlife importance groups (data from Table 2.25).

Table 2.26. Wildlife Importance Groups – I support federally-funded agricultural programs (for example, Farm bill programs) designed to improve water quality, which in turn benefits many wildlife species, including Topeka shiners.

Attitude (scale)	Wildlife Importance Group				
	Very High	High	Medium	Low	Very Low
Strongly Disagree (-3)	0.6%	0.8%	2.1%	2.1%	6.8%
Moderately Disagree (-2)	0.0%	1.5%	1.0%	1.4%	6.8%
Slightly Disagree (-1)	0.0%	2.3%	2.6%	4.9%	13.6%
Neither (0)	1.2%	16.0%	9.4%	22.2%	9.1%
Slightly Agree (1)	12.5%	29.0%	39.6%	31.9%	38.6%
Moderately Agree (2)	28.6%	25.2%	32.8%	27.8%	18.2%
Strongly Agree (3)	57.1%	25.2%	12.5%	9.7%	6.8%
Total	168	131	192	144	44
Chi-square: $X^2=206.45$; $df=24$; $p<0.001$					
Mean	2.39	1.45	1.33	1.02	0.40
95% C.I.	2.26 – 2.53	1.23 – 1.67	1.17 – 1.49	0.82 – 1.23	-0.10 – 0.90
ANOVA: $F=40.83$; $df=4/675$; $p<0.001$					
SUMMARIZED RESULTS					
Disagree	0.6%	5.3%	5.7%	8.9%	29.5%
Neither	1.2%	16.0%	9.3%	21.9%	9.1%
Agree	98.2%	78.6%	85.0%	69.2%	61.4%
Chi-square: $X^2=90.23$; $df=8$; $p<0.001$					

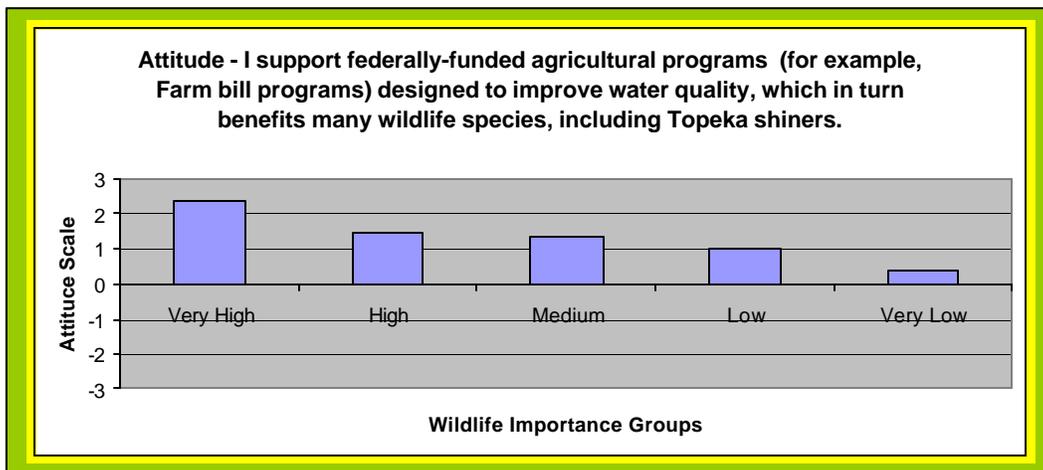


Figure 2.25. Mean attitude towards – I support federally-funded agricultural programs (for example, Farm bill programs) designed to improve water quality, which in turn benefits many wildlife species, including Topeka shiners, analyzed by wildlife importance groups (data from Table 2.26).

Section E: Missouri River Management (Table 2.27)

SITUATION 4. The Missouri River provides benefits to many different groups of people. However, conflicts can occur when making decisions on how the Missouri River resources can be used. How strong of a focus should each of these 4 categories of uses be for managing the entire Missouri River? *Please distribute 100 points among these 4 categories to show how much focus you feel each category should receive in management of the Missouri River.*

Although there were significant differences among the five wildlife importance groups in the priority points assigned to the four categories for managing the Missouri River the differences were relatively small for three categories (agriculture & industry, home uses, and recreation) (Table 2.27 and Figure 2.26). For the category of "wildlife" the "very high" wildlife importance group assigned a relatively high number of points compared to the other wildlife importance groups, especially the "low" and "very low" groups.



Wildlife Values and Beliefs of South Dakota Residents – 2004

Larry M. Gliotti

Table 2.27. Wildlife Importance Groups – Priorities assigned by South Dakota residents for managing the Missouri River.

Managing the Missouri River for...	Wildlife Importance Group				
	Very High	High	Medium	Low	Very Low
Agriculture & Industry					
Mean	22.9	23.1	22.8	26.5	28.9
95% C.I.	21.5 – 24.2	21.2 – 25.1	21.4 – 24.1	24.5 – 28.6	24.8 – 33.0
ANOVA: F=5.73; df=4/644; p<0.001					
Home Uses					
Mean	28.1	33.2	30.5	35.0	30.3
95% C.I.	26.4 – 29.8	30.5 – 35.8	28.7 – 32.3	32.6 – 37.4	26.1 – 34.4
ANOVA: F=5.92; df=4/644; p<0.001					
Recreation					
Mean	20.1	21.8	24.1	20.2	22.7
95% C.I.	18.6 – 21.6	20.0 – 23.6	22.6 – 25.6	18.3 – 22.0	17.7 – 27.7
ANOVA: F=3.97; df=4/644; p=0.003					
Wildlife (game and non-game)					
Mean	28.9	21.9	22.7	18.3	18.1
95% C.I.	27.3 – 30.7	20.3 – 23.5	21.5 – 23.8	16.7 – 19.9	15.3 – 20.9
ANOVA: F=28.05; df=4/644; p<0.001					

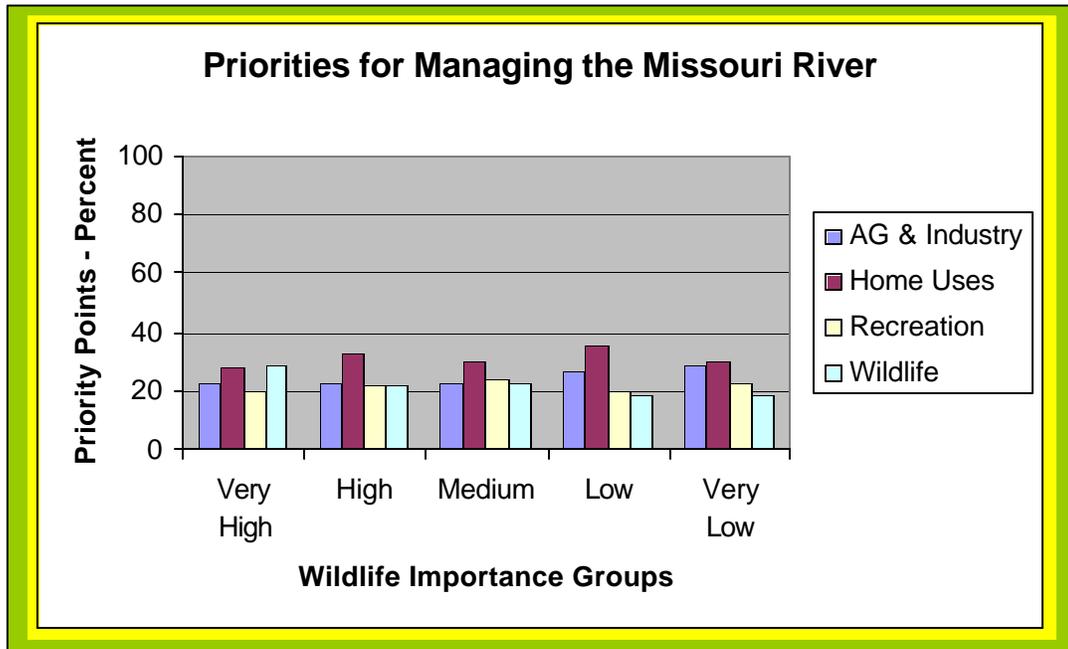


Figure 2.26. Priorities assigned by South Dakota residents for managing the Missouri River analyzed by wildlife importance groups (data from Table 2.27).

Section F: Wildlife Value Orientations (Table 2.28)

There was a very strong relationship between the wildlife importance groups model and wildlife value orientations (Table 2.28 and Figures 2.27 – 2.28). Utilitarians comprised an increasing percent of the wildlife importance groups ranging from only 22% in the "very high" group to comprising 86% of the "very low" group (Figure 2.27). The opposite trend occurred for the percent composition by mutualists ranging from 30% of the "very high" group to 0% occurring in the "very low" group (Figure 2.27). The mutualist group was comprised mainly of people from the "very high" and "high" wildlife importance groups, while the utilitarian group was comprised mainly of people from the "medium" and "low" wildlife importance groups (Figure 2.28).

Table 2.28. Relationship between the wildlife value orientations and the wildlife importance groups.

Wildlife Value Orientation	Wildlife Importance Group				
	Very High	High	Medium	Low	Very Low
Pluralist	38.0%	31.0%	22.9%	25.5%	14.0%
Utilitarian	22.3%	42.6%	62.5%	63.4%	86.0%
Mutualist	30.1%	19.4%	10.4%	5.5%	0.0%
Distanced	9.6%	7.0%	4.2%	5.5%	0.0%
Total	166	129	192	145	43
Wildlife Importance Group	Wildlife Value Orientation				
	Pluralist	Utilitarian	Mutualist	Distanced	
Very High	33.2%	10.9%	48.5%	39.0%	
High	21.1%	16.1%	24.3%	22.0%	
Medium	23.2%	35.2%	19.4%	19.5%	
Low	19.5%	27.0%	7.8%	19.5%	
Very Low	3.2%	10.9%	0.0%	0.0%	
Total	190	341	103	41	
Chi-square: $X^2=111.59$; $df=12$; $p<0.001$					

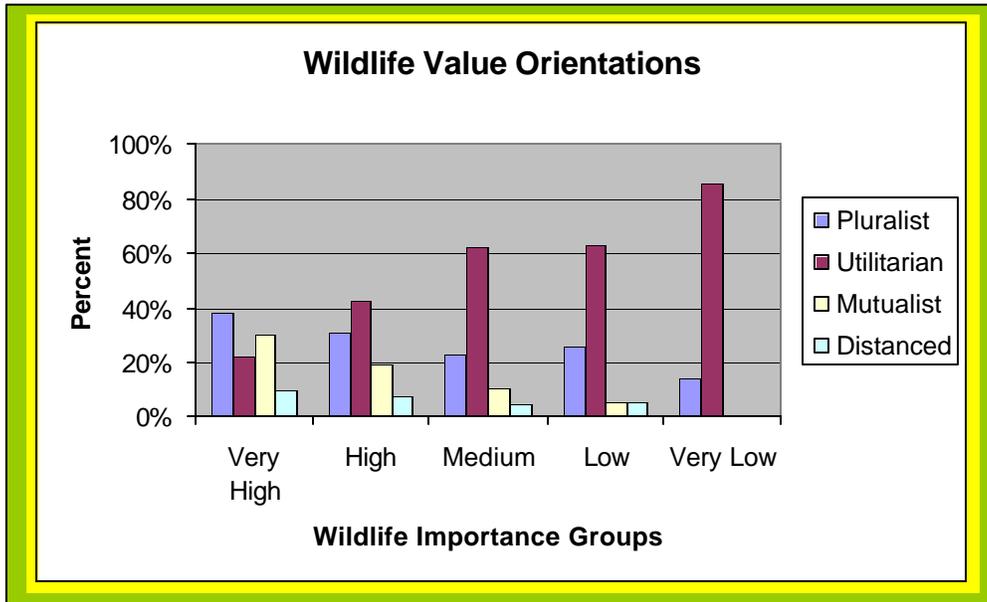


Figure 2.27. Composition of (percent wildlife importance groups found in...) the wildlife value orientation groups (*data from Table 2.28*).

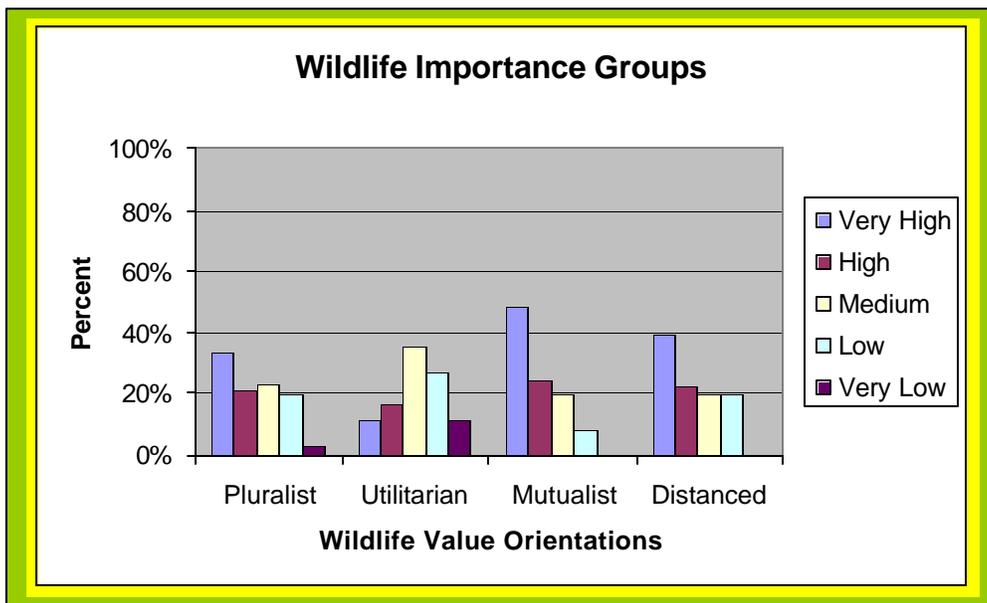


Figure 2.28. Composition of (percent wildlife value orientation groups found in...) the wildlife importance groups (*data from Table 2.28*).

Part 3 – Attitudes and Beliefs (Importance of Wildlife) of Fishing, Hunting and Wildlife Viewing Participants and Wildlife Value Orientations in South Dakota – Who are our customers?

Section A: Anglers

General Attitudes. Active anglers provided slightly higher importance ratings for both conserving/ protecting as much fish and wildlife as possible where appropriate and the value of healthy fish and wildlife populations to the economy and well-being of South Dakota residents compared to non-anglers and inactive anglers (Table 3.1). Active anglers rated GFP's efforts to conserve and protect South Dakota's diversity of fish and wildlife as more negative (too little range) compared to non-anglers and inactive anglers.

Funding of Non-game Projects. Non-anglers had a much higher preference for using money from hunting and fishing license sales to pay for nongame projects compared to anglers (inactive and active) (Table 3.2). Anglers (inactive and active) had a higher preference for using a portion of the current state taxes to pay for nongame projects compared to non-anglers.

Prairie Ecosystems. Non-anglers, inactive anglers and active anglers were statistically similar on four of the eight attitudes related to prairie ecosystems and although statistically significant the overall differences were small for two of these four attitudes (Table 3.3). Anglers (inactive and active) were much more likely than non-anglers to "support efforts by private landowners to reintroduce swift fox to their land if the reintroduction is permitted by the state wildlife agency" and active anglers had higher support compared to inactive anglers. Anglers (inactive and active) were more likely than non-anglers to support using federal taxes to save the black-footed ferret and active anglers had higher support compared to inactive anglers.

Managing Bats in South Dakota. Non-anglers, inactive anglers and active anglers were statistically similar on three of the six attitudes related to managing bats in South Dakota (Table 3.4). Anglers (inactive and active) were less likely than non-anglers to believe that "bats pose an unacceptable health risk to people" and less likely to hold the belief that "bats should NOT be allowed to thrive in urban areas where they can come in contact with people. Also, anglers (inactive and active) were more accepting than were non-anglers of bats living and feeding near their house.

Topeka Shiner Management in South Dakota. Non-anglers, inactive anglers and active anglers were statistically similar on six of the seven attitudes related to Topeka shiner management in South Dakota (Table 3.4). Active anglers had the highest level of support for using federal taxes to save the Topeka shiner, followed by inactive anglers with non-anglers having the lowest level of support.

Managing the Missouri River. Although statistically significant the overall differences among the three levels of fishing participation (non-angler, inactive angler and active angler) in priorities assigned to the four categories for managing the Missouri River were relatively small (Table 3.6 and Figure 3.1).

Summary – Wildlife Importance Groups. Active anglers had a higher proportion of the "very high" wildlife importance group compared to the non-anglers and inactive anglers (Table 3.7 and Figure 3.2). Non-anglers had a higher proportion of the "low " wildlife importance group compared to inactive anglers and especially active anglers.



Table 3.1. General attitudes related to wildlife diversity analyzed by fishing participation.

General Attitude	Fishing Participation		
	Non-Anglers	Inactive Anglers	Active Anglers
How important is it to <u>you</u> that South Dakota conserves/protects as much fish and wildlife as possible where appropriate?			
Mean¹	2.52	2.59	2.81
95% C.I.	2.43 – 2.62	2.53 – 2.66	2.75 – 2.87
ANOVA: F=12.57; df=2/711, <i>p</i> <0.001			
How important do <u>you</u> think healthy fish and wildlife populations are to the economy and well-being of <u>South Dakota residents</u> ?			
Mean¹	2.61	2.73	2.88
95% C.I.	2.51 – 2.71	2.67 – 2.78	2.83 – 2.93
ANOVA: F=12.70; df=2/717, <i>p</i> <0.001			
In general, how would <u>you</u> rate GFP's efforts to conserve and protect the diversity (variety) of fish and wildlife of South Dakota?			
Mean²	-0.12	-0.15	-0.35
95% C.I.	-0.23 – 0.00	-0.25 – -0.05	-0.48 – -0.22
ANOVA: F=3.97; df=2/586, <i>p</i> =0.019			

¹Scale: 0 = Not Important, 1 = Slightly Important, 2 = Moderately Important, 3 = Very Important

²Scale: -3 = Far Too Little, -2 = Moderately Too Little, -1 = Slightly Too Little, 0 = Just About the Right Amount, 1 = Slightly Too Much, 2 = Moderately Too Much, 3 = Far Too Much



Table 3.2. Fishing Participation – Which would be the most appropriate source of money to pay for projects in South Dakota to keep nongame fish and wildlife (those not fished or hunted) from becoming rare, endangered or extinct?

Source of Money for Nongame Projects	Fishing Participation		
	Non-Anglers	Inactive Anglers	Active Anglers
Money generated from hunting and fishing license sales.	61.9%	36.9%	31.2%
A portion of the state revenue presently being collected from taxes.	6.2%	27.4%	21.8%
A portion of the federal revenue presently being collected from taxes.	12.4%	9.2%	20.8%
Only money from voluntary contributions should be used.	7.1%	9.7%	14.4%
No Opinion.	7.1%	12.3%	6.9%
No money should be spent for nongame projects.	5.3%	2.1%	3.0%
Increasing state sales tax.	0.0%	2.3%	0.5%
Increasing federal taxes.	0.0%	0.0%	1.5%
Total	113	390	202
Chi-square: $X^2=75.06$; $df=14$; $p<0.001$			

Table 3.3. Attitudes related to prairie ecosystems analyzed by fishing participation.

Prairie Ecosystem Attitudes	Fishing Participation		
	Non-Anglers	Inactive Anglers	Active Anglers
Maintaining a healthy native prairie ecosystem in South Dakota is important to me.			
Mean¹	1.67	1.60	1.85
95% C.I.	1.48 – 1.86	1.48 – 1.73	1.70 – 2.01
ANOVA: $F=2.98$; $df=2/713$, $p=0.051$			
I support using some money from hunting license fees for projects designed to conserve and enhance native prairie ecosystems and their associated wildlife.			
Mean¹	1.89	1.59	1.60
95% C.I.	1.70 – 2.08	1.46 – 1.72	1.42 – 1.78
ANOVA: $F=2.72$; $df=2/714$, $p=0.067$			

Table continued on next page.

Table 3.3. – Continued. Attitudes related to prairie ecosystems analyzed by fishing participation.

Prairie Ecosystem Attitudes	Fishing Participation		
	Non-Anglers	Inactive Anglers	Active Anglers
I support efforts by private landowners to reintroduce swift fox to their land if the re-introduction is permitted by the state wildlife agency (GFP).			
Mean²	0.51	1.05	1.40
95% C.I.	0.20 – 0.83	0.89 – 1.21	1.20 – 1.60
ANOVA: F=11.86; df=2/718, <i>p</i> <0.001			
Prairie dogs are an important component of native prairie ecosystems and need some degree of protection.			
Mean¹	0.17	-0.09	0.10
95% C.I.	-0.16 – 0.49	-0.27 – 0.09	-0.15 – 0.34
ANOVA: F=1.24; df=2/720, <i>p</i> =0.291			
Publicly-owned native grasslands should be managed for game (fished or hunted) animals or forage production, NOT for rare native prairie wildlife species.			
Mean¹	-0.40	-0.34	-0.33
95% C.I.	-0.71 – -0.08	-0.50 – -0.17	-0.56 – -0.11
ANOVA: F=0.08; df=2/720, <i>p</i> =0.928			
State agencies should take steps to maintain/restore healthy populations of <u>all</u> native prairie wildlife species in South Dakota.			
Mean¹	1.41	1.05	1.24
95% C.I.	1.19 – 1.64	0.90 – 1.19	1.05 – 1.44
ANOVA: F=3.63; df=2/718, <i>p</i> =0.027			
Prairie dogs are a destructive agricultural pest that should be eliminated from South Dakota.			
Mean¹	-0.16	-0.45	-0.64
95% C.I.	-0.50 – 0.19	-0.62 – -0.27	-0.89 – -0.39
ANOVA: F=2.67; df=2/720, <i>p</i> =0.070			
Federal tax money should NOT be spent to save the black-footed ferret, a federally endangered species.			
Mean¹	-0.17	-0.60	-0.96
95% C.I.	-0.55 – 0.20	-0.78 – -0.43	-1.19 – -0.73
ANOVA: F=7.42; df=2/717, <i>p</i> =0.001			

¹Scale: -3 = Strongly Disagree, -2 = Moderately Disagree, -1 = Slightly Disagree, 0 = Neither, 1 = Slightly Agree, 2 = Moderately Agree, 3 = Strongly Agree

Table 3.4. Attitudes related to managing bats in South Dakota analyzed by fishing participation.

Attitudes Related to Managing Bats in South Dakota	Fishing Participation		
	Non-Anglers	Inactive Anglers	Active Anglers
Maintaining healthy populations and diversity of bat species in South Dakota is important to me.			
Mean¹	0.61	0.74	0.73
95% C.I.	0.32 – 0.90	0.58 – 0.91	0.51 – 0.96
ANOVA: F=0.33; df=2/716, p=0.719			
Bats pose an unacceptable health risk to people.			
Mean¹	-0.23	-0.79	-1.03
95% C.I.	-0.55 – 0.09	-0.95 – -0.63	-1.25 – -0.81
ANOVA: F=9.17; df=2/710, p<0.001			
Bats are important and should have some legal protection from harm.			
Mean¹	0.82	0.59	0.72
95% C.I.	0.53 – 1.11	0.43 – 0.74	0.50 – 0.94
ANOVA: F=1.21; df=2/712, p=0.300			
Bats should NOT be allowed to thrive in urban areas where they can come in contact with people.			
Mean¹	0.37	-0.26	-0.43
95% C.I.	0.02 – 0.72	-0.44 – -0.08	-0.67 – -0.19
ANOVA: F=7.82; df=2/715, p<0.001			
I support the South Dakota Bat Management Plan's goal of promoting long-term protection of bat species.			
Mean¹	0.84	0.85	0.90
95% C.I.	0.54 – 1.14	0.70 – 1.00	0.68 – 1.12
ANOVA: F=0.09; df=2/718, p=0.916			
I would enjoy having bats living and feeding near my house.			
Mean¹	-0.80	-0.15	0.12
95% C.I.	-1.18 – -0.43	-0.35 – 0.06	-0.15 – 0.39
ANOVA: F=7.87; df=2/717, p<0.001			

¹Scale: -3 = Strongly Disagree, -2 = Moderately Disagree, -1 = Slightly Disagree, 0 = Neither, 1 = Slightly Agree, 2 = Moderately Agree, 3 = Strongly Agree

Table 3.5. Attitudes related to Topeka shiner management in South Dakota analyzed by fishing participation.

Attitudes Related to Topeka Shiner Management in South Dakota	Fishing Participation		
	Non-Anglers	Inactive Anglers	Active Anglers
Maintaining a healthy prairie ecosystem that supports populations of Topeka shiners in South Dakota is important to me.			
Mean¹	0.77	0.89	1.09
95% C.I.	0.54 – 1.01	0.75 – 1.02	0.90 – 1.27
ANOVA: F=2.36; df=2/722, p=0.095			
Federal tax money should NOT be spent to save the Topeka shiner, an endangered species.			
Mean¹	-0.30	-0.51	-0.87
95% C.I.	-0.62 – 0.01	-0.67 – -0.35	-1.07 – -0.66
ANOVA: F=5.45; df=2/721, p=0.004			
Topeka shiners are an important component of native prairie ecosystems and need some degree of protection.			
Mean¹	0.78	0.95	1.07
95% C.I.	0.54 – 1.01	0.83 – 1.07	0.90 – 1.24
ANOVA: F=2.16; df=2/721, p=0.116			
It would be OK with me if the Topeka shiner went extinct because there are enough other species of shiners (small fish) to take their place.			
Mean¹	-1.09	-1.22	-1.43
95% C.I.	-1.34 – -0.83	-1.36 – -1.08	-1.62 – -1.24
ANOVA: F=2.52; df=2/721, p=0.081			
I support the South Dakota Topeka Shiner State management planning effort to manage Topeka shiners while minimizing the impact on landowners.			
Mean¹	0.95	1.04	1.24
95% C.I.	0.70 – 1.19	0.92 – 1.16	1.06 – 1.41
ANOVA: F=2.52; df=2/721, p=0.081			
I think it would be appropriate to pay incentives to landowners that help maintain habitat for Topeka shiners.			
Mean¹	0.29	0.44	0.67
95% C.I.	0.03 – 0.55	0.29 – 0.60	0.46 – 0.89
ANOVA: F=2.73; df=2/718, p=0.066			
I support federally-funded agricultural programs (for example, Farm bill programs) designed to improve water quality, which in turn benefits many wildlife species including Topeka shiners.			
Mean¹	1.30	1.44	1.61
95% C.I.	1.09 – 1.51	1.31 – 1.57	1.41 – 1.80
ANOVA: F=2.16; df=2/721, p=0.116			

¹Scale: -3 = Strongly Disagree, -2 = Moderately Disagree, -1 = Slightly Disagree, 0 = Neither, 1 = Slightly Agree, 2 = Moderately Agree, 3 = Strongly Agree

Table 3.6. Attitudes related to managing the Missouri River Ecosystem analyzed by fishing participation.

Attitudes Related to Managing the Missouri River Ecosystem	Fishing Participation		
	Non-Anglers	Inactive Anglers	Active Anglers
Agriculture & Industry			
Mean ¹	24.7	25.4	21.9
95% C.I.	22.3 – 27.2	24.3 – 26.5	20.7 – 23.2
ANOVA: F=6.93; df=2/692, p=0.001			
Home uses (drinking water and cleaning)			
Mean ¹	36.6	31.1	29.2
95% C.I.	33.6 – 39.5	29.9 – 32.4	27.5 – 30.8
ANOVA: F=11.63; df=2/692, p<0.001			
Recreation (boating, swimming, fishing, hunting, etc.)			
Mean ¹	18.4	20.8	25.1
95% C.I.	16.7 – 20.2	19.8 – 21.9	23.6 – 26.7
ANOVA: F=17.24; df=2/692, p<0.001			
Wildlife (game and non-game species)			
Mean ¹	20.3	22.6	23.8
95% C.I.	18.6 – 22.0	21.5 – 23.7	22.5 – 25.1
ANOVA: F=4.10; df=2/692, p=0.017			

¹Scale: Distribute 100 points among these 4 categories to show how much focus you feel each category should receive in management of the Missouri River.

Table 3.7. Summary – Wildlife importance groups analyzed by fishing participation.

Wildlife Importance Groups	Fishing Participation		
	Non-Anglers	Inactive Anglers	Active Anglers
Very High	20.4%	22.9%	30.8%
High	19.4%	19.9%	16.7%
Medium	16.7%	29.1%	33.3%
Low	38.9%	20.5%	13.6%
Very Low	4.6%	7.5%	5.6%
Total	108	371	198
Chi-square: X ² =34.65; df=8; p<0.001			

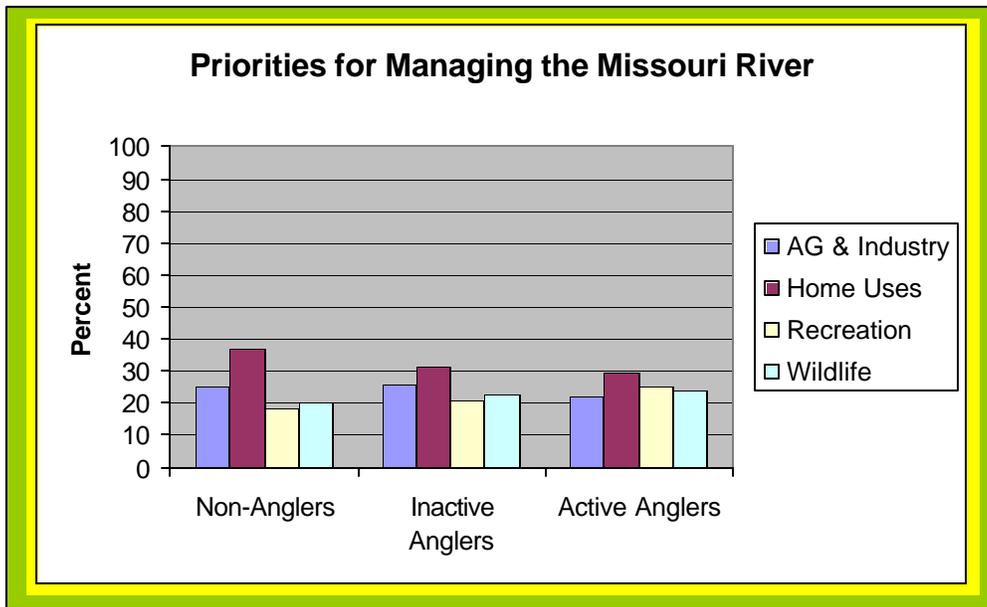


Figure 3.1. Attitudes related to managing the Missouri River Ecosystem analyzed by fishing participation (*data from Table 3.6*).

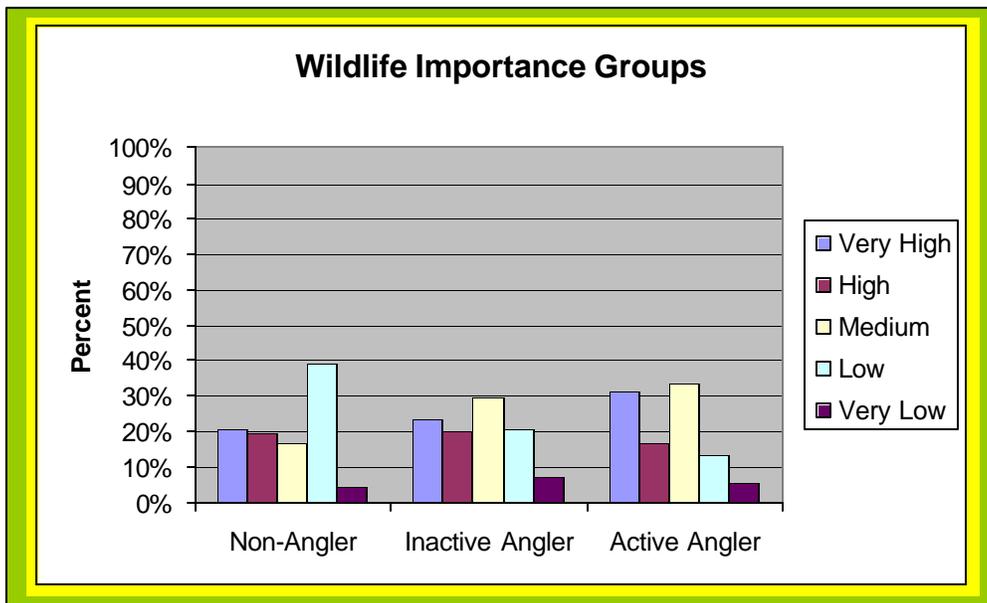


Figure 3.2. Wildlife importance groups analyzed by fishing participation (*data from Table 3.7*).

Section B: Hunters

General Attitudes. Non-hunters, inactive hunters and active hunters were statistically similar in their rating of the importance of conserving/ protecting as much fish and wildlife as possible where appropriate and their evaluation of GFP's efforts to conserve and protect South Dakota's diversity of fish and wildlife (Table 3.8). Active hunters rated the value of healthy fish and wildlife populations to the economy and well-being of South Dakota residents slightly higher than did non-hunters, with inactive hunters falling in-between non-hunters and active hunters.

Funding of Non-game Projects. Non-hunters had a higher preference for using money from hunting and fishing license sales to pay for nongame projects compared to hunters (inactive and active) (Table 3.9). Hunters (inactive and active) had a slightly higher preference for using a portion of the current state or federal taxes to pay for nongame projects compared to non-hunters.

Prairie Ecosystems. Non-hunters, inactive hunters and active hunters were statistically similar on three of the eight attitudes related to prairie ecosystems (Table 3.10). Non-hunters had slightly more support for using money from hunting license fees for projects to conserve and enhance native prairie ecosystems and their associated wildlife compared to hunters (inactive and active). Non-hunters had higher agreement than did hunters (inactive and active) that prairie dogs need some degree of protection, that publicly-owned grasslands should be managed for rare native prairie wildlife species, and that steps be taken to maintain/restore healthy populations of all native prairie wildlife species in South Dakota. Non-hunters had higher disagreement than did hunters (inactive and active) that prairie dogs are a destructive agricultural pest that should be eliminated from South Dakota.

Managing Bats in South Dakota. Non-hunters, inactive hunters and active hunters were statistically similar on three of the six attitudes related to managing bats in South Dakota (Table 3.11). Hunters (inactive and active) tended to be slightly more tolerant of living near bats however, non-hunters and inactive hunters were slightly more supportive of promoting long-term protection of bat species.

Topeka Shiner Management in South Dakota. Non-hunters, inactive hunters and active hunters were statistically similar on six of the seven attitudes related to Topeka shiner management in South Dakota (Table 3.12). The one significant difference was a minor difference between active hunters and inactive hunters – active hunters had slightly more support for federally-funded agricultural programs than did inactive hunters.

Managing the Missouri River. Non-hunters, inactive hunters and active hunters had significantly similar priority ratings for the categories of agriculture/industry and wildlife for managing the Missouri River (Table 3.13 and Figure 3.3). Active hunters had slightly lower ratings for home uses and significantly higher priority assigned to recreation compared to non-hunters and inactive hunters.

Summary – Wildlife Importance Groups. Non-hunters had higher proportions of the "very high" and "low" wildlife importance groups compared to hunters (inactive and active) while hunters (inactive and active) had higher proportions of "medium" and "very low" wildlife importance groups compared to non-hunters (Table 3.14 and Figure 3.4).



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Table 3.8. General attitudes related to wildlife diversity analyzed by hunting participation.

General Attitude	Hunting Participation		
	Non-Hunters	Inactive Hunters	Active Hunters
How important is it to <u>you</u> that South Dakota conserves/protects as much fish and wildlife as possible where appropriate?			
Mean ¹	2.60	2.65	2.73
95% C.I.	2.53 – 2.67	2.58 – 2.72	2.63 – 2.82
ANOVA: F=2.04; df=2/710, p=0.131			
How important do <u>you</u> think healthy fish and wildlife populations are to the economy and well-being of <u>South Dakota residents</u> ?			
Mean ¹	2.68	2.78	2.85
95% C.I.	2.62 – 2.75	2.73 – 2.83	2.77 – 2.92
ANOVA: F=5.80; df=2/716, p=0.003			
In general, how would <u>you</u> rate GFP's efforts to conserve and protect the diversity (variety) of fish and wildlife of South Dakota?			
Mean ²	-0.23	-0.19	-0.23
95% C.I.	-0.34 – -0.12	-0.31 – -0.08	-0.37 – -0.09
ANOVA: F=0.15; df=2/587, p=0.865			

¹Scale: 0 = Not Important, 1 = Slightly Important, 2 = Moderately Important, 3 = Very Important

²Scale: -3 = Far Too Little, -2 = Moderately Too Little, -1 = Slightly Too Little, 0 = Just About the Right Amount, 1 = Slightly Too Much, 2 = Moderately Too Much, 3 = Far Too Much

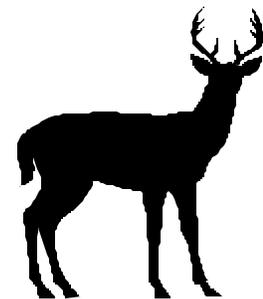


Table 3.9. Hunting Participation – Which would be the most appropriate source of money to pay for projects in South Dakota to keep nongame fish and wildlife (those not fished or hunted) from becoming rare, endangered or extinct?

Source of Money for Nongame Projects	Hunting Participation		
	Non-Hunters	Inactive Hunters	Active Hunters
Money generated from hunting and fishing license sales.	46.9%	36.7%	28.3%
A portion of the state revenue presently being collected from taxes.	17.5%	27.0%	23.6%
A portion of the federal revenue presently being collected from taxes.	13.4%	10.4%	18.1%
Only money from voluntary contributions should be used.	7.2%	11.1%	16.5%
No Opinion.	11.3%	9.3%	7.9%
No money should be spent for nongame projects.	2.1%	3.5%	3.1%
Increasing state sales tax.	1.4%	1.7%	1.6%
Increasing federal taxes.	0.3%	0.3%	0.8%
Total	292	289	127
Chi-square: $X^2=29.18$; $df=14$; $p=0.010$			

Table 3.10. Attitudes related to prairie ecosystems analyzed by hunting participation.

Prairie Ecosystem Attitudes	Hunting Participation		
	Non-Hunters	Inactive Hunters	Active Hunters
Maintaining a healthy native prairie ecosystem in South Dakota is important to me.			
Mean¹	1.74	1.61	1.74
95% C.I.	1.62 – 1.87	1.47 – 1.75	1.49 – 1.98
ANOVA: $F=1.07$; $df=2/712$, $p=0.343$			
I support using some money from hunting license fees for projects designed to conserve and enhance native prairie ecosystems and their associated wildlife.			
Mean¹	1.83	1.53	1.46
95% C.I.	1.70 – 1.96	1.38 – 1.67	1.20 – 1.72
ANOVA: $F=5.85$; $df=2/713$, $p=0.003$			

Table continued on next page.

Table 3.10. – Continued. Attitudes related to prairie ecosystems analyzed by hunting participation.

Prairie Ecosystem Attitudes	Hunting Participation		
	Non-Hunters	Inactive Hunters	Active Hunters
I support efforts by private landowners to reintroduce swift fox to their land if the re-introduction is permitted by the state wildlife agency (GFP).			
Mean²	1.05	1.01	1.21
95% C.I.	0.87 – 1.23	0.82 – 1.20	0.94 – 1.49
ANOVA: F=0.73; df=2/717, p=0.418			
Prairie dogs are an important component of native prairie ecosystems and need some degree of protection.			
Mean¹	0.41	-0.18	-0.50
95% C.I.	0.21 – 0.60	-0.39 – 0.03	-0.83 – -0.18
ANOVA: F=14.21; df=2/719, p<0.001			
Publicly-owned native grasslands should be managed for game (fished or hunted) animals or forage production, NOT for rare native prairie wildlife species.			
Mean¹	-0.78	-0.14	0.21
95% C.I.	-0.96 – -0.61	-0.33 – 0.06	-0.07 – 0.49
ANOVA: F=21.04; df=2/719, p<0.001			
State agencies should take steps to maintain/restore healthy populations of <u>all</u> native prairie wildlife species in South Dakota.			
Mean¹	1.39	1.03	0.91
95% C.I.	1.24 – 1.55	0.87 – 1.19	0.66 – 1.17
ANOVA: F=7.45; df=2/717, p=0.001			
Prairie dogs are a destructive agricultural pest that should be eliminated from South Dakota.			
Mean¹	-0.68	-0.36	-0.14
95% C.I.	-0.89 – -0.46	-0.56 – -0.15	-0.47 – 0.19
ANOVA: F=4.55; df=2/718, p=0.011			
Federal tax money should NOT be spent to save the black-footed ferret, a federally endangered species.			
Mean¹	-0.77	-0.52	-0.54
95% C.I.	-0.98 – -0.57	-0.73 – -0.31	-0.85 – -0.23
ANOVA: F=1.62; df=2/716, p=0.198			

¹Scale: -3 = Strongly Disagree, -2 = Moderately Disagree, -1 = Slightly Disagree, 0 = Neither, 1 = Slightly Agree, 2 = Moderately Agree, 3 = Strongly Agree

Table 3.11. Attitudes related to managing bats in South Dakota analyzed by hunting participation.

Attitudes Related to Managing Bats in South Dakota	Hunting Participation		
	Non-Hunters	Inactive Hunters	Active Hunters
Maintaining healthy populations and diversity of bat species in South Dakota is important to me.			
Mean¹	0.78	0.76	0.42
95% C.I.	0.58 – 0.97	0.58 – 0.95	0.14 – 0.70
ANOVA: F=2.39; df=2/715, p=0.092			
Bats pose an unacceptable health risk to people.			
Mean¹	-0.70	-0.75	-0.94
95% C.I.	-0.90 – -0.49	-0.93 – -0.57	-1.21 – -0.67
ANOVA: F=0.99; df=2/709, p=0.374			
Bats are important and should have some legal protection from harm.			
Mean¹	0.80	0.58	0.51
95% C.I.	0.61 – 0.98	0.40 – 0.76	0.25 – 0.77
ANOVA: F=2.07; df=2/711, p=0.128			
Bats should NOT be allowed to thrive in urban areas where they can come in contact with people.			
Mean¹	0.00	-0.33	-0.40
95% C.I.	-0.22 – 0.22	-0.53 – -0.13	-0.71 – -0.10
ANOVA: F=3.42; df=2/714, p=0.033			
I support the South Dakota Bat Management Plan's goal of promoting long-term protection of bat species.			
Mean¹	0.97	0.87	0.54
95% C.I.	0.78 – 1.15	0.70 – 1.04	0.26 – 0.82
ANOVA: F=3.44; df=2/717, p=0.033			
I would enjoy having bats living and feeding near my house.			
Mean¹	-0.45	-0.02	0.06
95% C.I.	-0.70 – -0.21	-0.25 – 0.21	-0.27 – 0.39
ANOVA: F=4.50; df=2/716, p=0.011			

¹Scale: -3 = Strongly Disagree, -2 = Moderately Disagree, -1 = Slightly Disagree, 0 = Neither, 1 = Slightly Agree, 2 = Moderately Agree, 3 = Strongly Agree

Table 3.12. Attitudes related to Topeka shiner management in South Dakota analyzed by hunting participation.

Attitudes Related to Topeka Shiner Management in South Dakota	Hunting Participation		
	Non-Hunters	Inactive Hunters	Active Hunters
Maintaining a healthy prairie ecosystem that supports populations of Topeka shiners in South Dakota is important to me.			
Mean¹	1.02	0.90	0.75
95% C.I.	0.87 – 1.17	0.74 – 1.06	0.50 – 1.00
ANOVA: F=1.77; df=2/721, p=0.171			
Federal tax money should NOT be spent to save the Topeka shiner, an endangered species.			
Mean¹	-0.71	-0.44	-0.54
95% C.I.	-0.89 – -0.53	-0.63 – -0.25	-0.81 – -0.27
ANOVA: F=2.11; df=2/720, p=0.122			
Topeka shiners are an important component of native prairie ecosystems and need some degree of protection.			
Mean¹	1.03	0.95	0.78
95% C.I.	0.88 – 1.17	0.81 – 1.09	0.55 – 1.01
ANOVA: F=1.74; df=2/720, p=0.177			
It would be OK with me if the Topeka shiner went extinct because there are enough other species of shiners (small fish) to take their place.			
Mean¹	-1.35	-1.22	-1.12
95% C.I.	-1.51 – -1.20	-1.38 – -1.06	-1.38 – -0.86
ANOVA: F=1.38; df=2/720, p=0.253			
I support the South Dakota Topeka Shiner State management planning effort to manage Topeka shiners while minimizing the impact on landowners.			
Mean¹	1.11	1.10	0.99
95% C.I.	0.96 – 1.25	0.96 – 1.24	0.75 – 1.23
ANOVA: F=0.40; df=2/720, p=0.670			
I think it would be appropriate to pay incentives to landowners that help maintain habitat for Topeka shiners.			
Mean¹	0.43	0.49	0.60
95% C.I.	0.26 – 0.60	0.31 – 0.67	0.33 – 0.87
ANOVA: F=0.59; df=2/716, p=0.556			
I support federally-funded agricultural programs (for example, Farm bill programs) designed to improve water quality, which in turn benefits many wildlife species including Topeka shiners.			
Mean¹	1.53	1.33	1.63
95% C.I.	1.39 – 1.68	1.17 – 1.48	1.40 – 1.86
ANOVA: F=3.06; df=2/720, p=0.048			

¹Scale: -3 = Strongly Disagree, -2 = Moderately Disagree, -1 = Slightly Disagree, 0 = Neither, 1 = Slightly Agree, 2 = Moderately Agree, 3 = Strongly Agree

Table 3.13. Attitudes related to managing the Missouri River Ecosystem analyzed by hunting participation.

Attitudes Related to Managing the Missouri River Ecosystem	Hunting Participation		
	Non-Hunters	Inactive Hunters	Active Hunters
Agriculture & Industry			
Mean ¹	24.4	25.0	22.4
95% C.I.	23.2 – 25.6	23.7 – 26.4	20.5 – 24.2
ANOVA: F=2.60; df=2/691, p=0.075			
Home uses (drinking water and cleaning)			
Mean ¹	32.6	31.4	28.7
95% C.I.	30.9 – 34.3	30.0 – 32.7	26.3 – 31.0
ANOVA: F=3.82; df=2/691, p=0.022			
Recreation (boating, swimming, fishing, hunting, etc.)			
Mean ¹	19.6	22.1	25.8
95% C.I.	18.4 – 20.8	20.9 – 23.4	23.7 – 28.0
ANOVA: F=15.25; df=2/691, p<0.001			
Wildlife (game and non-game species)			
Mean ¹	23.4	21.5	23.1
95% C.I.	22.1 – 24.7	20.4 – 22.6	21.4 – 24.9
ANOVA: F=2.67; df=2/691, p=0.070			

¹Scale: Distribute 100 points among these 4 categories to show how much focus you feel each category should receive in management of the Missouri River.

Table 3.14. Summary – Wildlife importance groups analyzed by hunting participation.

Wildlife Importance Groups	Hunting Participation		
	Non-Hunters	Inactive Hunters	Active Hunters
Very High	28.2%	22.1%	21.8%
High	18.7%	19.6%	18.5%
Medium	20.9%	34.5%	31.5%
Low	29.3%	15.7%	17.7%
Very Low	2.9%	8.2%	10.5%
Total	273	281	124
Chi-square: X ² =34.80; df=8; p<0.001			

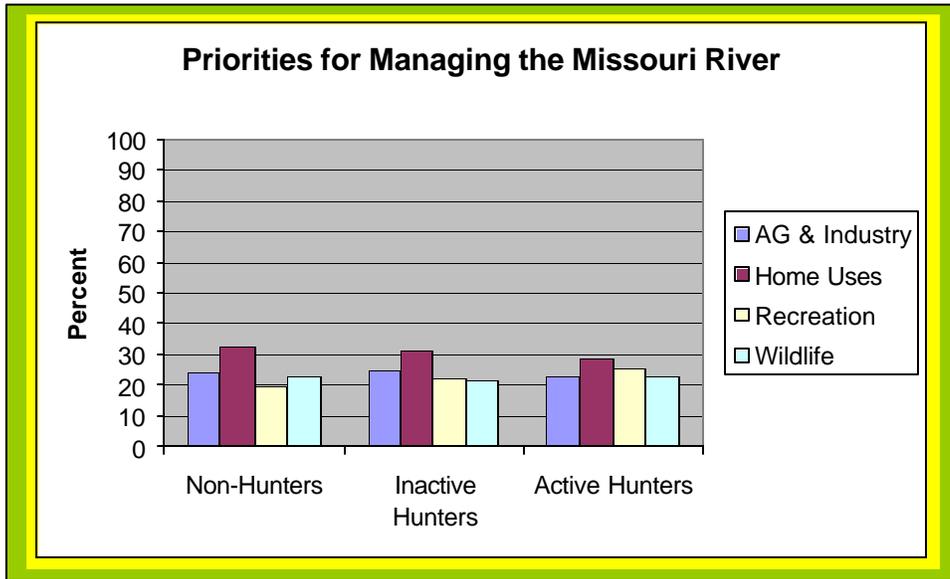


Figure 3.3. Attitudes related to managing the Missouri River Ecosystem analyzed by hunting participation (*data from Table 3.13*).

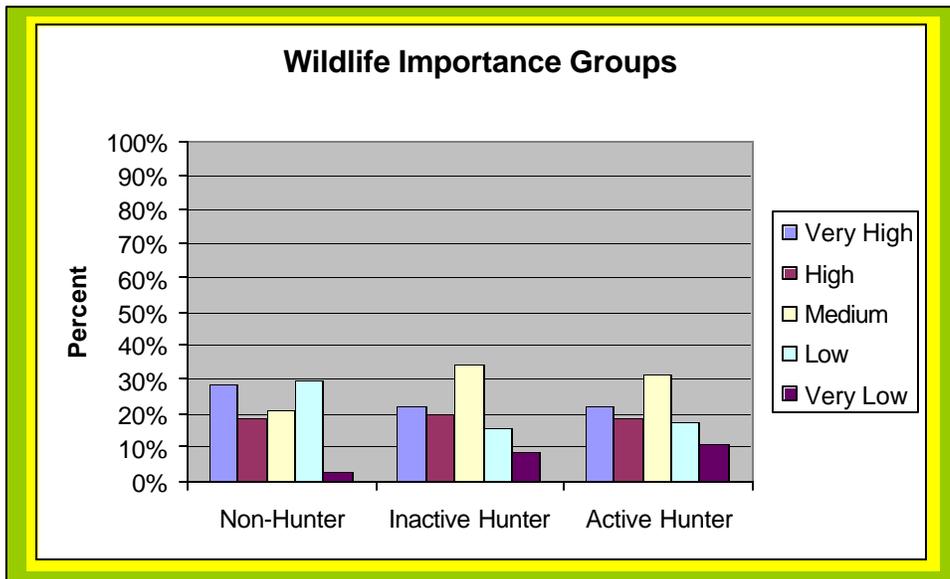


Figure 3.4. Wildlife importance groups analyzed by hunting participation (*data from Table 3.14*).

Section C: Wildlife Watchers

General Attitudes. Active wildlife viewers provided slightly higher importance ratings for conserving/protecting as much fish and wildlife as possible where appropriate and were slightly more negative in their evaluation of GFP's efforts to conserve and protect the diversity of fish and wildlife in South Dakota compared to non-viewers and inactive viewers (Table 3.15). Non-viewers, inactive viewers and active viewers were statistically similar in their evaluation of the importance of fish and wildlife populations to the economy and well-being of South Dakota residents.

Funding of Non-game Projects. Differences among the three categories of viewing participation were relatively small in their preference for sources of money for nongame projects (Table 3.16). Non-viewers and inactive viewers had slightly higher preference for using money from hunting and fishing license sales for nongame projects.

Prairie Ecosystems. Non-viewers, inactive viewers and active viewers were statistically similar on only one of the eight attitudes related to prairie ecosystems (Table 3.17). Wildlife watchers (inactive and active) had a stronger environmental attitude towards all the prairie ecosystem statements than did the non-viewers.

Managing Bats in South Dakota. There were statistical differences among the three categories of wildlife viewing participation (non-viewers, inactive viewers and active viewers) for all six of the statements related to managing bats in South Dakota (Table 3.18). Wildlife watchers (inactive and active) had more positive attitudes and support for managing bats in South Dakota than did the non-viewers.

Topeka Shiner Management in South Dakota. There were statistical differences among the three categories of wildlife viewing participation (non-viewers, inactive viewers and active viewers) for all seven of the statements related to Topeka shiner management in South Dakota (Table 3.19). Wildlife watchers (inactive and active) had more positive attitudes and support for Topeka shiner management in South Dakota than did the non-viewers.

Managing the Missouri River. Although statistically significant the overall differences among the three categories of wildlife viewing participation in priorities assigned to the four categories for managing the Missouri River were relatively small

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(Table 3.20 and Figure 3.5). Wildlife watchers (inactive and active) assigned slightly higher points to the category of "wildlife" compared to non-viewers.

Summary – Wildlife Importance Groups. Wildlife watchers (inactive and active) had a higher proportion of the "very high" wildlife importance group compared to the non-viewers (Table 3.21 and Figure 3.6). Non-viewers had higher proportions of the "low" and "very low" wildlife importance groups compared to wildlife watchers (inactive and active).

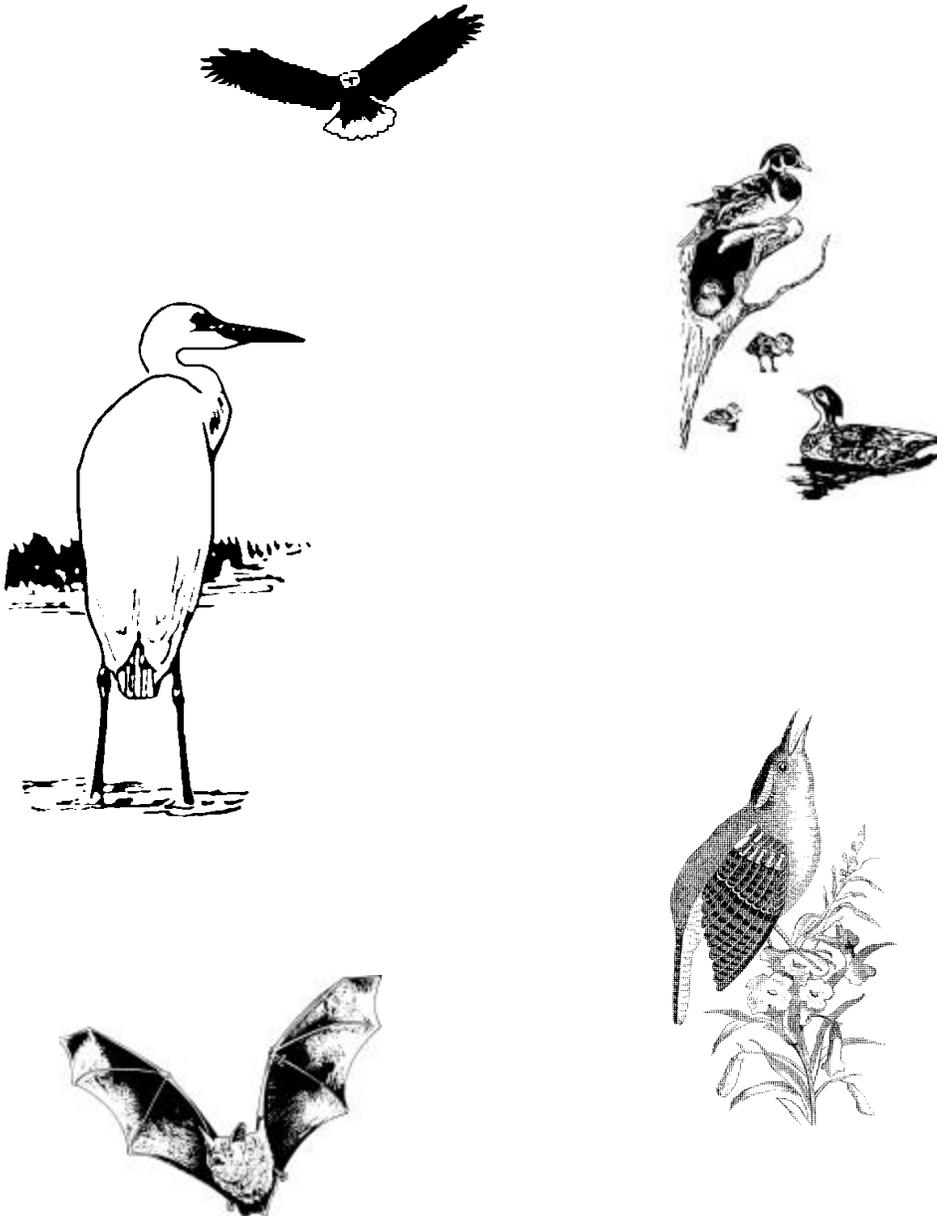


Table 3.15. General attitudes related to wildlife diversity analyzed by wildlife viewing participation.

General Attitude	Wildlife Viewing Participation		
	Non-Viewers	Inactive Viewers	Active Viewers
How important is it to <u>you</u> that South Dakota conserves/protects as much fish and wildlife as possible where appropriate?			
Mean¹	2.55	2.65	2.79
95% C.I.	2.48 – 2.62	2.56 – 2.73	2.73 – 2.85
ANOVA: F=10.73; df=2/711, <i>p</i> <0.001			
How important do <u>you</u> think healthy fish and wildlife populations are to the economy and well-being of <u>South Dakota residents</u> ?			
Mean¹	2.71	2.76	2.81
95% C.I.	2.65 – 2.77	2.70 – 2.83	2.74 – 2.88
ANOVA: F=2.34; df=2/717, <i>p</i> =0.097			
In general, how would <u>you</u> rate GFP's efforts to conserve and protect the diversity (variety) of fish and wildlife of South Dakota?			
Mean²	-0.14	-0.18	-0.35
95% C.I.	-0.25 – -0.03	-0.31 – -0.05	-0.47 – -0.23
ANOVA: F=3.51; df=2/586, <i>p</i> =0.030			

¹Scale: 0 = Not Important, 1 = Slightly Important, 2 = Moderately Important, 3 = Very Important

²Scale: -3 = Far Too Little, -2 = Moderately Too Little, -1 = Slightly Too Little, 0 = Just About the Right Amount, 1 = Slightly Too Much, 2 = Moderately Too Much, 3 = Far Too Much

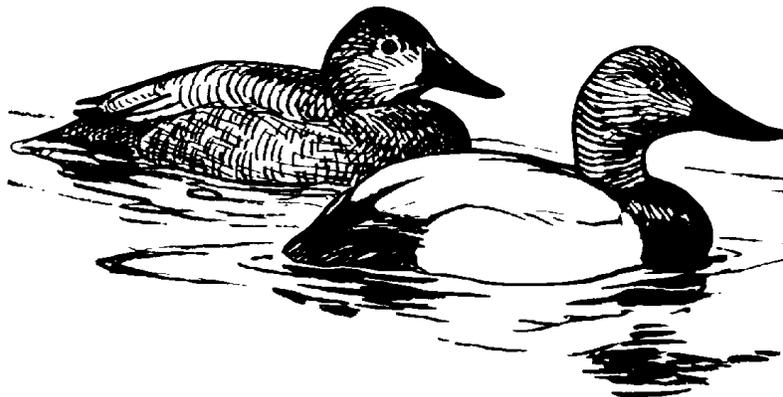


Table 3.16. Wildlife Viewing Participation – Which would be the most appropriate source of money to pay for projects in South Dakota to keep nongame fish and wildlife (those not fished or hunted) from becoming rare, endangered or extinct?

Source of Money for Nongame Projects	Wildlife Viewing Participation		
	Non-Viewers	Inactive Viewers	Active Viewers
Money generated from hunting and fishing license sales.	43.4%	41.7%	31.3%
A portion of the state revenue presently being collected from taxes.	22.3%	21.1%	23.2%
A portion of the federal revenue presently being collected from taxes.	10.0%	14.1%	16.7%
Only money from voluntary contributions should be used.	10.0%	10.1%	12.1%
No Opinion.	9.1%	7.5%	13.6%
No money should be spent for nongame projects.	4.2%	2.0%	1.5%
Increasing state sales tax.	1.0%	3.0%	0.5%
Increasing federal taxes.	0.0%	0.5%	1.0%
Total	309	199	198
Chi-square: $X^2=25.86$; $df=14$; $p=0.027$			

Table 3.17. Attitudes related to prairie ecosystems analyzed by wildlife viewing participation.

Prairie Ecosystem Attitudes	Wildlife Viewing Participation		
	Non-Viewers	Inactive Viewers	Active Viewers
Maintaining a healthy native prairie ecosystem in South Dakota is important to me.			
Mean¹	1.51	1.70	1.94
95% C.I.	1.38 – 1.65	1.54 – 1.87	1.77 – 2.10
ANOVA: $F=7.81$; $df=2/713$, $p<0.001$			
I support using some money from hunting license fees for projects designed to conserve and enhance native prairie ecosystems and their associated wildlife.			
Mean¹	1.48	1.75	1.78
95% C.I.	1.35 – 1.62	1.57 – 1.92	1.60 – 1.96
ANOVA: $F=4.48$; $df=2/714$, $p=0.012$			

Table continued on next page.

Table 3.17. – Continued. Attitudes related to prairie ecosystems analyzed by wildlife viewing participation.

Prairie Ecosystem Attitudes	Wildlife Viewing Participation		
	Non-Viewers	Inactive Viewers	Active Viewers
I support efforts by private landowners to reintroduce swift fox to their land if the re-introduction is permitted by the state wildlife agency (GFP).			
Mean²	0.77	1.35	1.24
95% C.I.	0.59 – 0.96	1.15 – 1.55	1.02 – 1.45
ANOVA: F=9.88; df=2/718, <i>p</i> <0.001			
Prairie dogs are an important component of native prairie ecosystems and need some degree of protection.			
Mean¹	-0.21	0.09	0.27
95% C.I.	-0.42 – -0.01	-0.16 – 0.35	0.03 – 0.51
ANOVA: F=4.63; df=2/720, <i>p</i> =0.010			
Publicly-owned native grasslands should be managed for game (fished or hunted) animals or forage production, NOT for rare native prairie wildlife species.			
Mean¹	-0.03	-0.53	-0.66
95% C.I.	-0.21 – 0.14	-0.76 – -0.30	-0.90 – -0.42
ANOVA: F=10.88; df=2/720, <i>p</i> <0.001			
State agencies should take steps to maintain/restore healthy populations of <u>all</u> native prairie wildlife species in South Dakota.			
Mean¹	1.09	1.13	1.31
95% C.I.	0.94 – 1.24	0.94 – 1.33	1.11 – 1.51
ANOVA: F=1.53; df=2/718, <i>p</i> =0.218			
Prairie dogs are a destructive agricultural pest that should be eliminated from South Dakota.			
Mean¹	-0.08	-0.69	-0.80
95% C.I.	-0.28 – 0.12	-0.95 – -0.44	-1.04 – -0.55
ANOVA: F=12.29; df=2/720, <i>p</i> <0.001			
Federal tax money should NOT be spent to save the black-footed ferret, a federally endangered species.			
Mean¹	-0.18	-1.03	-0.96
95% C.I.	-0.38 – 0.02	-1.27 – -0.78	-1.19 – -0.72
ANOVA: F=18.67; df=2/717, <i>p</i> <0.001			

¹Scale: -3 = Strongly Disagree, -2 = Moderately Disagree, -1 = Slightly Disagree, 0 = Neither, 1 = Slightly Agree, 2 = Moderately Agree, 3 = Strongly Agree

Table 3.18. Attitudes related to managing bats in South Dakota analyzed by wildlife viewing participation.

Attitudes Related to Managing Bats in South Dakota	Wildlife Viewing Participation		
	Non-Viewers	Inactive Viewers	Active Viewers
Maintaining healthy populations and diversity of bat species in South Dakota is important to me.			
Mean¹	0.45	1.00	0.84
95% C.I.	0.27 – 0.63	0.78 – 1.21	0.61 – 1.07
ANOVA: F=7.68; df=2/716, p=0.001			
Bats pose an unacceptable health risk to people.			
Mean¹	-0.44	-1.00	-1.03
95% C.I.	-0.63 – -0.26	-1.23 – -0.77	-1.25 – -0.82
ANOVA: F=10.98; df=2/710, p<0.001			
Bats are important and should have some legal protection from harm.			
Mean¹	0.38	0.82	0.94
95% C.I.	0.20 – 0.56	0.60 – 1.03	0.73 – 1.15
ANOVA: F=9.14; df=2/712, p<0.001			
Bats should NOT be allowed to thrive in urban areas where they can come in contact with people.			
Mean¹	0.00	-0.39	-0.34
95% C.I.	-0.20 – 0.21	-0.64 – -0.14	-0.59 – -0.10
ANOVA: F=3.74; df=2/715, p=0.024			
I support the South Dakota Bat Management Plan's goal of promoting long-term protection of bat species.			
Mean¹	0.59	1.06	1.07
95% C.I.	0.41 – 0.77	0.87 – 1.26	0.86 – 1.28
ANOVA: F=8.62; df=2/718, p<0.001			
I would enjoy having bats living and feeding near my house.			
Mean¹	-0.58	0.05	0.20
95% C.I.	-0.80 – -0.36	-0.24 – 0.34	-0.07 – 0.48
ANOVA: F=11.09; df=2/717, p<0.001			

¹Scale: -3 = Strongly Disagree, -2 = Moderately Disagree, -1 = Slightly Disagree, 0 = Neither, 1 = Slightly Agree, 2 = Moderately Agree, 3 = Strongly Agree

Table 3.19. Attitudes related to Topeka shiner management in South Dakota analyzed by wildlife viewing participation.

Attitudes Related to Topeka Shiner Management in South Dakota	Wildlife Viewing Participation		
	Non-Viewers	Inactive Viewers	Active Viewers
Maintaining a healthy prairie ecosystem that supports populations of Topeka shiners in South Dakota is important to me.			
Mean¹	0.72	1.07	1.08
95% C.I.	0.57 – 0.87	0.90 – 1.25	0.89 – 1.28
ANOVA: F=6.18; df=2/722, p=0.002			
Federal tax money should NOT be spent to save the Topeka shiner, an endangered species.			
Mean¹	-0.26	-0.86	-0.76
95% C.I.	-0.45 – -0.08	-1.07 – -0.65	-0.97 – -0.55
ANOVA: F=10.59; df=2/721, p<0.001			
Topeka shiners are an important component of native prairie ecosystems and need some degree of protection.			
Mean¹	0.76	1.12	1.11
95% C.I.	0.61 – 0.90	0.96 – 1.27	0.95 – 1.28
ANOVA: F=7.53; df=2/721, p=0.001			
It would be OK with me if the Topeka shiner went extinct because there are enough other species of shiners (small fish) to take their place.			
Mean¹	-0.97	-1.46	-1.50
95% C.I.	-1.14 – -0.81	-1.64 – -1.29	-1.69 – -1.31
ANOVA: F=11.86; df=2/721, p<0.001			
I support the South Dakota Topeka Shiner State management planning effort to manage Topeka shiners while minimizing the impact on landowners.			
Mean¹	0.92	1.25	1.17
95% C.I.	0.77 – 1.06	1.09 – 1.41	1.00 – 1.35
ANOVA: F=5.11; df=2/721, p=0.006			
I think it would be appropriate to pay incentives to landowners that help maintain habitat for Topeka shiners.			
Mean¹	0.20	0.56	0.84
95% C.I.	0.03 – 0.37	0.35 – 0.76	0.64 – 1.04
ANOVA: F=11.70; df=2/718, p<0.001			
I support federally-funded agricultural programs (for example, Farm bill programs) designed to improve water quality, which in turn benefits many wildlife species including Topeka shiners.			
Mean¹	1.29	1.64	1.58
95% C.I.	1.13 – 1.45	1.47 – 1.80	1.40 – 1.75
ANOVA: F=5.20; df=2/721, p=0.006			

¹Scale: -3 = Strongly Disagree, -2 = Moderately Disagree, -1 = Slightly Disagree, 0 = Neither, 1 = Slightly Agree, 2 = Moderately Agree, 3 = Strongly Agree

Table 3.20. Attitudes related to managing the Missouri River Ecosystem analyzed by wildlife viewing participation.

Attitudes Related to Managing the Missouri River Ecosystem	Wildlife Viewing Participation		
	Non-Viewers	Inactive Viewers	Active Viewers
Agriculture & Industry			
Mean ¹	25.6	23.5	22.9
95% C.I.	24.4 – 26.9	22.1 – 24.9	21.4 – 24.5
ANOVA: F=4.33; df=2/692, p=0.014			
Home uses (drinking water and cleaning)			
Mean ¹	32.4	32.2	28.9
95% C.I.	30.9 – 34.0	30.4 – 34.1	27.2 – 30.6
ANOVA: F=4.92; df=2/692, p=0.008			
Recreation (boating, swimming, fishing, hunting, etc.)			
Mean ¹	21.3	20.8	23.4
95% C.I.	20.0 – 22.5	19.4 – 22.2	21.9 – 24.9
ANOVA: F=3.38; df=2/692, p=0.035			
Wildlife (game and non-game species)			
Mean ¹	20.7	23.5	24.7
95% C.I.	19.5 – 21.8	22.0 – 25.0	23.4 – 26.1
ANOVA: F=10.48; df=2/692, p<0.001			

¹Scale: Distribute 100 points among these 4 categories to show how much focus you feel each category should receive in management of the Missouri River.

Table 3.21. Summary – Wildlife importance groups analyzed by wildlife viewing participation.

Wildlife Importance Groups	Wildlife Viewing Participation		
	Non-Viewers	Inactive Viewers	Active Viewers
Very High	18.2%	29.2%	30.4%
High	16.9%	22.7%	18.8%
Medium	26.2%	30.3%	30.4%
Low	28.1%	16.2%	15.7%
Very Low	10.6%	1.6%	4.7%
Total	302	185	191
Chi-square: $X^2=39.40$; df=8; p<0.001			

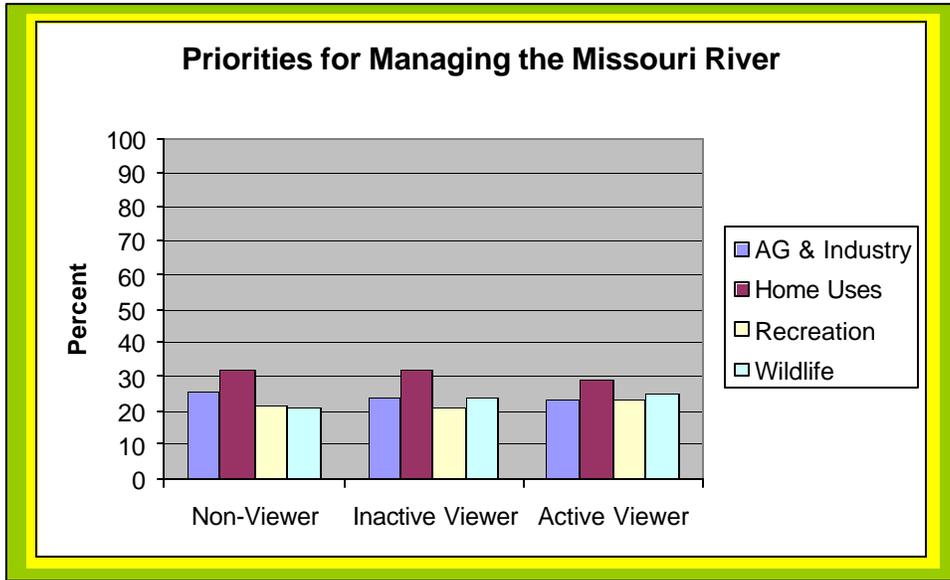


Figure 3.5. Attitudes related to managing the Missouri River Ecosystem analyzed by wildlife viewing participation (*data from Table 3.20*).

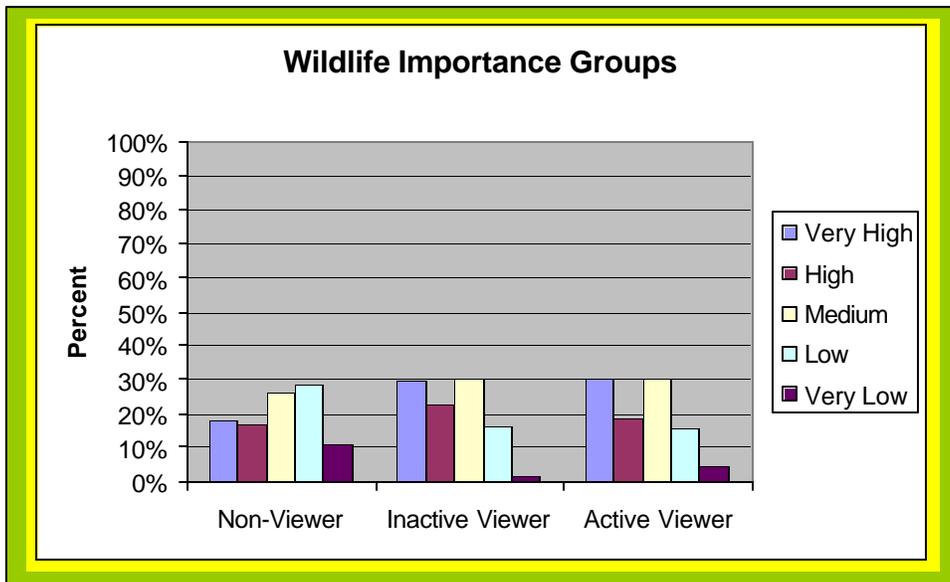


Figure 3.6. Wildlife importance groups analyzed by wildlife viewing participation (*data from Table 3.21*).

Section D: Wildlife Value Orientations

General Attitudes. Mutualists and pluralists provided slightly higher importance ratings than did utilitarians and much higher compared to people with the distanced value orientation (Table 3.22). The value orientations were relatively similar in their ratings of the importance of fish and wildlife populations to the economy and well-being of South Dakota residents. Mutualists gave the highest negative ratings of GFP's efforts to conserve and protect the diversity of fish and wildlife in South Dakota followed by distanced and pluralists with the utilitarians providing a nearly neutral evaluation of "just about the right amount" of effort.

Funding of Non-game Projects. Mutualists and pluralists had higher support for using money from hunting and fishing license sales for non-game projects compared to utilitarians and distanced (Table 3.23). Mutualists and utilitarians had lower support for using a proportion of the state taxes compared to distanced and pluralist value orientations. Utilitarians had higher support for using "only money from voluntary contributions" compared to the other value orientations.

Prairie Ecosystems. The four value orientations had significantly different responses for all eight attitude statements related to prairie ecosystems (Table 3.24). The mutualists consistently had higher support for managing native prairie ecosystems and their associated wildlife species compared to utilitarians while the pluralists were sometimes similar to the mutualists or more often with attitudes somewhere in the middle between mutualists and utilitarians.

Managing Bats in South Dakota. The four value orientations had significantly different responses for all six attitude statements related to managing bats in South Dakota (Table 3.25). The mutualists consistently had higher support for managing bats in South Dakota compared to utilitarians while the pluralist and distanced value orientations were often somewhere in the middle between mutualists and utilitarians.

Topeka Shiner Management in South Dakota. The four value orientations had significantly different responses for all seven attitude statements related to Topeka shiner management in South Dakota (Table 3.26). The mutualists consistently had more positive attitudes and support for Topeka shiner management in South Dakota compared

to utilitarians while the pluralists were sometimes similar to the mutualists or more often with attitudes somewhere in the middle between mutualists and utilitarians.

Managing the Missouri River. The four wildlife value orientations were statistically similar in their priority ratings for "home uses" for managing the Missouri River (Table 3.27 and Figure 3.7). However, mutualists gave lower ratings to "agriculture/industry" and "recreation" and much higher ratings to "wildlife" compared to the other value orientations.

Summary – Wildlife Importance Groups. The wildlife value orientations were strongly related to the wildlife importance groups (Table 3.28 and Figure 3.8). The mutualists had higher proportions of the "very high" and "high" wildlife importance groups compared to utilitarians and the utilitarians had higher proportions of the "medium," "low" and "very low" wildlife importance groups compared to mutualists. The pluralists and distanced value orientations were relatively similar.



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Table 3.22. General attitudes related to wildlife diversity analyzed by wildlife value orientations.

General Attitude	Wildlife Value Orientations			
	Pluralist	Utilitarian	Mutualist	Distanced
How important is it to <u>you</u> that South Dakota conserves/protects as much fish and wildlife as possible where appropriate?				
Mean¹	2.79	2.54	2.84	2.39
95% C.I.	2.73 – 2.86	2.47 – 2.60	2.77 – 2.91	2.15 – 2.63
ANOVA: F=16.57; df=2/724, <i>p</i> <0.001				
How important do <u>you</u> think healthy fish and wildlife populations are to the economy and well-being of South Dakota residents?				
Mean¹	2.84	2.73	2.71	2.64
95% C.I.	2.78 – 2.89	2.68 – 2.78	2.58 – 2.83	2.49 – 2.79
ANOVA: F=3.26; df=2/729, <i>p</i> =0.021				
In general, how would <u>you</u> rate GFP's efforts to conserve and protect the diversity (variety) of fish and wildlife of South Dakota?				
Mean²	-0.24	-0.04	-0.74	-0.35
95% C.I.	-0.36 – -0.12	-0.13 – 0.06	-0.93 – -0.55	-0.70 – -0.01
ANOVA: F=15.13; df=2/594, <i>p</i> <0.001				

¹Scale: 0 = Not Important, 1 = Slightly Important, 2 = Moderately Important, 3 = Very Important

²Scale: -3 = Far Too Little, -2 = Moderately Too Little, -1 = Slightly Too Little, 0 = Just About the Right Amount, 1 = Slightly Too Much, 2 = Moderately Too Much, 3 = Far Too Much



Table 3.23. Wildlife Value Orientations – Which would be the most appropriate source of money to pay for projects in South Dakota to keep nongame fish and wildlife (those not fished or hunted) from becoming rare, endangered or extinct?

Source of Money for Nongame Projects	Wildlife Value Orientations			
	Pluralist	Utilitarian	Mutualist	Distanced
Money generated from hunting and fishing license sales.	41.7%	36.5%	46.8%	37.2%
A portion of the state revenue presently being collected from taxes.	27.5%	19.9%	14.4%	34.9%
A portion of the federal revenue presently being collected from taxes.	10.3%	13.0%	16.2%	16.3%
Only money from voluntary contributions should be used.	8.3%	14.9%	2.7%	4.7%
No Opinion.	6.9%	9.7%	15.3%	7.0%
No money should be spent for nongame projects.	2.9%	4.4%	0.0%	0.0%
Increasing state sales tax.	1.0%	1.7%	3.6%	0.0%
Increasing federal taxes.	1.5%	0.0%	0.9%	0.0%
Total	204	362	111	43
Chi-square: $X^2=52.00$; $df=21$; $p<0.001$				

Table 3.24. Attitudes related to prairie ecosystems analyzed by wildlife value orientations.

Prairie Ecosystem Attitudes	Wildlife Value Orientations			
	Pluralist	Utilitarian	Mutualist	Distanced
Maintaining a healthy native prairie ecosystem in South Dakota is important to me.				
Mean¹	1.98	1.42	2.07	1.42
95% C.I.	1.82 – 2.13	1.30 – 1.55	1.86 – 2.27	1.03 – 1.81
ANOVA: $F=14.34$; $df=3/721$, $p<0.001$				
I support using some money from hunting license fees for projects designed to conserve and enhance native prairie ecosystems and their associated wildlife.				
Mean¹	1.84	1.32	2.23	1.83
95% C.I.	1.68 – 2.00	1.18 – 1.46	2.03 – 2.42	1.49 – 2.16
ANOVA: $F=18.60$; $df=3/723$, $p<0.001$				

Table continued on next page.

Table 3.24. – Continued. Attitudes related to prairie ecosystems analyzed by wildlife value orientations.

Prairie Ecosystem Attitudes	Wildlife Value Orientations			
	Pluralist	Utilitarian	Mutualist	Distanced
I support efforts by private landowners to reintroduce swift fox to their land if the re-introduction is permitted by the state wildlife agency (GFP).				
Mean²	1.14	0.71	1.86	1.08
95% C.I.	0.91 – 1.37	0.54 – 0.88	1.64 – 2.08	0.67 – 1.48
ANOVA: F=15.09; df=3/728, p<0.001				
Prairie dogs are an important component of native prairie ecosystems and need some degree of protection.				
Mean¹	0.05	-0.50	1.11	0.85
95% C.I.	-0.20 – 0.30	-0.67 – -0.32	0.81 – 1.41	0.34 – 1.36
ANOVA: F=28.48; df=3/730, p<0.001				
Publicly-owned native grasslands should be managed for game (fished or hunted) animals or forage production, NOT for rare native prairie wildlife species.				
Mean¹	-0.26	0.01	-1.42	-1.01
95% C.I.	-0.49 – -0.04	-0.16 – 0.17	-1.72 – -1.12	-1.44 – -0.59
ANOVA: F=25.59; df=3/729, p<0.001				
State agencies should take steps to maintain/restore healthy populations of <u>all</u> native prairie wildlife species in South Dakota.				
Mean¹	1.49	0.66	1.90	1.61
95% C.I.	1.32 – 1.66	0.51 – 0.80	1.66 – 2.14	1.26 – 1.95
ANOVA: F=33.85; df=3/727, p<0.001				
Prairie dogs are a destructive agricultural pest that should be eliminated from South Dakota.				
Mean¹	-0.52	-0.04	-1.45	-1.02
95% C.I.	-0.78 – -0.27	-0.22 – 0.14	-1.74 – -1.16	-1.55 – -0.49
ANOVA: F=20.22; df=3/729, p<0.001				
Federal tax money should NOT be spent to save the black-footed ferret, a federally endangered species.				
Mean¹	-0.76	-0.15	-1.53	-1.24
95% C.I.	-1.01 – -0.51	-0.34 – 0.04	-1.80 – -1.25	-1.76 – -0.72
ANOVA: F=20.89; df=3/726, p<0.001				

¹Scale: -3 = Strongly Disagree, -2 = Moderately Disagree, -1 = Slightly Disagree, 0 = Neither, 1 = Slightly Agree, 2 = Moderately Agree, 3 = Strongly Agree

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Table 3.25. Attitudes related to managing bats in South Dakota analyzed by wildlife value orientations.

Attitudes Related to Managing Bats in SD	Wildlife Value Orientations			
	Pluralist	Utilitarian	Mutualist	Distanced
Maintaining healthy populations and diversity of bat species in South Dakota is important to me.				
Mean¹	0.85	0.36	1.38	0.83
95% C.I.	0.63 – 1.07	0.19 – 0.52	1.08 – 1.68	0.28 – 1.38
ANOVA: F=12.45; df=3/725, p<0.001				
Bats pose an unacceptable health risk to people.				
Mean¹	-0.72	-0.63	-1.25	-0.88
95% C.I.	-0.96 – -0.49	-0.79 – -0.46	-1.56 – -0.94	-1.39 – -0.38
ANOVA: F=4.19; df=3/718, p=0.006				
Bats are important and should have some legal protection from harm.				
Mean¹	0.66	0.30	1.53	1.02
95% C.I.	0.43 – 0.87	0.14 – 0.46	1.27 – 1.79	0.57 – 1.47
ANOVA: F=18.77; df=3/721, p<0.001				
Bats should NOT be allowed to thrive in urban areas where they can come in contact with people.				
Mean¹	-0.10	-0.06	-0.78	-0.23
95% C.I.	-0.36 – 0.15	-0.24 – 0.12	-1.12 – -0.45	-0.78 – 0.32
ANOVA: F=4.75; df=3/725, p=0.003				
I support the South Dakota Bat Management Plan's goal of promoting long-term protection of bat species.				
Mean¹	0.90	0.49	1.66	1.20
95% C.I.	0.68 – 1.12	0.34 – 0.65	1.39 – 1.92	0.78 – 1.62
ANOVA: F=17.99; df=3/726, p<0.001				
I would enjoy having bats living and feeding near my house.				
Mean¹	-0.05	-0.52	0.55	-0.21
95% C.I.	-0.33 – 0.24	-0.73 – -0.32	0.16 – 0.94	-0.83 – 0.41
ANOVA: F=8.44; df=3/726, p<0.001				

¹Scale: -3 = Strongly Disagree, -2 = Moderately Disagree, -1 = Slightly Disagree, 0 = Neither, 1 = Slightly Agree, 2 = Moderately Agree, 3 = Strongly Agree

Wildlife Values and Beliefs of South Dakota Residents – 2004

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Table 3.26. Attitudes related to Topeka shiner management in South Dakota analyzed by wildlife value orientations.

Attitudes Related to Topeka Shiner Management in SD	Wildlife Value Orientations			
	Pluralist	Utilitarian	Mutualist	Distanced
Maintaining a healthy prairie ecosystem that supports populations of Topeka shiners in South Dakota is important to me.				
Mean¹	1.12	0.66	1.43	0.96
95% C.I.	0.93 – 1.31	0.53 – 0.79	1.16 – 1.71	0.53 – 1.39
ANOVA: F=11.53; df=3/722, <i>p</i> <0.001				
Federal tax money should NOT be spent to save the Topeka shiner, an endangered species.				
Mean¹	-0.71	-0.26	-1.08	-1.22
95% C.I.	-0.93 – -0.48	-0.43 – -0.11	-1.39 – 0.78	-1.68 – -0.76
ANOVA: F=11.18; df=3/720, <i>p</i> <0.001				
Topeka shiners are an important component of native prairie ecosystems and need some degree of protection.				
Mean¹	1.03	0.73	1.48	1.18
95% C.I.	0.85 – 1.20	0.61 – 0.85	1.24 – 1.72	0.80 – 1.57
ANOVA: F=11.84; df=3/720, <i>p</i> <0.001				
It would be OK with me if the Topeka shiner went extinct because there are enough other species of shiners (small fish) to take their place.				
Mean¹	-1.45	-0.90	-1.88	-1.69
95% C.I.	-1.64 – -1.25	-1.04 – -0.76	-2.14 – -1.62	-2.12 – -1.26
ANOVA: F=18.68; df=3/720, <i>p</i> <0.001				
I support the South Dakota Topeka Shiner State management planning effort to manage Topeka shiners while minimizing the impact on landowners.				
Mean¹	1.11	0.96	1.44	1.14
95% C.I.	0.92 – 1.30	0.84 – 1.08	1.19 – 1.69	0.80 – 1.48
ANOVA: F=4.12; df=3/720, <i>p</i> =0.006				
I think it would be appropriate to pay incentives to landowners that help maintain habitat for Topeka shiners.				
Mean¹	0.68	0.35	0.68	0.14
95% C.I.	0.46 – 0.90	0.20 – 0.50	0.38 – 0.97	-0.30 – 0.59
ANOVA: F=3.42; df=3/717, <i>p</i> =0.017				
I support federally-funded agricultural programs (for example, Farm bill programs) designed to improve water quality, which in turn benefits many wildlife species including Topeka shiners.				
Mean¹	1.57	1.36	1.75	1.26
95% C.I.	1.37 – 1.77	1.23 – 1.49	1.50 – 2.00	0.88 – 1.63
ANOVA: F=3.28; df=3/721, <i>p</i> =0.021				

¹Scale: -3 = Strongly Disagree, -2 = Moderately Disagree, -1 = Slightly Disagree, 0 = Neither, 1 = Slightly Agree, 2 = Moderately Agree, 3 = Strongly Agree

Table 3.27. Attitudes related to managing the Missouri River Ecosystem analyzed by wildlife value orientations.

Attitudes Related to Managing the Missouri River Ecosystem	Wildlife Value Orientations			
	Pluralist	Utilitarian	Mutualist	Distanced
Agriculture & Industry				
Mean ¹	24.7	24.9	21.0	26.2
95% C.I.	23.2 – 26.2	23.6 – 26.1	19.2 – 22.8	23.6 – 28.8
ANOVA: F=4.08; df=3/690, p=0.007				
Home uses (drinking water and cleaning)				
Mean ¹	30.2	32.5	29.7	31.2
95% C.I.	28.6 – 31.9	31.0 – 34.0	27.3 – 32.1	28.2 – 34.3
ANOVA: F=1.93; df=3/690, p=0.124				
Recreation (boating, swimming, fishing, hunting, etc.)				
Mean ¹	21.9	22.6	19.2	19.8
95% C.I.	20.5 – 23.3	21.4 – 23.9	17.2 – 21.2	17.2 – 22.4
ANOVA: F=3.28; df=3/690, p=0.021				
Wildlife (game and non-game species)				
Mean ¹	23.1	20.0	30.2	22.8
95% C.I.	21.7 – 24.6	19.1 – 21.0	28.2 – 32.1	19.8 – 25.8
ANOVA: F=29.54; df=3/690, p<0.001				

¹Scale: Distribute 100 points among these 4 categories to show how much focus you feel each category should receive in management of the Missouri River.

Table 3.28. Summary – Wildlife importance groups analyzed by wildlife value orientations.

Wildlife Importance Groups	Wildlife Value Orientations			
	Pluralist	Utilitarian	Mutualist	Distanced
Very High	33.2%	10.9%	48.5%	39.0%
High	21.1%	16.1%	24.3%	22.0%
Medium	23.2%	35.2%	19.4%	19.5%
Low	19.5%	27.0%	7.8%	19.5%
Very Low	3.2%	10.9%	0.0%	0.0%
Total	190	341	103	41
Chi-square: $X^2=111.59$; df=12; p<0.001				

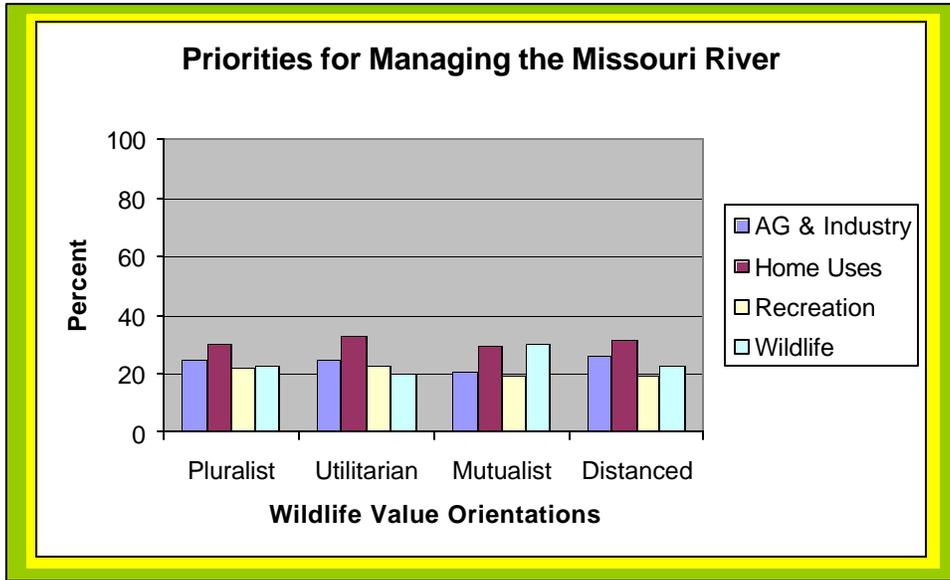


Figure 3.7. Attitudes related to managing the Missouri River Ecosystem analyzed by wildlife value orientations (*data from Table 3.27*).

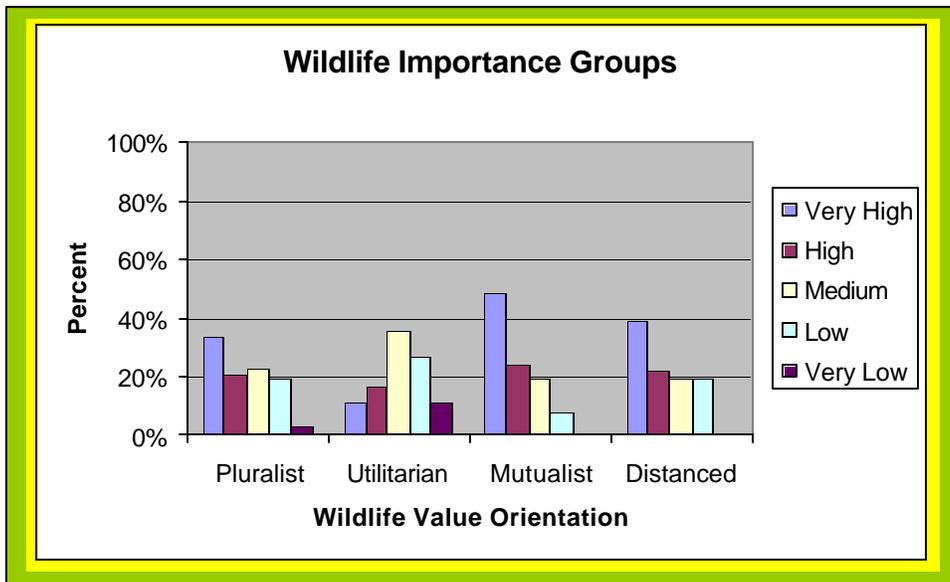


Figure 3.8. Wildlife importance groups analyzed by wildlife value orientations (*data from Table 3.28*).

Part 4 – Description of Fishing, Hunting and Wildlife Viewing Participants in South Dakota – Who are our customers?

Section A: Description of Fishing Participants (Non-Anglers, Inactive Anglers and Active Anglers)

Fishing Participation and Interest. About 29% of the adult population of South Dakota residents fished in the past year (survey conducted in the fall of 2004) and an additional 55% fished in the past, but not recently (Table 4.1). Only about 25% of the non-anglers had any interest in fishing in the future (most of which were only slightly interested), representing about 4% of the total adult population. About 63% of the inactive anglers were interested in fishing in the future and almost all (96%) of the active anglers were interested in fishing in the future. Overall, about 66% of the adult population in South Dakota have some level of interest in fishing in the future.

Describing the Angler. Fishing participation was strongly related to hunting and wildlife viewing participation (Table 4.2). About 43% of the active anglers were active hunters and 46% were active wildlife viewers. Active anglers were comprised of mainly utilitarians and pluralists while non-anglers had a higher proportion of mutualists compared to anglers (Table 4.3).

Active anglers had a high proportion of males (69%) compared to non-anglers who were largely females (74%) (Table 4.4). Active anglers were younger and lived fewer years in South Dakota (although this variable is mainly influenced by age) (Table 4.5). Active anglers were also more likely to have children at home compared to non-anglers and inactive anglers, although this variable is also most likely influenced by age (Table 4.6). Fishing participation was not significantly related to race although sample size of non-whites was too small for an accurate assessment of this relationship (Table 4.7).

Education level was not significantly related to fishing participation (Table 4.8). Active anglers had the highest income level and non-anglers the lowest income level (Table 4.9). Active anglers tended to live in a more rural setting compared to non-anglers and inactive anglers (Table 4.10). Although the overall relationship between fishing participation and size of residence where raised was significant the relationship is not clear (Table 4.11).



Fishing Participation and Interest:

Table 4.1. Fishing participation and interest in fishing in the future by adult, South Dakota residents.

Type of Fishing Participation		Number	Percent
Non-Angler – Never fished		119	16.2%
Inactive Angler – Fished in the past but not recently (past year)		405	55.1%
Active Angler – Fished recently (past 1 year)		211	28.7%
Total		735	100%
Interest in Fishing (scale score)	Type of Fishing Participation		
	Non-Angler	Inactive Angler	Active Angler
Not at all Interested (0)	75.2%	36.8%	4.3%
Slightly Interested (1)	17.9%	37.0%	15.2%
Moderately Interested (2)	6.8%	19.3%	22.7%
Strongly Interested (3)	0.0%	6.9%	57.8%
Total Number → (733)	117	405	211
Mean → (1.25)	0.32	0.96	2.33
95% C.I. → (1.17 – 1.34)	0.21 – 0.43	0.87 – 1.05	2.21 – 2.46

Table 4.2. Hunting and wildlife viewing participation analyzed by fishing participation.

Type of Hunting Participation	Type of Fishing Participation		
	Non-Angler	Inactive Angler	Active Angler
Non-Hunter	84.7%	35.5%	28.9%
Inactive Hunter	13.6%	55.1%	28.4%
Active Hunter	1.7%	9.4%	42.7%
Total Number	118	403	211
Chi-Square: $X^2=220.86$; $df=4$; $p<0.001$			
Type of Wildlife Viewing Participation	Type of Fishing Participation		
	Non-Angler	Inactive Angler	Active Angler
Non-Viewer	58.0%	48.3%	27.0%
Inactive Viewer	25.2%	29.2%	27.5%
Active Viewer	16.8%	22.5%	45.5%
Total Number	119	404	211
Chi-Square: $X^2=53.95$; $df=4$; $p<0.001$			



Describing the Angler:

Table 4.3. Fishing participation analyzed by wildlife value orientation.

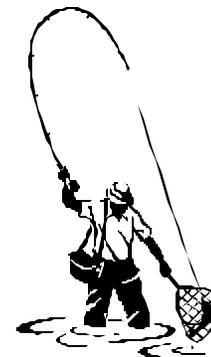
Wildlife Value Orientation	Type of Fishing Participation		
	Non-Angler	Inactive Angler	Active Angler
Pluralist	16.8%	29.0%	34.0%
Utilitarian	46.2%	48.5%	54.1%
Mutualist	29.4%	15.1%	8.1%
Distanced	7.6%	7.4%	3.8%
Total Number	119	404	209
Chi-Square: $X^2=34.53$; $df=6$; $p<0.001$			

Table 4.4. Fishing participation analyzed by gender.

Gender	Type of Fishing Participation		
	Non-Angler	Inactive Angler	Active Angler
Male	26.1%	45.4%	69.2%
Female	73.9%	54.6%	30.8%
Total Number	119	405	211
Chi-Square: $X^2=61.57$; $df=2$; $p<0.001$			

Table 4.5. Fishing participation analyzed by age & years of residence in South Dakota.

Type of Fishing Participation	Age	Years of Residence in SD
	Mean (95% C.I.)	Mean (95% C.I.)
Non-Angler	54.7 (51.0 – 58.4)	37.6 (32.7 – 42.5)
Inactive Angler	48.9 (47.2 – 50.6)	35.8 (33.5 – 38.0)
Active Angler	41.2 (39.2 – 43.2)	30.3 (27.7 – 32.9)
Average (95% C.I.)	47.6 (46.3 – 48.9)	34.5 (32.8 – 36.1)
ANOVA	F=25.83; $df=2/727$; $p<0.001$	F=5.49; $df=2/666$; $p=0.004$



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Table 4.6. Fishing participation analyzed by children (18 years old or less) living at home.

Children Living at Home	Type of Fishing Participation		
	Non-Angler	Inactive Angler	Active Angler
No Children at Home	64.7%	64.6%	47.4%
Children at Home	35.3%	35.4%	52.6%
Total Number	119	404	211
Chi-Square: $X^2=18.56$; $df=2$; $p<0.001$			

Table 4.7. Fishing participation analyzed by ethnicity.

Race	Type of Fishing Participation		
	Non-Angler	Inactive Angler	Active Angler
White	94.5%	97.9%	96.0%
Non-White	5.5%	2.1%	4.0%
Total Number	109	378	198
Chi-Square: $X^2=3.74$; $df=2$; $p=0.154$			

Table 4.7-A. Ethnicity - description of sample.

Ethnicity	Number	Percent
White	676	96.8%
American Indian	10	1.5%
Hispanic	6	0.8%
Other	4	0.6%
Asian	2	0.3%
Total	698	100%

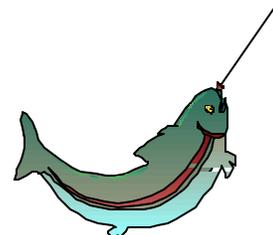


Table 4.8. Fishing participation analyzed by education level.

Highest Level of Education	Type of Fishing Participation		
	Non-Angler	Inactive Angler	Active Angler
Less than High School	5.0%	4.7%	3.8%
High School or GED	37.0%	32.5%	27.5%
2-Year Degree / Trade School	16.8%	20.8%	25.6%
4-Year College Degree	21.0%	26.6%	32.7%
College + (Advanced Degree)	20.2%	15.4%	10.4%
Total Number	119	403	211
Chi-Square: $X^2=14.79$; $df=8$; $p=0.063$			
Mean Education Level	3.14	3.15	3.19
95% Confidence Interval	2.91 – 3.37	3.03 – 3.26	3.04 – 3.33
ANOVA: $F=0.09$; $df=2/728$; $p=0.916$			

Table 4.9. Fishing participation analyzed by income level.

Highest Income Level (Level)	Type of Fishing Participation		
	Non-Angler	Inactive Angler	Active Angler
Less than \$10,000 (1)	7.0%	3.4%	2.1%
\$10,000 – \$29,999 (2)	34.0%	26.6%	13.5%
\$30,000 – \$49,999 (3)	25.0%	27.7%	27.6%
\$50,000 – \$69,999 (4)	19.0%	16.9%	26.6%
\$70,000 – \$89,999 (5)	12.0%	12.9%	14.6%
\$90,000 – \$109,999 (6)	2.0%	5.7%	7.3%
\$110,000 – \$149,999 (7 & 8)	0.0%	2.3%	3.6%
\$150,000 or more (9)	1.0%	4.6%	4.7%
Total Number	100	350	192
Chi-Square: $X^2=34.75$; $df=14$; $p=0.002$			
Mean Income Level	3.07	3.64	4.04
95% Confidence Interval	2.80 – 3.35	3.44 – 3.83	3.80 – 4.29
ANOVA: $F=10.41$; $df=2/638$; $p<0.001$			



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Table 4.10. Fishing participation analyzed by size of current residence.

Size of Current Residence (level)	Type of Fishing Participation		
	Non-Angler	Inactive Angler	Active Angler
Large City – 250,000 or more (1)	0.0%	2.1%	1.0%
City w/ 100,000 – 249,999 (2)	25.9%	18.4%	15.0%
City w/ 50,000 – 99,999 (3)	19.6%	19.3%	10.5%
Small City w/ 25,000 – 49,999 (4)	4.5%	6.7%	6.0%
Town w/ 10,000 – 24,999 (5)	13.4%	15.5%	21.0%
Town w/ 5,000 – 9,999 (6)	8.9%	5.9%	5.0%
Small town w/ less than 5,000 (7)	18.8%	16.3%	25.0%
Farm or Rural Area (8)	8.9%	15.8%	16.5%
Total Number	112	374	200
Chi-Square: $X^2=28.51$; $df=14$; $p=0.012$			
Mean Residence Level	4.52	4.77	5.30
95% Confidence Interval	4.12 – 4.92	4.54 – 4.99	5.00 – 5.59
ANOVA: $F=5.72$; $df=2/682$; $p=0.003$			

Table 4.11. Fishing participation analyzed by size of residence where raised.

Size of Residence Where Raised (level)	Type of Fishing Participation		
	Non-Angler	Inactive Angler	Active Angler
Large City – 250,000 or more (1)	10.0%	5.7%	9.2%
City w/ 100,000 – 249,999 (2)	12.7%	8.2%	9.2%
City w/ 50,000 – 99,999 (3)	11.8%	9.5%	6.1%
Small City w/ 25,000 – 49,999 (4)	4.5%	2.2%	5.1%
Town w/ 10,000 – 24,999 (5)	2.7%	7.6%	15.3%
Town w/ 5,000 – 9,999 (6)	4.5%	7.9%	9.2%
Small town w/ less than 5,000 (7)	20.0%	26.9%	26.0%
Farm or Rural Area (8)	33.6%	32.1%	19.9%
Total Number	110	368	196
Chi-Square: $X^2=37.24$; $df=14$; $p=0.001$			
Mean Residence Level	5.40	5.90	5.40
95% Confidence Interval	4.90 – 5.90	5.67 – 6.14	5.07 – 5.73
ANOVA: $F=3.76$; $df=2/671$; $p=0.024$			



Section B: Description of Hunting Participants (Non-Hunters, Inactive Hunters and Active Hunters)

Hunting Participation and Interest. About 18% of the adult population of South Dakota residents hunted in the past year (survey conducted in the fall of 2004) and an additional 41% hunted in the past, but not recently (Table 4.12). About 85% of the non-hunters, 44% of the inactive hunters and 2% of the active hunters did not have any interest in hunting in the future. Overall, about 47% of the adult population in South Dakota have some level of interest in hunting in the future.

Describing the Hunter. Hunting participation was strongly related to fishing and wildlife viewing participation (Table 4.13). About 69% of the active hunters were active anglers and 43% were active wildlife viewers. Active hunters were comprised of mainly utilitarians and pluralists while non-hunters had a high proportion of mutualists compared to hunters (Table 4.14).

Active hunters were mainly males (88%) while non-hunters were mainly females (77%) (Table 4.15). Active hunters were younger however, the non-hunters had the fewest mean number of years living in South Dakota¹ (Table 4.16). A higher percent of active hunters had children living at home compared to non-hunters and inactive hunters (Table 4.17). Non-hunters had a higher proportion of non-whites however, sample size of non-whites was too small for an accurate assessment of the relationship between hunting participation and race (Table 4.18).

Non-hunters had a higher proportion of people with advanced degrees compared to inactive and active hunters however, mean education level was not significantly related to hunting participation (Table 4.19). Active hunters had higher mean income levels compared to non-hunters with inactive hunters in between these two groups (Table 4.20). A higher proportion of active hunters lived in a rural area compared to non-hunters and inactive hunters (Table 4.21). Non-hunters were more likely to have been raised in a more urban environment compared to inactive and active hunters (Table 4.22).



¹ This suggests that a significant proportion of inactive hunters no longer hunt due to increasing age while a significant proportion of non-hunters are due to people moving into South Dakota (mainly into urban areas) having a lower level of interest in hunting.

Hunting Participation and Interest:

Table 4.12. Hunting participation and interest in hunting in the future by adult, South Dakota residents.

Type of Hunting Participation		Number	Percent
Non-Hunter – Never Hunted		305	41.5%
Inactive Hunter – Hunted in the past but not recently (past year)		300	40.8%
Active Hunter – Hunted recently (past 1 year)		130	17.7%
Total		734	100%
Interest in Hunting (scale score)	Type of Hunting Participation		
	Non-Hunter	Inactive Hunter	Active Hunter
Not at all Interested (0)	85.1%	43.5%	1.6%
Slightly Interested (1)	8.9%	29.4%	12.4%
Moderately Interested (2)	3.3%	19.7%	21.7%
Strongly Interested (3)	2.6%	7.4%	64.3%
Total Number → (731)	303	299	129
Mean → (0.91)	0.23	0.91	2.48
95% C.I. → (0.82 – 0.99)	0.16 – 0.31	0.80 – 1.02	2.35 – 2.62

Table 4.13. Fishing and wildlife viewing participation analyzed by hunting participation.

Type of Fishing Participation	Type of Hunting Participation		
	Non-Hunter	Inactive Hunter	Active Hunter
Non-Angler	32.9%	5.4%	1.5%
Inactive Angler	47.0%	74.5%	29.2%
Active Angler	20.1%	20.1%	69.2%
Total Number	304	298	130
Chi-Square: $X^2=220.86$; $df=4$; $p<0.001$			
Type of Wildlife Viewing Participation	Type of Hunting Participation		
	Non-Hunter	Inactive Hunter	Active Hunter
Non-Viewer	42.1%	49.7%	34.6%
Inactive Viewer	29.6%	29.0%	22.3%
Active Viewer	28.3%	21.3%	43.1%
Total Number	304	300	130
Chi-Square: $X^2=22.23$; $df=4$; $p<0.001$			



Describing the Hunter:

Table 4.14. Hunting participation analyzed by wildlife value orientation.

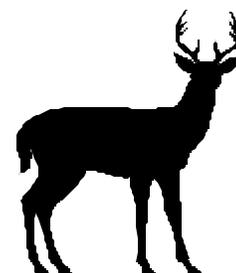
Wildlife Value Orientation	Type of Hunting Participation		
	Non-Hunter	Inactive Hunter	Active Hunter
Pluralist	22.4%	33.9%	31.0%
Utilitarian	40.5%	53.0%	64.3%
Mutualist	27.6%	7.7%	3.1%
Distanced	9.5%	5.4%	1.6%
Total Number	304	298	129
Chi-Square: $X^2=82.97$; $df=6$; $p<0.001$			

Table 4.15. Hunting participation analyzed by gender.

Gender	Type of Hunting Participation		
	Non-Hunter	Inactive Hunter	Active Hunter
Male	22.7%	59.3%	88.4%
Female	77.3%	40.7%	11.6%
Total Number	304	300	129
Chi-Square: $X^2=176.95$; $df=2$; $p<0.001$			

Table 4.16. Hunting participation analyzed by age & years of residence in South Dakota.

Type of Hunting Participation	Age	Years of Residence in SD
	Mean (95% C.I.)	Mean (95% C.I.)
Non-Hunter	47.0 (44.8 – 49.2)	30.9 (28.2 – 33.5)
Inactive Hunter	50.7 (48.8 – 52.6)	38.1 (35.5 – 40.8)
Active Hunter	41.8 (39.4 – 44.2)	33.8 (30.7 – 37.0)
Average (95% C.I.)	47.6 (46.3 – 48.9)	34.4 (32.8 – 36.1)
ANOVA	F=12.00; $df=2/726$; $p<0.001$	F=7.90; $df=2/664$; $p<0.001$



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Table 4.17. Hunting participation analyzed by children (18 years old or less) living at home.

Children Living at Home	Type of Hunting Participation		
	Non-Hunter	Inactive Hunter	Active Hunter
No Children at Home	60.7%	63.9%	47.3%
Children at Home	39.3%	36.1%	52.7%
Total Number	305	299	129
Chi-Square: $X^2=10.54$; $df=2$; $p=0.005$			

Table 4.18. Hunting participation analyzed by ethnicity.

Race	Type of Hunting Participation		
	Non-Hunter	Inactive Hunter	Active Hunter
White	94.6%	98.9%	98.4%
Non-White	5.4%	1.1%	1.6%
Total Number	279	281	122
Chi-Square: $X^2=10.00$; $df=2$; $p=0.007$			

Table 4.18-A. Ethnicity - description of sample.

Ethnicity	Number	Percent
White	676	96.8%
American Indian	10	1.5%
Hispanic	6	0.8%
Other	4	0.6%
Asian	2	0.3%
Total	698	100%



Table 4.19. Hunting participation analyzed by education level.

Highest Level of Education	Type of Hunting Participation		
	Non-Hunter	Inactive Hunter	Active Hunter
Less than High School	6.6%	3.0%	3.1%
High School or GED	30.8%	34.0%	30.5%
2-Year Degree / Trade School	19.5%	21.0%	26.6%
4-Year College Degree	23.2%	30.7%	29.7%
College + (Advanced Degree)	19.9%	11.3%	10.2%
Total Number	302	300	128
Chi-Square: $X^2=20.75$; $df=8$; $p=0.008$			
Mean Education Level	3.19	3.13	3.13
95% Confidence Interval	3.05 – 3.33	3.01 – 3.26	2.95 – 3.32
ANOVA: $F=0.21$; $df=2/727$; $p=0.814$			

Table 4.20. Hunting participation analyzed by income level.

Highest Income Level (Level)	Type of Hunting Participation		
	Non-Hunter	Inactive Hunter	Active Hunter
Less than \$10,000 (1)	5.0%	3.4%	1.7%
\$10,000 – \$29,999 (2)	30.5%	23.2%	11.0%
\$30,000 – \$49,999 (3)	24.7%	29.3%	26.3%
\$50,000 – \$69,999 (4)	22.0%	13.3%	30.5%
\$70,000 – \$89,999 (5)	7.3%	16.7%	18.6%
\$90,000 – \$109,999 (6)	4.2%	8.0%	3.4%
\$110,000 – \$149,999 (7 & 8)	2.7%	1.5%	4.2%
\$150,000 or more (9)	3.5%	4.6%	4.2%
Total Number	259	263	118
Chi-Square: $X^2=48.64$; $df=14$; $p<0.001$			
Mean Income Level	3.41	3.75	4.09
95% Confidence Interval	3.19 – 3.62	3.53 – 3.97	3.79 – 4.39
ANOVA: $F=6.55$; $df=2/636$; $p=0.002$			



Table 4.21. Hunting participation analyzed by size of current residence.

Size of Current Residence (level)	Type of Hunting Participation		
	Non-Hunter	Inactive Hunter	Active Hunter
Large City – 250,000 or more (1)	0.0%	2.5%	2.4%
City w/ 100,000 – 249,999 (2)	19.7%	21.0%	10.5%
City w/ 50,000 – 99,999 (3)	19.0%	17.8%	9.7%
Small City w/ 25,000 – 49,999 (4)	5.0%	6.4%	7.3%
Town w/ 10,000 – 24,999 (5)	14.7%	14.9%	25.8%
Town w/ 5,000 – 9,999 (6)	7.5%	5.7%	4.0%
Small town w/ less than 5,000 (7)	22.9%	17.8%	15.3%
Farm or Rural Area (8)	11.1%	13.9%	25.0%
Total Number	279	281	124
Chi-Square: $X^2=41.76$; $df=14$; $p<0.001$			
Mean Residence Level	4.85	4.68	5.44
95% Confidence Interval	4.60 – 5.11	4.41 – 4.94	5.06 – 5.82
ANOVA: $F=5.35$; $df=2/680$; $p=0.005$			

Table 4.22. Hunting participation analyzed by size of residence where raised.

Size of Residence Where Raised (level)	Type of Hunting Participation		
	Non-Hunter	Inactive Hunter	Active Hunter
Large City – 250,000 or more (1)	11.4%	6.1%	1.6%
City w/ 100,000 – 249,999 (2)	13.2%	6.1%	8.2%
City w/ 50,000 – 99,999 (3)	9.5%	9.6%	5.7%
Small City w/ 25,000 – 49,999 (4)	1.8%	3.6%	7.4%
Town w/ 10,000 – 24,999 (5)	5.1%	9.3%	18.0%
Town w/ 5,000 – 9,999 (6)	9.5%	6.1%	5.7%
Small town w/ less than 5,000 (7)	23.4%	27.9%	24.6%
Farm or Rural Area (8)	26.0%	31.4%	28.7%
Total Number	273	280	122
Chi-Square: $X^2=49.16$; $df=14$; $p<0.001$			
Mean Residence Level	5.29	5.92	5.93
95% Confidence Interval	4.98 – 5.60	5.66 – 6.19	5.57 – 6.29
ANOVA: $F=5.84$; $df=2/669$; $p=0.003$			



Section C: Description of Wildlife Viewing Participants (Non-Viewers, Inactive Viewers and Active Viewers)

Wildlife Viewing Participation and Interest. About 28% of the adult South Dakota residents reported taking a recreational trip in the past year for the primary purpose of wildlife viewing and another 28% reported taking a trip for wildlife viewing in the past, but not in the recent year (Table 4.23). About 57% of the non-viewers reported having some interest in wildlife viewing in the future, representing about 25% of the adult population. Most of the inactive (89%) and active wildlife viewers (99%) had some level of interest in wildlife viewing in the future. Overall, about 78% of the adult population have some level of interest in wildlife viewing in the future.

Describing the Wildlife Viewer. Wildlife viewing was significantly related to fishing and hunting participation (Table 4.24). About 46% of the active wildlife viewers were active anglers and 27% were active hunters. Active and inactive wildlife viewers had higher proportions of mutualists compared to non-viewers, which had a high proportion of utilitarians (Table 4.25).

Gender was not significantly related to wildlife viewing participation (Table 4.26). Active viewers were younger and lived fewer years in South Dakota (Table 4.27). Although not significant at the 0.05 alpha level, active viewers tended to have a higher proportion of children living at home, although this is most likely related to the age variable (Table 4.28). Wildlife viewing participation was not significantly related to race although sample size of non-whites was too small for an accurate assessment of this relationship (Table 4.29).

Education level was only slightly related to wildlife viewing participation, however the relationship was not meaningful since mean education level was not significantly related to wildlife viewing (Table 4.30). Income level was not significantly related to wildlife viewing (Table 4.31). Wildlife viewing was only slightly related to size of current residence however, non-viewers were more likely to have been raised in a rural environment compared to inactive and active viewers (Tables 4.32 and 4.33).



Wildlife Viewing Participation and Interest:

Table 4.23. Wildlife viewing participation and interest in wildlife viewing in the future by adult, South Dakota residents.

Type of Viewing Participation		Number	Percent
Non-Viewer – Never viewed wildlife		321	43.7%
Inactive Viewer – Viewed in the past but not recently (past year)		207	28.1%
Active Viewer – Viewed wildlife recently (past 1 year)		207	28.2%
Total		735	100%
Interest in Viewing (scale score)	Type of Viewing Participation		
	Non-Viewer	Inactive Viewer	Active Viewer
Not at all Interested (0)	43.4%	11.1%	0.5%
Slightly Interested (1)	34.4%	30.4%	15.0%
Moderately Interested (2)	17.2%	33.8%	30.4%
Strongly Interested (3)	5.0%	24.6%	54.1%
Total Number → (734)	320	207	207
Mean → (1.53)	0.84	1.72	2.38
95% C.I. → (1.45 – 1.60)	0.74 – 0.93	1.59 – 1.86	2.28 – 2.49

Table 4.24. Fishing and hunting participation analyzed by wildlife viewing participation.

Type of Fishing Participation	Type of Viewing Participation		
	Non-Viewer	Inactive Viewer	Active Viewer
Non-Angler	21.5%	14.6%	9.7%
Inactive Angler	60.7%	57.3%	44.0%
Active Angler	17.8%	28.2%	46.4%
Total Number	321	206	207
Chi-Square: $X^2=53.95$; $df=4$; $p<0.001$			
Type of Hunting Participation	Type of Viewing Participation		
	Non-Viewer	Inactive Viewer	Active Viewer
Non-Hunter	39.8%	43.7%	41.7%
Inactive Hunter	46.3%	42.2%	31.1%
Active Hunter	14.0%	14.1%	27.2%
Total Number	322	206	206
Chi-Square: $X^2=22.23$; $df=4$; $p<0.001$			



Describing the Wildlife Viewer:

Table 4.25. Viewing participation analyzed by wildlife value orientation.

Wildlife Value Orientation	Type of Viewing Participation		
	Non-Viewer	Inactive Viewer	Active Viewer
Pluralist	24.6%	27.8%	35.0%
Utilitarian	61.1%	45.4%	36.4%
Mutualist	7.8%	19.5%	23.3%
Distanced	6.5%	7.3%	5.3%
Total Number	321	205	206
Chi-Square: $X^2=44.44$; $df=6$; $p<0.001$			

Table 4.26. Viewing participation analyzed by gender.

Gender	Type of Viewing Participation		
	Non-Viewer	Inactive Viewer	Active Viewer
Male	53.0%	44.9%	46.9%
Female	47.0%	55.1%	53.1%
Total Number	321	207	207
Chi-Square: $X^2=3.77$; $df=2$; $p=0.152$			

Table 4.27. Viewing participation analyzed by age & years of residence in South Dakota.

Type of Wildlife Viewing Participation	Age	Years of Residence in SD
	Mean (95% C.I.)	Mean (95% C.I.)
Non-Viewer	51.6 (49.5 – 53.7)	38.3 (35.6 – 41.0)
Inactive Viewer	47.1 (44.7 – 49.6)	33.0 (30.0 – 36.0)
Active Viewer	42.0 (40.1 – 43.9)	30.0 (27.4 – 32.6)
Average (95% C.I.)	47.6 (46.3 – 48.9)	34.5 (32.8 – 36.1)
ANOVA	F=19.21; $df=2/727$; $p<0.001$	F=9.19; $df=2/666$; $p<0.001$



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Table 4.28. Viewing participation analyzed by children (18 years old or less) living at home.

Children Living at Home	Type of Viewing Participation		
	Non-Viewer	Inactive Viewer	Active Viewer
No Children at Home	63.9%	59.5%	53.6%
Children at Home	36.1%	40.5%	46.4%
Total Number	321	205	207
Chi-Square: $X^2=5.49$; $df=2$; $p=0.064$			

Table 4.29. Viewing participation analyzed by ethnicity.

Race	Type of Viewing Participation		
	Non-Viewer	Inactive Viewer	Active Viewer
White	96.4%	96.9%	98.4%
Non-White	3.6%	3.1%	1.6%
Total Number	302	194	189
Chi-Square: $X^2=1.76$; $df=2$; $p=0.415$			

Table 4.29-A. Ethnicity - description of sample.

Ethnicity	Number	Percent
White	676	96.8%
American Indian	10	1.5%
Hispanic	6	0.8%
Other	4	0.6%
Asian	2	0.3%
Total	698	100%



Table 4.30. Viewing participation analyzed by education level.

Highest Level of Education	Type of Viewing Participation		
	Non-Viewer	Inactive Viewer	Active Viewer
Less than High School	6.3%	3.4%	2.9%
High School or GED	33.4%	35.1%	27.1%
2-Year Degree / Trade School	19.7%	17.6%	28.0%
4-Year College Degree	27.2%	25.4%	29.5%
College + (Advanced Degree)	13.4%	18.5%	12.6%
Total Number	320	205	207
Chi-Square: $X^2=16.06$; $df=8$; $p=0.042$			
Mean Education Level	3.08	3.20	3.22
95% Confidence Interval	2.95 – 3.21	3.04 – 3.37	3.07 – 3.36
ANOVA: $F=1.07$; $df=2/728$; $p=0.348$			

Table 4.31. Viewing participation analyzed by income level.

Highest Income Level (Level)	Type of Viewing Participation		
	Non-Viewer	Inactive Viewer	Active Viewer
Less than \$10,000 (1)	3.3%	3.7%	4.4%
\$10,000 – \$29,999 (2)	25.1%	27.3%	18.3%
\$30,000 – \$49,999 (3)	27.6%	26.2%	26.7%
\$50,000 – \$69,999 (4)	17.8%	17.1%	26.1%
\$70,000 – \$89,999 (5)	12.4%	17.1%	10.6%
\$90,000 – \$109,999 (6)	5.5%	4.8%	7.2%
\$110,000 – \$149,999 (7 & 8)	2.2%	1.1%	3.9%
\$150,000 or more (9)	6.2%	2.7%	2.8%
Total Number	275	187	180
Chi-Square: $X^2=20.60$; $df=14$; $p=0.112$			
Mean Income Level	3.73	3.49	3.75
95% Confidence Interval	3.50 – 3.96	3.27 – 3.72	3.50 – 4.00
ANOVA: $F=1.28$; $df=2/638$; $p=0.278$			



Table 4.32. Viewing participation analyzed by size of current residence.

Size of Current Residence (level)	Type of Viewing Participation		
	Non-Viewer	Inactive Viewer	Active Viewer
Large City – 250,000 or more (1)	0.7%	3.0%	0.5%
City w/ 100,000 – 249,999 (2)	19.1%	21.2%	14.8%
City w/ 50,000 – 99,999 (3)	15.1%	14.6%	21.2%
Small City w/ 25,000 – 49,999 (4)	5.0%	4.5%	9.0%
Town w/ 10,000 – 24,999 (5)	17.1%	16.2%	17.5%
Town w/ 5,000 – 9,999 (6)	5.4%	7.6%	6.3%
Small town w/ less than 5,000 (7)	17.8%	21.2%	20.6%
Farm or Rural Area (8)	19.8%	11.6%	10.1%
Total Number	298	198	189
Chi-Square: $X^2=26.91$; $df=14$; $p=0.020$			
Mean Residence Level	5.05	4.74	4.78
95% Confidence Interval	4.80 – 5.31	4.43 – 5.05	4.49 – 5.08
ANOVA: $F=1.50$; $df=2/682$; $p=0.223$			

Table 4.33. Viewing participation analyzed by size of residence where raised.

Size of Residence Where Raised (level)	Type of Viewing Participation		
	Non-Viewer	Inactive Viewer	Active Viewer
Large City – 250,000 or more (1)	4.0%	8.6%	11.7%
City w/ 100,000 – 249,999 (2)	9.3%	10.7%	8.0%
City w/ 50,000 – 99,999 (3)	7.3%	13.4%	6.9%
Small City w/ 25,000 – 49,999 (4)	3.3%	2.7%	4.3%
Town w/ 10,000 – 24,999 (5)	8.7%	7.0%	11.7%
Town w/ 5,000 – 9,999 (6)	5.0%	13.4%	5.9%
Small town w/ less than 5,000 (7)	28.0%	23.0%	24.5%
Farm or Rural Area (8)	34.3%	21.4%	27.1%
Total Number	300	187	188
Chi-Square: $X^2=39.34$; $df=14$; $p<0.001$			
Mean Residence Level	6.03	5.30	5.48
95% Confidence Interval	5.77 – 6.29	4.95 – 5.65	5.13 – 5.84
ANOVA: $F=6.38$; $df=2/671$; $p=0.002$			



Summary:

Overall, fishing and hunting participation were related to most of the demographic variables measured in this survey while wildlife viewing had fewer significant relationships (Table 4.34). Overall, about 51% of the adult population in South Dakota did not participate in fishing, hunting or taking a recreational trip with wildlife viewing as the primary reason in the past year (Table 4.35). Only about 7% participated in all three activities in the past year. Interest in participating in these three activities in the future was significantly correlated (Table 4.36). Interest in participating in fishing and hunting and fishing and wildlife viewing were strongly correlated.

Size of current residence and size of residence where raised can have an influence on wildlife related attitudes and behaviors (i.e., the urban-rural influence). The change in residential status can also be part of that influence. About 38% of the adult South Dakota residents are currently living in the same residential status as where they were raised, however many (42%) currently live in a more urban residence than where raised (Table 4.37). The degree of change may also play an important role (Figure 4.1).

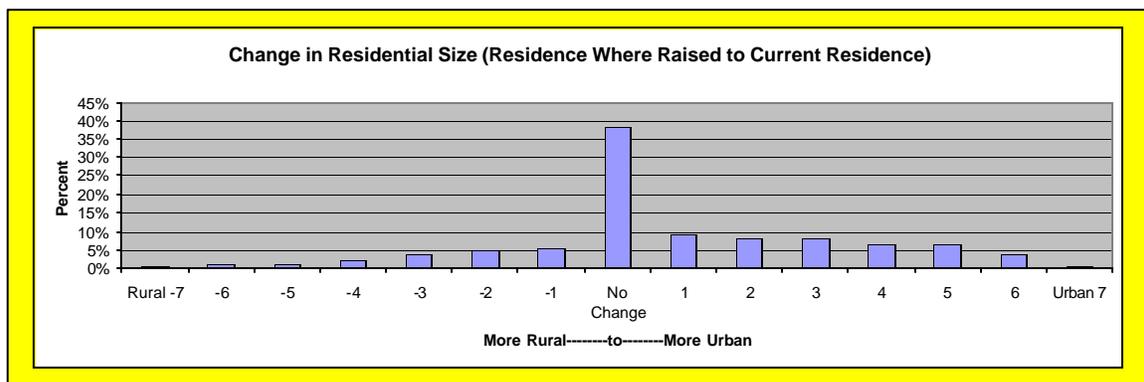


Figure 4.1. The degree of change in size of residential status from where raised to current residence.



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Table 4.34. Summary of variables tested for relationship with fishing, hunting and wildlife viewing participation.

Variable	Participation		
	Fishing	Hunting	Wildlife Viewing
Fishing		<i>Significant</i>	<i>Significant</i>
Hunting	<i>Significant</i>		<i>Significant</i>
Wildlife Viewing	<i>Significant</i>	<i>Significant</i>	
Wildlife Value Orientation	<i>Significant</i>	<i>Significant</i>	<i>Significant</i>
Gender	<i>Significant</i>	<i>Significant</i>	NOT
Age	<i>Significant</i>	<i>Significant</i>	<i>Significant</i>
Years of Residence in ND	<i>Significant</i>	<i>Significant</i>	<i>Significant</i>
Children Living at Home	<i>Significant</i>	<i>Significant</i>	NOT
Race	NOT	<i>Significant</i>	NOT
Education	NOT	<i>Significant</i>	<i>Significant</i> ¹
Income	<i>Significant</i>	<i>Significant</i>	NOT
Current Residence	<i>Significant</i>	<i>Significant</i>	<i>Significant</i> ¹
Residence Where Raised	<i>Significant</i> ¹	<i>Significant</i>	<i>Significant</i>

¹Relationship not clear, i.e., although significant the relationship may not be important.

Table 4.35. Summary of participation based on active participation of South Dakota adult residents – 2004.

Participation Type	Number	Percent
Non-participant	373	51.4%
Hunter Only	34	4.7%
Angler Only	73	10.1%
Viewer Only	104	14.3%
Hunter & Angler	38	5.2%
Hunter & Viewer	6	0.8%
Angler & Viewer	46	6.3%
Hunter-Angler-Viewer	52	7.2%
Total	726	100%

Table 4.36. Relationship (Pearson correlation) among interest in future participation in fishing, hunting and wildlife watching.

Interest in... ^{1,2}	Interest in... ^{1,2}		
	Fishing	Hunting	Wildlife Watching
Fishing	1.000	0.638	0.433
Hunting	0.638	1.000	0.257
Wildlife Watching	0.433	0.257	1.000

¹Interest coded as: 0 = Not at all Interested, 1 = Slightly Interested, 2 = Moderately Interested, 3 = Strongly Interested

²All correlation significant: $p < 0.001$

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Table 4.37. Type of residence where raised compared with current residence.

Current Residence (Level)	Type of Residence Where Raised								Total Number
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7	Level 8	
250,000 or more (1)	0.9%	0.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	10
100,000 – 249,999 (2)	1.8%	6.2%	1.6%	0.1%	0.9%	1.0%	2.6%	3.8%	123
50,000 – 99,999 (3)	1.8%	0.1%	4.3%	1.0%	1.3%	1.6%	3.2%	3.7%	116
25,000 – 49,999 (4)	0.9%	0.0%	0.0%	0.9%	0.3%	0.3%	1.2%	2.2%	39
10,000 – 24,999 (5)	0.3%	1.6%	0.6%	0.6%	5.0%	0.6%	4.4%	4.3%	118
5,000 – 9,999 (6)	0.3%	0.4%	0.6%	0.1%	0.0%	1.9%	1.0%	2.1%	44
less than 5,000 (7)	0.7%	0.1%	1.2%	0.4%	1.2%	0.9%	10.6%	4.4%	133
Farm–Rural Area (8)	0.7%	0.3%	0.7%	0.3%	0.4%	1.2%	2.2%	8.7%	99
Total Number	50	61	61	24	62	52	173	199	682
Residence Change Status					Percent				
Remained the Same					38.3%				
Became more Urban					42.2%				
Became more Rural					19.5%				
Current Residence (Level)	Type of Residence Where Raised								
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7	Level 8	
250,000 or more (1)	12.0%	1.6%	0.0%	0.0%	0.0%	1.9%	0.6%	0.5%	
100,000 – 249,999 (2)	24.0%	68.9%	18.0%	4.2%	9.7%	13.5%	10.4%	13.1%	
50,000 – 99,999 (3)	24.0%	1.6%	47.5%	29.2%	14.5%	21.2%	12.7%	12.6%	
25,000 – 49,999 (4)	12.0%	0.0%	0.0%	25.0%	3.2%	3.8%	4.6%	7.5%	
10,000 – 24,999 (5)	4.0%	18.0%	6.6%	16.7%	54.8%	7.7%	17.3%	14.6%	
5,000 – 9,999 (6)	4.0%	4.9%	6.6%	4.2%	0.0%	25.0%	4.0%	7.0%	
less than 5,000 (7)	10.0%	1.6%	13.1%	12.5%	12.9%	11.5%	41.6%	15.1%	
Farm–Rural Area (8)	10.0%	3.3%	8.2%	8.3%	4.8%	15.4%	8.7%	29.6%	
Total Number	50	61	61	24	62	52	173	199	

Part 5 – Description of South Dakota Residents from the Perspective of the Wildlife Values Orientation Groups and the Wildlife Importance Groups – Who are our customers?

Section A: Description of the Wildlife Values Orientation Groups (Pluralists, Utilitarians, Mutualists, and Distanced) (Table 5.1 – 5.9)

The wildlife value orientations were strongly related to fishing, hunting and wildlife viewing participation (Table 5.1). Pluralists and utilitarians had higher participation in fishing and hunting compared to mutualists and distanced, while mutualists had higher participation in wildlife viewing.

Mutualists had a very high proportion of females and were younger and lived fewer years in South Dakota compared to the other three value orientations (Tables 5.2 and 5.3). Wildlife value orientations were not significantly related to having children living at home and ethnicity (Tables 5.4 and 5.5).

Education was weakly related to wildlife value orientations with mutualists having a slightly higher proportion of people with advanced college degrees compared to the other three value orientations (Table 5.6). Wildlife value orientations were not significantly related to income level (Table 5.7).

Mutualists and distanced value orientations were more likely to currently live in and to have been raised in urban environments (and less likely to currently live in and to have been raised in rural environments) and vice versa for pluralists and utilitarians (Tables 5.8 and 5.9).



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Table 5.1. Wildlife value orientation groups analyzed by fishing, hunting and wildlife viewing participation.

Type of Fishing Participation	Wildlife Value Orientation Groups			
	Pluralist	Utilitarian	Mutualist	Distanced
Non-Angler	9.6%	15.1%	31.0%	19.1%
Inactive Angler	56.3%	53.8%	54.0%	63.8%
Active Angler	34.1%	31.0%	15.0%	17.0%
Total Number	208	364	113	47
Chi-Square: $X^2=34.53$; $df=6$; $p<0.001$				
Type of Hunting Participation	Wildlife Value Orientation Groups			
	Pluralist	Utilitarian	Mutualist	Distanced
Non-Hunter	32.5%	33.8%	75.7%	61.7%
Inactive Hunter	48.3%	43.4%	20.7%	34.0%
Active Hunter	19.1%	22.8%	3.6%	4.3%
Total Number	209	364	111	47
Chi-Square: $X^2=82.97$; $df=6$; $p<0.001$				
Type of Wildlife Viewing Participation	Wildlife Value Orientation Groups			
	Pluralist	Utilitarian	Mutualist	Distanced
Non-Viewer	38.0%	53.8%	22.1%	44.7%
Inactive Viewer	27.4%	25.5%	35.4%	31.9%
Active Viewer	34.6%	20.6%	42.5%	23.4%
Total Number	208	364	113	47
Chi-Square: $X^2=44.44$; $df=6$; $p<0.001$				

Table 5.2. Wildlife value orientation groups analyzed by gender.

Gender	Wildlife Value Orientation Groups			
	Pluralist	Utilitarian	Mutualist	Distanced
Male	51.2%	55.1%	27.4%	51.1%
Female	48.8%	44.9%	72.6%	48.9%
Total Number	213	365	113	47
Chi-Square: $X^2=26.82$; $df=3$; $p<0.001$				

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Table 5.3. Wildlife value orientation groups analyzed by age & years of residence in South Dakota.

Wildlife Value Orientation Groups	Age	Years of Residence in SD
	Mean (95% C.I.)	Mean (95% C.I.)
Pluralist	48.1 (45.7 – 50.6)	36.8 (33.9 – 39.6)
Utilitarian	49.0 (47.2 – 50.8)	36.4 (34.0 – 38.8)
Mutualist	42.9 (39.6 – 46.2)	26.6 (22.5 – 30.6)
Distanced	47.3 (41.8 – 52.8)	30.7 (24.4 – 37.0)
Average (95% C.I.)	47.7 (46.4 – 49.0)	34.6 (32.9 – 36.2)
ANOVA	F=3.46; df=3/727; p=0.016	F=6.80; df=3/665; p<0.001

Table 5.4. Wildlife value orientation groups analyzed by children (18 years old or less) living at home.

Children Living at Home	Wildlife Value Orientation Groups			
	Pluralist	Utilitarian	Mutualist	Distanced
No Children at Home	62.7%	56.0%	67.3%	60.9%
Children at Home	37.3%	44.0%	32.7%	39.1%
Total Number	212	364	113	46
Chi-Square: $X^2=5.53$; df=3; p=0.137				

Table 5.5. Wildlife value orientation groups analyzed by ethnicity.

Race	Wildlife Value Orientation Groups			
	Pluralist	Utilitarian	Mutualist	Distanced
White	97.4%	97.7%	94.4%	92.5%
Non-White	2.6%	2.3%	5.6%	7.5%
Total Number	192	355	107	40
Chi-Square: $X^2=5.69$; df=3; p=0.128				

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Table 5.6. Wildlife value orientation groups analyzed by education level.

Highest Level of Education (Level)	Wildlife Value Orientation Groups			
	Pluralist	Utilitarian	Mutualist	Distanced
Less than High School (1)	6.6%	3.6%	6.2%	0.0%
High School or GED (2)	35.7%	30.5%	35.4%	17.0%
2-Year Degree / Trade School (3)	22.1%	20.5%	19.5%	29.8%
4-Year College Degree (4)	27.2%	29.6%	16.8%	34.0%
College + (Advanced Degree) (5)	8.5%	15.8%	22.1%	19.1%
Total Number	213	361	113	47
Chi-Square: $X^2=28.91$; $df=12$; $p=0.004$				
Mean Education Level	2.95	3.24	3.14	3.53
95% Confidence Interval	2.80 – 3.10	3.12 – 3.36	2.91 – 3.38	3.23 – 3.82
ANOVA: $F=4.45$; $df=3/730$; $p=0.004$				

Table 5.7. Wildlife value orientation groups analyzed by income level.

Highest Income Level (Level)	Wildlife Value Orientation Groups			
	Pluralist	Utilitarian	Mutualist	Distanced
Less than \$10,000 (1)	4.3%	2.8%	7.9%	2.4%
\$10,000 – \$29,999 (2)	25.5%	20.9%	29.7%	29.3%
\$30,000 – \$49,999 (3)	27.2%	28.6%	18.8%	31.7%
\$50,000 – \$69,999 (4)	16.8%	20.9%	21.8%	19.5%
\$70,000 – \$89,999 (5)	14.7%	13.8%	9.9%	9.8%
\$90,000 – \$109,999 (6)	6.0%	5.2%	5.9%	7.3%
\$110,000 – \$149,999 (7 & 8)	2.2%	2.8%	2.0%	0.0%
\$150,000 or more (9)	3.3%	4.9%	4.0%	0.0%
Total Number	184	325	101	41
Chi-Square: $X^2=18.96$; $df=21$; $p=0.588$				
Mean Income Level	3.61	3.79	3.46	3.33
95% Confidence Interval	3.35 – 3.86	3.59 – 3.98	3.09 – 3.82	2.90 – 3.76
ANOVA: $F=1.53$; $df=3/647$; $p=0.205$				

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Table 5.8. Wildlife value orientation groups analyzed by size of current residence.

Size of Current Residence (level)	Wildlife Value Orientation Groups			
	Pluralist	Utilitarian	Mutualist	Distanced
Large City – 250,000 or more (1)	3.6%	0.8%	0.0%	0.0%
City w/ 100,000 – 249,999 (2)	15.5%	17.2%	28.6%	11.9%
City w/ 50,000 – 99,999 (3)	18.6%	14.4%	17.1%	26.2%
Small City w/ 25,000 – 49,999 (4)	4.1%	5.6%	9.5%	7.1%
Town w/ 10,000 – 24,999 (5)	13.9%	20.3%	13.3%	21.4%
Town w/ 5,000 – 9,999 (6)	7.7%	4.2%	7.6%	11.9%
Small town w/ less than 5,000 (7)	22.7%	20.6%	13.3%	11.9%
Farm or Rural Area (8)	13.9%	16.7%	10.5%	9.5%
Total Number	194	354	105	42
Chi-Square: $X^2=42.29$; $df=21$; $p=0.004$				
Mean Residence Level	4.92	5.06	4.37	4.70
95% Confidence Interval	4.61 – 5.24	4.83 – 5.29	3.96 – 4.78	4.10 – 5.30
ANOVA: $F=2.86$, $df=3/692$; $p=0.036$				

Table 5.9. Wildlife value orientation groups analyzed by size of residence where raised.

Size of Residence Where Raised (level)	Wildlife Value Orientation Groups			
	Pluralist	Utilitarian	Mutualist	Distanced
Large City – 250,000 or more (1)	6.3%	4.3%	16.7%	16.3%
City w/ 100,000 – 249,999 (2)	8.5%	9.1%	10.8%	7.0%
City w/ 50,000 – 99,999 (3)	11.6%	8.5%	2.9%	14.0%
Small City w/ 25,000 – 49,999 (4)	3.2%	3.4%	2.9%	7.0%
Town w/ 10,000 – 24,999 (5)	10.1%	9.4%	4.9%	16.3%
Town w/ 5,000 – 9,999 (6)	6.3%	6.3%	10.8%	11.6%
Small town w/ less than 5,000 (7)	25.9%	27.0%	22.5%	18.6%
Farm or Rural Area (8)	28.0%	32.1%	28.4%	9.3%
Total Number	189	352	102	43
Chi-Square: $X^2=47.01$; $df=21$; $p=0.001$				
Mean Residence Level	5.66	5.93	5.33	4.57
95% Confidence Interval	5.32 – 5.99	5.70 – 6.17	4.81 – 5.86	3.83 – 5.30
ANOVA: $F=5.22$; $df=3/682$; $p=0.001$				

Section B: Description of the Wildlife Importance Groups (Very High, High, Medium, Low and Very Low) (Table 5.10 – 5.18)

The wildlife importance groups were significantly related to fishing, hunting and wildlife viewing participation (Table 5.10). The "low" wildlife importance group had higher proportions of non-anglers and non-hunters compared to the other wildlife importance groups and the "very low" and "low" importance groups higher proportions of non-viewers compared to the other wildlife importance groups.

The "very high" wildlife importance group had about equal proportions of males and females (Table 5.11). However, the "high and "low" wildlife importance groups had higher proportions of females and the "medium" and "very low" wildlife importance groups had higher proportions of males.

There was a linear relationship between age and years living in South Dakota with the wildlife importance groups (Table 5.12). Age and years living in South Dakota increased significantly moving from the "very high" to the "very low" wildlife importance groups. Wildlife importance groups were not significantly related to having children living at home and ethnicity (Tables 5.13 and 5.14).

Education was not significantly related to wildlife importance groups although overall the people in the "very high" wildlife importance group had a slightly higher education level compared to the "low" and "very low" wildlife importance groups (Table 5.15). The "low" wildlife importance group had the lowest income level while the "very low" wildlife importance group had the highest income level (Table 5.16).

Wildlife importance groups were not significantly related to size of current residence however, there was a relatively strong relationship with size of residence where raised (Tables 5.17 and 5.18). People in the "very high" wildlife importance group were more likely to have been raised in a urban environment and less likely to have been raised in a rural environment and vice versa for people in the "very low" wildlife importance group.

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Table 5.10. Wildlife importance groups analyzed by fishing, hunting and wildlife viewing participation.

Type of Fishing Participation	Wildlife Importance Groups				
	Very High	High	Medium	Low	Very Low
Non-Angler	13.1%	16.4%	9.4%	29.0%	11.4%
Inactive Angler	50.6%	57.8%	56.3%	52.4%	63.6%
Active Angler	36.3%	25.8%	34.4%	18.6%	25.0%
Total Number	168	128	192	145	44
Chi-Square: $X^2=34.65$; $df=8$; $p<0.001$					
Type of Hunting Participation	Wildlife Importance Groups				
	Very High	High	Medium	Low	Very Low
Non-Hunter	46.4%	39.5%	29.5%	54.8%	18.2%
Inactive Hunter	37.3%	42.6%	50.3%	30.1%	52.3%
Active Hunter	16.3%	17.8%	20.2%	15.1%	29.5%
Total Number	166	129	193	146	44
Chi-Square: $X^2=34.80$; $df=8$; $p<0.001$					
Type of Wildlife Viewing Participation	Wildlife Importance Groups				
	Very High	High	Medium	Low	Very Low
Non-Viewer	32.9%	39.5%	40.9%	58.6%	72.7%
Inactive Viewer	32.3%	32.6%	29.0%	20.7%	6.8%
Active Viewer	34.7%	27.9%	30.1%	20.7%	20.5%
Total Number	167	129	193	145	44
Chi-Square: $X^2=39.40$; $df=8$; $p<0.001$					

Table 5.11. Wildlife importance orientation groups analyzed by gender.

Gender	Wildlife Importance Groups				
	Very High	High	Medium	Low	Very Low
Male	48.8%	43.5%	60.1%	40.4%	65.9%
Female	51.2%	56.5%	39.9%	59.6%	34.1%
Total Number	168	131	193	146	44
Chi-Square: $X^2=19.98$; $df=4$; $p=0.001$					

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Table 5.12. Wildlife importance orientation groups analyzed by age & years of residence in South Dakota.

Wildlife Importance Groups	Age	Years of Residence in SD
	Mean (95% C.I.)	Mean (95% C.I.)
Very High	39.5 (37.4 – 41.5)	26.5 (23.8 – 29.2)
High	47.0 (43.8 – 50.2)	36.3 (32.1 – 40.4)
Medium	46.8 (44.5 – 49.1)	33.2 (30.3 – 36.1)
Low	52.1 (48.9 – 55.3)	40.2 (36.3 – 44.1)
Very Low	54.4 (48.7 – 60.1)	43.1 (35.3 – 50.9)
Average (95% C.I.)	46.6 (45.3 – 48.0)	34.2 (32.5 – 35.9)
ANOVA	F=13.73; df=4/669; $p < 0.001$	F=10.38; df=4/620; $p < 0.001$

Table 5.13. Wildlife importance orientation groups analyzed by children (18 years old or less) living at home.

Children Living at Home	Wildlife Importance Groups				
	Very High	High	Medium	Low	Very Low
No Children at Home	63.1%	55.8%	55.2%	62.3%	65.9%
Children at Home	36.9%	44.2%	44.8%	37.7%	34.1%
Total Number	168	129	192	146	44
Chi-Square: $X^2=4.33$; df=4; $p=0.363$					

Table 5.14. Wildlife importance orientation groups analyzed by ethnicity.

Race	Wildlife Importance Groups				
	Very High	High	Medium	Low	Very Low
White	96.2%	97.5%	97.2%	95.6%	100%
Non-White	3.8%	2.5%	2.8%	4.4%	0.0%
Total Number	157	122	181	137	43
Chi-Square: $X^2=2.61$; df=1; $p=0.625$					

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Table 5.15. Wildlife importance orientation groups analyzed by education level.

Highest Level of Education (Level)	Wildlife Importance Groups				
	Very High	High	Medium	Low	Very Low
Less than High School (1)	2.4%	3.1%	4.1%	7.6%	4.8%
High School or GED (2)	25.7%	30.8%	31.1%	36.1%	38.1%
2-Year Degree / Trade School (3)	21.6%	27.7%	17.6%	20.1%	21.4%
4-Year College Degree (4)	33.5%	23.1%	31.6%	24.3%	19.0%
College + (Advanced Degree) (5)	16.8%	15.4%	15.5%	11.8%	16.7%
Total Number	167	130	193	144	42
Chi-Square: $X^2=19.98$; $df=16$; $p=0.221$					
Mean Education Level	3.4	3.2	3.2	3.0	3.0
95% Confidence Interval	3.2 – 3.5	3.0 – 3.4	3.1 – 3.4	2.8 – 3.2	2.7 – 3.4
ANOVA: $F=2.75$; $df=4/672$; $p=0.028$					

Table 5.16. Wildlife importance orientation groups analyzed by income level.

Highest Income Level (Level)	Wildlife Importance Groups				
	Very High	High	Medium	Low	Very Low
Less than \$10,000 (1)	2.0%	3.7%	3.5%	7.0%	0.0%
\$10,000 – \$29,999 (2)	18.3%	27.8%	20.8%	33.6%	18.9%
\$30,000 – \$49,999 (3)	28.8%	24.1%	26.0%	26.6%	24.3%
\$50,000 – \$69,999 (4)	24.8%	19.4%	20.8%	17.2%	13.5%
\$70,000 – \$89,999 (5)	16.3%	14.8%	15.6%	9.4%	16.2%
\$90,000 – \$109,999 (6)	4.6%	4.6%	7.5%	3.1%	10.8%
\$110,000 – \$149,999 (7 & 8)	0.7%	3.7%	1.7%	1.6%	0.0%
\$150,000 or more (9)	4.6%	1.9%	4.0%	1.6%	16.2%
Total Number	153	108	173	128	37
Chi-Square: $X^2=48.03$; $df=28$; $p=0.011$					
Mean Income Level	3.8	3.6	3.8	3.1	4.6
95% Confidence Interval	3.5 – 4.1	3.2 – 3.9	3.5 – 4.1	2.9 – 3.4	3.8 – 5.3
ANOVA: $F=6.20$; $df=4/594$; $p<0.001$					

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Table 5.17. Wildlife importance orientation groups analyzed by size of current residence.

Size of Current Residence (level)	Wildlife Importance Groups				
	Very High	High	Medium	Low	Very Low
Large City – 250,000 or more (1)	0.6%	0.0%	3.3%	2.2%	0.0%
City w/ 100,000 – 249,999 (2)	25.2%	22.3%	16.4%	13.1%	6.8%
City w/ 50,000 – 99,999 (3)	12.3%	18.2%	16.9%	19.0%	20.5%
Small City w/ 25,000 – 49,999 (4)	3.9%	3.3%	5.5%	8.0%	6.8%
Town w/ 10,000 – 24,999 (5)	21.3%	14.0%	18.6%	12.4%	25.0%
Town w/ 5,000 – 9,999 (6)	3.2%	7.4%	6.6%	7.3%	2.3%
Small town w/ less than 5,000 (7)	21.9%	16.5%	18.0%	24.1%	15.9%
Farm or Rural Area (8)	11.6%	18.2%	14.8%	13.9%	22.7%
Total Number	155	121	183	137	44
Chi-Square: $X^2=40.65$; $df=28$; $p=0.058$					
Mean Residence Level	4.8	4.9	4.9	5.0	5.3
95% Confidence Interval	4.4 – 5.1	4.5 – 5.3	4.5 – 5.2	4.7 – 5.4	4.7 – 5.9
ANOVA: $F=0.65$, $df=4/632$; $p=0.626$					

Table 5.18. Wildlife importance orientation groups analyzed by size of residence where raised.

Size of Residence Where Raised (level)	Wildlife Importance Groups				
	Very High	High	Medium	Low	Very Low
Large City – 250,000 or more (1)	10.4%	7.7%	5.6%	3.0%	0.0%
City w/ 100,000 – 249,999 (2)	13.6%	11.1%	7.2%	8.2%	2.4%
City w/ 50,000 – 99,999 (3)	9.1%	9.4%	10.6%	9.0%	4.9%
Small City w/ 25,000 – 49,999 (4)	3.2%	3.4%	4.4%	3.0%	2.4%
Town w/ 10,000 – 24,999 (5)	11.7%	6.8%	11.7%	6.0%	7.3%
Town w/ 5,000 – 9,999 (6)	9.1%	8.5%	6.7%	9.0%	2.4%
Small town w/ less than 5,000 (7)	28.6%	17.1%	25.0%	29.1%	24.4%
Farm or Rural Area (8)	14.3%	35.9%	28.9%	32.8%	56.1%
Total Number	154	117	180	134	41
Chi-Square: $X^2=53.91$; $df=28$; $p=0.002$					
Mean Residence Level	5.1	5.6	5.7	6.1	7.0
95% Confidence Interval	4.7 – 5.4	5.2 – 6.1	5.4 – 6.1	5.7 – 6.5	6.6 – 7.5
ANOVA: $F=7.74$; $df=4/623$; $p<0.001$					

DISCUSSION

Value and Use of this Information. This is a descriptive study of attitudes of South Dakota residents in relation to wildlife diversity issues. Specifically, five topic areas are addressed: 1) overall importance of wildlife diversity and funding, 2) prairie ecosystems, 3) bat species, 4) Topeka shiners, and 5) value priorities for managing the Missouri River. This information provides a valuable understanding of the public's attitudes in relation to these topics, which in turn can lead to better management decisions by the South Dakota Game, Fish & Parks Department (GFP). A better understanding of the public's attitudes on specific topics may also lead to an improved predictive ability on related topics.

This information is also a very good public involvement tool. Most wildlife issues are the result of conflicting values and attitudes. Often each side in such conflicts holds the view that their opinion is held by a significant majority of the public and/or they have a poor understanding of the other side's position. When sound scientific public attitude data is shared with the public it often tends to moderate the conflict and the groups tend to become more willing to accept compromise solutions. In addition, being able to demonstrate that GFP listens to and understands the public's attitudes, opinions, desires, needs, etc. can increase the public's trust in the agency.

Another valuable use of this information is as baseline data that can be used to evaluate trends to measure the impact of projects, programs or changes in policy. For example, this study measured general and some specific opinions related to wildlife diversity (some of the items were measured in previous surveys). Is interest in and support for nongame species management a trend that is increasing and if so, at what rate? Human dimensions information is especially valuable in measuring trends and evaluating project or program effectiveness and impacts.

With the development of Wildlife Action Plans by every state and the increase in national attention on nongame species management, nongame issues will likely increase. One important aspect of this issue for wildlife agencies will be the public's understanding of and support for nongame species management. This is especially important, as each state will need to identify 50% matching funds to receive federal funding for their nongame management projects.

Attitudes towards Wildlife Diversity & Trends. General support for conserving and protecting wildlife diversity and the importance of fish and wildlife was rated very high when measured in 1997, 2002 and 2004 with the highest level of support and importance rating being measured in 2004. Five of seven questions measured in 2002 and again in 2004 indicated a slightly higher environmentally positive (as measured by support for wildlife diversity) attitude response. The two items with a slightly lower environmentally positive attitude response in 2004 compared to 2002 were specifically related to prairie dogs (even though there was a slight decrease, the overall response was an environmentally positive response). None of the other question items specifically mentioned prairie dogs. Thus, the majority of South Dakota residents have a strong environmental attitude and the trend may be an increasing level of interest and support for environmental issues and more specifically, wildlife diversity, with the possible exception for prairie dogs. More studies will be needed to determine the level and extent of changes in environmental attitudes related to wildlife diversity.

While about half of the public feels that GFP's efforts to conserve and protect wildlife diversity in South Dakota is "just about the right amount" about three times more people feel that GFP does "too little" compared to "too much" for wildlife diversity. This, along with the relatively high environmental attitude held by South Dakota residents, suggests that additional efforts by GFP to conserve and protect wildlife diversity in South Dakota will likely be evaluated as positive by the public.

South Dakota residents seem to be very supportive of spending money on nongame programs. Only 3% felt that no money should be spent on nongame and only 11% felt that only voluntary funding sources should be used for nongame projects. While many residents (40%) selected money from hunting and fishing license sales as their preferred funding source a significant portion selected redirecting existing taxes (22% state and 13% federal) to fund nongame programs.

This willingness to use tax money for nongame programs demonstrates that the public places a high value on maintaining wildlife diversity in South Dakota. Unfortunately, most state budgets are strapped and it is very difficult to find the necessary amount of money in state budgets that can be shifted to fund new ventures. Also, relying on this strategy would not likely produce stable funding due to changing

economic conditions and occasional emergencies. The same is also true of using existing federal taxes, especially since the funding is needed for a 50-percent match to federal funds. The public will need to understand why using existing federal tax revenue will not likely work. However, this information may be useful in eventually getting the federal government to consider a program that only requires a 25-percent match similar to the P-R and D-J money for funding game and fish research and management.

In the long-run nongame species management is going to need a stable and large enough funding source that most likely can only be supplied via a new funding source. Unfortunately, the majority of the public is opposed to increasing the state sales tax or increasing federal taxes. What this means for GFP is that the agency will need to start working to gain more public support for these types of funding strategies before attempting to implement one of these funding strategies.

Prairie Ecosystems. In general, South Dakota residents have a very high level of support for maintaining healthy native prairie ecosystems in South Dakota. The high level of support drops a little to a lot, although still maintaining a majority level of support, when two specific aspects are added to the equation; namely various funding sources and certain specific wildlife species, such as prairie dogs and black-footed ferrets. This indicates that a large component of attitudes related to prairie ecosystem management in South Dakota depends on the generality to specific detail included in the survey instrument. Thus, results from surveys with limited questions must be carefully interpreted.

Managing Bats in South Dakota. About 60% of South Dakota residents have a general level of support for managing bats in South Dakota, with 20% undecided about their opinion and another 20% having a general opposition to bats. However, when the parameter of bats living near people is included in the equation the level of support for managing bats in South Dakota decreases a little. About 45% of South Dakota residents have a "high" level of support for managing bats in South Dakota, meaning that they also accept bats living and feeding near people and their homes, with 15% undecided and 45% being opposed to managing bats in South Dakota if it includes having bats living and feeding near people and homes. This represents an I & E opportunity for the agency

Wildlife Values and Beliefs of South Dakota Residents – 2004

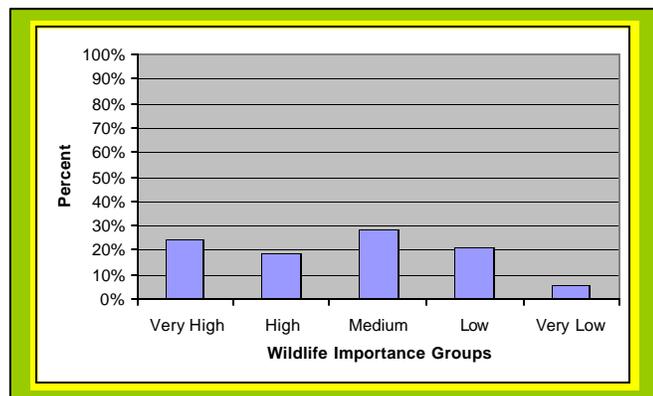
Larry M. Gigliotti

because a significant number of South Dakota residents appear to have a negative reaction to bats for various reasons.

Topeka Shiner Management in South Dakota. From a general sense, about 70% of South Dakota residents supports Topeka shiner management in South Dakota, 20% undecided and 10% opposed (most likely due to its status as a federally listed endangered species). The level of support drops about 12-13% when various funding sources are added to the equation.

Missouri River Management. The surprising finding was the relatively high priority assigned to wildlife and recreation compared to home use and agriculture & industry uses (31% home use, 24% agriculture & industry use, 23% wildlife and 22% recreation) for managing the Missouri River. The public will expect that water use decisions take into account the significant importance of wildlife and recreation to South Dakota residents.

The Wildlife Importance Model. The wildlife importance model was based on the 21 question items related to the three topics of prairie ecosystems, and management of bat species and Topeka shiners in South Dakota. This model produced five groups and is essentially a measure of peoples' underlying value system related to wildlife diversity. When dealing with wildlife diversity it would be very helpful to publicly recognize the diversity of values held by the public and to show how attempts were made to fairly address this diversity in the decision-making process used and where possible in the decision reached. This model produced a somewhat linear continuum ranging from people with a very high interest in and support for wildlife diversity to the opposite end with people with very little support for and even opposition to management actions to conserve and protect wildlife diversity. There were many more people on the high support for wildlife diversity side of the continuum than the low side of the wildlife importance model.



The linear relationship between the wildlife importance groups and wildlife diversity attitudes is very evident for the prairie ecosystem and the Topeka shiner variables. However, it is important to note that the wildlife importance model is not the perfect continuum that is implied by the names of the groups but that there are some qualitative differences among the groups that do not form a perfectly linear pattern. The deviation from a linear relationship is very evident when looking at the variables related to managing bats in South Dakota. For the questions about bats the very high, medium and the very low groups maintain a linear relationship, however, the high and low groups deviate from that linear relationship and appear to be very similar in their attitudes related to managing bats in South Dakota. This indicates that while the high and low groups are different from each other in their general attitudes related to wildlife diversity they are very similar in some very specific attitudes, namely that both groups have a somewhat negative attitude towards bats.

These findings suggest that the high group is comprised of people with a generally high environmental attitude as measured by their high support for wildlife diversity but that this support is mostly based on high emotions but low ecological understanding. In other words, this group (high wildlife importance) has high general support for ecosystems and for species with high appeal but they are negative towards certain unappealing (icky) species. This demonstrates a lack of ecological understanding. I would speculate that I would find a similar response from this group had there been questions related to species such as snakes or certain insects. On the other hand, the low wildlife importance group starts with a generally lower environmental attitude and that, combined with a fear of bats, results in an even more negative attitude towards bats for the questions related to health and safety than would be expected based on the model.

Overall, the majority of South Dakota residents expressed positive attitudes related to conserving and protecting wildlife diversity in South Dakota. However, the most consistent feature of the wildlife importance model is that the two ends of the continuum (the very high and very low groups) have strongly held and very different attitudes towards wildlife diversity.

What this means for GFP is that the majority of the public will generally be supportive of wildlife diversity programs and actually expect the agency to be developing

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programs to conserve and protect wildlife diversity in South Dakota. However, there will always be a small group that will be less supportive to very much opposed to some types of management actions. The range of values associated with wildlife diversity will require the agency to provide increased public participation opportunities. Providing increased public participation opportunities will provide GFP with more opportunities to provide information about wildlife diversity issues, offer solutions to problems, explain the agency's programs to the public, and infuse the biological information into the process, all of which demonstrates service to customers and increases trust in the agency. Also, public participation techniques enable the publics to gain a broader perspective of issues and to realize that the agency's decisions are fairer when all sides are considered.

Wildlife Value Orientations. The *Wildlife Values in the West* project identified the following value orientations for South Dakota residents (Teel et al. 2005):

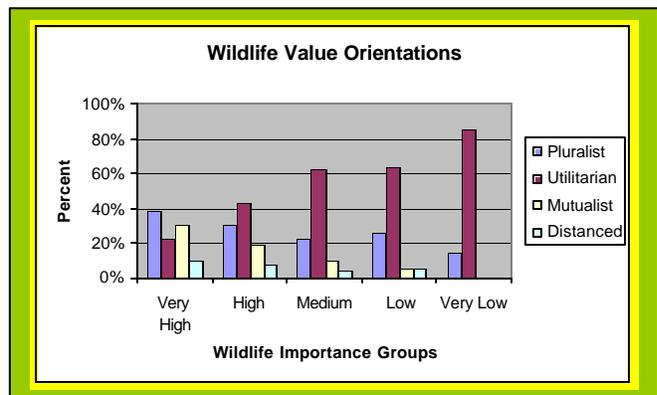
Utilitarian Wildlife Value – 49.9%: Believe that wildlife should be used and managed for human benefits.

Mutualist Wildlife Value – 15.1%: Believe that humans and wildlife are meant to co-exist or live in harmony.

Pluralist Wildlife Value – 28.7%: Hold aspects of both utilitarian and mutualist values.

Distanced Wildlife Value – 6.3%: People that are not very interested in wildlife-related issues.

The wildlife value orientation held by a person can be very predictive of their attitudes and actions towards various wildlife issues. There was a very strong relationship between wildlife value orientations and attitudes towards wildlife diversity measured by the wildlife importance model. Mutualists had very high support for wildlife diversity issues, the utilitarian and distanced groups had much lower support while the pluralists were somewhere in-between the mutualists and utilitarians in support and attitudes related to wildlife diversity issues. What this means is that the wildlife value orientations may provide a relatively good model for predicting public attitudes related to wildlife diversity issues and programs.



Comparing the Wildlife Value Orientations with the Wildlife Importance

Model. The wildlife importance model provides the best predictions of support for and attitudes related to wildlife diversity issues and programs because this was based specifically on peoples' opinions about wildlife diversity in general. The wildlife value orientations are especially good at predicting wildlife diversity issues for the mutualists identified in the model. It appears that most mutualists respond in a very similar and environmentally positive way when it comes to the topic of wildlife diversity, however, mutualists only comprise about 15 percent of South Dakota residents. Pluralists (29% of the population) tend to have somewhat of an environmentally positive response to wildlife diversity issues, but not with nearly the high consistency of mutualists. In other words, it will not be as easy to predict pluralists' support of or attitude towards wildlife diversity issues and programs as it would be for mutualists.

Utilitarians (50%) and distanced (6%), while having a much lower level of average support for wildlife diversity issues and programs, are not particularly easy to predict how specific individuals would respond to wildlife diversity issues. Note that about 27% of the utilitarians are from the very high or high wildlife importance groups, i.e., having high support for wildlife diversity. And, the distanced value orientation is actually very similar to the mutualists in their attitudes related to wildlife diversity. In other words, knowing that a person has a utilitarian or distanced wildlife value orientation does not give you a very high probability of knowing their attitudes related to wildlife diversity issues. This has information and education implications for wildlife agencies because it means that some people with a utilitarian or distanced wildlife value orientation can see or appreciate the value of wildlife diversity. For example, I suspect that some utilitarians see some type of economic or other use benefit for conserving and protecting wildlife diversity in South Dakota. Identifying that message may be useful in gaining the support of other utilitarians for wildlife diversity issues and programs.

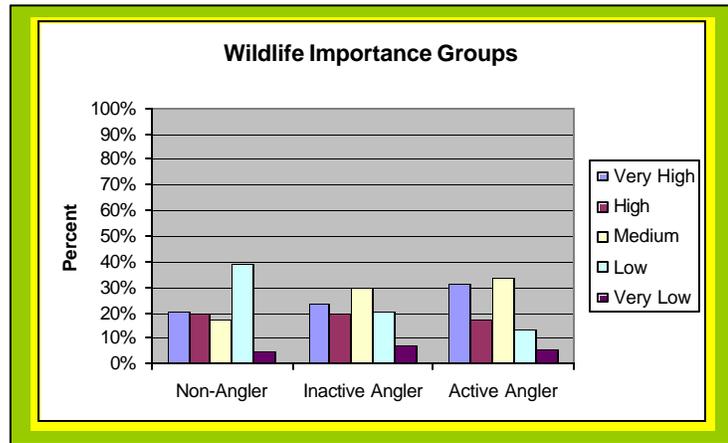
The wildlife importance model developed in this study shows that a high percentage of South Dakota residents have positive attitudes and support for wildlife diversity issues and programs. The very high wildlife importance group represents one-fourth the population and as the name suggests, has very strong support for wildlife

Wildlife Values and Beliefs of South Dakota Residents – 2004

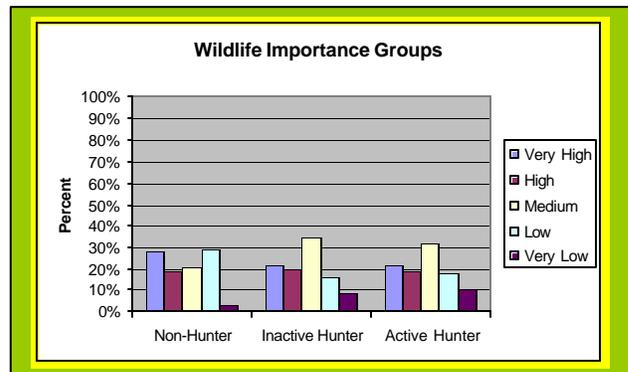
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diversity issues and programs. The high, medium and even the low wildlife importance groups generally had varying levels of support for wildlife diversity or at least were not likely to be opposed to wildlife diversity programs. However, the very low wildlife importance group, at about six percent of the population, is a group of South Dakota residents that will likely be opposed to various wildlife diversity programs unless public involvement measures are taken to include this group's values in the decision-making process.

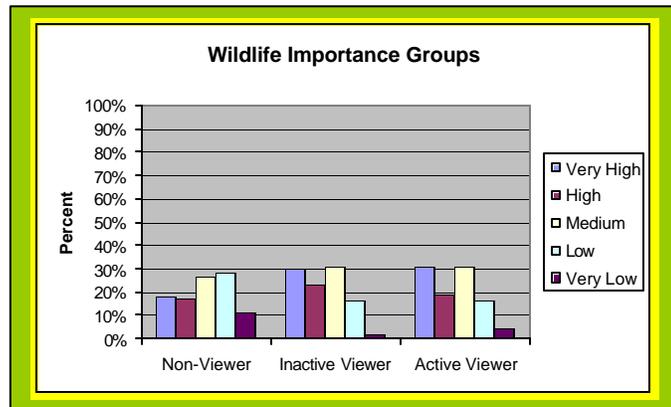
Anglers. Fishing participation (non-anglers, inactive anglers and active anglers) was slightly related to attitudes related to wildlife diversity as measured by the wildlife importance model. Overall, anglers had slightly more positive attitudes towards and support for wildlife diversity issues compared to non-anglers. However, knowing a person's fishing participation status is not a very good predictor of wildlife diversity attitudes.



Hunters. Hunting participation (non-hunters, inactive hunters and active hunters) was slightly related to attitudes related to wildlife diversity as measured by the wildlife importance model, although the nature of the relationship is not easy to interpret. Non-hunters had higher proportions of the very high and low wildlife importance groups compared to hunters (inactive and active) while hunters (inactive and active) had higher proportions of "medium" and "very low" wildlife importance groups compared to non-hunters. This makes it very difficult to use hunting participation status to predict various wildlife diversity attitudes.



Wildlife Watchers. Wildlife viewing participation (non-viewers, inactive viewers and active viewers) was slightly related to attitudes related to wildlife diversity as measured by the wildlife importance model. Wildlife viewers had slightly more positive attitudes towards and support for wildlife diversity issues compared to non-viewers. However, knowing a person's wildlife viewing participation status is not a very good predictor of wildlife diversity attitudes.



Description of Fishing, Hunting and Wildlife Viewing Participation in South Dakota – Who are our customers? This section provides a demographic description of three major classifications of customers, namely, anglers, hunters and wildlife watchers. Overall, most of the demographic variables measured in this study were significantly related to fishing, hunting and wildlife viewing participation. This information is useful when planning projects or programs for the various constituents, especially when the target groups have significantly different demographic profiles from the general public. One particular note is the relatively strong relationship among these three recreational groups, i.e., a significant number of people tend to have an interest in more than just one of the activities.

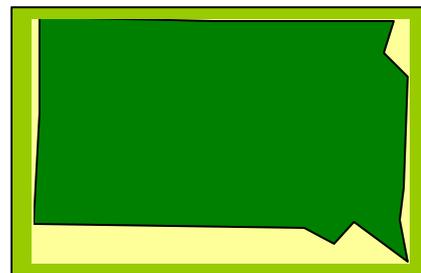
Demographic Description of South Dakota Residents from Two Perspectives – Who are our customers? This section provides a demographic description of South Dakota residents from the perspective of the wildlife value orientations and attitudes related to wildlife diversity as measured by the wildlife importance model. The wildlife value orientation groups were found to be very useful for providing an overall understanding of the public's attitudes and behaviors related to wildlife issues (Teel, et

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al., 2005), but the wildlife value orientations model was not strongly related to many of the demographic variables.

The wildlife importance model was found to be very useful in understanding the public related to attitudes towards and support for various wildlife diversity issues, however, not many of the demographic variables were strongly related to this typology. This suggests that projects and programs, such as educational messages about nongame species management, needs to be directed at all demographic markets equally. However, the wildlife diversity importance groups and the wildlife value orientations were strongly related, i.e., strongly predictive of each other.





APPENDIX A

**Complete questionnaire used in the Wildlife Values in
the West Survey for South Dakota – 2004**

Management of Fish and Wildlife in the West

A study conducted cooperatively by:

**Colorado
State**
University

Knowledge to Go Places



WESTERN ASSOCIATION OF
FISH AND WILDLIFE AGENCIES

**This survey is for all citizens of your state!
Even if you know little about wildlife,
your opinions are needed!**

Fall 2004

[INSIDE COVER]

PLEASE READ BEFORE COMPLETING THIS SURVEY:

This survey is being sent to people residing in states throughout the West. Please note that, while some of the questions in this survey may not be relevant to your state specifically, we are still interested in your opinions because they are relevant to other states in the western region.

Section I.

We begin this survey by asking you about the goals for our country. Below are 3 groups of goals that people might prioritize differently. For each group, rank the 4 goals in order of importance to you. That is:

1 = the goal most important to YOU
2 = the 2nd most important goal

3 = the 3rd most important goal
4 = the least important goal

Group 1. Rank these 4 goals from most important (1) to least important (4). Please no ties (meaning, DO NOT GIVE ANY OF THESE ITEMS THE SAME RANK).

Group 1 Rank

- Maintain a high level of economic growth. _____
- See that people have more to say about how things are done at their jobs and in their communities. _____
- Make sure this country has strong defense forces. _____
- Try to make our cities and countryside more beautiful. _____

Group 2. Repeat now for this next set of goals (1=most important, 4=least important). Please no ties (meaning, DO NOT GIVE ANY OF THESE ITEMS THE SAME RANK).

Group 2 Rank

- Maintain order in the nation. _____
- Give people more to say in important government decisions. _____
- Fight rising prices. _____
- Protect freedom of speech. _____

Group 3. Repeat again for this final set of goals (1=most important, 4=least important). Please no ties (meaning, DO NOT GIVE ANY OF THESE ITEMS THE SAME RANK).

Group 3 Rank

- Maintain a stable economy. _____
- Progress toward a less impersonal and more humane society. _____
- Fight crime. _____
- Progress toward a society in which ideas count more than money. _____

Below are statements that represent a variety of ways people feel about fish and wildlife and the natural environment. Please indicate the extent to which you disagree or agree with each statement. Circle one number for each response.

	<u>Strongly Disagree</u>	<u>Moderately Disagree</u>	<u>Slightly Disagree</u>	<u>Neither</u>	<u>Slightly Agree</u>	<u>Moderately Agree</u>	<u>Strongly Agree</u>
1. Humans should manage fish and wildlife populations so that humans benefit.	1	2	3	4	5	6	7
2. We should strive for a world where humans and fish and wildlife can live side by side without fear.	1	2	3	4	5	6	7
3. We should strive for a world where there's an abundance of fish and wildlife for hunting and fishing.	1	2	3	4	5	6	7
4. The needs of humans should take priority over fish and wildlife protection.	1	2	3	4	5	6	7
5. I view all living things as part of one big family.	1	2	3	4	5	6	7
6. Animals should have rights similar to the rights of humans.	1	2	3	4	5	6	7
7. Wildlife are like my family and I want to protect them.	1	2	3	4	5	6	7
8. People should never be allowed to use any fish or wildlife for any reason.	1	2	3	4	5	6	7

	<u>Strongly Disagree</u>	<u>Moderately Disagree</u>	<u>Slightly Disagree</u>	<u>Neither</u>	<u>Slightly Agree</u>	<u>Moderately Agree</u>	<u>Strongly Agree</u>
9. It is acceptable for people to kill wildlife if they think it poses a threat to their life.	1	2	3	4	5	6	7
10. It is acceptable for people to kill wildlife if they think it poses a threat to their property.	1	2	3	4	5	6	7
11. If I had to walk in the outdoors, I would be worried about encountering a wild animal.	1	2	3	4	5	6	7
12. It is acceptable to use fish and wildlife in research even if it may harm or kill some animals.	1	2	3	4	5	6	7
13. Fish and wildlife are on earth primarily for people to use.	1	2	3	4	5	6	7
14. If I were around wildlife in the outdoors I would be uncomfortable.	1	2	3	4	5	6	7
15. Hunting is cruel and inhumane to the animals.	1	2	3	4	5	6	7
16. I have concerns about being around wildlife because they may carry a disease.	1	2	3	4	5	6	7
17. I am not interested in knowing anything more about fish and wildlife.	1	2	3	4	5	6	7
18. It would be more rewarding to me to help animals rather than people.	1	2	3	4	5	6	7
19. I have concerns about being around wildlife because they may hurt me.	1	2	3	4	5	6	7
20. I am really not that interested in fish and wildlife.	1	2	3	4	5	6	7
21. Advances in technology will eventually provide a solution to our environmental problems.	1	2	3	4	5	6	7
22. I care about animals as much as I do other people.	1	2	3	4	5	6	7
23. People who want to hunt should be provided the opportunity to do so.	1	2	3	4	5	6	7
24. I take great comfort in the relationships I have with animals.	1	2	3	4	5	6	7
25. I value the sense of companionship I receive from animals.	1	2	3	4	5	6	7
26. The natural environment should be protected for its own sake rather than simply to meet our needs.	1	2	3	4	5	6	7
27. Hunting does not respect the lives of animals.	1	2	3	4	5	6	7
28. I feel a strong emotional bond with animals.	1	2	3	4	5	6	7
29. We should strive for a society that emphasizes environmental protection over economic growth.	1	2	3	4	5	6	7
30. Science can provide answers to any problems that we encounter in nature.	1	2	3	4	5	6	7
31. Protecting the natural environment should be this country's top priority.	1	2	3	4	5	6	7
32. We can find solutions to environmental problems through science and technology.	1	2	3	4	5	6	7

Section II.

This section asks your opinion about key regional issues that are important in one or more western states. Some of these issues may not be present in your state specifically. However, your opinion is still important to us. *For each set of questions, please follow the directions that are provided.*

State fish and wildlife agencies hear from many different groups of people about their interests, making decisions and priorities difficult. Below is a series of hypothetical approaches that describe how priorities *could* be directed. *Please read about each approach and then tell us how you think things are now and how they should be in your state based on these approaches by answering the 2 questions that follow.*

APPROACH 1

- State agencies develop programs that meet the needs primarily of those who hunt and/or fish.
- Fish and wildlife management is **almost entirely funded by hunting and fishing license dollars**.

APPROACH 2

- State agencies develop programs that meet the needs primarily of those who hunt and/or fish.
- Fish and wildlife management is **substantially funded by both hunting and fishing license dollars and public taxes**.

APPROACH 3

- State agencies develop programs that meet the needs of all members of the public regardless of their level of interest in wildlife.
- Fish and wildlife management is **almost entirely funded by hunting and fishing license dollars**.

APPROACH 4

- State agencies develop programs that meet the needs of all members of the public regardless of their level of interest in wildlife.
- Fish and wildlife management is **substantially funded by both hunting and fishing license dollars and public taxes**.

1. Of the above approaches, which approach do you think best resembles how things are now in your state? *Check only one (✓).*

Approach 1 Approach 2 Approach 3 Approach 4

2. Which approach best represents your opinion of how things should be in your state? *Check only one (✓).*

Approach 1 Approach 2 Approach 3 Approach 4

We would like to know how you feel about the extent to which your state fish and wildlife agency listens to and considers your opinions in fish and wildlife decision-making. Please indicate how strongly you disagree or agree with each of the following statements. *Circle one number for each statement.*

	<u>Strongly Disagree</u>	<u>Moderately Disagree</u>	<u>Slightly Disagree</u>	<u>Neither</u>	<u>Slightly Agree</u>	<u>Moderately Agree</u>	<u>Strongly Agree</u>
1. I feel that <u>my opinions are heard</u> by fish and wildlife decision-makers in my state.	1	2	3	4	5	6	7
2. I feel that <u>my interests are adequately taken into account</u> by fish and wildlife decision-makers in my state.	1	2	3	4	5	6	7
3. I feel that <u>if I provide input, it will make a difference</u> in fish and wildlife decisions in my state.	1	2	3	4	5	6	7
4. I feel that my state fish and wildlife agency makes a good effort to obtain <u>input from the public as a whole</u> .	1	2	3	4	5	6	7
5. <u>I don't have an interest</u> in providing input to fish and wildlife decisions in my state.	1	2	3	4	5	6	7
6. I trust my state fish and wildlife agency to <u>make good decisions without my input</u> .	1	2	3	4	5	6	7

Please respond to the following questions about the extent to which you trust certain forms of government. *Circle one number for each statement.*

Overall, to what extent do you trust...

	Almost Never	Only Some of the Time	Most of the Time	Almost Always
1. ...the <u>federal government</u> to do what is right for your country?	1	2	3	4
2. ...your <u>state government</u> to do what is right for your state?	1	2	3	4
3. ...your <u>state fish and wildlife agency</u> to do what is right for fish and wildlife management in your state?	1	2	3	4

Fish and wildlife agencies want to know how the public thinks the agencies should respond to human-wildlife conflict situations. Below are two **IMAGINARY situations involving black bears**. We would like to know how you feel about certain management actions that could be directed at **bear populations** to address these situations. *Even though it may seem unlikely that these things could occur where you live, we are still interested in your opinions.*

(PLEASE TELL US HOW YOU FEEL ABOUT THE ACTIONS LISTED BELOW FOR EACH SITUATION)



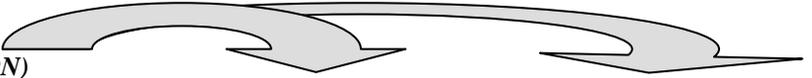
ACTIONS:

Is it unacceptable or acceptable to....

	SITUATION 1 Bears are wandering into areas where humans live in search of food. Bears are <u>getting into trash and pet food containers</u> .		SITUATION 2 Bears are wandering into areas where humans live in search of food. <u>Human deaths from bear attacks</u> have occurred.	
	<u>Unacceptable</u>	<u>Acceptable</u>	<u>Unacceptable</u>	<u>Acceptable</u>
1. ...do nothing to control bear populations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. ...provide more recreational opportunities to hunt bears?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. ...conduct controlled hunts using trained agency staff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Below are two **IMAGINARY situations involving deer**. We would like to know how you feel about certain management actions that could be directed at **deer populations** to address these situations. *Even though it may seem unlikely that these things could occur where you live, we are still interested in your opinions.*

(PLEASE TELL US HOW YOU FEEL ABOUT THE ACTIONS LISTED BELOW FOR EACH SITUATION)



ACTIONS:

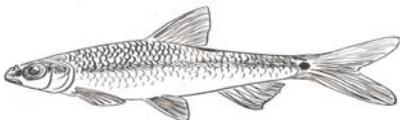
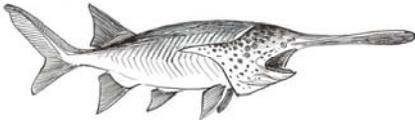
Is it unacceptable or acceptable to....

	SITUATION 1 Deer numbers are increasing. There are complaints about deer entering people's yards and <u>eating shrubs and garden plants</u> .		SITUATION 2 Deer numbers are increasing. Authorities are concerned because deer are <u>carrying a disease that is transmissible to some domestic animals and livestock</u> .	
	<u>Unacceptable</u>	<u>Acceptable</u>	<u>Unacceptable</u>	<u>Acceptable</u>
1. ...do nothing to control deer populations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. ...provide more recreational opportunities to hunt deer?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. ...conduct controlled hunts using trained agency staff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. ...distribute pellets containing contraceptives, causing deer to be unable to produce offspring <u>permanently</u> ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. ...distribute pellets containing contraceptives, causing deer to be unable to produce offspring <u>for only a few breeding seasons</u> ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

A fish and wildlife agency manager of a **particular area** may have limited funds to spend on conservation programs for fish and wildlife. As a result, difficult choices must be made about what type of fish or wildlife deserves the greatest priority. This often involves evaluating different combinations of characteristics of the fish or wildlife. Below is a series of **hypothetical** comparisons that illustrate the kinds of choices that might be made for an area. For each comparison please select the choice with the characteristics you think the manager should spend funds on to maintain or enhance the fish or wildlife population.

These are hypothetical comparisons. Even though some of these fish or wildlife may not be present where you live, we are still interested in your opinions.

1. Which should the manager spend funds on? (Check one)

<p><input type="checkbox"/> CHOICE A</p> <ul style="list-style-type: none"> ➤ This species does not naturally occur in the area. It was introduced by humans. ➤ Common in the area, and numbers are stable. ➤ Not a hunted/fished species. <p style="text-align: center;">Example: Spottail Shiner</p> 	<p>⇔ OR</p>	<p><input type="checkbox"/> CHOICE B</p> <ul style="list-style-type: none"> ➤ This species naturally occurs in the area. ➤ Numbers are low, which means you don't see this species very often anymore. ➤ Hunted/fished species. <p style="text-align: center;">Example: Paddlefish</p> 
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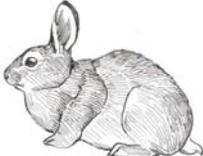
2. Which should the manager spend funds on? (Check one)

<p><input type="checkbox"/> CHOICE A</p> <ul style="list-style-type: none"> ➤ This species does not naturally occur in the area. It was introduced by humans. ➤ Even though it did exist here at one time, it is no longer present in the area under consideration. ➤ Hunted/fished species. <p style="text-align: center;">Example: Sichuan Pheasant</p> 	<p>⇔ OR</p>	<p><input type="checkbox"/> CHOICE B</p> <ul style="list-style-type: none"> ➤ This species naturally occurs in the area. ➤ Common in the area, and numbers are stable. ➤ Not a hunted/fished species. <p style="text-align: center;">Example: American Robin</p> 
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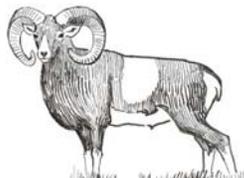
3. Which should the manager spend funds on? (Check one)

<p><input type="checkbox"/> CHOICE A</p> <ul style="list-style-type: none">➤ This species naturally occurs in the area.➤ Even though it did exist here at one time, it is no longer present in the area under consideration.➤ Not a hunted/fished species. <p>Example: Mountain Plover</p> 	<p>⇔ OR</p>	<p><input type="checkbox"/> CHOICE B</p> <ul style="list-style-type: none">➤ This species does not naturally occur in the area. It was introduced by humans.➤ Common in the area, and numbers are stable.➤ Hunted/fished species. <p>Example: Hungarian Partridge</p> 
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4. Which should the manager spend funds on? (Check one)

<p><input type="checkbox"/> CHOICE A</p> <ul style="list-style-type: none">➤ This species naturally occurs in the area.➤ Common in the area, and numbers are stable.➤ Hunted/fished species. <p>Example: Cottontail Rabbit</p> 	<p>⇔ OR</p>	<p><input type="checkbox"/> CHOICE B</p> <ul style="list-style-type: none">➤ This species does not naturally occur in the area. It was introduced by humans.➤ Numbers are low, which means you don't see this species very often anymore.➤ Not a hunted/fished species. <p>Example: Eurasian Collared Dove</p> 
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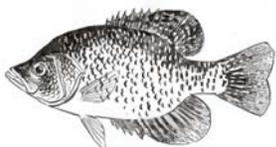
5. Which should the manager spend funds on? (Check one)

<p><input type="checkbox"/> CHOICE A</p> <ul style="list-style-type: none">➤ This species naturally occurs in the area.➤ Numbers are low, which means you don't see this species very often anymore.➤ Hunted/fished species. <p>Example: Canvasback</p> 	<p>⇔ OR</p>	<p><input type="checkbox"/> CHOICE B</p> <ul style="list-style-type: none">➤ This species does not naturally occur in the area. It was introduced by humans.➤ Even though it did exist here at one time, it is no longer present in the area under consideration.➤ Not a hunted/fished species. <p>Example: Mouflon Sheep</p> 
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6. Which should the manager spend funds on? (Check one)

<p><input type="checkbox"/> CHOICE A</p> <ul style="list-style-type: none">➤ This species does not naturally occur in the area. It was introduced by humans.➤ Numbers are low, which means you don't see this species very often anymore.➤ Not a hunted/fished species. <p>Example: Mosquitofish</p> 	<p>⇔ OR</p>	<p><input type="checkbox"/> CHOICE B</p> <ul style="list-style-type: none">➤ This species naturally occurs in the area.➤ Even though it did exist here at one time, it is no longer present in the area under consideration.➤ Hunted/fished species. <p>Example: Blue Catfish</p> 
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7. Which should the manager spend funds on? (Check one)

<p><input type="checkbox"/> CHOICE A</p> <ul style="list-style-type: none">➤ This species naturally occurs in the area.➤ Common in the area, and numbers are stable.➤ Not a hunted/fished species. <p>Example: Least Chipmunk</p> 	<p>⇔ OR</p>	<p><input type="checkbox"/> CHOICE B</p> <ul style="list-style-type: none">➤ This species does not naturally occur in the area. It was introduced by humans.➤ Numbers are low, which means you don't see this species very often anymore.➤ Hunted/fished species. <p>Example: Black Crappie</p> 
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8. Which should the manager spend funds on? (Check one)

<p><input type="checkbox"/> CHOICE A</p> <ul style="list-style-type: none">➤ This species does not naturally occur in the area. It was introduced by humans.➤ Common in the area, and numbers are stable.➤ Hunted/fished species. <p>Example: Ring-necked Pheasant</p> 	<p>⇔ OR</p>	<p><input type="checkbox"/> CHOICE B</p> <ul style="list-style-type: none">➤ This species naturally occurs in the area.➤ Numbers are low, which means you don't see this species very often anymore.➤ Not a hunted/fished species. <p>Example: Mountain Bluebird</p> 
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Section III.

Next, we would like your input on fish and wildlife management in South Dakota. The information you provide will help the South Dakota Department of Game, Fish and Parks (GFP) understand how South Dakotans feel about these issues and improve their ability to manage fish and wildlife populations and habitats in South Dakota. Please respond to each of the following questions according to the directions provided.

1. South Dakota has a great diversity (variety) of fish and wildlife. How important is it to you that South Dakota conserves/protects as much fish and wildlife as possible where appropriate? *Circle one number for your response.*

<u>Not Important</u>	<u>Slightly Important</u>	<u>Moderately Important</u>	<u>Very Important</u>	<u>No Opinion</u>
0	1	2	3	4

2. How important do you think healthy fish and wildlife populations are to the economy and well-being of South Dakota residents? *Circle one number for your response.*

<u>Not Important</u>	<u>Slightly Important</u>	<u>Moderately Important</u>	<u>Very Important</u>	<u>No Opinion</u>
0	1	2	3	4

3. In general, how would you rate GFP's efforts to conserve and protect the diversity (variety) of fish and wildlife of South Dakota? *Circle one number for your response.*

"GFP's focus on wildlife diversity issues is..."

<u>Far too Little</u>	<u>Moderately too Little</u>	<u>Slightly too Little</u>	<u>Just About the Right Amount</u>	<u>Slightly too Much</u>	<u>Moderately too Much</u>	<u>Far too Much</u>	<u>No Opinion</u>
1	2	3	4	5	6	7	8

4. Which would be the most appropriate source of money to pay for projects in South Dakota to keep nongame fish and wildlife (those not fished or hunted) from becoming rare, endangered or extinct? *Please check only one box.*

- (A) money generated from hunting and fishing license sales
- (B) a portion of the state revenue presently being collected from taxes
- (C) increasing the state sales tax
- (D) a portion of the federal revenue presently being collected from taxes
- (E) increasing the federal taxes
- (F) only money from voluntary contributions should be used
- (G) no money should be spent for nongame projects
- (H) no opinion

SITUATION 1. Prairie wildlife conservation faces different challenges in different regions of South Dakota. In eastern South Dakota, where most of the prairie has been converted to cropland, one of the challenges is finding and conserving large enough landscapes of prairie vegetation and its associated wildlife. In western South Dakota, where there still are large tracts of native grassland, the current challenges are more related to the specific needs of certain wildlife species like black-footed ferrets, swift fox, and black-tailed prairie dogs. *Circle one number for each statement.*

Do you agree or disagree that...	<u>Strongly Disagree</u>	<u>Moderately Disagree</u>	<u>Slightly Disagree</u>	<u>Neither</u>	<u>Slightly Agree</u>	<u>Moderately Agree</u>	<u>Strongly Agree</u>
Maintaining a healthy native prairie ecosystem in South Dakota is important to me.	1	2	3	4	5	6	7
I support using some money from hunting license fees for projects designed to conserve and enhance native prairie ecosystems and their associated wildlife.	1	2	3	4	5	6	7
I support efforts by private landowners to reintroduce swift fox to their land if the re-introduction is permitted by the state wildlife agency (GFP).	1	2	3	4	5	6	7

Do you agree or disagree that...	<u>Strongly Disagree</u>	<u>Moderately Disagree</u>	<u>Slightly Disagree</u>	<u>Neither</u>	<u>Slightly Agree</u>	<u>Moderately Agree</u>	<u>Strongly Agree</u>
Prairie dogs are an important component of native prairie ecosystems and need some degree of protection.	1	2	3	4	5	6	7
Publicly-owned native grasslands should be managed for game (fished or hunted) animals or forage production, NOT for rare native prairie wildlife species.	1	2	3	4	5	6	7
State agencies should take steps to maintain/restore healthy populations of <u>all</u> native prairie wildlife species in South Dakota.	1	2	3	4	5	6	7
Prairie dogs are a destructive agricultural pest that should be eliminated from South Dakota.	1	2	3	4	5	6	7
Federal tax money should NOT be spent to save the black-footed ferret, a federally endangered species.	1	2	3	4	5	6	7

SITUATION 2. Twelve species of bats are found in South Dakota. Bats roost (rest/sleep) in trees, buildings, caves, mines, and crevices. They play an important role in nature because they feed on insects. Places where bats feed and roost are vulnerable to disturbance and destruction. The South Dakota Bat Management Plan was designed to protect bats and their habitats in South Dakota. The main goal of the plan is to provide guidance for individuals and agencies for promoting long-term protection of bat species through research, management, and education. *Circle one number for each statement.*

Do you agree or disagree that...	<u>Strongly Disagree</u>	<u>Moderately Disagree</u>	<u>Slightly Disagree</u>	<u>Neither</u>	<u>Slightly Agree</u>	<u>Moderately Agree</u>	<u>Strongly Agree</u>
Maintaining healthy populations and diversity of bat species in South Dakota is important to me.	1	2	3	4	5	6	7
Bats pose an unacceptable health risk to people.	1	2	3	4	5	6	7
Bats are important and should have some legal protection from harm.	1	2	3	4	5	6	7
Bats should NOT be allowed to thrive in urban areas where they can come in contact with people.	1	2	3	4	5	6	7
I support the South Dakota Bat Management Plan's goal of promoting long-term protection of bat species.	1	2	3	4	5	6	7
I would enjoy having bats living and feeding near my house.	1	2	3	4	5	6	7

SITUATION 3. The Topeka shiner is a small minnow (fish) native to the prairie streams of the Great Plains. Topeka shiners prefer small, quiet prairie streams with cool temperatures and good water quality found in Eastern South Dakota. The presence of Topeka shiners in a fish community often signals a healthy stream system. The Topeka shiner (*Notropis topeka*) was listed as a federally endangered species in 1999. The Topeka Shiner State Management Plan is a document that will establish conservation guidelines for the Topeka shiner in South Dakota. Research in South Dakota has shown that the Topeka shiner currently inhabits similar waters to those it did historically. However, studies show that the places that Topeka shiners inhabit have greatly declined in other states. The plan will allow for management of the Topeka shiner at the state level while still supporting national recovery efforts. *Circle one number for each statement.*

Do you agree or disagree that...	<u>Strongly Disagree</u>	<u>Moderately Disagree</u>	<u>Slightly Disagree</u>	<u>Neither</u>	<u>Slightly Agree</u>	<u>Moderately Agree</u>	<u>Strongly Agree</u>
Maintaining a healthy prairie ecosystem that supports populations of Topeka shiners in South Dakota is important to me.	1	2	3	4	5	6	7
Federal tax money should NOT be spent to save the Topeka shiner, an endangered species.	1	2	3	4	5	6	7
Topeka shiners are an important component of native prairie ecosystems and need some degree of protection.	1	2	3	4	5	6	7
It would be OK with me if the Topeka shiner went extinct because there are enough other species of shiners (small fish) to take their place.	1	2	3	4	5	6	7
I support the South Dakota Topeka Shiner State Management planning effort to manage Topeka shiners while minimizing the impact on landowners.	1	2	3	4	5	6	7
I think that it would be appropriate to pay incentives to landowners that help maintain habitat for Topeka shiners.	1	2	3	4	5	6	7
I support federally-funded agricultural programs (for example, Farm bill programs) designed to improve water quality, which in turn benefits many wildlife species including Topeka shiners.	1	2	3	4	5	6	7

SITUATION 4. The Missouri River provides benefits to many different groups of people. However, conflicts can occur when making decisions on how the Missouri River resources can be used. How strong of a focus should each of these 4 categories of uses be for managing the entire Missouri River ecosystem? *Please distribute 100 points among these 4 categories to show how much focus you feel each category should receive in management of the Missouri River.*

	Points
Agriculture & Industry	
Home uses (drinking water and cleaning)	
Recreation (boating, swimming, fishing, hunting, etc)	
Wildlife (game and non-game species)	

100 Points Total

Section IV.

We would like to learn about your fish- and wildlife-related recreation activities. *Please check your response (✓).*

1. Have you ever participated in recreational (non-commercial) fishing? Yes No
2. Did you participate in recreational (non-commercial) fishing during the past 12 months (1 year)? Yes No
3. Have you ever participated in recreational (non-commercial) hunting? Yes No
4. Did you participate in recreational (non-commercial) hunting during the past 12 months (1 year)? Yes No
5. Have you ever taken any recreational trips for which fish or wildlife viewing was the primary purpose of the trip? Yes No
6. Did you take any recreational trips in the past 12 months (1 year) for which fish or wildlife viewing was the primary purpose of the trip? Yes No

Please respond to the following 3 questions about your interest in participating in fish- and wildlife-related recreation in the future. *Circle one number for each statement.*

	<u>Not at all Interested</u>	<u>Slightly Interested</u>	<u>Moderately Interested</u>	<u>Strongly Interested</u>
1. How interested are you in taking recreational fishing trips in the future?	1	2	3	4
2. How interested are you in taking recreational hunting trips in the future?	1	2	3	4
3. How interested are you in taking recreational trips in the future for which fish or wildlife viewing is the primary purpose of the trip?	1	2	3	4

Now we would like to know more about your interest in taking specific trips to view wildlife.

How likely is it that you would consider taking one of the following trips in the future? *Circle one number for each statement.*

	<u>Not at all Likely</u>	<u>Slightly Likely</u>	<u>Moderately Likely</u>	<u>Extremely Likely</u>
1. ...a trip to Africa to go on a safari to view wildlife?	1	2	3	4
2. ...taking a trip to a remote area of Alaska to view wildlife?	1	2	3	4

The following demographic information will be used to help make general conclusions about the residents of this state. Your responses will remain completely confidential.

1. Are you...? Male Female
2. What is your age? (*Write response.*) _____ Years
3. How many people under 18 years of age are currently living in your household? (*Write response.*) _____ Person(s)
4. What is the highest level of education that you have achieved? (*Check only one ✓.*)

<input type="checkbox"/> Less than high school diploma	<input type="checkbox"/> 4-year college degree
<input type="checkbox"/> High school diploma or equivalent (for example, GED)	<input type="checkbox"/> Advanced degree beyond 4-year college degree
<input type="checkbox"/> 2-year associates degree or trade school	

5. What is your approximate annual household income before taxes? (Check one)
- | | |
|--|--|
| <input type="checkbox"/> Less than \$10,000 | <input type="checkbox"/> \$70,000 - \$89,999 |
| <input type="checkbox"/> \$10,000 - \$29,999 | <input type="checkbox"/> \$90,000 - \$109,999 |
| <input type="checkbox"/> \$30,000 - \$49,999 | <input type="checkbox"/> \$110,000 - \$129,999 |
| <input type="checkbox"/> \$50,000 - \$69,999 | <input type="checkbox"/> \$130,000 - \$149,999 |
| | <input type="checkbox"/> \$150,000 or more |
6. About how long have you lived in South Dakota? (Write response or check box indicating less than one year.) _____ Years, OR Less than one year.
7. How would you describe your current residence or community? (Check one)
- | | |
|--|---|
| <input type="checkbox"/> Large city with 250,000 or more people | <input type="checkbox"/> Town with 10,000 to 24,999 people |
| <input type="checkbox"/> City with 100,000 to 249,999 people | <input type="checkbox"/> Town with 5,000 to 9,999 people |
| <input type="checkbox"/> City with 50,000 to 99,999 people | <input type="checkbox"/> Small town / village with less than 5,000 people |
| <input type="checkbox"/> Small city with 25,000 to 49,999 people | <input type="checkbox"/> A farm or rural area |
8. Would you consider your current residence a **suburb** of a larger city or metropolitan area? (Check one) Yes No
9. How would you describe the community in which you were raised? (Check one) If more than one area, check the place where you lived the longest.
- | | |
|--|---|
| <input type="checkbox"/> Large city with 250,000 or more people | <input type="checkbox"/> Town with 10,000 to 24,999 people |
| <input type="checkbox"/> City with 100,000 to 249,999 people | <input type="checkbox"/> Town with 5,000 to 9,999 people |
| <input type="checkbox"/> City with 50,000 to 99,999 people | <input type="checkbox"/> Small town / village with less than 5,000 people |
| <input type="checkbox"/> Small city with 25,000 to 49,999 people | <input type="checkbox"/> A farm or rural area |
10. Would you consider the community in which you were raised a **suburb** of a larger city or metropolitan area? (Check one) Yes No
11. Are you...? (Check one or more categories to indicate what you consider yourself to be.)
- | | |
|--|--|
| <input type="checkbox"/> White, NOT of Hispanic origin | <input type="checkbox"/> Asian |
| <input type="checkbox"/> Black or African American, NOT of Hispanic origin | <input type="checkbox"/> Native Hawaiian |
| <input type="checkbox"/> Spanish, Hispanic, or Latino | <input type="checkbox"/> Other Pacific Islander |
| <input type="checkbox"/> Native American or Alaska Native | <input type="checkbox"/> Other (Please print on line below.) |

12. While many people in America view themselves as “Americans”, we are interested in finding out more about how you would define your ethnic background. What is **the primary ethnic origin with which you identify yourself**? (for example, Italian, Jamaican, Norwegian, Dominican, Korean, Mexican, Taiwanese, Ukrainian, and so on)

(Please write your ethnic origin.) _____

13. Your state fish and wildlife agency is periodically interested in gathering input from the public on a variety of fish and wildlife issues. Toward this end, we would like to know if you would be interested in providing input in the future by way of email. If so, and if you have an email address, **please print your name and email on a separate sheet of paper** and return it along with your completed survey. Based upon how you respond to a subset of questions on this survey, your state fish and wildlife agency may decide to contact you for input.

Thank you for participating in this study. Your input is very important!

Please return the completed survey as soon as possible in the enclosed addressed and postage-paid envelope.