WILDLIFE AND ENVIRONMENTAL ATTITUDES OF ANGLERS, HUNTERS & WILDLIFE WATCHERS: A 2012 SURVEY

Progress Report (3-2012)

prepared for

South Dakota Game, Fish, and Parks
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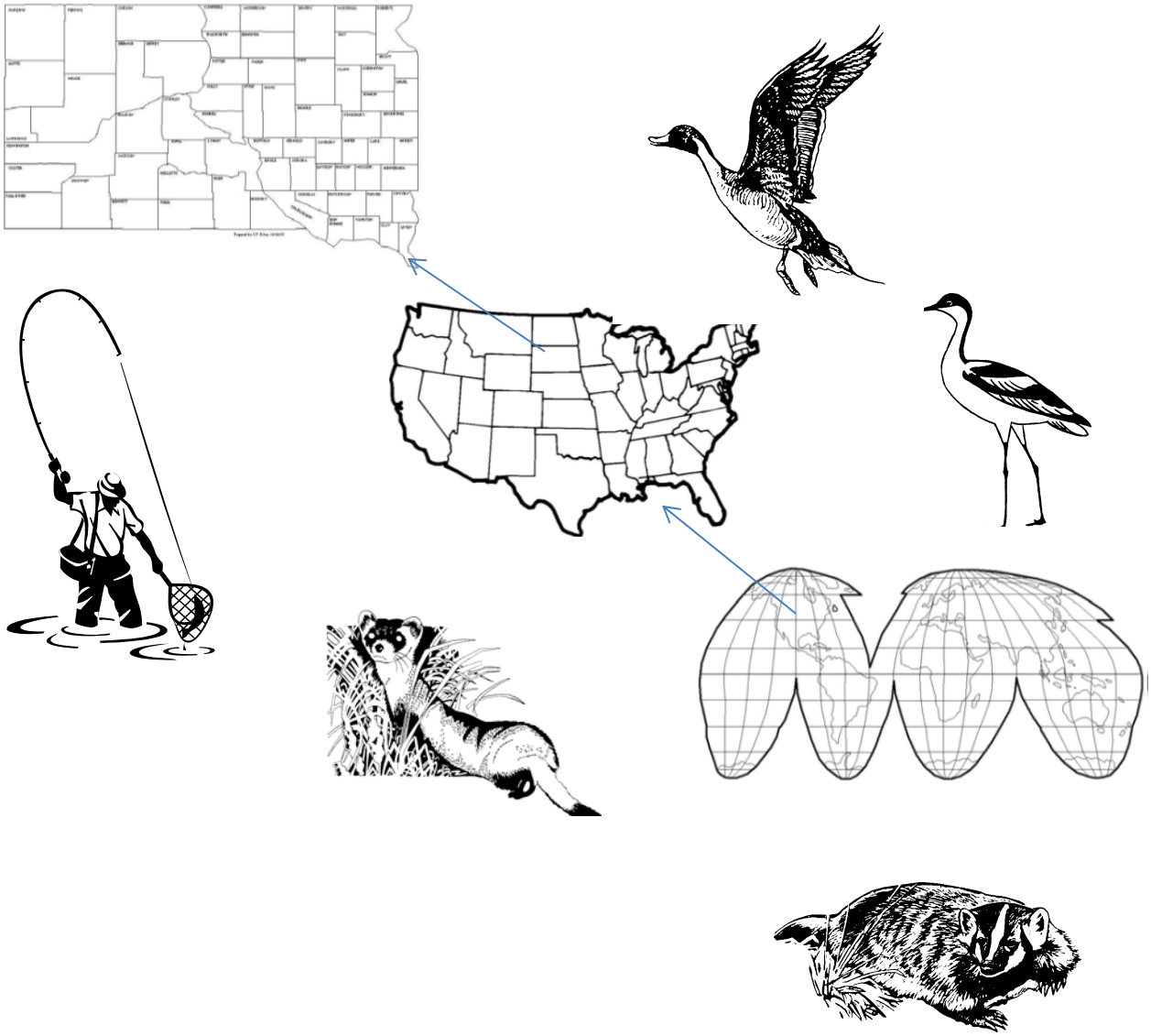

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Wildlife and Environmental Attitudes Of Anglers, Hunters & Wildlife Watchers: A 2012 Survey

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Overall Project Title: Revision of South Dakota Comprehensive Wildlife Conservation Plan

The South Dakota Comprehensive Wildlife Conservation Plan, hereafter called the South Dakota Wildlife Action Plan (WAP), received approval from the National Advisory Acceptance Team on May 11, 2006, indicating that each of the 8 required elements was satisfactorily addressed. Although revision at least every 10 years is required, SD Game, Fish and Parks (SDGFP) committed to review and revise the plan 5 years following its approval. A revised plan is needed for SDGFP to continue to be eligible to receive State Wildlife Grants (SWG) allocations.

Project Title: Understanding South Dakota Citizens – Wildlife Values

Human Dimensions Component: The human dimensions component addresses the eighth essential element in the WAP, '*each state's provisions to provide the necessary public participation in the development, revisions, and implementation of its strategy*.' The South Dakota WAP included a summary of a number of public opinion studies measuring wildlife values and other opinions concerning various environmental issues. This project conducted a statewide survey (using a traditional mail survey and a special e-mail panel of South Dakota citizens) measuring the wildlife value orientations of citizens and opinions related to various wildlife and environmental issues relative to South Dakota. The mail survey will be used to identify trends as well as mapping current environmental attitudes, providing a better understanding of South Dakota citizens.

Project Objectives:

(1) Measure South Dakota Citizens' wildlife value orientations
(2) Determine the relationship between wildlife value orientations and specific attitudes towards various wildlife & environmental issues
(3) Measure trends in wildlife and environmental attitudes
(4) Compare results from the two methods of data collection (e-mail panel vs. mail survey)

Progress Report 1-2012 provided a basic description of the mail survey results and Progress Report 2-2012 provided a more detailed analysis of the Wildlife Value Orientations scale and its value in predicting a range of wildlife and environmental attitudes of South Dakota citizens. This report (Progress Report 3-2012) provides a description of wildlife and environmental attitudes of three fish and wildlife user groups (anglers, hunters and wildlife watchers) of South Dakota citizens measured in 2012.

METHODS

The mail survey instruments (11 by 8½ booklets) were developed with input from the South Dakota Game, Fish and Parks (SDGFP) staff. Two versions of the questionnaires were developed to both maximize the number of questions that were asked while minimizing the overall length of the survey (Appendix A). Both survey instruments begin with the same set of six general questions about fish and wildlife management in South Dakota (page 2). Questions 1 through 5 have been used in previous surveys conducted by SDGFP. Both survey instruments contain the same set of 14 questions used to measure respondents Wildlife Value Orientation (WVO) (page 3).

Pages 4 and 5 were different for the two questionnaires. Survey Version 1 had five questions related to prairie ecosystems, five questions related to bats, four questions related to mountain lions, and five miscellaneous questions about some specific wildlife management issues. Survey Version 2 had five questions related to climate change, four questions related to energy development in South Dakota, six questions related to management of rare non-game species versus game animals/fish, and questions measuring the importance of five functions of wetlands. Pages 6 and 7 of both survey instruments measured hunting, fishing and wildlife viewing participation and selected demographic variables were measured on page 8.

Two lists of randomly selected names and addresses of South Dakota residents (N=1,200 each) aged 18 and older were purchased from Survey Sampling International (SSI). Questionnaires were mailed early January 2012 along with a cover letter and full-sized, postage-paid business return envelope (Appendix A). A post-card reminder was mailed mid-February and a second mailing of the questionnaire, return envelope and different cover letter were mailed in early March (Appendix A).

Description of Fish and Wildlife User Groups. Each of the three types of user groups (anglers, hunters and wildlife watchers) was divided into two groups for three different comparisons.

Comparison Number 1:

Fishing	Never Fished	vs.	Have Fished
Hunting	Never Hunted	vs.	Have Hunted
Wildlife Watching	Never Took Trips for Wildlife Viewing	vs.	Have Taken Trips for Wildlife Viewing

Comparison Number 2:

Fishing	Never Fished & Fished in the Past	vs.	Fished Recently (during the past 2 years)
Hunting	Never Hunted & Hunted in the Past	vs.	Hunted Recently (during the past 2 years)
Wildlife Watching	Never Took Trips for Wildlife Viewing & Took Viewing Trips in the Past	vs.	Have Taken Trips for Wildlife Viewing Recently (during the past 2 years)

Comparison Number 3:

Fishing	Fished in the Past	vs.	Fished Recently
Hunting	Hunted in the Past	vs.	Hunted Recently
Wildlife Watching	Took Trips for Wildlife Viewing in the Past	vs.	Have Taken Trips for Wildlife Viewing Recently

Figure 1. Description of the three comparisons for each of the fish and wildlife user groups.

The two groups in the first comparison was based on their response to question one (Table 1) on whether or not they had ever participated in the activity. In the second comparison, group 1 was comprised of those who had never participated in the activity plus those who had participated in the activity but not recently compared to group 2 who had recently participated in the activity (within the past two years). Comparison three was between past participants, group 1 (they have participated in the activity, but not within the past two years) and recent participants, group 2 (they have participated in the activity within the past two years. Group names used in this report are listed in table 2.

Table 1. Questions used for determining membership in each of the groups for each comparison.

Question 1.			
Fishing	Have you ever participated in recreational fishing?	No	Yes
Hunting	Have you ever participated in recreational hunting?	No	Yes
Wildlife Viewing	Have you ever taken any recreational trips for which fish and wildlife viewing was the primary purpose of the trip?	No	Yes
Question 2.			
Fishing	Did you do any fishing during the past 2 years?	No	Yes
Hunting	Did you do any hunting during the past 2 years?	No	Yes
Wildlife Viewing	Did you take any recreational trips during the past 2 years for which fish and wildlife viewing was the primary purpose of the trip?	No	Yes

Table 2. Group names used in this report for the three types of comparisons among user groups.

Comparison	**Group 1**	**Group 2**
1 – Fishing	Never Fished	Have Fished
1 – Hunting	Never Hunted	Have Hunted
1 –Wildlife Watching	No Viewing Trips	Viewing Trips
2 – Fishing	Non-Angler	Recent Angler
2 – Hunting	Non-Hunter	Recent Hunter
2 –Wildlife Watching	Non-Viewers	Recent Viewers
3 – Fishing	Past Angler	Recent Angler
3 – Hunting	Past Hunter	Recent Hunter
3 –Wildlife Watching	Past Viewer	Recent Viewer

Statistics. Data analyses was done using the IBM-SPSS statistical package (Version 19) using mainly Chi-square and ANOVA analyses with a *p*-value of .05 to determine significance with Cramer's V and Eta-squared for measures of association; respectively (Figure 2).

Cramer's V		Eta^2	
value	**relationship**	**value**	**relationship**
.01 – .05	→negligible	.01 – .05	→ small
.06 – .10	→weak	.06 – .13	→ moderate
.11 – .15	→moderate	>.13	→ large
.15 – .25	→strong		
>.25	→very strong		

Figure 2. Measures of association used in this study and interpretations of the values.

Return Rates and Weighted Data[1]. The return rate (49%) was relatively good for a general public survey (Figure 3). The mail survey under-sampled females and younger age groups (ages: 18-34 and 35-49). A combination of sex-age weights was applied to the mail survey data to adjust for a potential sex-age bias for reporting of the general data representing South Dakota citizens (Appendix B). Table information will designate when weighted data are used in the presentation of information. Weighted data are presented when the information may be used to describe the population (South Dakota citizens) and un-weighted data are used for when the main purpose is to compare the relationship between two groups.

[1] Note about weighted data reported in tables: In SPSS weighted data are based on percentages and the raw numbers recalculated to approximate the total number in samples; therefore raw number counts may not sum to total due to rounding errors.

Parameter	Survey Version 1	Survey Version 2	Combined
Initial Sample Size	1,200	1,200	2,400
Undeliverable	50	44	94
Undeliverable Rate	4.2%	3.7%	3.9%
Final Sample Size	1,150	1,156	2,306
Blank Returns	47	50	97
Usable Returns	574	564	1,138
Usable Return Rate	49.9%	48.9%	49.3%

Figure 3. Return rates for the mail survey of South Dakota residents conducted in 2012.

RESULTS

Participation in the Activities – Fishing. Most South Dakota citizens (87%) have fished sometime during their lifetime and about 45% have fished during the past two years (Figure 4 and Table 3). About two-thirds of the people who have fished sometime during their lifetime have also hunted sometime during their lifetime and 41% have hunted recently (during the past two years). A little more than half (52%) of the people who have fished sometime during their lifetime have also taken recreational trips for the primary purpose of viewing wildlife sometime during their lifetime and 35% have taken wildlife viewing trips recently (during the past two years).

Of the people who have fished recently most (83%) have hunted with about two-thirds (66%) having hunted recently (Table 3). Of the people who have fished recently about 55% have taken recreational trips for the primary purpose of viewing wildlife sometime during their lifetime and 42% have taken wildlife viewing trips recently.

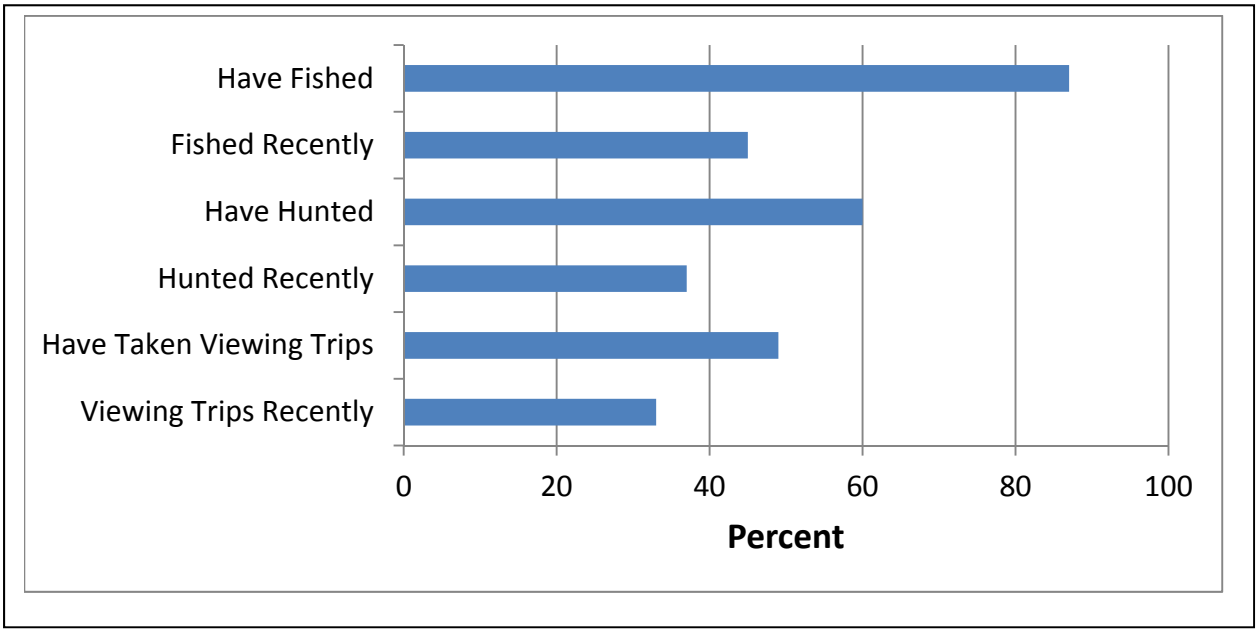

Figure 4. Percent of South Dakota citizens' participation in fishing, hunting and taking wildlife viewing trips (measured in 2012).

Participation in the Activities – Hunting. About 60% of South Dakota citizens have hunted sometime during their lifetime and about 37% have hunted sometime during the past two years (Figure 4 and Table 4). Most people (96%) who have hunted sometime during their lifetime have also fished sometime during their lifetime and 62% have fished recently (during the past two years). About half (51%) of the people who have hunted sometime during their lifetime have also taken recreational trips for the primary purpose of viewing wildlife sometime during their lifetime and 38% have taken wildlife viewing trips recently (during the past two years).

Of the people who have hunted recently most (97%) have fished with about 80% having fished recently (Table 4). Of the people who have hunted recently about 52% have taken recreational trips for the primary purpose of viewing wildlife sometime during their lifetime and 40% have taken wildlife viewing trips recently.

Participation in the Activities – Wildlife Viewing Trips. About 49% of South Dakota citizens have taken recreational trips for the primary purpose of viewing wildlife sometime during their lifetime and about one-third (33%) have taken trips primarily for viewing wildlife during the past two years (Figure 4 and Table 5). Most people (92%) who have taken wildlife viewing trips sometime during their lifetime have also fished sometime during their lifetime and 50% have fished recently (during the past two years). About 62% of the people who have taken wildlife viewing trips sometime during their lifetime have also hunted sometime during their lifetime and 39% have hunted recently (during the past two years).

Of the people who have taken wildlife viewing trips recently most (93%) have fished with about 58% having fished recently (Table 4). Of the people who have taken wildlife viewing trips recently about 69% have hunted sometime during their lifetime and 45% have hunted recently.

Table 3. South Dakota citizens who have participated in recreational fishing (weighted data).

Activity	**Number**	**Percent**
Have participated in fishing	946	86.6%
Total Number	1,093	
Have participated in recreational hunting	624	66.0%
Have hunted during the past two years	388	41.0%
Have taken recreational trips for viewing wildlife	492	52.0%
Have taken recreational trips for viewing wildlife during the past two years	331	35.0%
Total Number	946	
Activity	**Number**	**Percent**
Have participated in fishing during the past two years	487	44.6%
Total Number	1,093	
Have participated in recreational hunting	406	83.4%
Have hunted during the past two years	319	65.5%
Have taken recreational trips for viewing wildlife	266	54.6%
Have taken recreational trips for viewing wildlife during the past two years	206	42.3%
Total Number	487	

Table 4. South Dakota citizens who have participated in recreational hunting (weighted data).

Activity	**Number**	**Percent**
Have participated in hunting	651	59.6%
Total Number	1,093	
Have participated in recreational fishing	624	95.9%
Have fished during the past two years	406	62.4%
Have taken recreational trips for viewing wildlife	329	50.5%
Have taken recreational trips for viewing wildlife during the past two years	244	37.5%
Total Number	651	
Activity	**Number**	**Percent**
Have participated in hunting during the past two years	400	36.6%
Total Number	1,093	
Have participated in recreational fishing	388	97.0%
Have fished during the past two years	319	79.8%
Have taken recreational trips for viewing wildlife	207	51.8%
Have taken recreational trips for viewing wildlife during the past two years	161	40.2%
Total Number	400	

Table 5. South Dakota Citizens who have taken trips for wildlife viewing (weighted data).

Activity	**Number**	**Percent**
Have taken recreational trips for wildlife viewing	533	48.9%
Total Number	1,091	
Have participated in recreational fishing	492	92.3%
Have fished during the past two years	266	49.9%
Have participated in recreational hunting	329	61.7%
Have hunted during the past two years	207	38.8%
Total Number	533	
Activity	**Number**	**Percent**
Have taken recreational trips for wildlife viewing during the past two years	355	32.5%
Total Number	1,091	
Have participated in recreational fishing	331	93.2%
Have fished during the past two years	206	58.0%
Have participated in recreational hunting	244	68.7%
Have hunted during the past two years	161	45.4%
Total Number	355	

Participants' Interest in Wildlife Viewing and Associated Activities. People who have participated in fishing, hunting or taken wildlife viewing trips have a higher percent of people interested in taking trips for viewing wildlife in the future (Figure 5 and Tables 6 and 7). Almost 80% of the people who have fished and hunted and have fished and hunted recently expressed some level of interest in taking wildlife viewing trips in the future. A much higher percent of people who have taken wildlife viewing trips (95%) and who have taken wildlife viewing trips recently (99%) expressed some level of interest in taking wildlife viewing trips in the future.

The percent of people who feed birds and other wildlife was relatively similar regardless of whether or not they fished or hunted (Table 8). However, a higher percent of people who have taken wildlife viewing trips feed birds and other wildlife compared to non-participants and participation in fishing and hunting. Having wildlife viewing opportunities near home was more important to anglers, hunters and especially wildlife viewers compared to non-participants (Figure 6 and Tables 9 and 10).

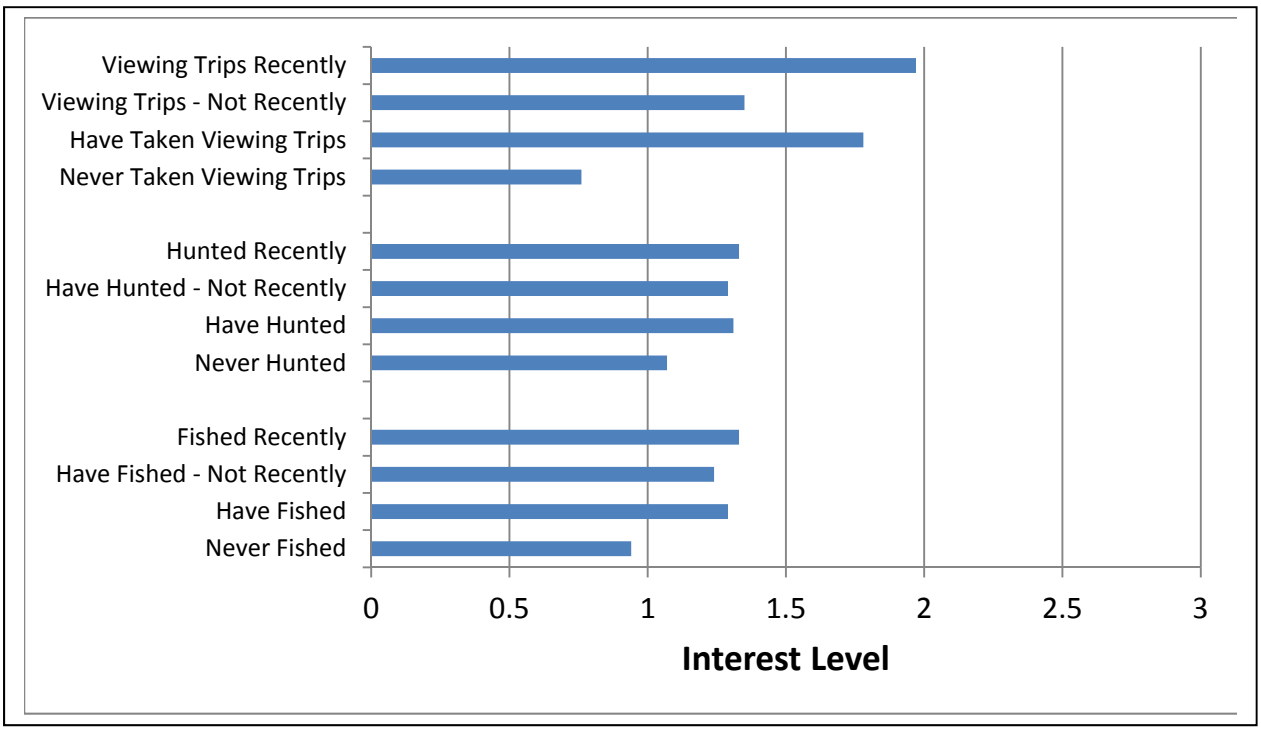

Figure 5. Mean interest level in taking wildlife viewing trips in the future (Interest Scale: 0 = Not at all Interested; 1 = Slightly Interested; 2 = Moderately Interested; 3 = Very Interested)

Table 6. Participants' interest in taking recreational trips in the future for which fish and wildlife is the primary purpose of the trip (weighted data).

Activity	Interest Level				Number
	Not at all	Slightly	Moderately	Very	
Never Fished	46.4%	29.5%	17.3%	6.9%	147
Have Fished	22.8%	34.5%	25.8%	17.0%	940
Fished Recently	20.8%	36.7%	25.3%	17.1%	484
Never Hunted	32.9%	30.5%	23.9%	12.7%	440
Have Hunted	21.2%	36.0%	25.2%	17.6%	646
Hunted Recently	21.0%	37.1%	24.5%	17.4%	399
Never Taken Viewing Trips	46.0%	39.0%	10.2%	4.8%	553
Have Taken Viewing Trips	5.0%	28.2%	39.6%	27.1%	531
Viewing Trips Recently	1.1%	23.3%	43.8%	31.8%	355

Table 7. Participants' mean interest in taking recreational trips in the future for which fish and wildlife is the primary purpose of the trip.

Activity	Mean Interest[1]	95% C.I.	Number
Never Fished	0.94	0.79 – 1.09	150
Have Fished	1.29	1.23 – 1.35	942
Have Fished – Not Recently	1.24	1.15 – 1.34	418
Fished Recently	1.33	1.25 – 1.41	524
Never Hunted	1.07	0.97 – 1.18	309
Have Hunted	1.31	1.25 – 1.38	783
Have Hunted – Not Recently	1.29	1.18 – 1.39	316
Hunted Recently	1.33	1.25 – 1.42	467
Never Taken Viewing Trips	0.76	0.69 – 0.82	565
Have Taken Viewing Trips	1.78	1.71 – 1.85	524
Viewing Trips – Not Recently	1.35	1.22 – 1.47	159
Viewing Trips Recently	1.97	1.89 – 2.05	365

[1]Interest Scale: 0 = Not at all Interested; 1 = Slightly Interested; 2 = Moderately Interested; 3 = Very Interested

Table 8. Percent of participants who feed birds and feed other wildlife (weighted data).

Activity	Feed Birds	Total Number	Feed Other Wildlife	Total Number
Never Fished	46.9%	147	20.4%	147
Have Fished	48.2%	942	19.2%	939
Have Fished – Not Recently	48.6%	457	15.0%	454
Fished Recently	47.7%	484	22.9%	484
Never Hunted	48.5%	441	14.5%	440
Have Hunted	47.6%	647	22.6%	647
Have Hunted – Not Recently	49.0%	251	21.1%	251
Hunted Recently	46.7%	396	23.3%	395
Never Taken Viewing Trips	40.8%	554	12.1%	552
Have Taken Viewing Trips	55.5%	532	26.4%	531
Viewing Trips – Not Recently	54.2%	179	24.3%	177
Viewing Trips Recently	56.2%	354	27.4%	354

Table 9. Importance of having wildlife viewing opportunities near your home (weighted data).

Activity	Importance Level				Number
	Not at all	Slightly	Moderately	Very	
Never Fished	27.2%	26.5%	29.9%	16.3%	147
Have Fished	18.0%	32.0%	28.3%	21.6%	943
Fished Recently	14.4%	35.2%	28.4%	22.0%	486
Never Hunted	25.3%	28.9%	29.3%	16.5%	443
Have Hunted	15.1%	32.9%	28.0%	24.0%	647
Hunted Recently	12.9%	34.4%	29.1%	23.5%	395
Never Taken Viewing Trips	29.9%	32.6%	23.1%	14.4%	555
Have Taken Viewing Trips	8.1%	30.3%	34.0%	27.6%	532
Viewing Trips Recently	7.7%	28.1%	33.5%	30.7%	352

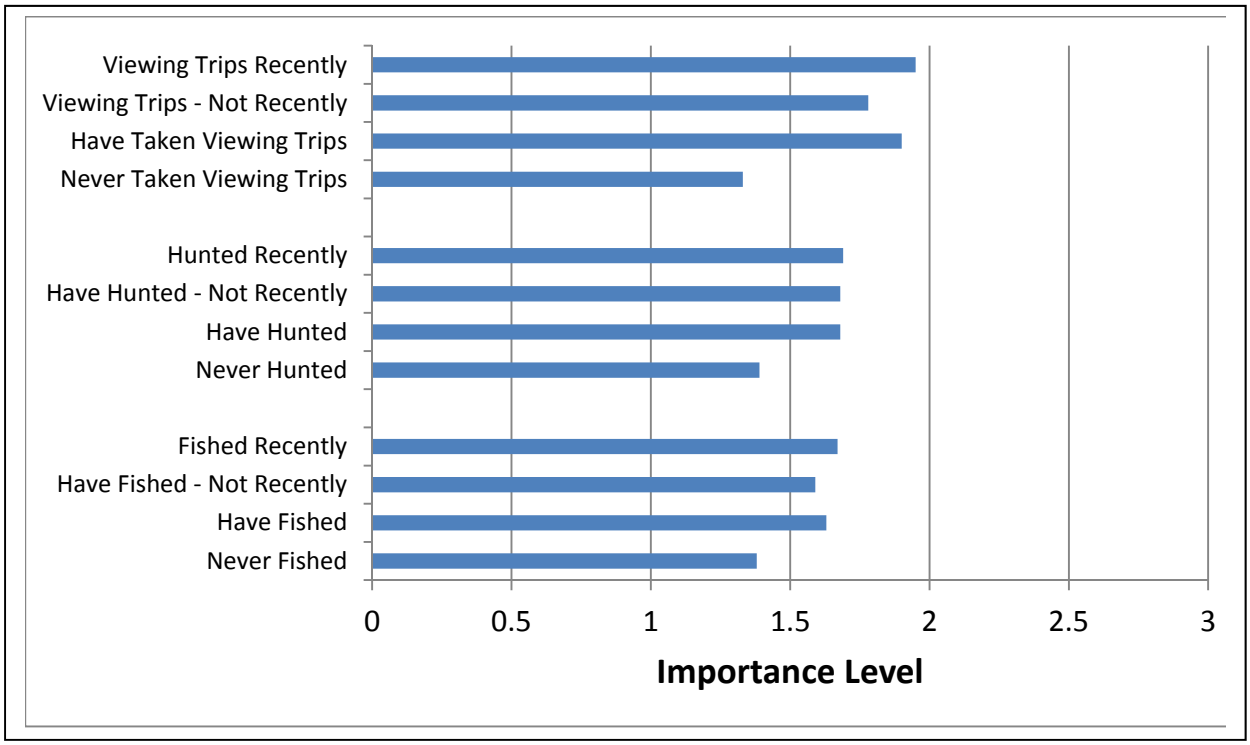

Figure 6. Mean importance level in having wildlife viewing opportunities close to home (Importance Scale: 0= Not at all Important; 1= Slightly Important; 2= Moderately Important; 3= Very Important).

Table 10. Mean importance of having wildlife viewing opportunities near your home.

Activity	Mean Importance[1]	95% C.I.	Number
Never Fished	1.38	1.22 – 1.55	138
Have Fished	1.63	1.57 – 1.70	948
Have Fished – Not Recently	1.59	1.49 – 1.68	421
Fished Recently	1.67	1.59 – 1.75	527
Never Hunted	1.39	1.28 – 1.50	314
Have Hunted	1.68	1.62 – 1.75	785
Have Hunted – Not Recently	1.68	1.57 – 1.78	320
Hunted Recently	1.69	1.60 – 1.77	465
Never Taken Viewing Trips	1.33	1.24 – 1.41	569
Have Taken Viewing Trips	1.90	1.82 – 1.97	524
Viewing Trips – Not Recently	1.78	1.65 – 1.92	161
Viewing Trips Recently	1.95	1.86 – 2.04	363

[1]Importance Scale: 0= Not at all Important; 1= Slightly Important; 2= Moderately Important; 3= Very Important.

Demographics – Fishing. Eleven analyses were conducted comparing demographic variables with participation in fishing for each of the three comparisons for a total of 33 statistical tests (*see Figure 1*). A total of 21 (64%) of the tests were significant (Tables 11-A and 11-B). All data for the comparisons are reported in Appendix C; only selected relationships deemed to be important (based on effect size measured by Eta-squared or Cramer's V) are summarized in this text. People who have fished were younger than people who did not fish and recent anglers were younger than past anglers (Appendix C – Table 1). Sex was strongly related to fishing; a higher percent of males have fished and fished recently (Appendix C – Table 2). Region 4 had a higher percent of recent anglers than non-anglers and past anglers compared to the other three GFP regions (Appendix C – Figure 1 and Table 4). A higher percent of recent anglers own rural land compared to past anglers (Appendix C – Table 8).

Eta^2 and Cramer's V are measures of the strength of the relationship (*see Figure 2*). Eta^2 measures the strength of significant differences in means (ANOVA statistical tests) and Cramer's V measures the strength of significant difference in frequency distributions (Chi-Square statistical tests). All four of the significant ANOVA tests were small and nine of the significant chi-square tests were small, three moderate, two strong and two very strong (Table 11-B).

Table 11-A. Summary of non-significant variables related to fishing (*see Appendix C*).

Comparison	**Variable**	**Appendix C**	***p*-value**
2	Mean Years in S.D.	Table 3	.264
3	Mean Years in S.D.	Table 3	.938
1	Residence – West River / East River	Table 5	.055
2	Residence – West River / East River	Table 5	.867
3	Residence – West River / East River	Table 5	.364
2	Residence – Black Hills	Table 6	.222
1	Ownership of Rural Land	Table 8	.138
2	Farming/Ranching (4)	Table 9-A	.557
3	Farming/Ranching (4)	Table 9-A	.123
2	Farming/Ranching (2)	Table 9-B	.287
2	Community Size - Raised	Table 10	.512
3	Community Size - Raised	Table 10	.057

Table 11-B. Summary of significant variables related to fishing (*see Appendix C*).

Comparison[1]	**Variable**	**Appendix C**	***p*-value**	**Eta**[2]	**Cramer's V**
1	Mean Age	Table 1	<.001	.029	--
2	Mean Age	Table 1	<.001	.028	--
3	Mean Age	Table 1	<.001	.016	--
1	Sex	Table 2	<.001	--	.190
2	Sex	Table 2	<.001	--	.415
3	Sex	Table 2	<.001	--	.415
1	Mean Years in S.D.	Table 3	.003	.008	
1	Residence – GFP Region	Table 4	.011	--	.101
2	Residence – GFP Region	Table 4	<.001	--	.147
3	Residence – GFP Region	Table 4	<.001	--	.187
1	Residence – Black Hills	Table 6	.009	--	.080
3	Residence – Black Hills	Table 6	.024	--	.074
1	Residence Type	Table 7	.007	--	.096
2	Residence Type	Table 7	.044	--	.076
3	Residence Type	Table 7	.026	--	.088
2	Ownership of Rural Land	Table 8	.002	--	.094
3	Ownership of Rural Land	Table 8	<.001	--	.126
1	Farming/Ranching (4)	Table 9-A	.027	--	.092
1	Farming/Ranching (2)	Table 9-B	.024	--	.069
3	Farming/Ranching (2)	Table 9-B	.041	--	.067
1	Community Size - Raised	Table 10	.005	--	.117

[1]See Figure 1 for descriptions of comparisons.

Demographics – Hunting. Eleven analyses were conducted comparing demographic variables with participation in hunting for each of the three comparisons for a total of 33 statistical tests (*see Figure 1*). A total of 28 (85%) of the tests were significant (Tables 12-A and 12-B). All data for the comparisons are reported in Appendix D; only selected relationships deemed to be important (based on effect size measured by Eta-squared or Cramer's V) are summarized in this text. Recent hunters were younger than people who never hunted and past hunters (Appendix D – Table 1). Sex was strongly related to hunting; a higher percent of males have hunted and hunted recently (Appendix D – Table 2). Region 1 had a lower percent of recent hunters than non-hunters and past hunters compared to the other three GFP regions (Appendix D – Figure 1 and Table 4). Black Hills residents had a lower percent of recent hunters compared to other residents (Appendix D – Table 6). Rural residents had higher participation in hunting compared to residents from small towns and cities (Appendix D – Table 7) and people who own rural land had higher participation in hunting (Appendix D – Table 8). Part-time and full-time farmers/ranchers had higher participation in hunting compared to non-farmers/ranchers and retired farmers/ranchers (Appendix D – Table 9-A).

Eta^2 and Cramer's V are measures of the strength of the relationship (*see Figure 2*). Eta^2 measures the strength of significant differences in means (ANOVA statistical tests) and Cramer's V measures the strength of significant difference in frequency distributions (Chi-Square statistical tests). Three of the significant ANOVA tests were small and one was moderate; four of the significant chi-square tests were small, six moderate, eleven strong and three very strong (Table 12-B).

Table 12-A. Summary of non-significant variables related to hunting (*see Appendix D*).

Comparison	**Variable**	**Appendix D**	***p*-value**
1	Mean Age	Table 1	.428
2	Mean Years in S.D.	Table 3	.839
2	Residence – West River / East River	Table 5	.496
1	Residence – Black Hills	Table 6	.361
3	Community Size - Raised	Table 10	.542

Table 12-B. Summary of significant variables related to hunting (*see Appendix D*).

Comparison[1]	**Variable**	**Appendix D**	***p*-value**	**Eta**[2]	**Cramer's V**
2	Mean Age	Table 1	<.001	.024	--
3	Mean Age	Table 1	<.001	.062	--
1	Sex	Table 2	<.001	--	.580
2	Sex	Table 2	<.001	--	.570
3	Sex	Table 2	<.001	--	.397
1	Mean Years in S.D.	Table 3	<.001	.017	
3	Mean Years in S.D.	Table 3	<.001	.026	
1	Residence – GFP Region	Table 4	.005	--	.108
2	Residence – GFP Region	Table 4	.004	--	.112
3	Residence – GFP Region	Table 4	.001	--	.154
1	Residence – WR / ER	Table 5	.026	--	.068
3	Residence – WR / ER	Table 5	.011	--	.100
2	Residence – Black Hills	Table 6	.001	--	.098
3	Residence – Black Hills	Table 6	<.001	--	.190
1	Residence Type	Table 7	<.001	--	.167
2	Residence Type	Table 7	<.001	--	.174
3	Residence Type	Table 7	.003	--	.133
1	Ownership of Rural Land	Table 8	<.001	--	.159
2	Ownership of Rural Land	Table 8	<.001	--	.163
3	Ownership of Rural Land	Table 8	.010	--	.101
1	Farming/Ranching (4)	Table 9-A	<.001	--	.185
2	Farming/Ranching (4)	Table 9-A	<.001	--	.241
3	Farming/Ranching (4)	Table 9-A	<.001	--	.177
1	Farming/Ranching (2)	Table 9-B	<.001	--	.167
2	Farming/Ranching (2)	Table 9-B	<.001	--	.214
3	Farming/Ranching (2)	Table 9-B	<.001	--	.161
1	Community Size - Raised	Table 10	.001	--	.127
2	Community Size - Raised	Table 10	.008	--	.113

[1]See Figure 1 for descriptions of comparisons.

Demographics – Wildlife Viewing. Eleven analyses were conducted comparing demographic variables with participation in hunting for each of the three comparisons for a total of 33 statistical tests (*see Figure 1*). A total of 18 (55%) of the tests were significant (Tables 13-A and 13-B). All data for the comparisons are reported in Appendix E; only selected relationships deemed to be important (based on effect size measured by Eta-squared or Cramer's V) are summarized in this text. A higher percent of recent wildlife viewers were male compared to past wildlife viewers (Appendix E – Table 2). Region 1 had the highest percent of recent viewers compared to past viewers and region 3 the lowest percent of recent viewers (Appendix E – Figure 1 and Table 4). West River residents had a higher percent of recent viewers compared East River residents viewers (Appendix E – Table 5) and Black Hills residents had a higher percent of recent viewers compared to other South Dakota residents viewers (Appendix E – Table 6). Rural residents had a higher percent of recent viewers compared to city residents (Appendix E – Table 7).

Eta^2 and Cramer's V are measures of the strength of the relationship (*see Figure 2*). Eta^2 measures the strength of significant differences in means (ANOVA statistical tests) and Cramer's V measures the strength of significant difference in frequency distributions (Chi-Square statistical tests). The only significant ANOVA test was small and four of the significant chi-square tests were small, six moderate and seven were strong (Table 13-B).

Note: Fishing and hunting participation tended to be more strongly associated with the demographic variables sex and age while wildlife viewing participation tended to be more strongly associated with demographic variables regarding residence.

Table 13-A. Summary of non-significant variables related to wildlife viewing (*see Appendix E*).

Comparison	**Variable**	**Appendix E**	***p*-value**
1	Mean Age	Table 1	.346
2	Mean Age	Table 1	.288
3	Mean Age	Table 1	.563
1	Sex	Table 2	.186
2	Sex	Table 2	.159
2	Mean Years in S.D.	Table 3	.267
3	Mean Years in S.D.	Table 3	.341
2	Residence Type	Table 7	.112
1	Ownership of Rural Land	Table 8	.985
1	Farming/Ranching (4)	Table 9-A	.608
2	Farming/Ranching (4)	Table 9-A	.301
3	Farming/Ranching (4)	Table 9-A	.119
1	Farming/Ranching (2)	Table 9-B	.464
2	Farming/Ranching (2)	Table 9-B	.457
3	Farming/Ranching (2)	Table 9-B	.067

Table 13-B. Summary of significant variables related to wildlife viewing (*see Appendix E*).

Comparison[1]	**Variable**	**Appendix E**	***p*-value**	**Eta^2**	**Cramer's V**
3	Sex	Table 2	.001	--	.145
1	Mean Years in S.D.	Table 3	.012	.006	--
1	Residence – GFP Region	Table 4	.003	--	.113
2	Residence – GFP Region	Table 4	<.001	--	.179
3	Residence – GFP Region	Table 4	<.001	--	.249
1	Residence – WR / ER	Table 5	.012	--	.077
2	Residence – WR / ER	Table 5	<.001	--	.170
3	Residence – WR / ER	Table 5	<.001	--	.226
1	Residence – Black Hills	Table 6	.003	--	.091
2	Residence – Black Hills	Table 6	<.001	--	.181
3	Residence – Black Hills	Table 6	<.001	--	.229
1	Residence Type	Table 7	.014	--	.088
3	Residence Type	Table 7	<.001	--	.192
2	Ownership of Rural Land	Table 8	.037	--	.063
3	Ownership of Rural Land	Table 8	.003	--	.130
1	Community Size - Raised	Table 10	<.001	--	.146
2	Community Size - Raised	Table 10	.003	--	.122
3	Community Size - Raised	Table 10	.035	--	.140

[1]See Figure 1 for descriptions of comparisons.

Wildlife and Environmental Attitudes Related to Fishing – *Comparison 1 (Never Fished vs. Have Fished)*. Most South Dakota adult citizens (87%) have fished sometime during their lifetime (Table 3). A higher percent of people who have fished have a utilitarian orientation (Figure 7 and Table 14).

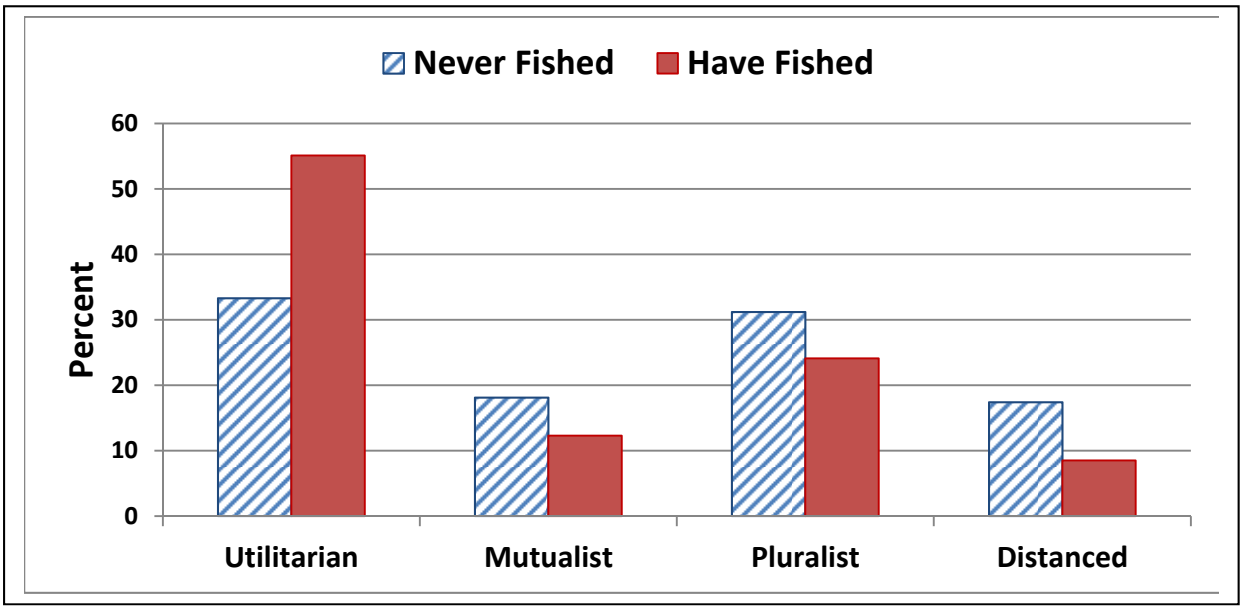

Figure 7. The Wildlife Value Orientations of South Dakota residents comparing people who have never fished with people who have fished.

Table 14. Wildlife Value Orientations between people who have never fished and people who have fished.

Wildlife Value Orientation Types	Never Fished		Fished	
	Number	Percent	Number	Percent
Utilitarian	46	33.3%	493	55.1%
Mutualist	25	18.1%	110	12.3%
Pluralist	43	31.2%	216	24.1%
Distanced	24	17.4%	76	8.5%
Total	138	100%	895	100%
Chi-Square: X^2= 26.081; df=3; p<.001; Cramer's V = .159				

Seventeen (38%) of the 45 wildlife and environmental questions had significant differences in mean values between people who have never fished compared with people who have fished (Table 15 and Appendix F). All 17 significant differences in mean values were classified as small. One of the larger differences was in response to the question, "In general, how much does fish and wildlife detract or contribute to a high "quality of life" for you?" (Appendix F – Table 1-A). People, who have fished, rated fish and wildlife higher in importance than did people who have never fished (Figure 8). Some additional examples of the larger differences include attitude towards a regulated mountain lion season and importance of wetlands for provide wildlife habitat. People who have fished more strongly favored having a regulated mountain lion season in South Dakota (Figure 9 and Appendix F – Table 4-A) and rated the importance of wetlands for providing wildlife habitat higher (Figure 10 and Appendix F – Table 9-A) than did people who have never fished. Generally, the main differences in wildlife and environmental attitudes between people who have fished and those who have never fished were higher neutral or no opinion responses by the people who have never fished.

Table 15. Summary of the results comparing wildlife and environmental attitudes of South Dakota adult citizens who have never fished with those who have fished (data from Appendix F).

Type of Questions	**Number of Questions**	**Number Significant**	**Appendix F Table**
General Questions about Fish and Wildlife	6	3	1
Prairie Ecosystem	5	0	2
Bats in South Dakota	5	2	3
Mountain Lions	4	2	4
Managing for Rare Wildlife Species	6	6	5
Miscellaneous Questions about Fish and Wildlife	5	1	6
Climate Change	5	0	7
Energy Development	4	1	8
Wetlands	5	2	9
Total	45	17	

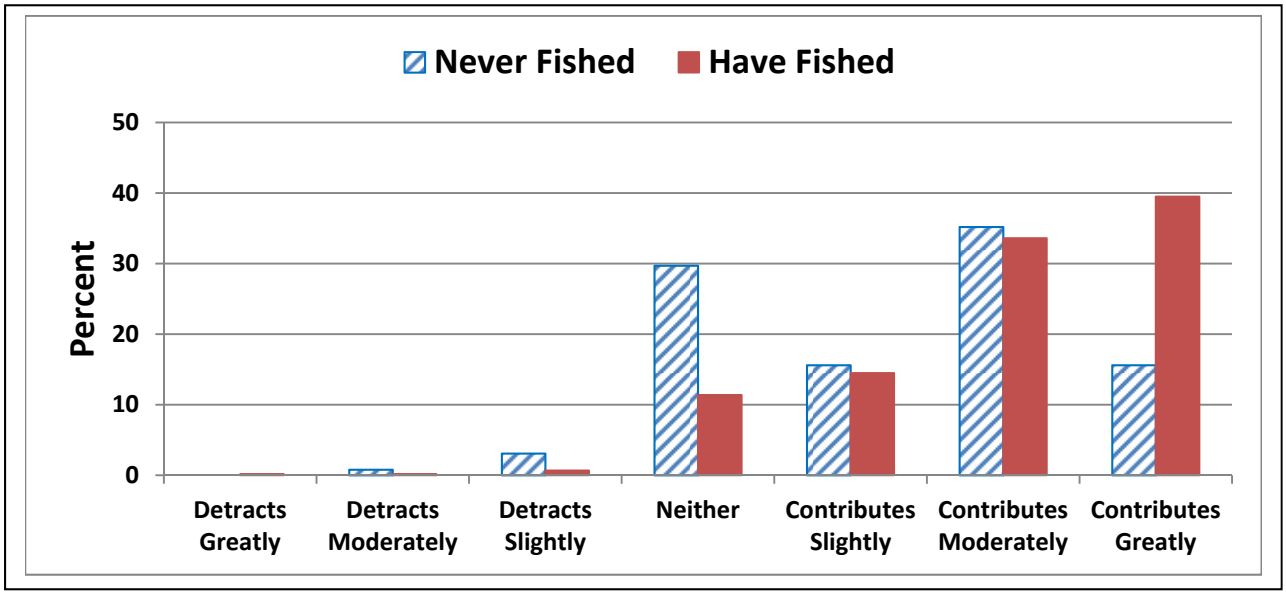

Figure 8. "In general, how much does fish and wildlife detract or contribute to a high "quality of life" for you?" comparing South Dakota adult residents who have never fished with people who have fished. [Chi-square: X^2=53.878; df=6; p<.001; Cramer's V = .227]

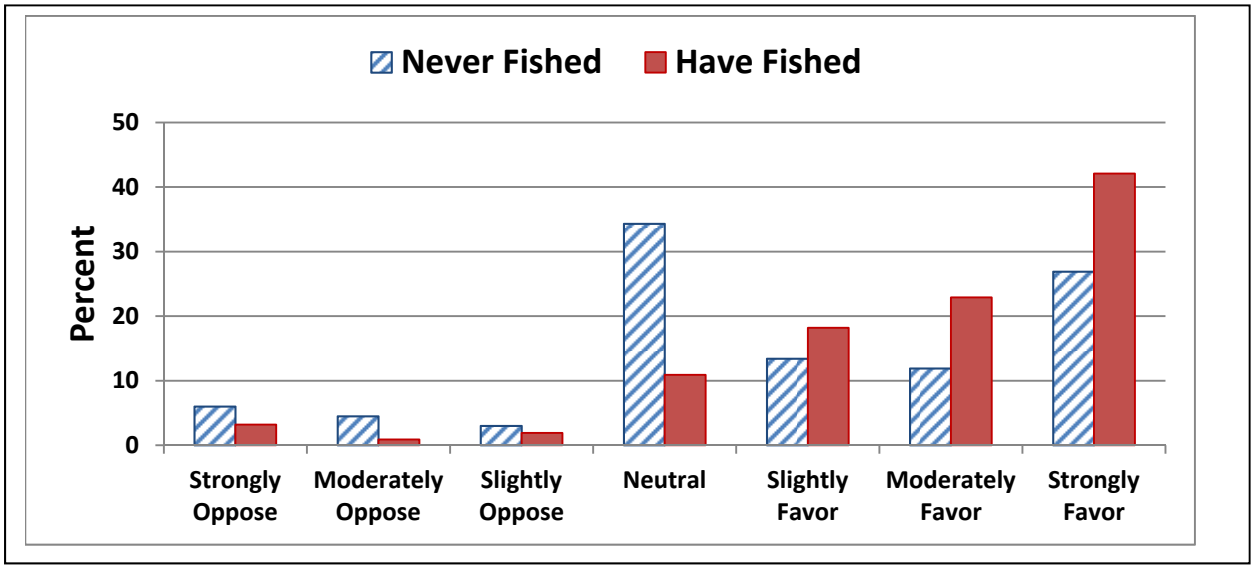

Figure 9. "Do you oppose of favor a regulated mountain lion season in South Dakota?" comparing South Dakota adult residents who have never fished with people who have fished. [Chi-square: X^2=38.107; df=6; p<.001; Cramer's V = .267]

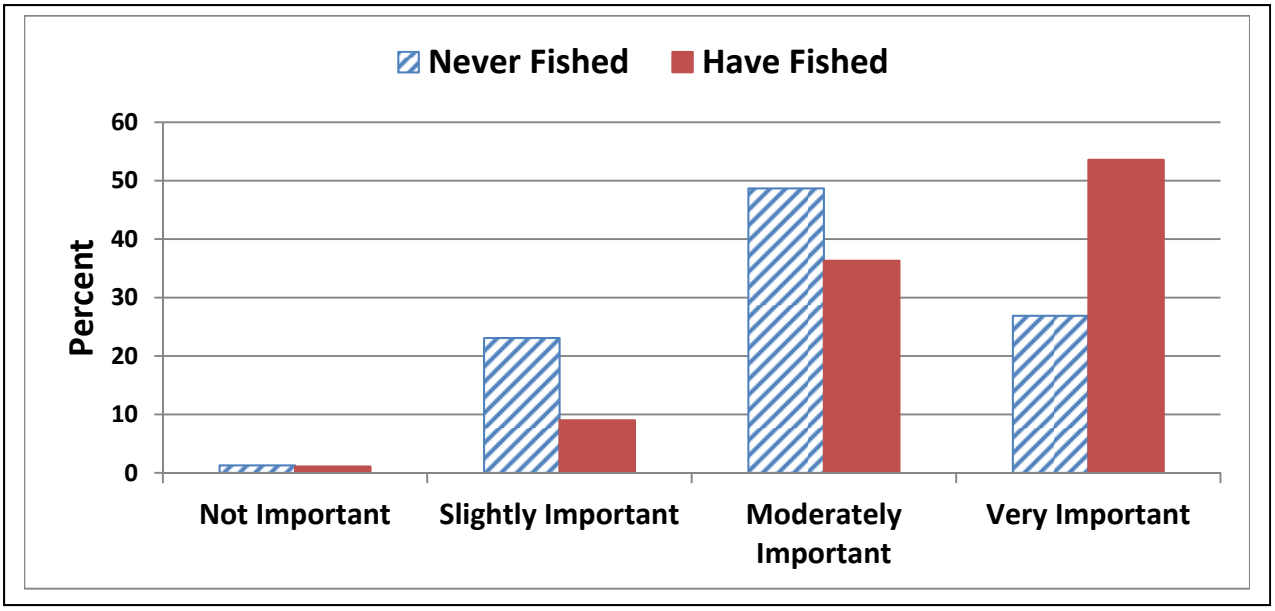

Figure 10. "Wetlands perform many functions: please rate the importance of each function to you: providing wildlife habitat" comparing South Dakota adult residents who have never fished with people who have fished. [Chi-square: X^2=24.397; df=3; p<.001; Cramer's V = .211]

Wildlife and Environmental Attitudes Related to Fishing – *Comparison 2 (Never Fished or Only Fished in the Past vs. Fished Recently)*. Comparison 2 combines people who have never fished with people who have fished, but not recently (labeled Non-Anglers in the Tables) and compares this group with people who have fished recently (defined as fishing sometime during the past two years) (Table 16). A higher percent of people who have fished recently have a utilitarian orientation (Figure 11 and Table 17).

Table 16. Frequency distribution of non-anglers and recent anglers for the 2012 South Dakota citizen survey.

Group (sample data)	**Number**	**Percent**
Non-Anglers	576	52.0%
Recent Anglers	531	48.0%
Total	1,107	100%
Group (weighted data)	**Number**	**Percent**
Non-Anglers	606	55.4%
Recent Anglers	487	44.6%
Total	1,093	100%

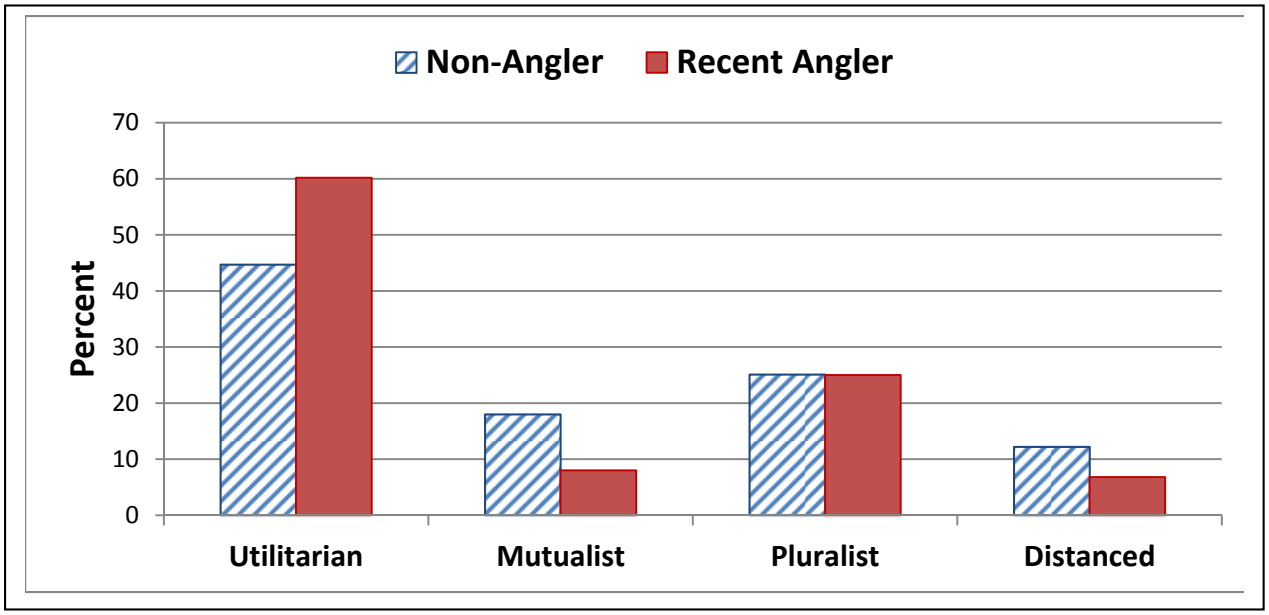

Figure 11. The Wildlife Value Orientations of South Dakota residents comparing non-anglers with recent anglers.

Table 17. Wildlife Value Orientations between non-anglers[1] and recent anglers[2].

Wildlife Value Orientation Types	Non-Anglers		Recent Anglers	
	Number	Percent	Number	Percent
Utilitarian	246	44.7%	303	60.2%
Mutualist	99	18.0%	40	8.0%
Pluralist	138	25.1%	126	25.0%
Distanced	67	12.2%	34	6.8%
Total	550	100%	503	100%
Chi-Square: X^2= 40.271; df=3; p<.001; Cramer's V = .196				

[1]Non-Anglers defined as people who have never fished and/or not fished in the past two years.
[2]Recent Anglers defined as people who have fished sometime during the past two years.

Seventeen (38%) of the 45 wildlife and environmental questions had significant differences in mean values between non-anglers (people who have never fished and or not fished recently) compared with people who have fished recently (sometime during the past two years) (Table 18 and Appendix G). Fifteen of the significant differences in mean values were classified as small and two as moderate. The largest difference was in response to the question, "In general, how much does fish and wildlife detract or contribute to a high "quality of life" for you?" (Appendix G – Table 1-A). People who have fished recently, rated fish and wildlife higher in importance than did non-anglers (Figure 12). Also, recent anglers more strongly favored having a regulated mountain lion season in South Dakota than did non-anglers (Figure 13 and Appendix G – Table 4-A).

Some additional examples of the larger differences include attitude towards reducing predators to help increase numbers of game animals for hunters and the importance of wetlands for provide wildlife habitat. Recent anglers more strongly favored reducing predator numbers (Figure 14 and Appendix G – Table 6-A) and rated the importance of wetlands for providing wildlife habitat higher (Figure 15 and Appendix G – Table 9-A) than did non-anglers. Generally, the main differences in wildlife and environmental attitudes between non-anglers and recent anglers were higher neutral or no opinion responses by non-anglers.

Table 18. Summary of the results comparing wildlife and environmental attitudes of South Dakota non-anglers and recent anglers (data from Appendix G).

Type of Questions	**Number of Questions**	**Number Significant**	**Appendix G Table**
General Questions about Fish and Wildlife	6	4	1
Prairie Ecosystem	5	0	2
Bats in South Dakota	5	1	3
Mountain Lions	4	3	4
Managing for Rare Wildlife Species	6	1	5
Miscellaneous Questions about Fish and Wildlife	5	3	6
Climate Change	5	3	7
Energy Development	4	0	8
Wetlands	5	2	9
Total	45	17	

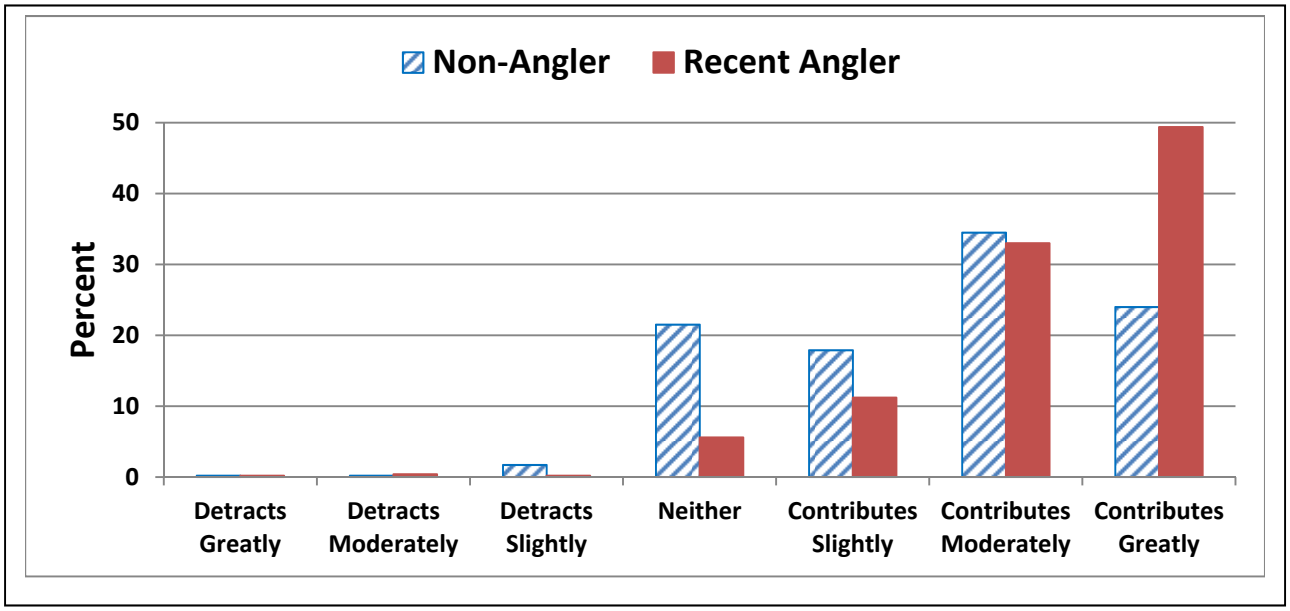

Figure 12. "In general, how much does fish and wildlife detract or contribute to a high "quality of life" for you?" comparing South Dakota non-anglers with recent anglers. [Chi-square: X^2=109.878; df=6; p<.001; Cramer's V = .324]

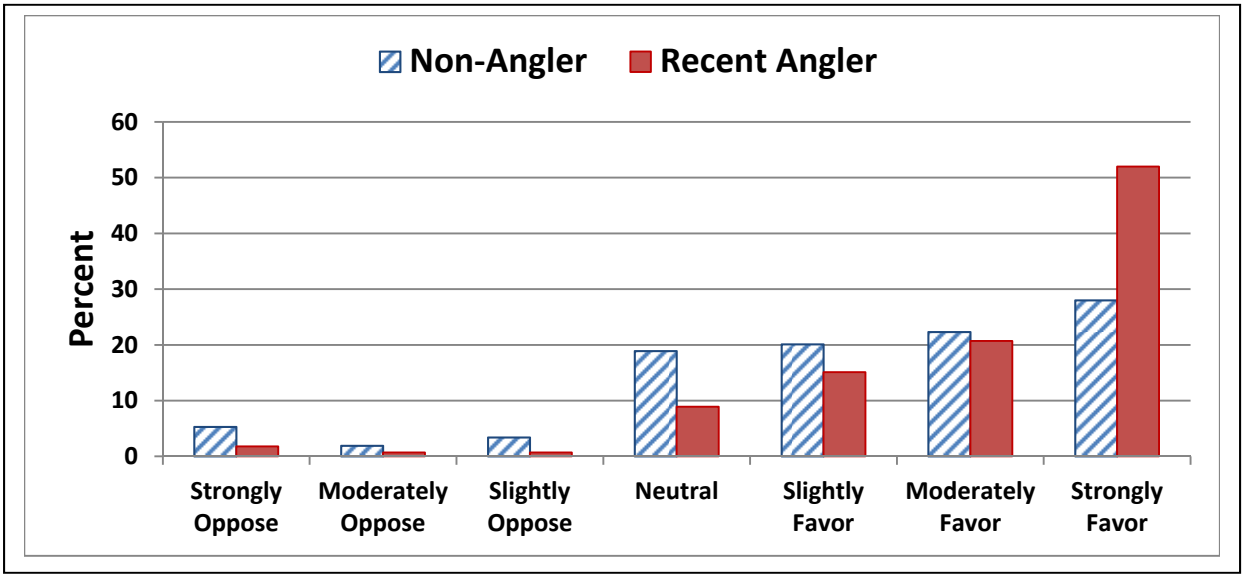

Figure 13. "Do you oppose of favor a regulated mountain lion season in South Dakota?" comparing South Dakota non-anglers with recent anglers. [Chi-square: X^2=41.543; df=6; p<.001; Cramer's V = .279]

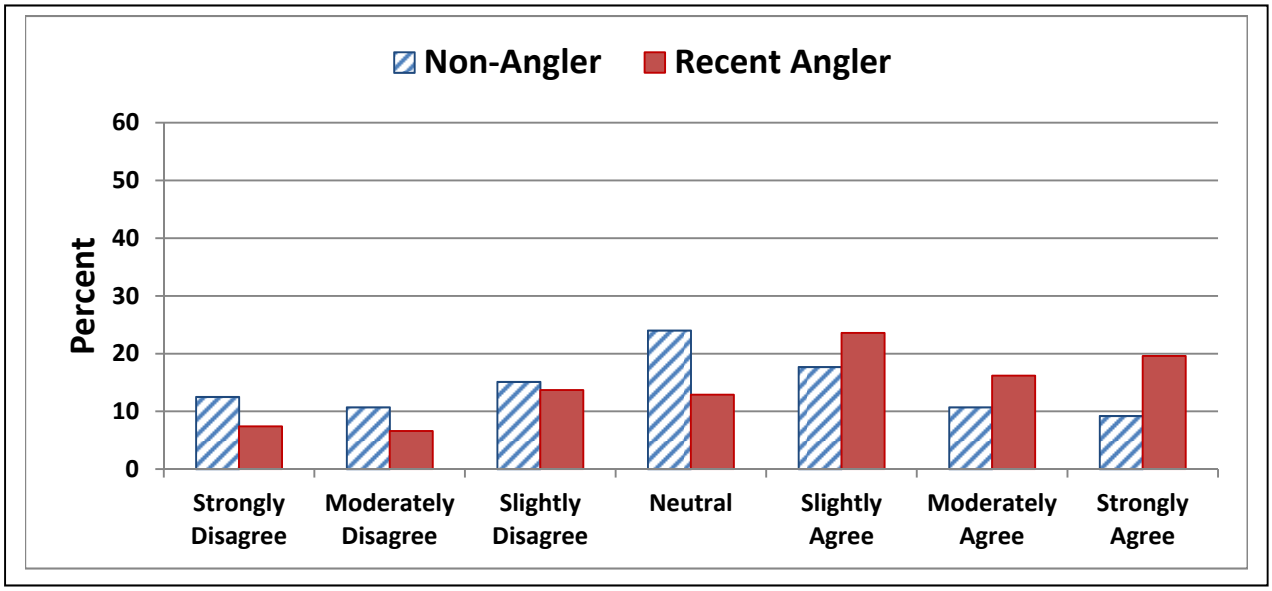

Figure 14. "In general, efforts should be made to reduce predator numbers to help increase the numbers of game animals for hunters," comparing South Dakota non-anglers with recent anglers. [Chi-square: X^2=30.828; df=6; p<.001; Cramer's V = .238]

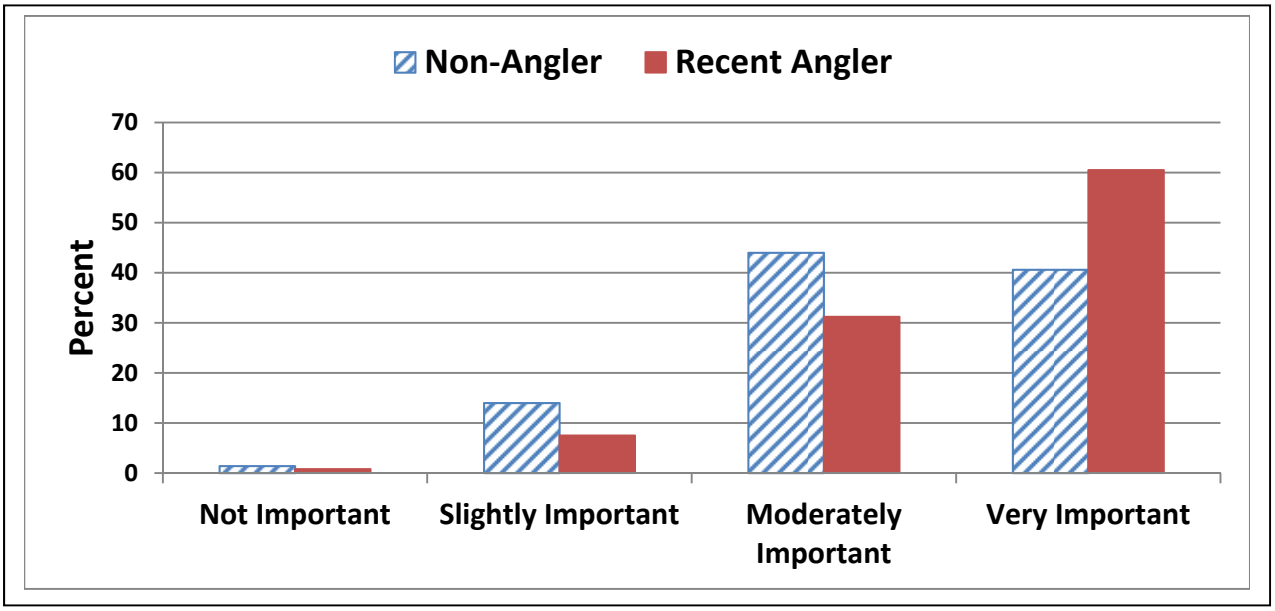

Figure 15. "Wetlands perform many functions: please rate the importance of each function to you: providing wildlife habitat" comparing South Dakota non-anglers with recent anglers. [Chi-square: X^2=22.191; df=3; p<.001; Cramer's V = .202]

Wildlife and Environmental Attitudes Related to Fishing – *Comparison 3 (Past Anglers vs. Recent Anglers)*. Comparison 3 compares people who have fished, but not recently (longer than 2 years ago) with people who have fished recently (sometime during the past two years). Of the people who have fished, a little over half have fished recently (Table 19). One very large difference between past anglers and recent anglers is the importance of fishing (Figure 16 and Table 20). A higher percent of people who have fished recently have a utilitarian orientation (Figure 17 and Table 21).

Table 19. Frequency distribution of past anglers and recent anglers.

Anglers (sample data)	**Number**	**Percent**
Past Anglers (not fished any during the past 2 years)	424	44.4%
Recent Anglers (fished sometime during the past 2 years)	531	55.6%
Total	955	100%
Anglers (weighted data)	**Number**	**Percent**
Past Anglers (not fished any during the past 2 years)	458	48.5%
Recent Anglers (fished sometime during the past 2 years)	487	51.5%
Total	946	100%

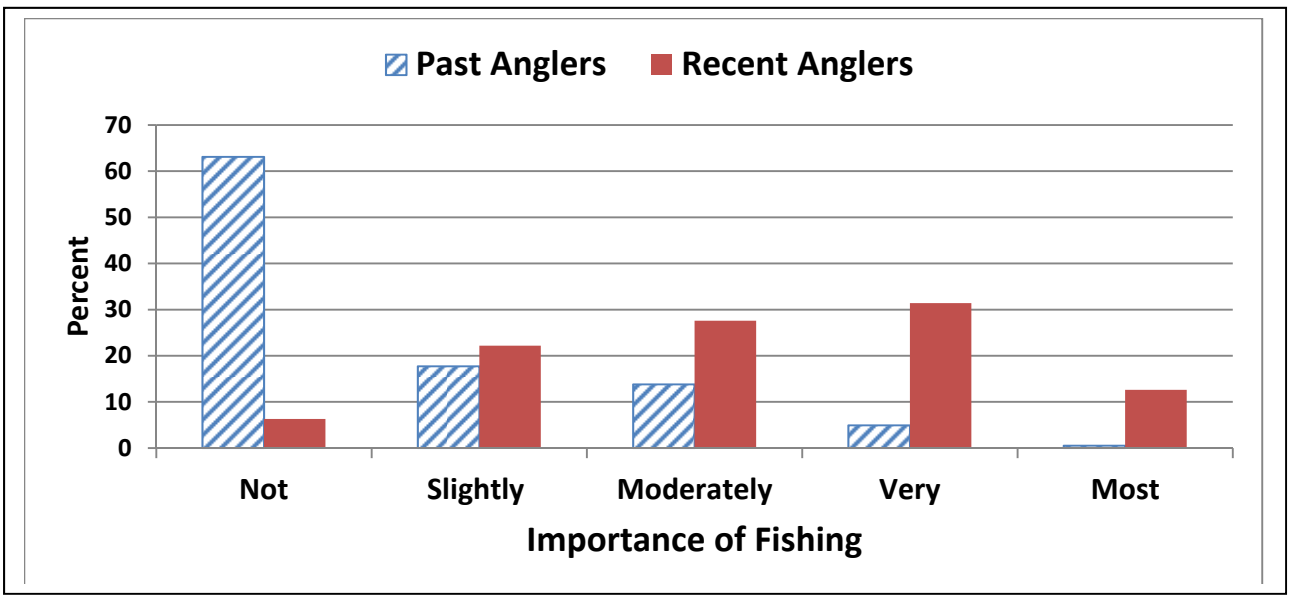

Figure 16. Importance of fishing comparing past anglers and recent anglers (weighted data). [Chi-square: X^2=369.065; df=4; p<.001; Cramer's V = .644]

Table 20. Comparison of importance of fishing between people who have fished but not in the past two years with people who have fished in the past two years (measured in 2012) (weighted data).

Importance Scale	**Past Anglers (NOT fished in the past two years)**		**Recent Anglers (fished in the past two years)**	
	Number	**Percent**	**Number**	**Percent**
Not Important (0)	260	56.5%	30	6.1%
Slightly Important (1)	73	15.9%	106	21.7%
Moderately Important (2)	57	12.4%	132	27.0%
Very Important (3)	20	4.3%	150	30.7%
Most Important Activity (4)	2	0.4%	60	12.3%
No Opinion (missing)	48	10.4%	10	2.0%
Total	460	100%	488	100%
Chi-Square: X^2= 396.345; df=5; p<.001; Cramer's V = .647				
Mean	0.61		2.22	
95% C.I.	0.52 – 0.70		2.12 – 2.32	
ANOVA F=538.172; df=1/885; p<.001; Eta^2=.378				

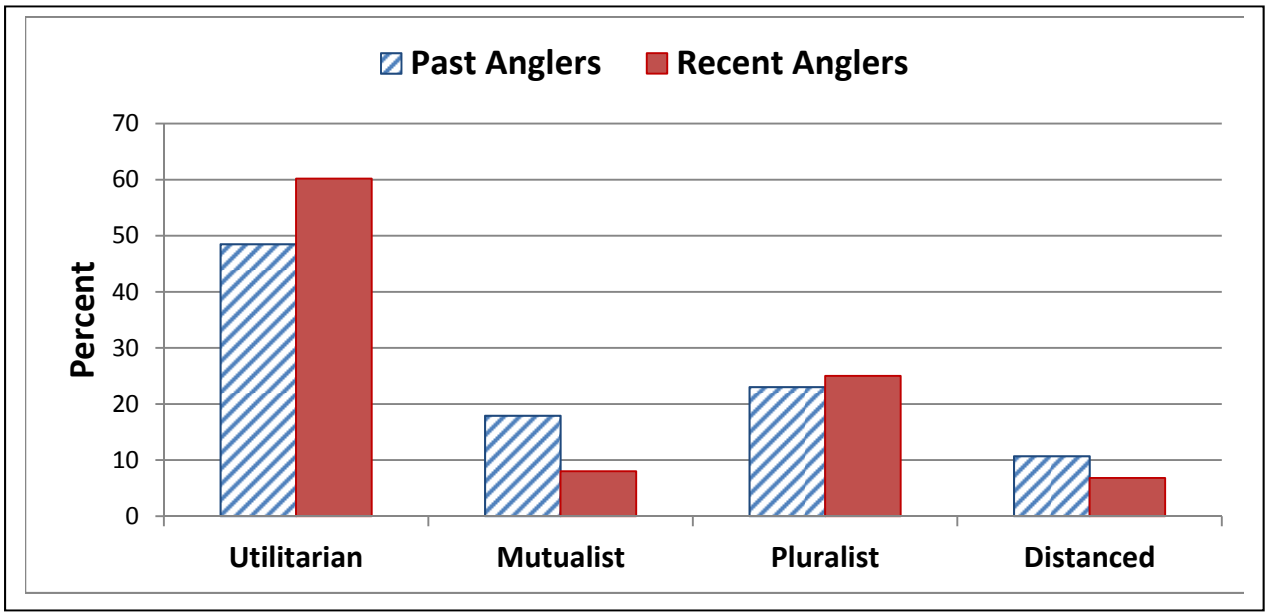

Figure 17. The Wildlife Value Orientations of South Dakota residents comparing past anglers with recent anglers.

Table 21. Wildlife Value Orientations between past anglers and recent anglers.

Wildlife Value Orientation Types	**Past Anglers**		**Recent Anglers**	
	Number	**Percent**	**Number**	**Percent**
Utilitarian	190	48.5%	303	60.2%
Mutualist	70	17.9%	40	8.0%
Pluralist	90	23.0%	126	25.0%
Distanced	42	10.7%	34	6.8%
Total	392	100%	503	100%
Chi-Square: X^2= 27.582; df=3; p<.001; Cramer's V = .176				

Fourteen (31%) of the 45 wildlife and environmental questions had significant differences in mean values between past anglers (not fished any during the past two years) and recent anglers (fished sometime during the past two years) (Table 22 and Appendix H). Thirteen of the significant differences in mean values were classified as small and one as moderate. The largest difference was in response to the question, "In general, how much does fish and wildlife detract or contribute to a high *quality of life* for you?" (Figure 18 and Appendix H – Table 1).

Table 22. Summary of the results comparing wildlife and environmental attitudes of South Dakota past anglers and recent anglers (data from Appendix H).

Type of Questions	**Number of Questions**	**Number Significant**	**Appendix H Table**
General Questions about Fish and Wildlife	6	4	1
Prairie Ecosystem	5	0	2
Bats in South Dakota	5	1	3
Mountain Lions	4	2	4
Managing for Rare Wildlife Species	6	1	5
Miscellaneous Questions about Fish and Wildlife	5	3	6
Climate Change	5	1	7
Energy Development	4	0	8
Wetlands	5	2	9
Total	45	14	

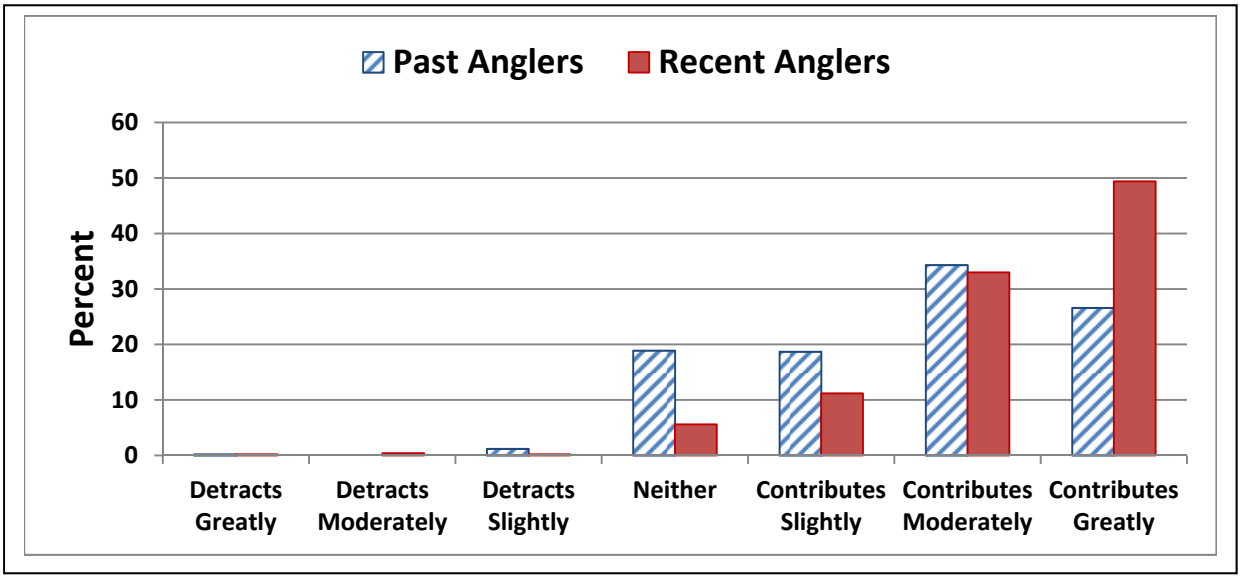

Figure 18. "In general, how much does fish and wildlife detract or contribute to a high "quality of life" for you?" comparing South Dakota past anglers with recent anglers. [Chi-square: X^2=79.195; df=6; p<.001; Cramer's V = .293]

Some additional examples of the larger differences include attitude towards a regulated mountain lion season in South Dakota and reducing predators to help increase numbers of game animals for hunters. Recent anglers more strongly favored having a regulated mountain lion season in South Dakota (Figure 19 and Appendix H – Table 4-A) and more strongly favored reducing predator numbers (Figure 20 and Appendix H – Table 6-A) than did past anglers. Generally, the main differences in wildlife and environmental attitudes between past anglers and recent anglers were higher neutral, no opinion and/or less strongly held attitude positions than did responses by non-anglers.

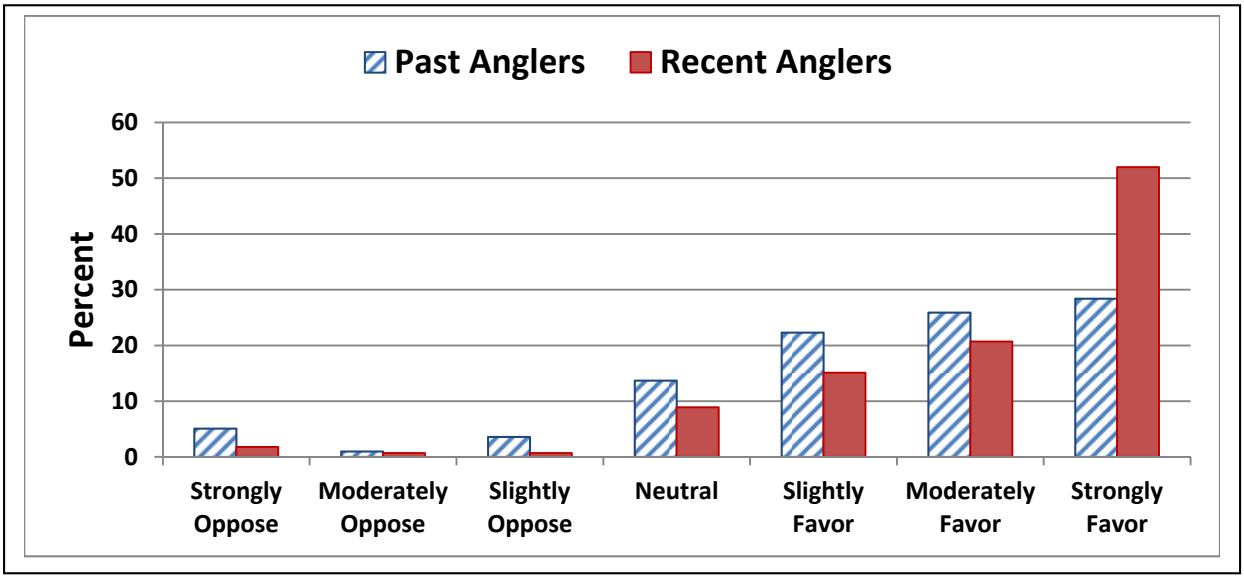

Figure 19. "Do you oppose of favor a regulated mountain lion season in South Dakota?" comparing South Dakota past anglers with recent anglers. [Chi-square: X^2=30.702; df=6; p<.001; Cramer's V = .256]

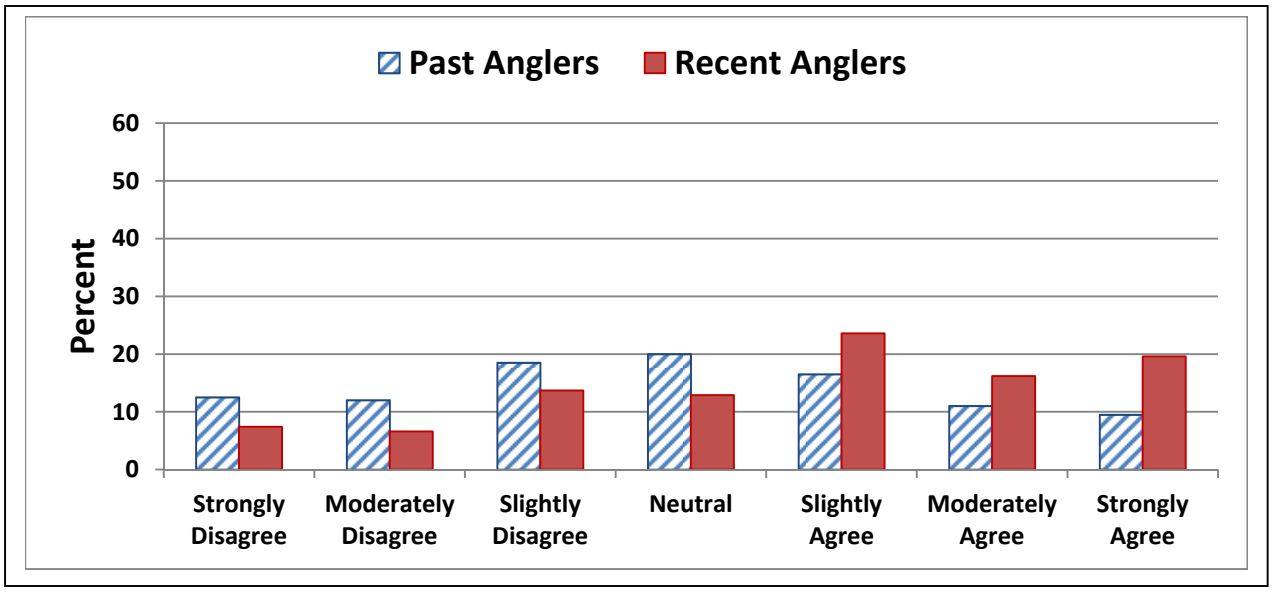

Figure 20. "In general, efforts should be made to reduce predator numbers to help increase the numbers of game animals for hunters," comparing South Dakota past anglers with recent anglers. [Chi-square: X^2=24.905; df=6; p<.001; Cramer's V = .230]

Wildlife and Environmental Attitudes Related to Hunting – *Comparison 1 (Never Hunted vs. Have Hunted)*. About 60% of South Dakota adult citizens have hunted sometime during their lifetime (Table 4). A higher percent of people who have hunted have a utilitarian orientation (Figure 21 and Table 23).

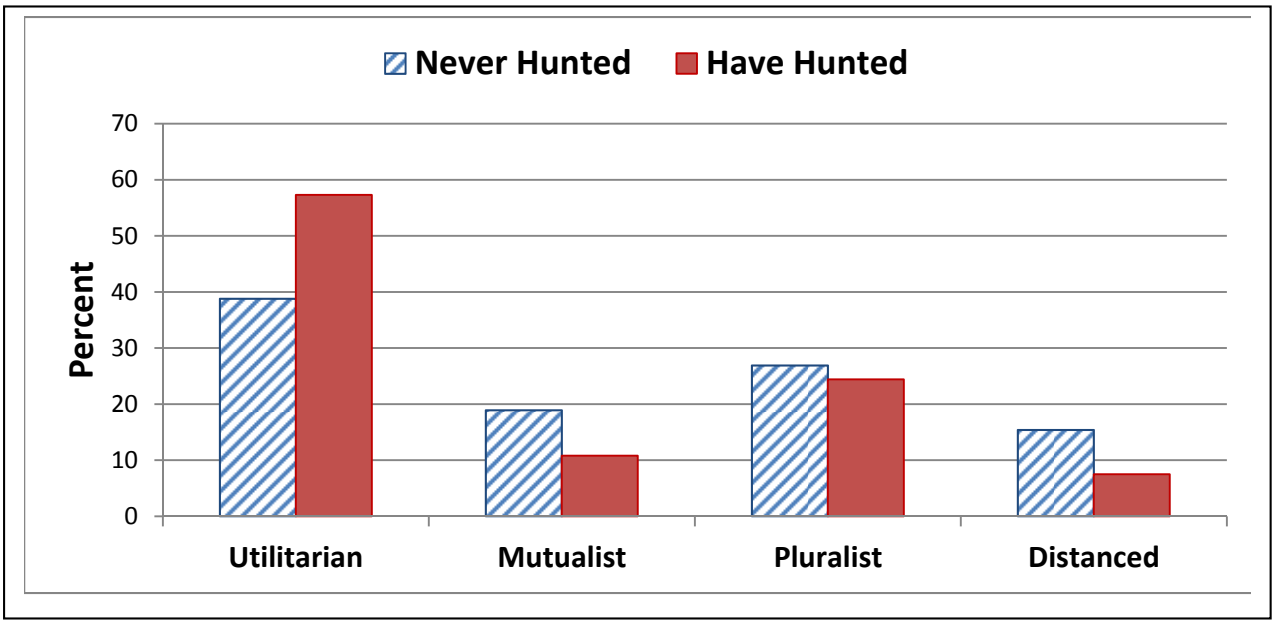

Figure 21. The Wildlife Value Orientations of South Dakota residents comparing people who have never hunted with people who have hunted.

Table 23. Wildlife Value Orientations between people who have never hunted and people who have hunted.

Wildlife Value Orientation Types	Never Hunted		Hunted	
	Number	Percent	Number	Percent
Utilitarian	111	38.8%	428	57.3%
Mutualist	54	18.9%	81	10.8%
Pluralist	77	26.9%	182	24.4%
Distanced	44	15.4%	56	7.5%
Total	286	100%	747	100%
Chi-Square: X^2= 37.600; df=3; p<.001; Cramer's V = .191				

Seventeen (38%) of the 45 wildlife and environmental questions had significant differences in mean values between people who have never hunted compared with people who have hunted (Table 24 and Appendix I). Twelve of the 17 significant differences in mean values were classified as small and 2 were of moderate strength. The largest difference was in response to the question, "Do you oppose or favor a regulated mountain lion season in South Dakota?" (Appendix I – Table 4-A). A higher percent of people who have hunted favored a regulated mountain lion season in South Dakota (Figure 22). The second largest difference was in response to the question, "I would support requirements to use non-toxic bullets for shooting prairie dogs to reduce lead poisoning of eagles, hawks and other wildlife," (Appendix I – Table 6-A). A higher percent of people who have never hunted favored requirements to use non-toxic bullets (Figure 23).

Some additional examples of the larger differences include the general importance of wildlife and support for reducing predator numbers. People who have hunted rated wildlife higher in importance for contributing to their "quality of life" in South Dakota than did people who have never hunted (Figure 24 and Appendix I – Table 1-A). Also, a higher percent people who have hunted would support efforts to reduce predator numbers to help increase the numbers of game animals for hunters (Figure 25 and Appendix I – Table 6-A).

Table 24. Summary of the results comparing wildlife and environmental attitudes of South Dakota adult citizens who have never hunted with those who have hunted (data from Appendix I).

Type of Questions	Number of Questions	Number Significant	Appendix I Table
General Questions about Fish and Wildlife	6	3	1
Prairie Ecosystem	5	1	2
Bats in South Dakota	5	1	3
Mountain Lions	4	3	4
Managing for Rare Wildlife Species	6	2	5
Miscellaneous Questions about Fish and Wildlife	5	3	6
Climate Change	5	0	7
Energy Development	4	2	8
Wetlands	5	2	9
Total	44	17	

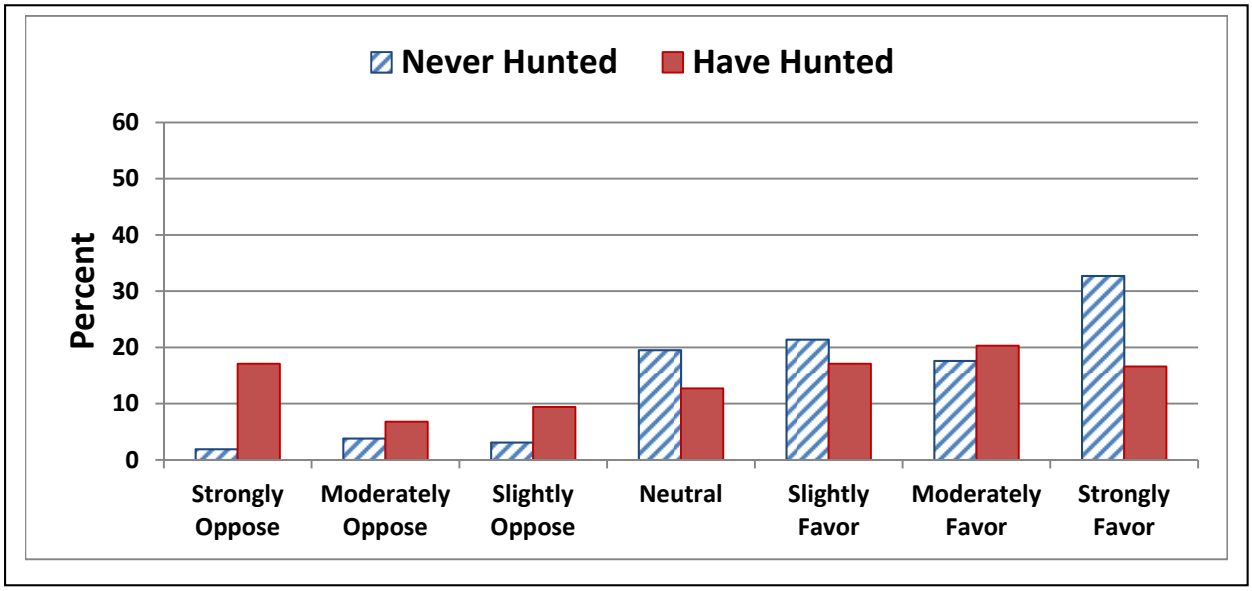

Figure 22. "Do you oppose or favor a regulated mountain lion season in South Dakota?" comparing people who have never hunted with people who have hunted. [Chi-square: X^2=50.043; df=6; p<.001; Cramer's V = .306]

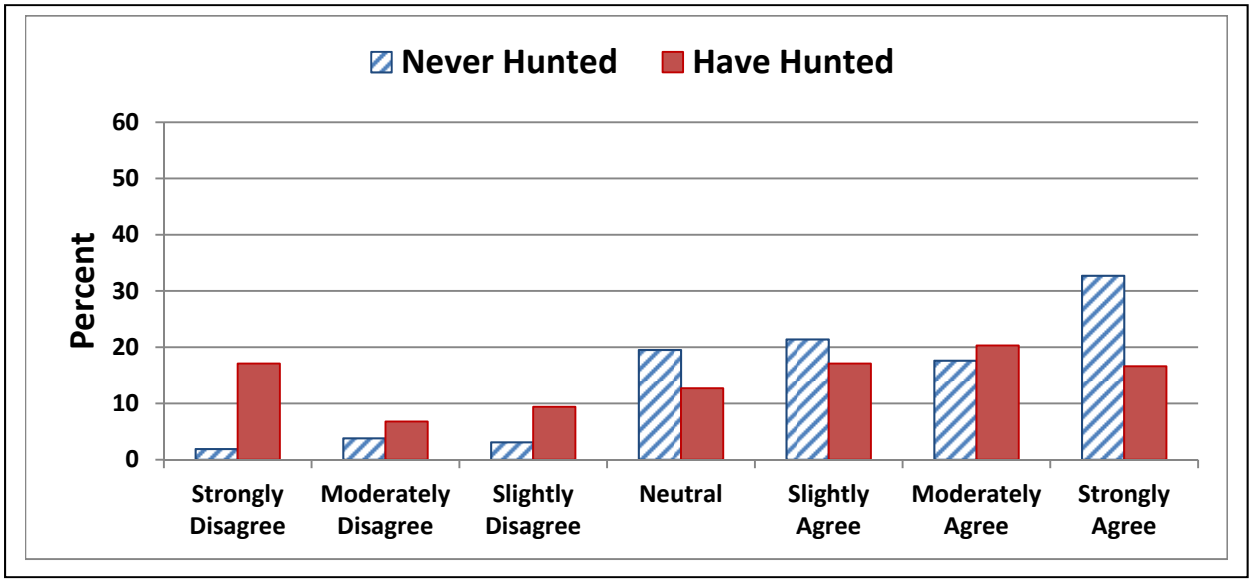

Figure 23. "I would support requirements to use non-toxic bullets for shooting prairie dogs to reduce lead poisoning of eagles, hawks and other wildlife," comparing people who have never hunted with people who have hunted. [Chi-square: X^2=46.757; df=6; p<.001; Cramer's V = .293]

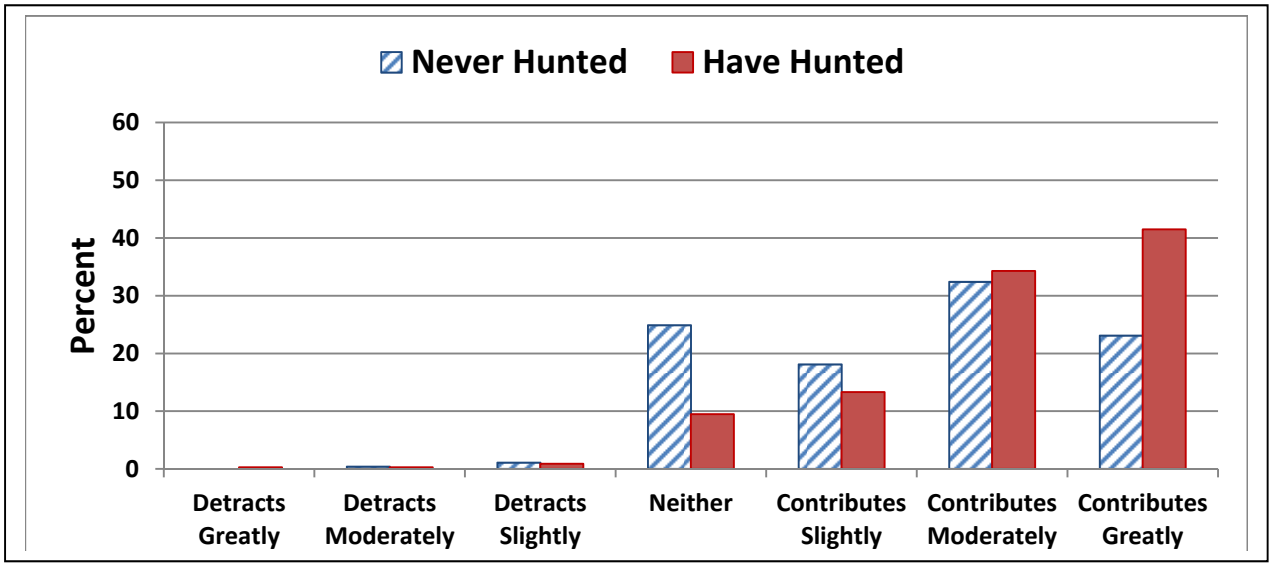

Figure 24. "In general, how much does fish and wildlife detract or contribute to a high "quality of life" for you?" comparing people who have never hunted with people who have hunted. [Chi-square: X^2=59.003; df=6; p<.001; Cramer's V = .237]

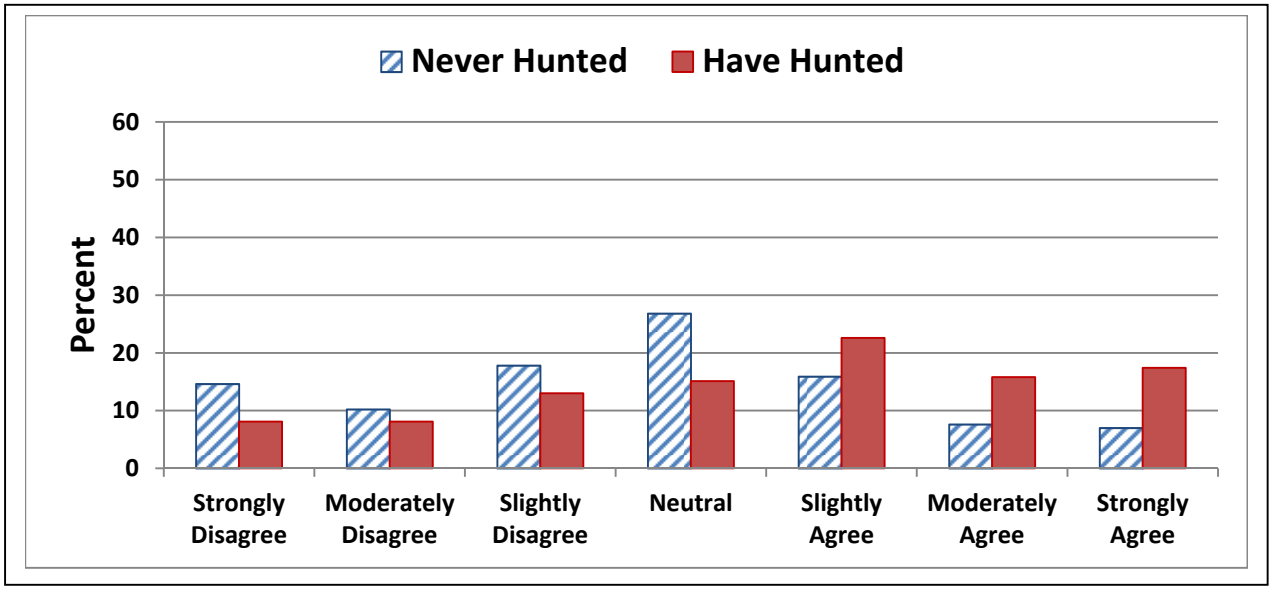

Figure 25. "In general, efforts should be made to reduce predator numbers to help increase the numbers of game animals for hunters," comparing people who have never hunted with people who have hunted. [Chi-square: X^2=31.885; df=6; p<.001; Cramer's V = .243]

Wildlife and Environmental Attitudes Related to Hunting – *Comparison 2 (Never Hunted or Only Hunted in the Past vs. Hunted Recently)*. Comparison 2 combines people who have never hunted with people who have hunted, but not recently (labeled Non-Hunters in the Tables) and compares this group with people who have hunted recently (defined as hunting sometime during the past two years) (Table 25). A higher percent of people who have hunted recently have a utilitarian orientation (Figure 26 and Table 26).

Table 25. Frequency distribution of non-hunters and recent hunters for the 2012 South Dakota citizen survey.

Group (sample data)	Number	Percent
Non-Hunters	637	57.5%
Recent Hunters	470	42.5%
Total	1,107	100%
Group (weighted data)	**Number**	**Percent**
Non-Hunters	696	63.7%
Recent Hunters	397	36.3%
Total	1,093	100%

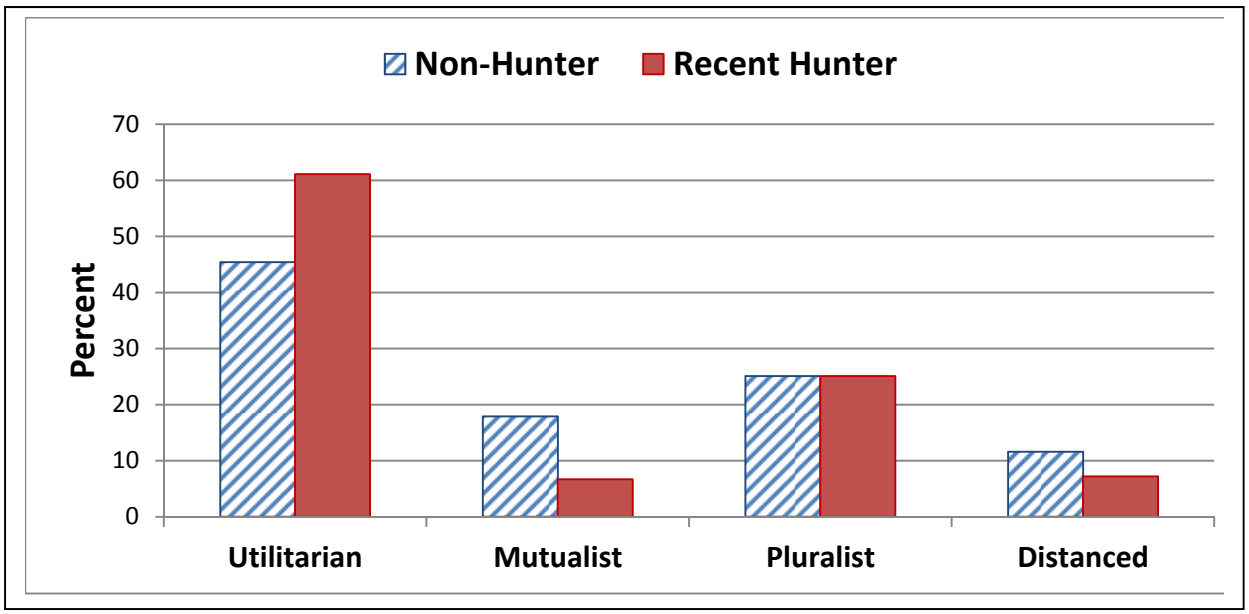

Figure 26. The Wildlife Value Orientations of South Dakota residents comparing non-hunters with recent hunters.

Table 26. Wildlife Value Orientations between non-hunters[1] and recent hunters.

Wildlife Value Orientation Types	**Non-Hunters**		**Hunters**	
	Number	**Percent**	**Number**	**Percent**
Utilitarian	266	45.4%	273	61.1%
Mutualist	105	17.9%	30	6.7%
Pluralist	147	25.1%	112	25.1%
Distanced	68	11.6%	32	7.2%
Total	586	100%	447	100%
Chi-Square: X^2= 41.495; df=3; p<.001; Cramer's V = .200				

[1]Non-Hunters defined as people who have never hunted and/or not hunted in the past two years.

Eighteen (40%) of the 45 wildlife and environmental questions had significant differences in mean values between non-hunters (people who have never hunted or not hunted recently) compared with people who have hunted recently (sometime during the past two years) (Table 27 and Appendix J). Fourteen of the significant differences in mean values were classified as small and four as moderate. The largest difference was in response to the question regarding attitude towards a regulated mountain lion season in South Dakota; recent hunters had strong support for a mountain lion season compared to non-hunters (Figure 27 and Appendix J – Table 4-A). The second largest difference was in response to the question, "I would support requirements to use non-toxic bullets for shooting prairie dogs to reduce lead poisoning of eagles, hawks and other wildlife," (Appendix J – Table 6-A). A higher percent of non-hunters favored requirements to use non-toxic bullets compared to recent hunters (Figure 28). The third largest difference in responses was recent hunters' higher rating of the importance of wildlife in contributing to their "quality of life" in South Dakota compared to non-hunters (Figure 29 and Appendix J – Table 1-A). The fourth largest difference in responses was recent hunters' higher support of efforts to reduce predator numbers to help increase the numbers of game animals for hunters compared to non-hunters (Figure 30 and Appendix J – Table 6-A).

Table 27. Summary of the results comparing wildlife and environmental attitudes comparing non-hunters with recent hunters (data from Appendix J).

Type of Questions	Number of Questions	Number Significant	Appendix J Table
General Questions about Fish and Wildlife	6	2	1
Prairie Ecosystem	5	1	2
Bats in South Dakota	5	1	3
Mountain Lions	4	3	4
Managing for Rare Wildlife Species	6	2	5
Miscellaneous Questions about Fish and Wildlife	5	3	6
Climate Change	5	4	7
Energy Development	4	0	8
Wetlands	5	2	9
Total	45	18	

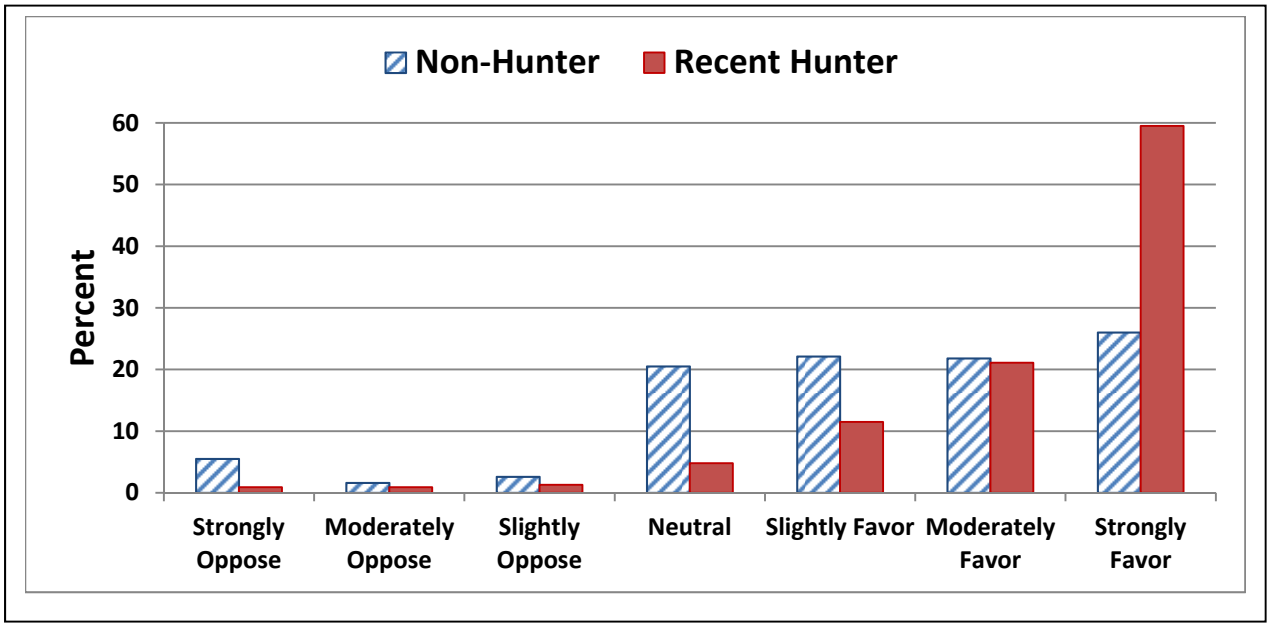

Figure 27. "Do you oppose orf favor a regulated mountain lion season in South Dakota?" comparing non-hunters with recent hunters. [Chi-square: X^2=77.427; df=6; p<.001; Cramer's V = .380]

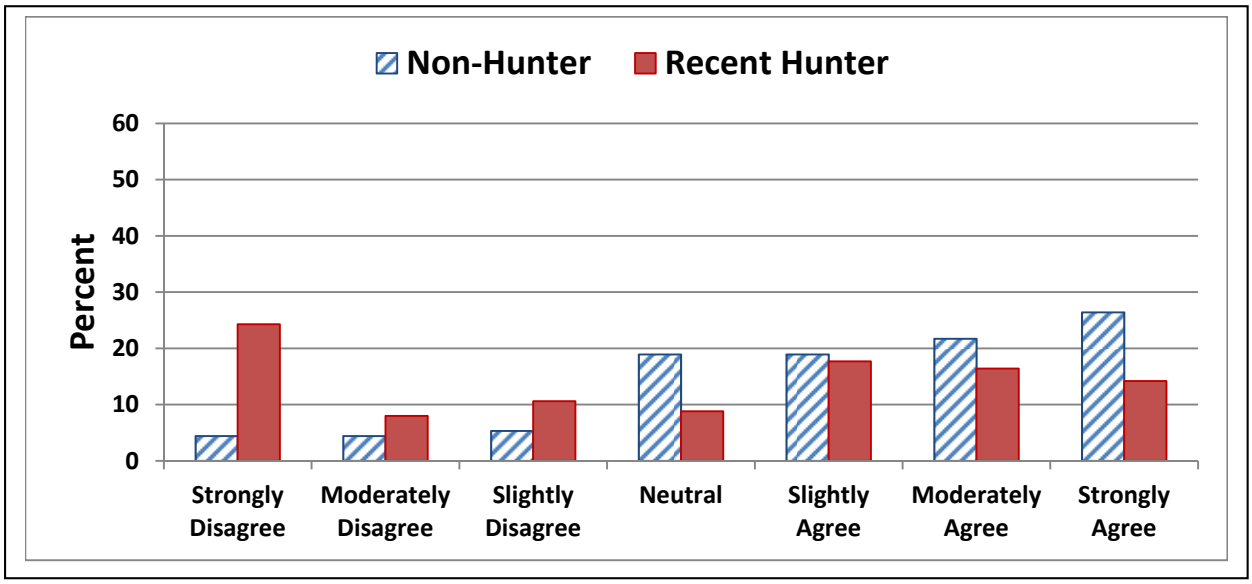

Figure 28. "I would support requirements to use non-toxic bullets for shooting prairie dogs to reduce lead poisoning of eagles, hawks and other wildlife," comparing non-hunters with recent hunters. [Chi-square: X^2=69.456; df=6; p<.001; Cramer's V = .357]

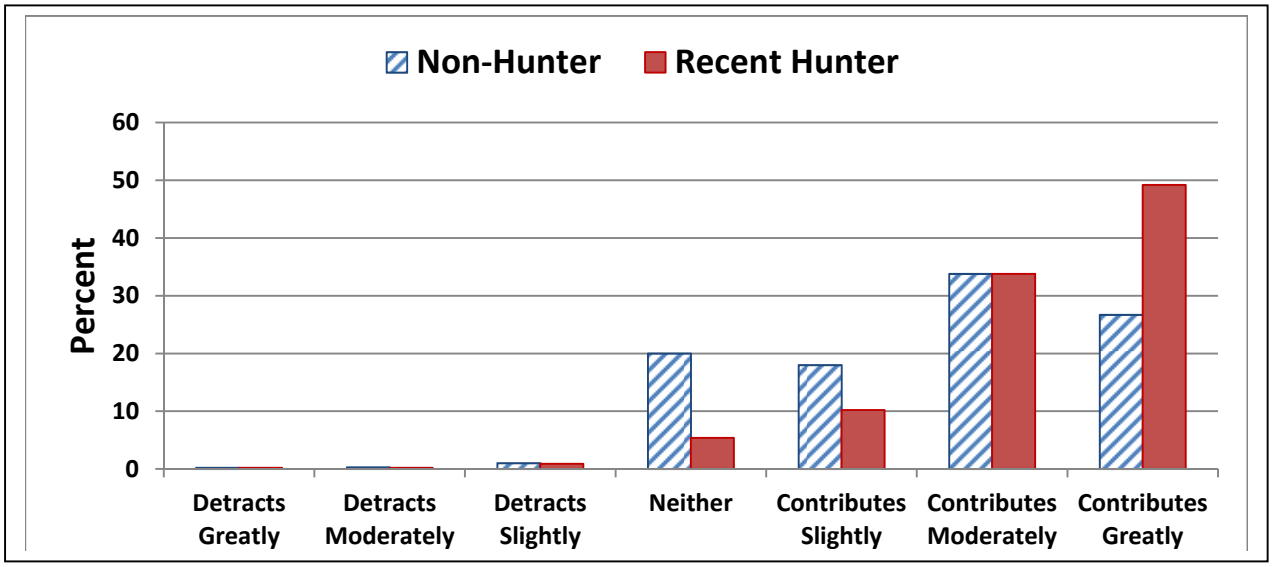

Figure 29. "In general, how much does fish and wildlife detract or contribute to a high "quality of life" for you?" comparing non-hunters with recent hunters. [Chi-square: X^2=87.081; df=6; p<.001; Cramer's V = .288]

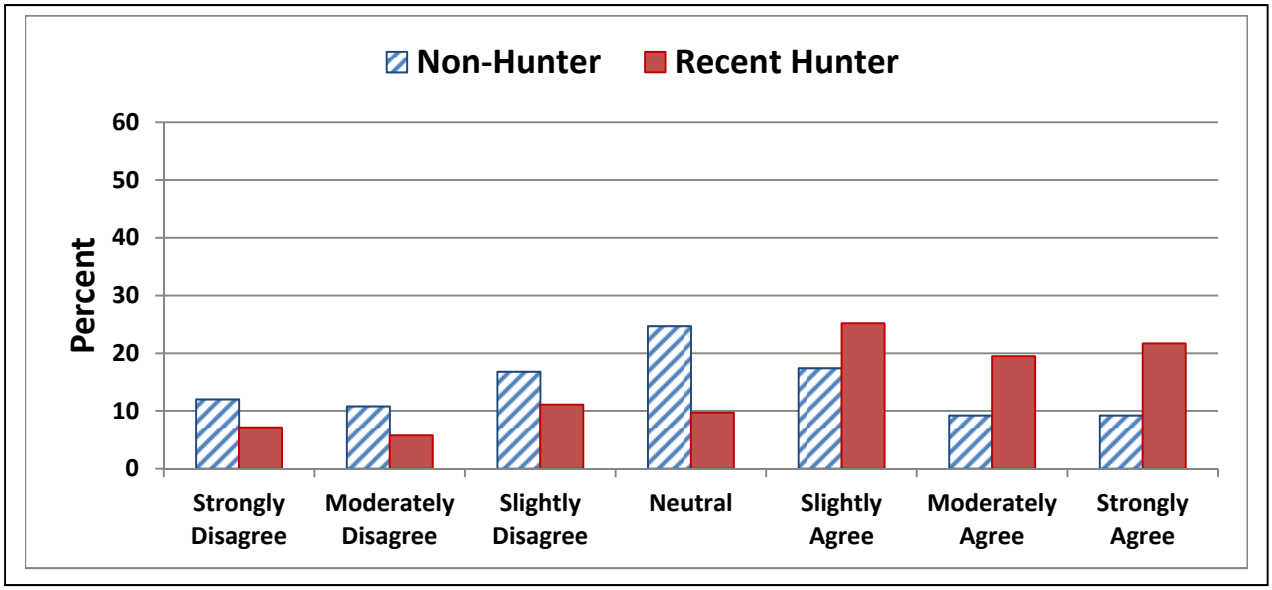

Figure 30. "In general, efforts should be made to reduce predator numbers to help increase the numbers of game animals for hunters," comparing non-hunters with recent hunters. [Chi-square: X^2=54.563; df=6; p<.001; Cramer's V = .317]

Wildlife and Environmental Attitudes Related to Hunting – *Comparison 3 (Past Hunters vs. Recent Hunters)*. Comparison 3 compares people who have hunted, but not recently (longer than 2 years ago) with people who have hunted recently (sometime during the past two years). Of the people who have hunted sometime in their lifetime about 61% have hunted recently (Table 28). One very large difference between past hunters and recent hunters is the importance of hunting (Figure 31 and Table 29). A higher percent of people who have hunted recently have a utilitarian orientation (Figure 32 and Table 30).

Table 28. Frequency distribution of past hunters and recent hunters.

Hunters (sample data)	**Number**	**Percent**
Past Hunters (not hunted any during the past 2 years)	322	40.7%
Recent Hunters (hunted sometime during the past 2 years)	470	59.3%
Total	792	100%
Hunters (weighted data)	**Number**	**Percent**
Past Hunters (not hunted any during the past 2 years)	254	39.0%
Recent Hunters (hunted sometime during the past 2 years)	397	61.0%
Total	651	100%

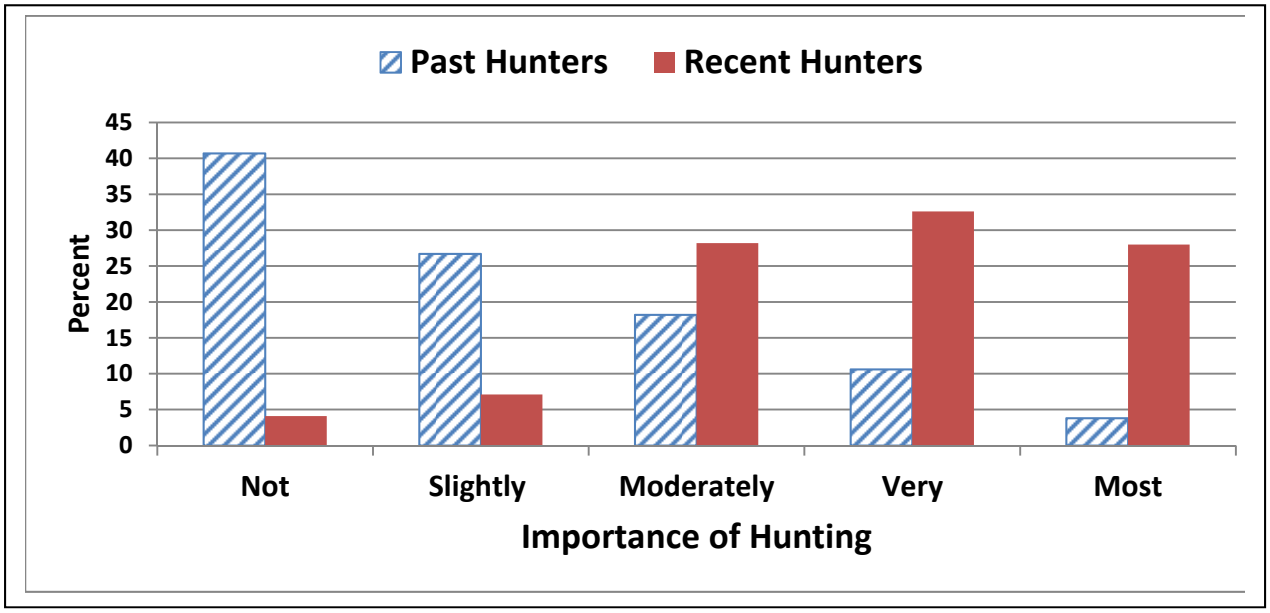

Figure 31. Importance of hunting comparing past hunters and recent hunters (weighted data). [Chi-square: X^2=248.091; df=4; p<.001; Cramer's V = .569]

Table 29. Comparison of importance of hunting between people who have hunted but not in the past two years with people who have hunted in the past two years (measured in 2012) (weighted data).

Importance Scale	**Past Hunters (NOT hunted in the past two years)**		**Recent Hunters (hunted in the past two years)**	
	Number	**Percent**	**Number**	**Percent**
Not Important (0)	96	37.8%	16	4.0%
Slightly Important (1)	63	24.8%	28	7.0%
Moderately Important (2)	43	16.9%	111	27.9%
Very Important (3)	25	9.8%	128	32.2%
Most Important Activity (4)	9	3.5%	110	27.6%
No Opinion (missing)	18	7.1%	5	1.3%
Total	254	100%	398	100%
Chi-Square: X^2= 243.095; df=5; p<.001; Cramer's V = .611				
Mean	1.10		2.73	
95% C.I.	0.95 – 1.25		2.62 – 2.82	
ANOVA F=318.622; df=1/625; p<.001; Eta^2=.338				

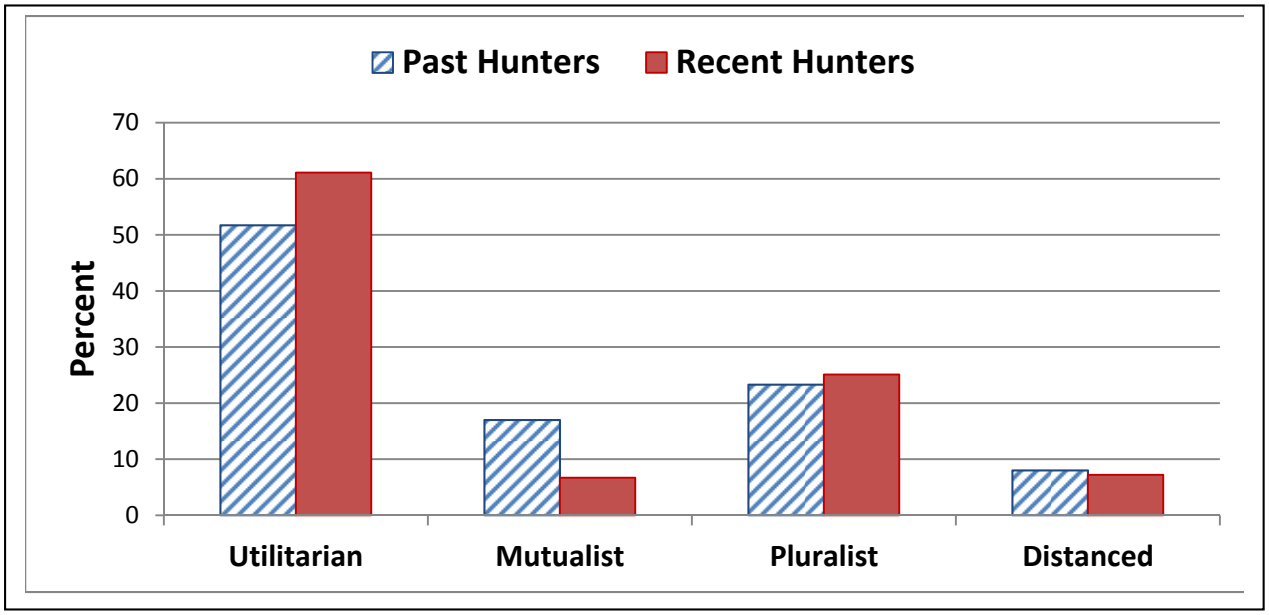

Figure 32. The Wildlife Value Orientations of South Dakota residents comparing past hunters with recent hunters.

Table 30. Wildlife Value Orientations between past hunters and recent hunters.

Wildlife Value Orientation Types	Past Hunters		Recent Hunters	
	Number	Percent	Number	Percent
Utilitarian	155	51.7%	273	61.1%
Mutualist	51	17.0%	30	6.7%
Pluralist	70	23.3%	112	25.1%
Distanced	24	8.0%	32	7.2%
Total	300	100%	447	100%
Chi-Square: X^2= 20.686; df=3; p<.001; Cramer's V = .166				

Sixteen (36%) of the 45 wildlife and environmental questions had significant differences in mean values between past hunters and recent hunters (Table 31 and Appendix K). Fifteen of the significant differences in mean values were classified as small and one as moderate. The largest difference was in response to the question regarding attitude towards a regulated mountain lion season in South Dakota; recent hunters had strong support for a mountain lion season compared to past hunters (Figure 33 and Appendix K – Table 4-A). The second largest difference was in mean response to the question, "I would support requirements to use non-toxic bullets for shooting prairie dogs to reduce lead poisoning of eagles, hawks and other wildlife," (Appendix K – Table 6-A). A higher percent of past hunters favored requirements to use non-toxic bullets compared to recent hunters (Figure 34). The third largest difference in mean response was recent hunters' higher rating of the importance of wildlife in contributing to their "quality of life" in South Dakota compared to past hunters (Figure 35 and Appendix K – Table 1-A). The fourth largest difference in mean response was recent hunters' higher support of efforts to reduce predator numbers to help increase the numbers of game animals for hunters compared to past hunters (Figure 36 and Appendix K – Table 6-A). The fifth largest difference in mean response was recent hunters' higher preference that wildlife management decisions favor game animals/fish more than rare wildlife species compared to past hunters (Figure 37 and Appendix K – Table 5-A).

Table 31. Summary of the results comparing wildlife and environmental attitudes comparing non-hunters with recent hunters (data from Appendix K).

Type of Questions	Number of Questions	Number Significant	Appendix K Table
General Questions about Fish and Wildlife	6	3	1
Prairie Ecosystem	5	0	2
Bats in South Dakota	5	0	3
Mountain Lions	4	2	4
Managing for Rare Wildlife Species	6	3	5
Miscellaneous Questions about Fish and Wildlife	5	3	6
Climate Change	5	5	7
Energy Development	4	0	8
Wetlands	5	0	9
Total	45	16	

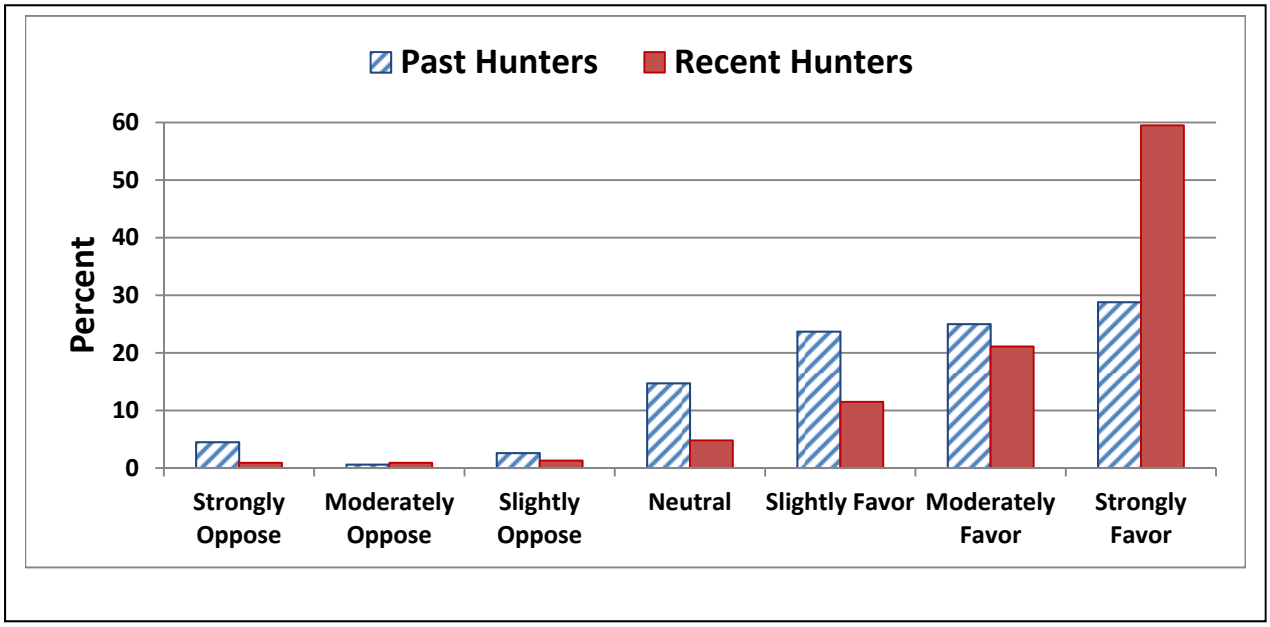

Figure 33. "Do you oppose or favor a regulated mountain lion season in South Dakota?" comparing past hunters with recent hunters. [Chi-square: X^2=43.680; df=6; p<.001; Cramer's V = .338]

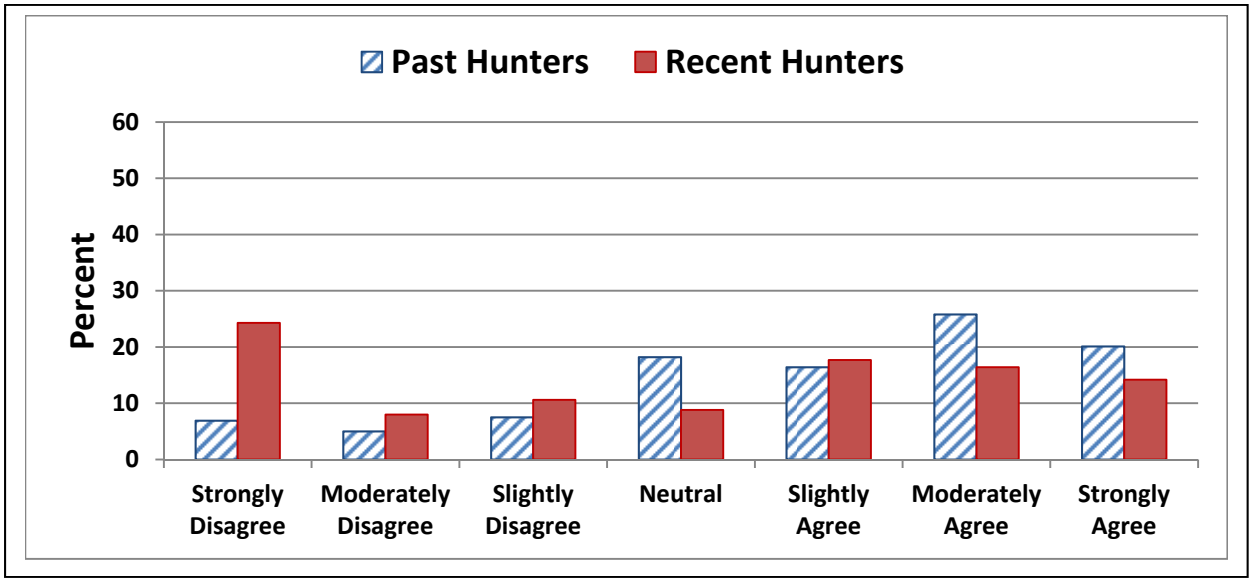

Figure 34. "I would support requirements to use non-toxic bullets for shooting prairie dogs to reduce lead poisoning of eagles, hawks and other wildlife," comparing past hunters with recent hunters. [Chi-square: X^2=31.295; df=6; p<.001; Cramer's V = .285]

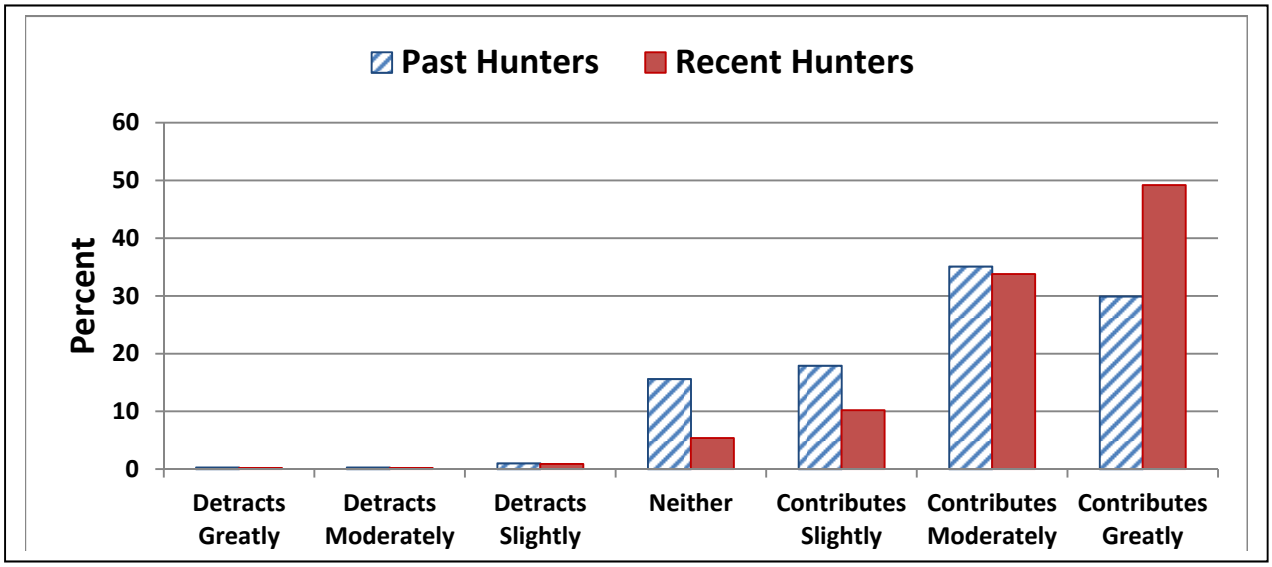

Figure 35. "In general, how much does fish and wildlife detract or contribute to a high "quality of life" for you?" comparing past hunters with recent hunters. [Chi-square: X^2=44.894; df=6; p<.001; Cramer's V = .242]

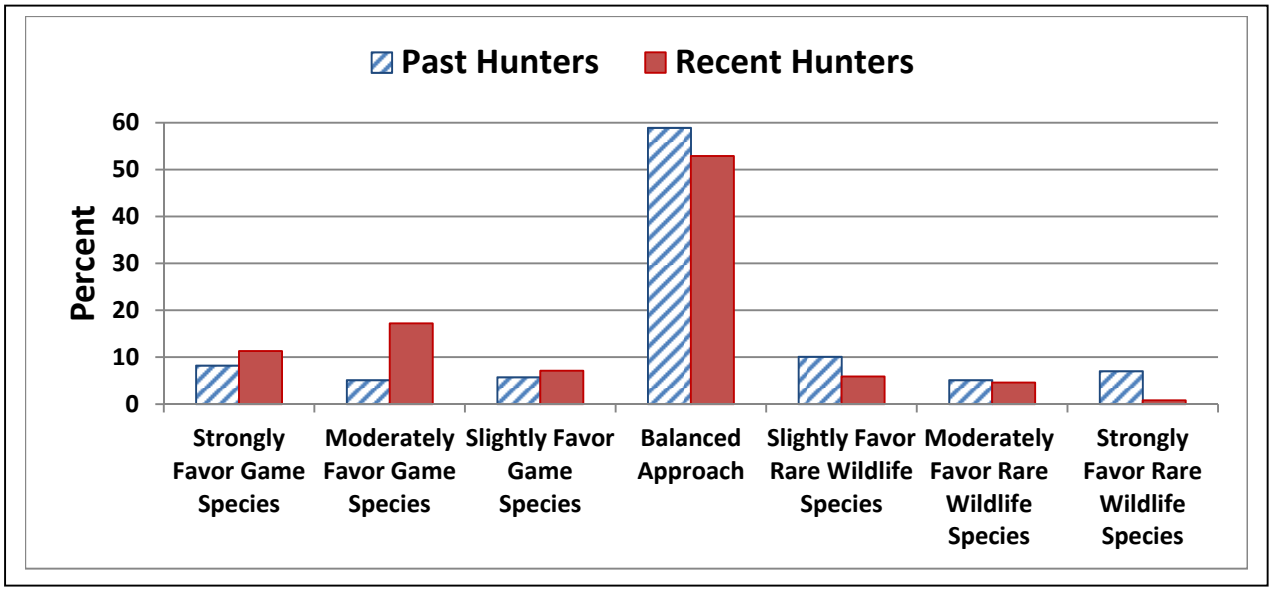

Figure 36. "In general, efforts should be made to reduce predator numbers to help increase the numbers of game animals for hunters," comparing past hunters with recent hunters. [Chi-square: X^2=28.082; df=6; p<.001; Cramer's V = .270]

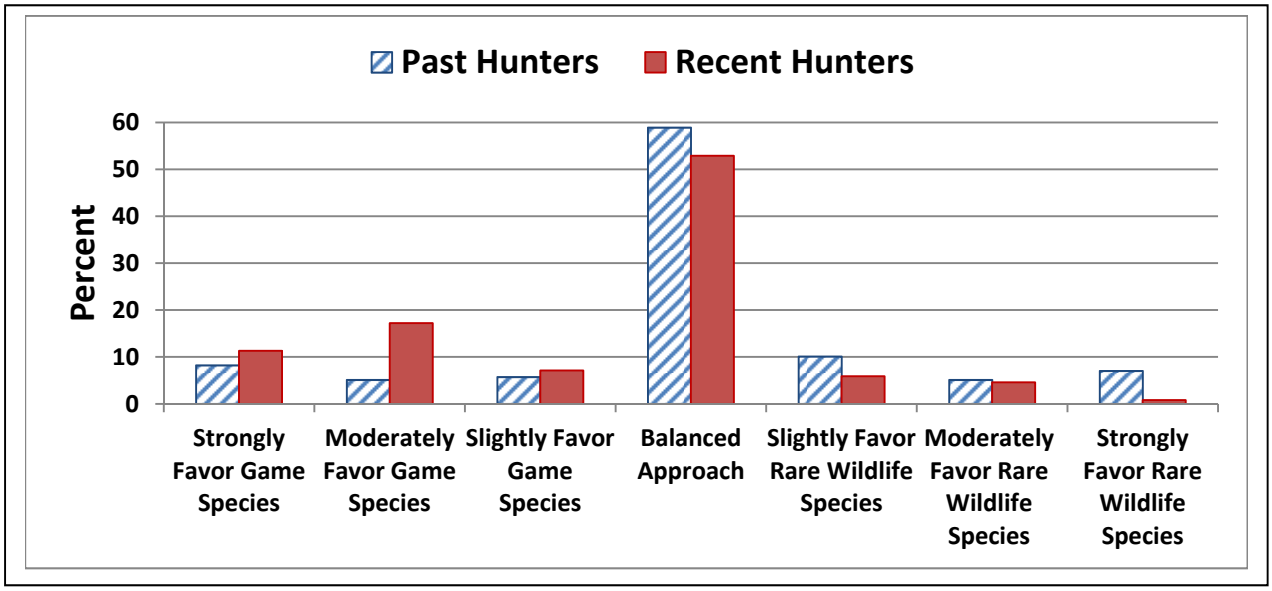

Figure 37. "In general, should wildlife management decisions favor game animals/fish OR rare wildlife species," comparing past hunters with recent hunters. [Chi-square: X^2=26.309; df=6; p<.001; Cramer's V = .258]

Wildlife and Environmental Attitudes Related to Wildlife Viewing – *Comparison 1 (Never Taken Wildlife Viewing Trips vs. Have Taken Wildlife Viewing Trips)*. Almost half (49%) of South Dakota adult citizens have taken trips for the primary purpose of viewing wildlife (includes fish) sometime during their lifetime (Table 5). A higher percent of people who have taken wildlife viewing trips have a pluralist or mutualist orientation compared to people who have never taken wildlife viewing trips (Figure 38 and Table 32).

Table 32. Wildlife Value Orientations viewing between people who have taken no trips for wildlife viewing with people who have taken trips for wildlife viewing.

Wildlife Value Orientation Types	No Viewing Trips		Viewing Trips	
	Number	Percent	Number	Percent
Utilitarian	304	57.4%	233	46.3%
Mutualist	61	11.5%	75	14.9%
Pluralist	104	19.6%	157	31.2%
Distanced	61	11.5%	38	7.6%
Total	530	100%	503	100%
Chi-Square: X^2= 26.247; df=3; p<.001; Cramer's V = .159				

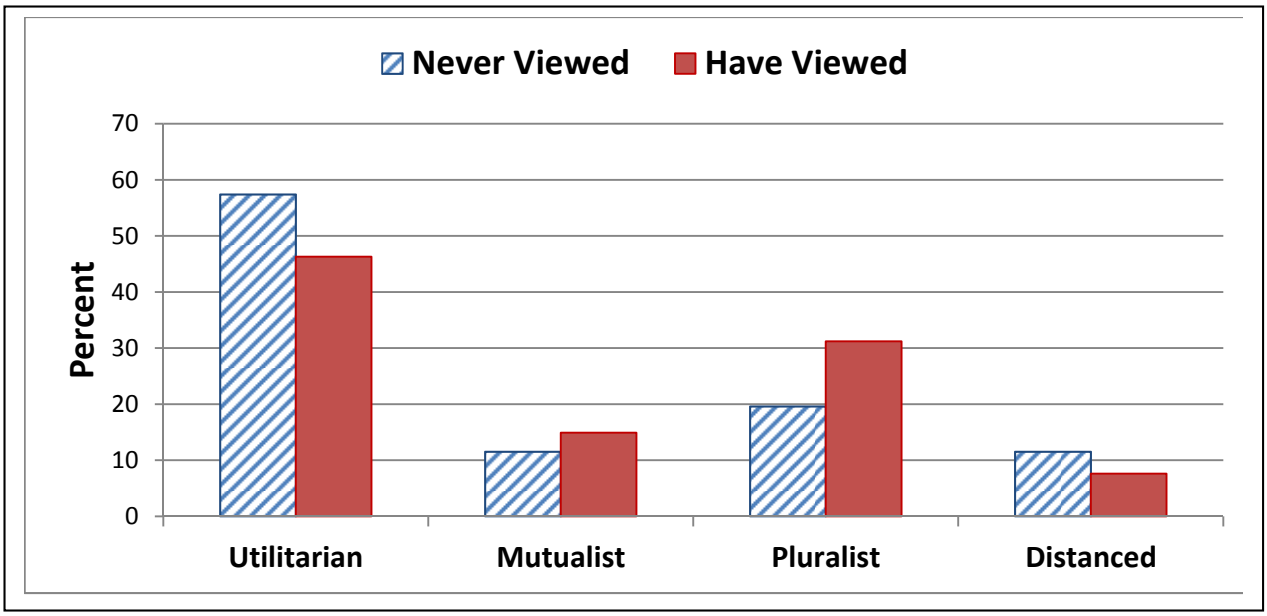

Figure 38. The Wildlife Value Orientations of South Dakota residents comparing people who have never taken any wildlife viewing trips with people who taken wildlife viewing trips.

Thirty (67%) of the 45 wildlife and environmental questions had significant differences in mean values between people who have never taken any wildlife viewing trips and people who have taken wildlife viewing trips (Table 33 and Appendix L). Twenty-nine of the significant differences in mean values were classified as small and one as moderate. The largest difference in mean response was wildlife viewers' higher rating of the importance of wildlife in contributing to their "quality of life" in South Dakota compared to people who have not taken any wildlife viewing trips (Figure 39 and Appendix L – Table 1-A). The second largest difference was in response to the question, "Having any mountain lions in South Dakota is too dangerous a risk to people," (Appendix L – Table 4-A). A higher percent of people who have taken wildlife viewing trips disagreed with the statement compared to people who have not taken any wildlife viewing trips (Figure 40). The third largest difference was wildlife viewers' higher rating of the importance of "providing wildlife habitat" as one of the functions of wetlands compared to people who have not taken any wildlife viewing trips (Figure 41 and Appendix L – Table 9-A.

Table 33. Summary of the results comparing wildlife and environmental attitudes comparing people who have never taken any wildlife viewing trips with people who taken wildlife viewing trips. (data from Appendix L).

Type of Questions	Number of Questions	Number Significant	Appendix L Table
General Questions about Fish and Wildlife	6	5	1
Prairie Ecosystem	5	5	2
Bats in South Dakota	5	4	3
Mountain Lions	4	2	4
Managing for Rare Wildlife Species	6	6	5
Miscellaneous Questions about Fish and Wildlife	5	2	6
Climate Change	5	1	7
Energy Development	4	3	8
Wetlands	5	2	9
Total	45	30	

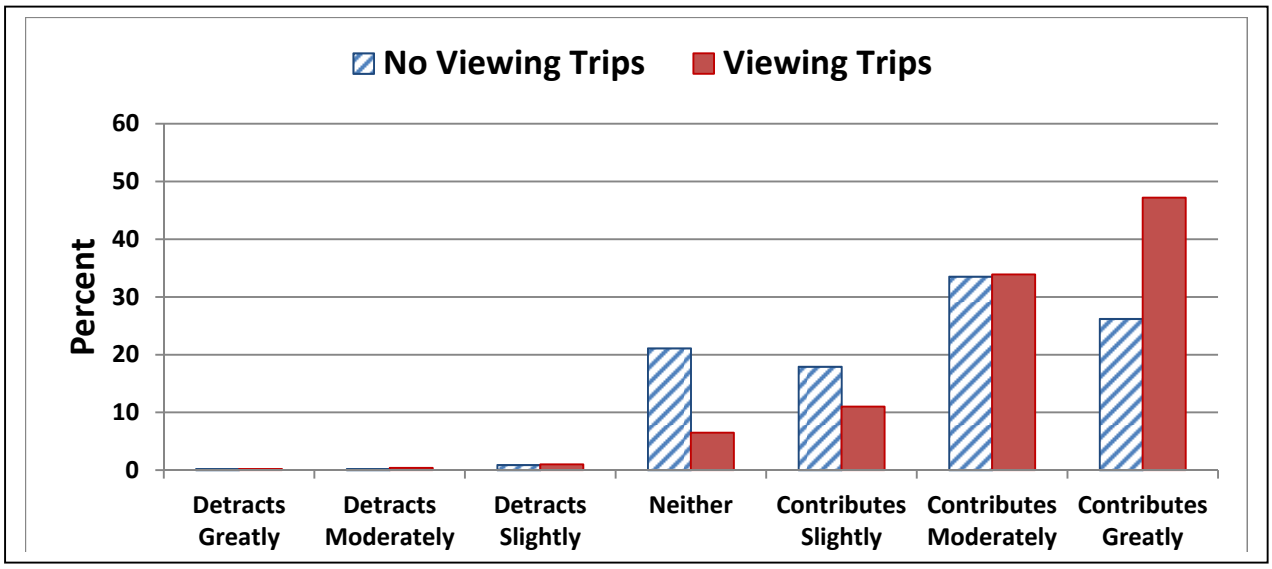

Figure 39. "In general, how much does fish and wildlife detract or contribute to a high "quality of life" for you?" comparing people who have never taken any wildlife viewing trips with people who taken wildlife viewing trips. [Chi-square: X^2=81.064; df=6; p<.001; Cramer's V = .278]

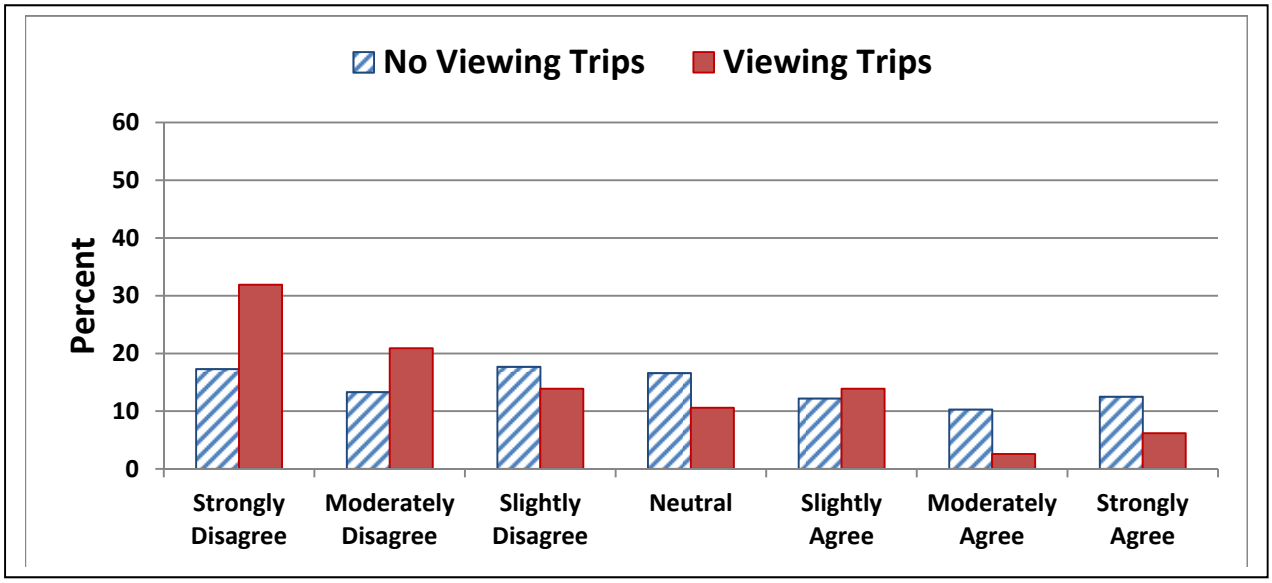

Figure 40. "Having any mountain lions in South Dakota is too dangerous a risk to people," comparing people who have never taken any wildlife viewing trips with people who taken wildlife viewing trips. [Chi-square: X^2=39.916; df=6; p<.001; Cramer's V = .271]

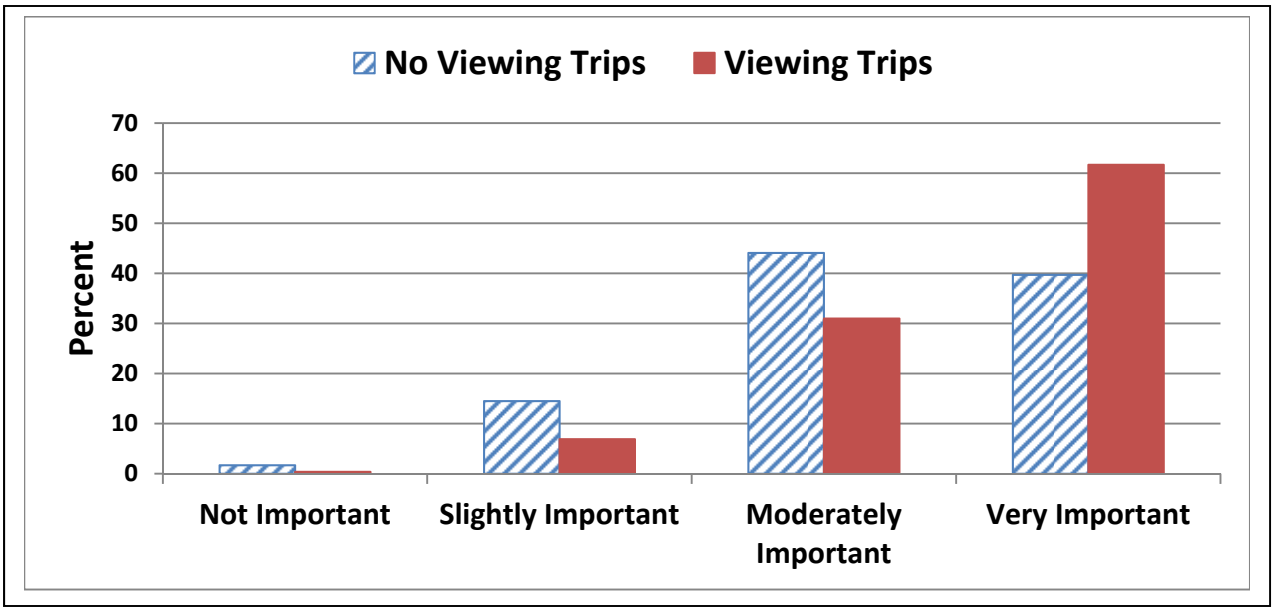

Figure 41. "Wetlands perform many functions: please rate the importance of each function to you: providing wildlife habitat" comparing people who have never taken any wildlife viewing trips with people who taken wildlife viewing trips. [Chi-square: X^2=28.296; df=3; p<.001; Cramer's V = .228]

Wildlife and Environmental Attitudes Related to Wildlife Viewing – *Comparison 2 (Never Taken Trips for Wildlife Viewing or Only Took Wildlife Viewing Trips in the Past vs. Have Taken Wildlife Viewing Trips Recently).* Comparison 2 combines people who have never taken any wildlife viewing trips with people who have taken wildlife viewing trips, but not recently (labeled Non-Viewers in the Tables) and compares this group with people who have taken wildlife viewing trips recently (defined as sometime during the past two years) (Table 34). A slightly higher percent of recent viewers have a pluralist or mutualist orientation compared to non-viewers (Figure 42 and Table 35).

Table 34. Frequency distribution of non-viewers and recent viewers for the 2012 South Dakota citizen survey.

Group (sample data)	Number	Percent
Non-Viewers	738	66.9%
Recent Viewers	365	33.1%
Total	1,103	100%
Group (weighted data)	**Number**	**Percent**
Non-Viewers	737	67.6%
Recent Viewers	354	32.4%
Total	1,091	100%

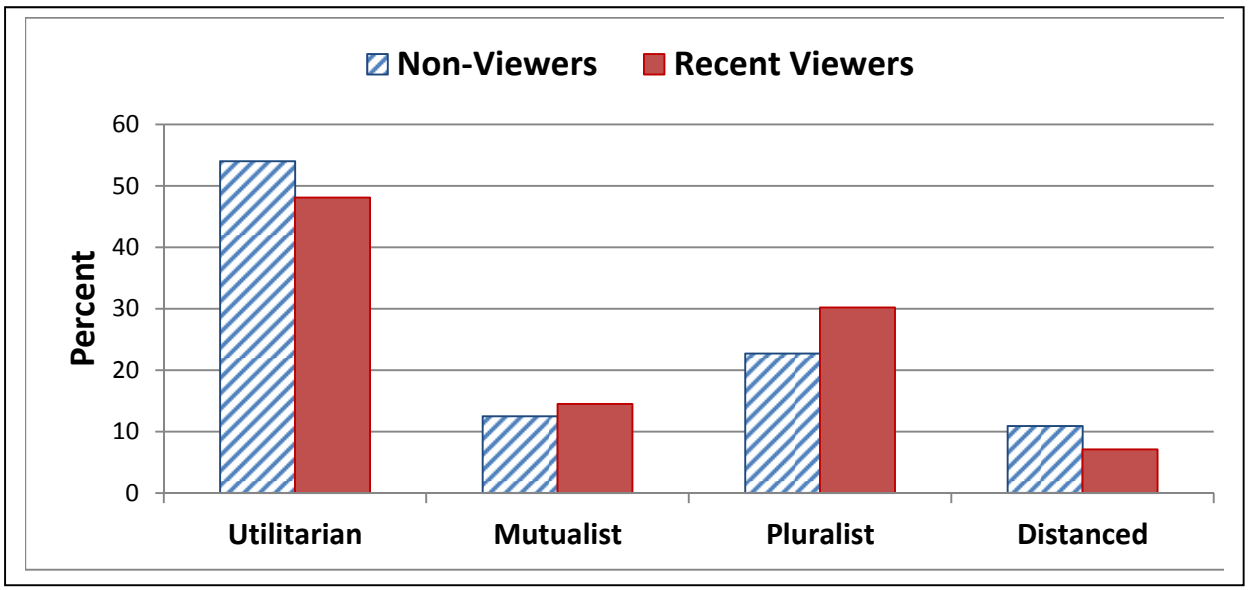

Figure 42. The Wildlife Value Orientations of South Dakota residents comparing non-viewers with recent viewers.

Table 35. Wildlife Value Orientations between non-viewers[1] and recent viewers.

Wildlife Value Orientation Types	**Non-Viewers**		**Recent Viewers**	
	Number	**Percent**	**Number**	**Percent**
Utilitarian	368	54.0%	169	48.1%
Mutualist	85	12.5%	51	14.5%
Pluralist	155	22.7%	106	30.2%
Distanced	74	10.9%	25	7.1%
Total	682	100%	351	100%
Chi-Square: X^2= 10.738; df=3; p=.013; Cramer's V = .103				

[1]Non-Viewers defined as people who have taken no viewing trips and/or no viewing trips in the past two years.

Twenty-eight (62%) of the 45 wildlife and environmental questions had significant differences in mean values between non-viewers and recent viewers (Table 36 and Appendix M). Twenty-six of the significant differences in mean values were classified as small and two as moderate. The largest difference in mean response was recent wildlife viewers' higher rating of the importance of wildlife in contributing to their "quality of life" in South Dakota compared to non-viewers (Figure 43 and Appendix M – Table 1-A). The second largest difference was in mean response to the question, "Having any mountain lions in South Dakota is too dangerous a risk to people," (Appendix M – Table 4-A). A higher percent of recent wildlife viewers disagreed with the statement compared to non-viewers (Figure 44). The third largest difference in mean response was to the question, "I would enjoy having bats living and feeding near my house," (Appendix M – Table 3-A). A higher percent of recent viewers agreed with this statement compared to non-viewers (Figure 45).

Table 36. Summary of the results comparing wildlife and environmental attitudes comparing non-viewers with recent viewers. (data from Appendix M).

Type of Questions	Number of Questions	Number Significant	Appendix M Table
General Questions about Fish and Wildlife	6	5	1
Prairie Ecosystem	5	5	2
Bats in South Dakota	5	4	3
Mountain Lions	4	2	4
Managing for Rare Wildlife Species	6	5	5
Miscellaneous Questions about Fish and Wildlife	5	3	6
Climate Change	5	0	7
Energy Development	4	2	8
Wetlands	5	2	9
Total	45	28	

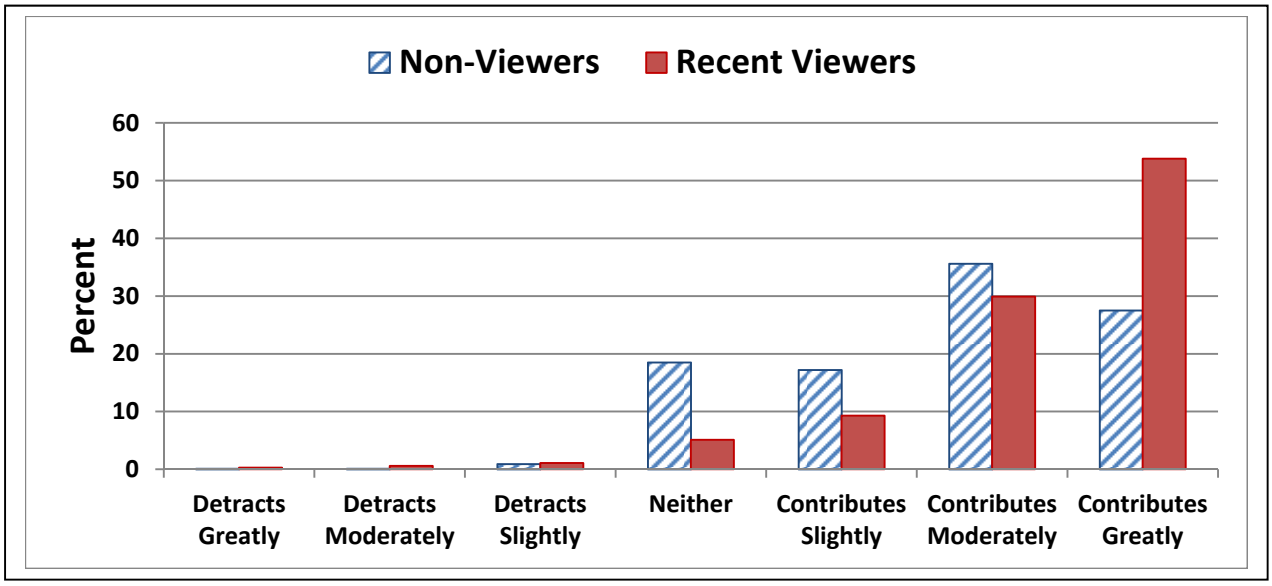

Figure 43. "In general, how much does fish and wildlife detract or contribute to a high "quality of life" for you?" comparing non-viewers with recent viewers. [Chi-square: X^2=89.228; df=6; p<.001; Cramer's V = .292]

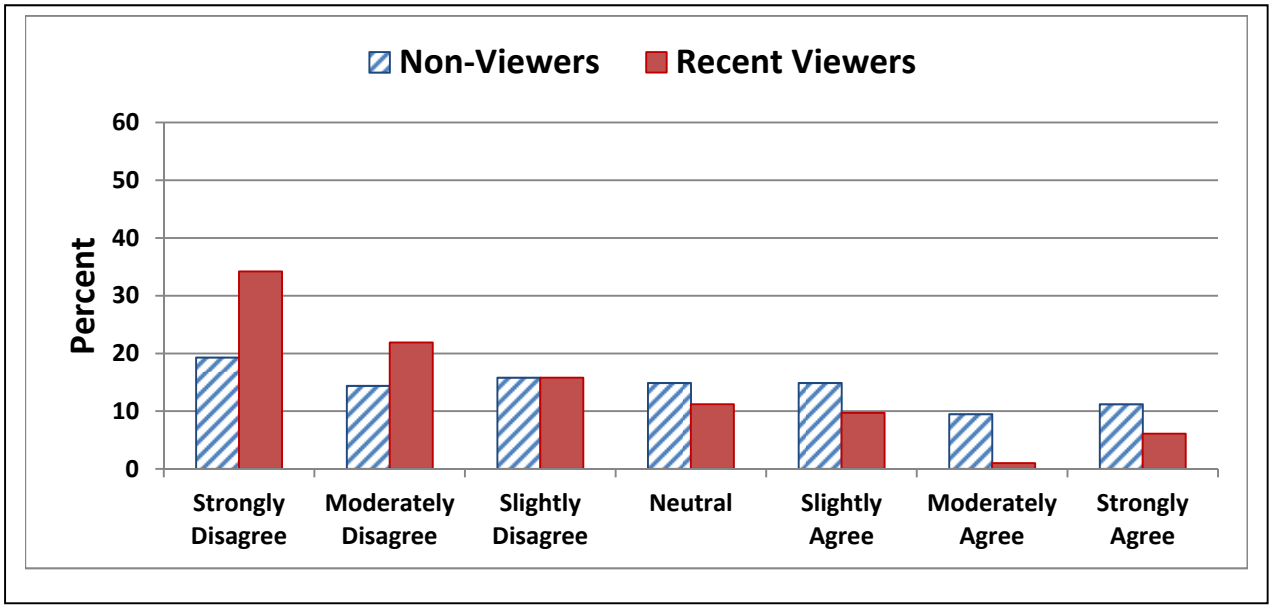

Figure 44. "Having any mountain lions in South Dakota is too dangerous a risk to people," comparing non-viewers with recent viewers. [Chi-square: X^2=36.885; df=6; p<.001; Cramer's V = .260]

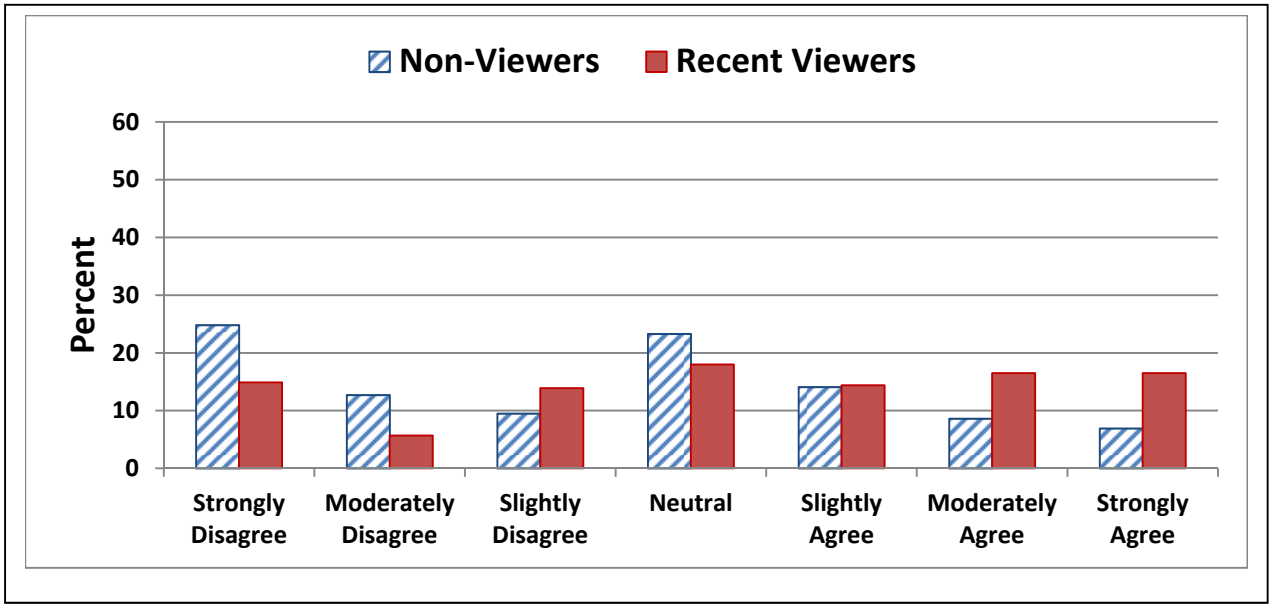

Figure 45. "I would enjoy having bats living and feeding near my house," comparing non-viewers with recent viewers. [Chi-square: X^2=33.215; df=6; p<.001; Cramer's V = .248]

Wildlife and Environmental Attitudes Related to Primary Wildlife Viewing Trips – *Comparison 3 (Past Viewers vs. Recent Viewers)*. Comparison 3 compares people who have taken trips for the primary purpose of viewing wildlife, but not recently (longer than 2 years ago) with people who have recently taken trips for the primary purpose of viewing wildlife (sometime during the past two years). Of the people who have taken trips for the primary purpose of viewing wildlife sometime in their lifetime about two-thirds have done so recently (Table 37). Recent viewers did more out-of-state travel compared to past viewers (Table 38). Recent wildlife viewers rated the importance of wildlife viewing higher than did past viewers (Table 39 and Figure 46). There was no significant difference in wildlife value orientations between past wildlife viewers and recent wildlife viewers (Figure 47 and Table 40).

Table 37. Frequency distribution of past wildlife viewers and recent wildlife viewers.

Wildlife Viewers (sample data)	**Number**	**Percent**
Past Viewers (no viewing trips during the past 2 years)	162	30.7%
Recent Viewers (viewing trips sometime during the past 2 years)	365	69.3%
Total	527	100%
Wildlife Viewers (sample data)	**Number**	**Percent**
Past Viewers (no viewing trips during the past 2 years)	179	33.6%
Recent Viewers (viewing trips sometime during the past 2 years)	354	66.4%
Total	533	100%

Table 38. In-state (South Dakota) and out-of-state travel comparing past viewers with recent wildlife viewers (weighted data).

Travel	**Past Viewer**		**Recent Viewer**	
	Number	**Percent**	**Number**	**Percent**
In South Dakota	58	59.8%	153	43.3%
Outside South Dakota	17	17.5%	23	6.5%
Both	22	22.7%	177	50.1%
Total	97	100%	353	100%
Chi-Square: X^2= 27.745; df=2; p<.001; Cramer's V = .248				

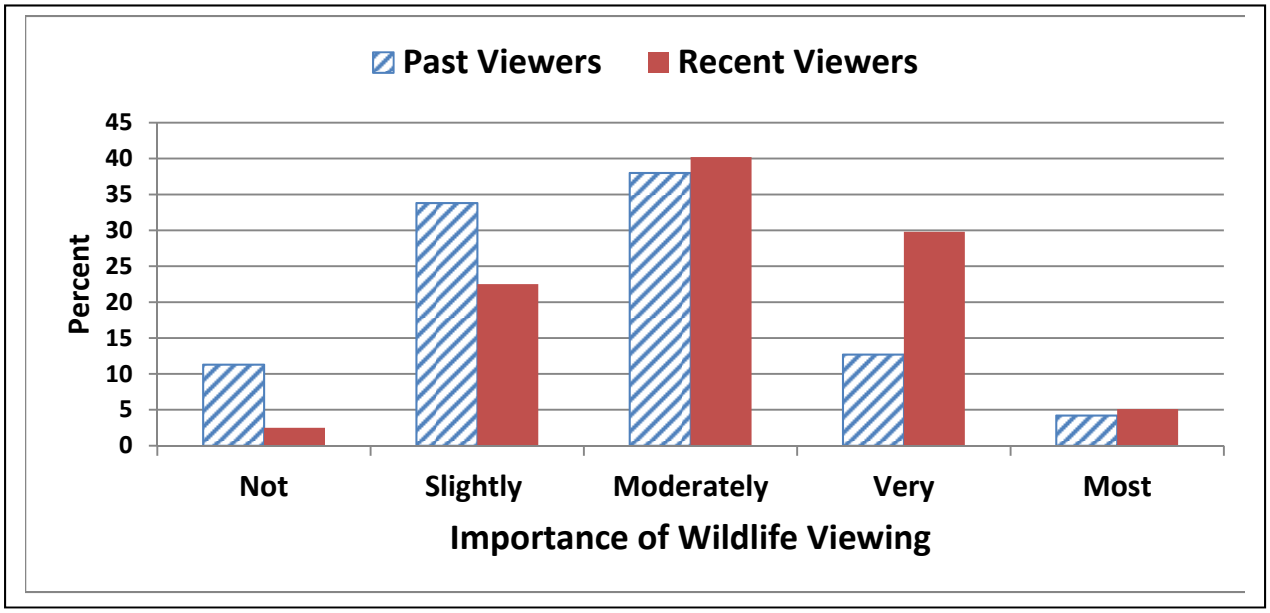

Figure 46. Importance of taking wildlife viewing trips comparing past wildlife viewers and recent wildlife viewers (weighted data). [Chi-square: X^2=32.592; df=4; p<.001; Cramer's V = .272]

Table 39. Comparison of importance of wildlife viewing between people who have taken trips for wildlife viewing but not in the past two years with people who have taken trips for wildlife viewing in the past two years (measured in 2012) (weighted data).

Importance Scale	**Past Viewers (NOT taken trips in the past two years)**		**Recent Viewers (taken trips in the past two years)**	
	Number	**Percent**	**Number**	**Percent**
Not Important (0)	26	14.6%	10	2.8%
Slightly Important (1)	55	30.9%	74	20.8%
Moderately Important (2)	49	27.5%	141	39.7%
Very Important (3)	23	12.9%	101	28.5%
Most Important Activity (4)	2	1.1%	22	6.2%
No Opinion (missing)	23	12.9%	7	2.0%
Total	178	100%	355	100%
Chi-Square: X^2= 78.612; df=5; p<.001; Cramer's V = .384				
Mean	1.48		2.15	
95% C.I.	1.33 – 1.64		2.05 – 2.24	
ANOVA F=53.241; df=1/500; p<.001; Eta^2=.096				

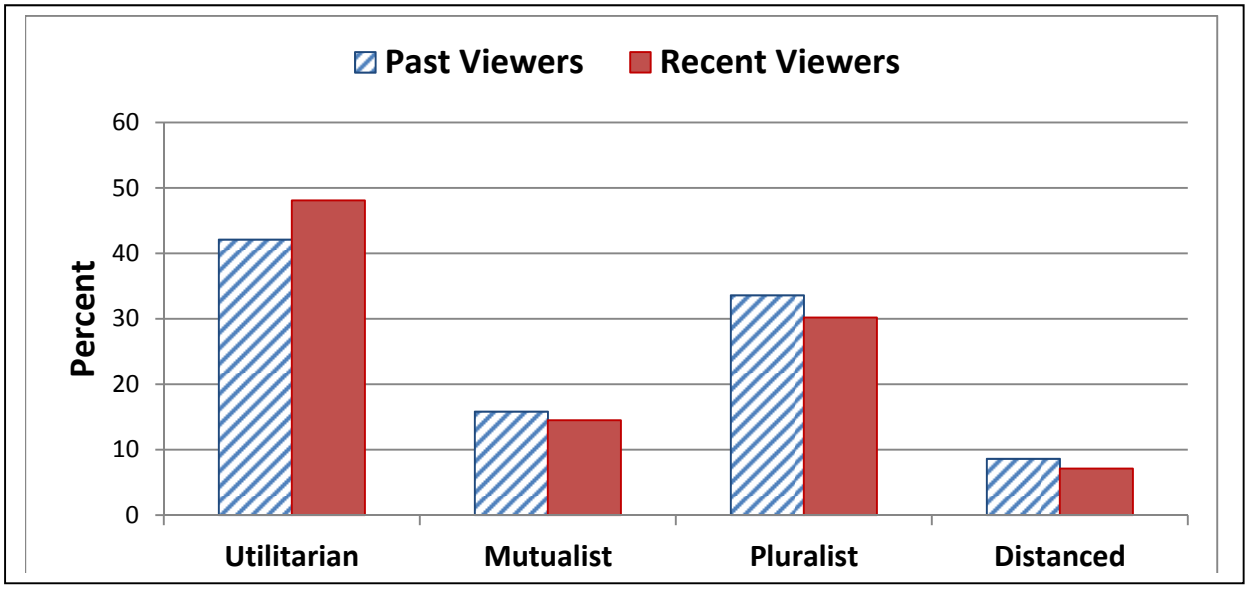

Figure 47. The Wildlife Value Orientations of South Dakota residents comparing past viewers with recent viewers.

Table 40. Wildlife Value Orientations between past viewers and recent viewers.

Wildlife Value Orientation Types	**Past Viewers**		**Recent Viewers**	
	Number	**Percent**	**Number**	**Percent**
Utilitarian	64	42.1%	169	48.1%
Mutualist	24	15.8%	51	14.5%
Pluralist	51	33.6%	106	30.2%
Distanced	13	8.6%	25	7.1%
Total	152	100%	351	100%
Chi-Square: X^2= 1.618; df=3; p=.655; Cramer's V = .057				

Twelve (27%) of the 45 wildlife and environmental questions had significant differences in mean values between past viewers and recent viewers (Table 41 and Appendix N). All 12 of the significant differences in mean values were classified as small. The largest difference in mean response was to the question, "I would enjoy having bats living and feeding near my house," (Appendix N – Table 3-A). A higher percent of recent viewers agreed with this statement compared to past viewers (Figure 48). The second largest difference was in mean response to the question, "Having any mountain lions in South Dakota is too dangerous a risk to people," (Appendix N – Table 4-A). A higher percent of recent wildlife viewers disagreed with the statement compared to past viewers (Figure 49).

Table 41. Summary of the results comparing wildlife and environmental attitudes comparing past viewers with recent viewers. (data from Appendix N).

Type of Questions	**Number of Questions**	**Number Significant**	**Appendix N Table**
General Questions about Fish and Wildlife	6	3	1
Prairie Ecosystem	5	2	2
Bats in South Dakota	5	1	3
Mountain Lions	4	1	4
Managing for Rare Wildlife Species	6	2	5
Miscellaneous Questions about Fish and Wildlife	5	0	6
Climate Change	5	2	7
Energy Development	4	1	8
Wetlands	5	0	9
Total	45	12	

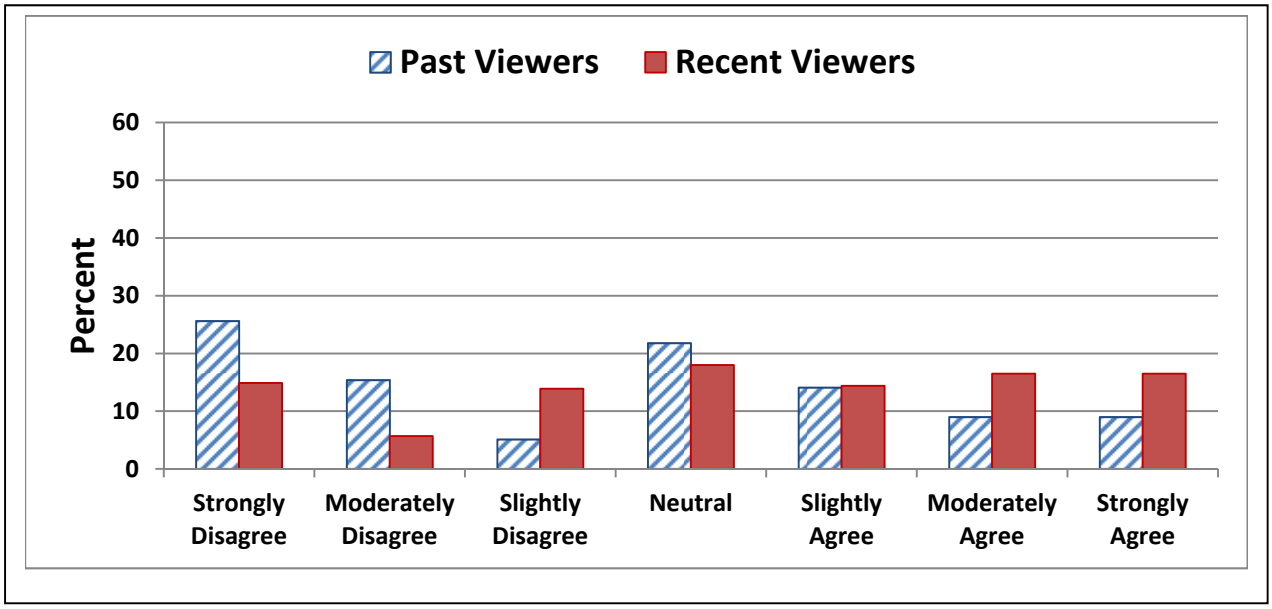

Figure 48. "I would enjoy having bats living and feeding near my house," comparing past viewers with recent viewers. [Chi-square: X^2=18.314; df=6; p=.005; Cramer's V = .259]

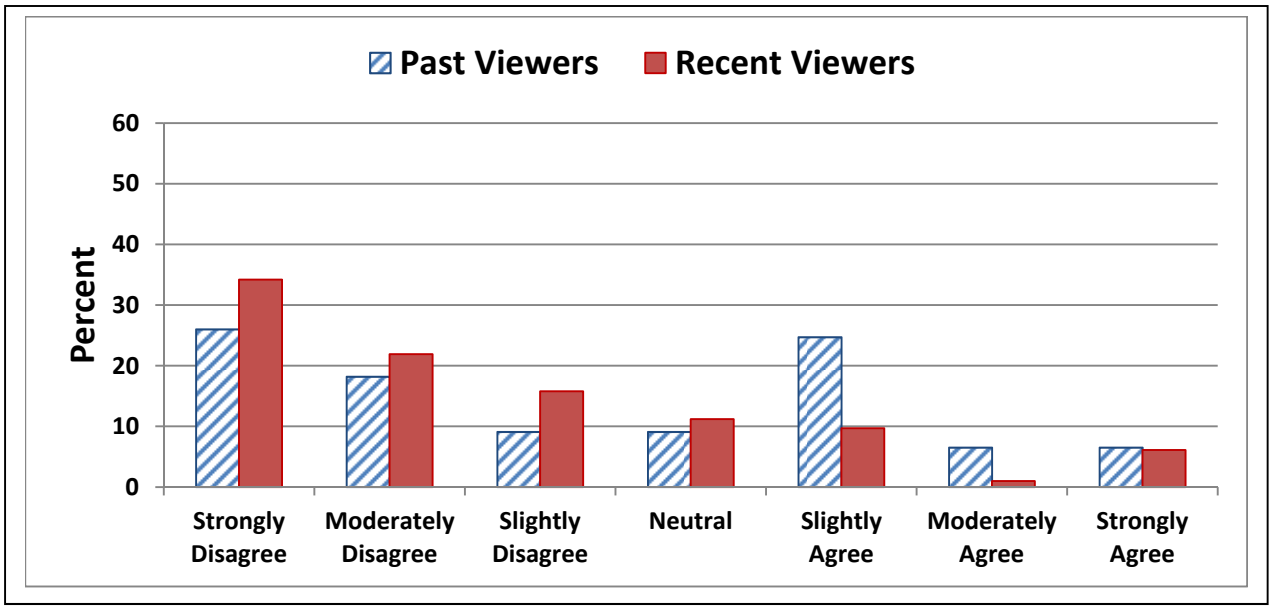

Figure 49. "Having any mountain lions in South Dakota is too dangerous a risk to people," comparing past viewers with recent viewers. [Chi-square: X^2=19.961; df=6; p=.004; Cramer's V = .264]

Number of Activities. The number of types of participation (fishing, hunting and wildlife viewing) during peoples' lifetime and recently (during the past two years) was counted from 0 (no participation) to 3 (participation in all three types of activities) (Table 42). About 9% of South Dakota adult residents never participated in any of the three types of activities and 29% had participated in all three (Table 43 and Figures 50 and 51). However, about 37% have not participated in any of the three types of activities recently while about 13% have participated in all three types of activities recently.

There was a very strong relationship between the number of types of recent activities people participated in and their reported importance of fish and wildlife in contributing to their "quality of life" in South Dakota (Table 44 and Figures 52 and 53). Participation in the different types of activities was related to the domination and mutualism orientation scales (see Progress Report #2) (Table 45). Participation in hunting and fishing scored high on the domination scale while wildlife viewing or no activities scored high on the mutualism scale.

Table 42. Number of types of activities (fishing, hunting and wildlife viewing) engaged in during lifetime and recently (past two years) by South Dakota adult residents.

Number of Activities – During Lifetime	**Sample Data**		**Weighted Data**	
	Number	**Percent**	**Number**	**Percent**
0	85	7.7%	94	8.6%
1	161	14.6%	195	17.8%
2	472	42.8%	483	44.3%
3	385	34.9%	320	29.3%
Total	1,103	100%	1,091	100%
Number of Recent Activities	**Sample Data**		**Weighted Data**	
	Number	**Percent**	**Number**	**Percent**
0	354	32.1%	399	36.5%
1	292	26.5%	284	26.0%
2	295	26.7%	270	24.7%
3	162	14.7%	138	12.7%
Total	1,103	100%	1,091	100%

Table 43. Types of activities (fishing, hunting and wildlife viewing) engaged in during lifetime and recently (past two years) by South Dakota adult residents.

Type of Activity - Lifetime	**Weighted Data**	
	Number	**Percent**
None	94	8.6%
Fishing Only	147	13.5%
Hunting Only	17	1.5%
Viewing Only	31	2.9%
Fishing & Hunting	301	27.6%
Fishing & Viewing	173	15.8%
Hunting & Viewing	9	0.8%
Fish, Hunt & View	320	29.3%
Total	1,091	100%
Type of Activity - Recently	**Weighted Data**	
	Number	**Percent**
None	399	36.5%
Fishing Only	99	9.1%
Hunting Only	59	5.4%
Viewing Only	126	11.6%
Fishing & Hunting	180	16.5%
Fishing & Viewing	68	6.2%
Hunting & Viewing	22	2.0%
Fish, Hunt & View	138	12.7%
Total	1,091	100%

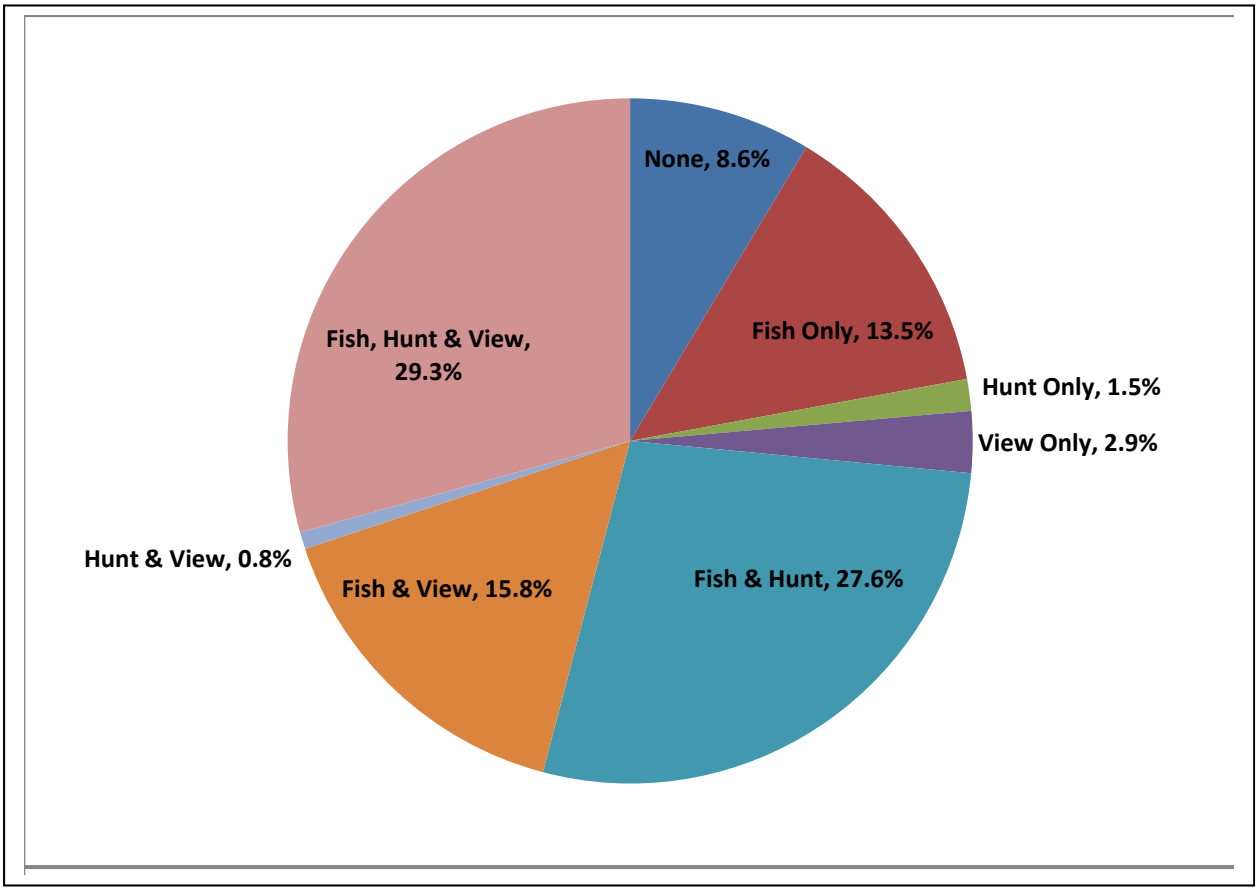

Figure 50. Type of activities South Dakota adult citizens have participated in during their lifetime (measured in 2012 – weighted data).

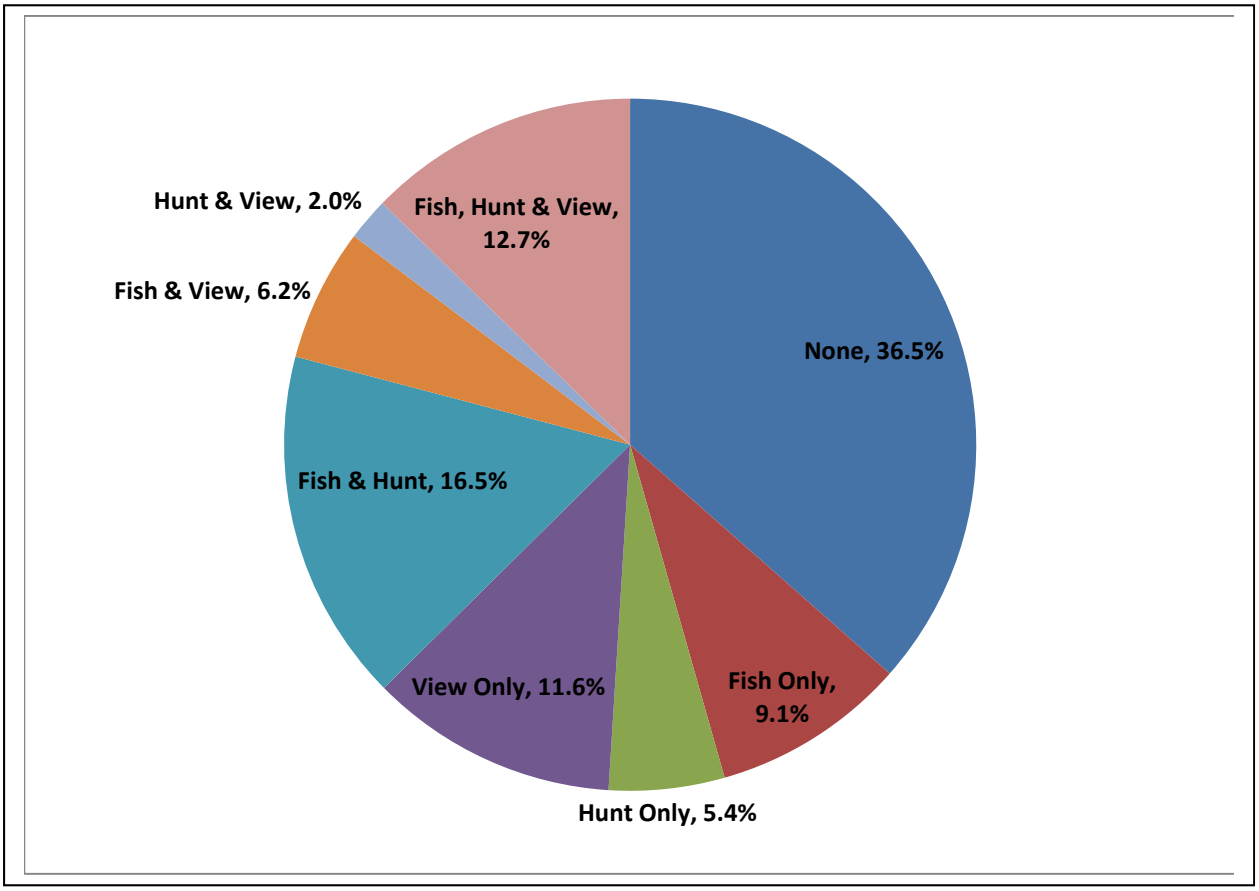

Figure 51. Type of activities South Dakota adult citizens have participated in recently (during the past two years (measured in 2012 – weighted data).

Table 44. Mean importance of fish and wildlife in contributing to one's "quality of life" in South Dakota analyzed by the number of types of recent activities.

Number of Types of Recent Activities[1]	Mean Attitude[2]	95% C.I.	Number
0	1.30	1.18 – 1.43	319
1	1.90	1.78 – 2.02	281
2	2.19	2.08 – 2.30	285
3	2.51	2.38 – 2.64	161
Total	1.89	1.82 – 1.96	1,046
ANOVA: F=62.855; df=3 / 1,042; p<.001; Eta^2=.153			

[1]Types of activities: fishing, hunting, & wildlife watching

[2]Scale: -3=Detracts Greatly, -2=Detracts Moderately; -1=Detracts Slightly; 0=Neither; +1=Contributes Slightly; +2=Contributes Moderately; +3=Contributes Greatly

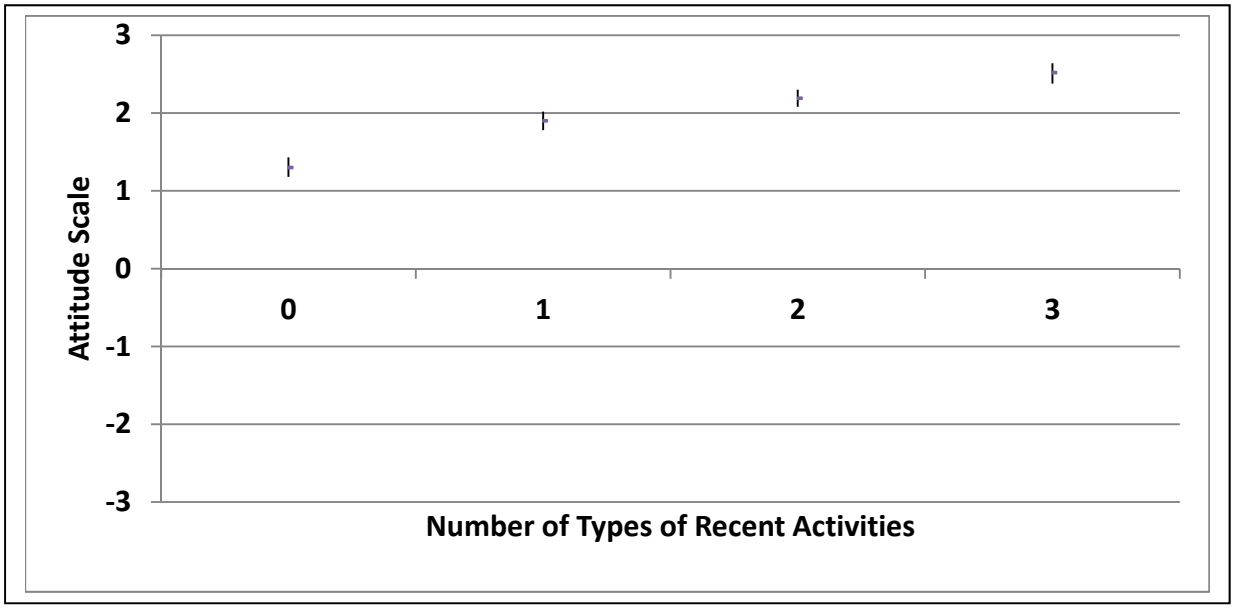

Figure 52. Mean importance (with 95% confidence intervals) of fish and wildlife in contributing to one's "quality of life" in South Dakota analyzed by the number of types of recent activities. Attitude Scale: -3=Detracts Greatly, -2=Detracts Moderately; -1=Detracts Slightly; 0=Neither; +1=Contributes Slightly; +2=Contributes Moderately; +3=Contributes Greatly.

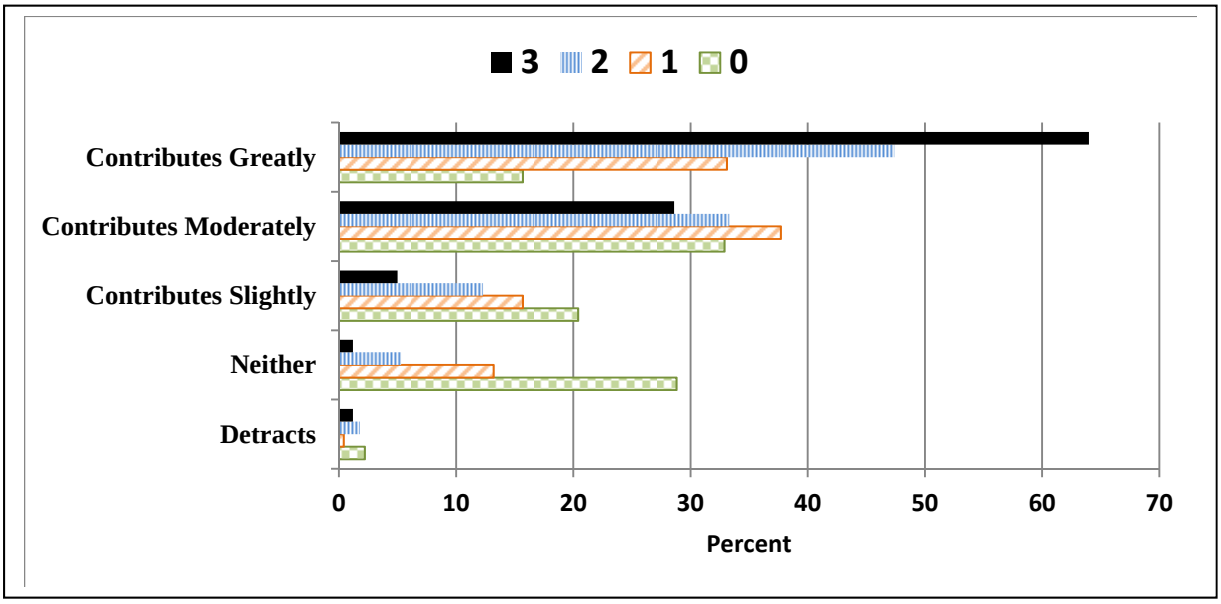

Figure 53. Importance of fish and wildlife in contributing to one's "quality of life" in South Dakota analyzed by the number of types of recent activities (Detracts combines the categories slightly, moderately, and greatly). [Chi-Square: X^2=191.673; df=12; p<.001; Cramer's V = .247]

Table 45. Mean scores on the domination and mutualism orientations scales[1] analyzed by recent participation (during the past two years) in fishing, hunting and/or wildlife viewing.

Recent Activity	Domination Scale	95% C.I.	Number
View Only	4.84	4.63 – 5.06	101
None	4.99	4.87 – 5.10	325
Fish Only	5.24	5.07 – 5.42	97
Fish & View	5.31	5.05 – 5.58	58
Hunt & View	5.42	5.09 – 5.76	37
Hunt Only	5.55	5.35 – 5.75	71
Fish, Hunt & View	5.65	5.51 – 5.79	157
Fish & Hunt	5.66	5.53 – 5.79	187
Total	5.29	5.23 – 5.35	1,033
ANOVA: F=15.581; df=7/1,025; p<.001; Eta^2= .096			
Recent Activity	Mutualism Scale	95% C.I.	Number
Fish & Hunt	3.57	3.38 – 3.76	187
Hunt Only	3.67	3.37 – 3.97	71
Hunt & View	3.97	3.52 – 4.43	37
Fish Only	4.02	3.76 – 4.29	97
Fish & View	4.03	3.69 – 4.38	58
Fish, Hunt & View	4.05	3.84 – 4.25	157
None	4.31	4.16 – 4.46	325
View Only	4.69	4.42 – 4.97	101
Total	4.08	3.99 – 4.16	1,033
ANOVA: F=9.288; df=7/1,025; p<.001; Eta^2= .060			

[1]Progress Report 2-2012 has a description of the domination and mutualism orientation scales.

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DISCUSSION

This report provides a demographic description of three general types of wildlife related activities (fishing, hunting and wildlife viewing) for residents of South Dakota measured in 2012. The report then describes the wildlife and environmental attitudes held by people participating in the different activities. For the purposes of description, participation is divided into three categories: 1) never participated, 2) participated sometime during their lifetime, but not recently, and 3) participated in the activity recently (defined as during the past two years). There is a fair amount of overlap in terms of participation in these three activities, i.e., most people participate in more than one of these activities. Sex and age were the strongest demographic variables related to fishing – a higher percent of males fished and fishing participants were younger than non-participants. Sex and age were also the strongest demographic variables related to hunting, however, almost all the demographic variables tested were significantly related to hunting participation. Hunters are a more distinct group than anglers because a higher percent of people engage in fishing than hunting; therefore anglers are more likely to have more demographic diversity than hunters, which would reduce the ability of demographic variables to predicting fishing participation.

On the other hand, sex and age were not good predictors of wildlife viewing participation while many of the residence-type variables were significantly related to taking recreational trips for the primary purpose of viewing wildlife. This finding is probably an artifact associated with South Dakota rather than a more general finding since about half of the residence-type variables measured in this study can be classified as proximity to the Black Hills. The Black Hills offers more diversity and opportunity for recreational wildlife viewing trips compared to the rest of South Dakota. People living closer to the Black Hills were more likely to take recreational wildlife viewing trips. The more general finding may be that proximity to opportunity is related to participation in wildlife viewing.

Participation in fishing and hunting is more strongly associated with a utilitarian value orientation while wildlife viewing is more strongly associated with a mutualism value orientation. However, the distinction becomes moderated for participants who engage in both fishing/hunting and wildlife viewing. One of the strongest relationships with activities was the importance of fish and wildlife's contribution to a high "quality of life" for participants in one or more of the activities regardless of the activity (*see Table 44 and Figures 52 and 53*).

Anglers and hunters tended to have similar wildlife and environmental attitudes probably due to the large overlap in participation in both activities. In addition to the importance of wildlife's contribution to the "quality of life," anglers and hunters had higher support for a regulated mountain lion season, reduction of predators to increase game fish and wildlife, and management decisions favoring game species, and greater opposition to requirements to use non-toxic bullets for shooting prairie dogs compared to non-anglers and non-hunters.

With the exception of the importance of wildlife's contribution to the "quality of life" and the high rating of "providing wildlife habitat" for the importance of wetland functions, wildlife viewers tended to have relatively different wildlife and environmental attitudes. Overall there were more significant differences between participants and non-participants in wildlife viewing than between participants and non-participants in fishing and hunting. Wildlife viewers had higher disagreement that mountain lions were too dangerous a risk to people and higher support for having bats living and feeding near their house compared to non-viewers.

One very large difference between anglers/hunters and wildlife viewers was between past participants and recent participants and their rating of the importance of the activity. Past anglers and hunters rated the importance of the activity very low compared to recent participants, i.e., the reason that many anglers and hunters have not participated recently (defined as during the past two years) is because the activity is no longer important (*see Tables 20 and 29 and Figures 16 and 31*). The pattern is very different for wildlife viewers as many of the past viewers rated the activity relatively high (*see Table 39 and Figure 46*). For example, past anglers and past hunters rated the activity as 40% and 41% less important than did recent anglers and recent hunters; respectively, while past wildlife viewers rated the activity as only 17% less important compared to recent viewers. This suggests that a relatively high percent of past anglers and hunters have dropped out of the sport compared to future activity by past wildlife viewers.

This study identified that most South Dakota citizens express relatively high positive attitudes towards wildlife and place a high value on the fish and wildlife resources found in the state, which is probably due to the high participation in fishing, hunting and wildlife viewing and the importance participants attach to these activities. This study identified a strong relationship between participation in one or more types of activities (fishing, hunting, and wildlife viewing) and positive wildlife and environmental attitudes.

Appendix A

Copy of Version 1 of the mail questionnaire for the 2012 wildlife and environmental attitudes of South Dakota citizen survey.

[8 pages: 69 – 76]

Copy of Version 2 of the mail questionnaire for the 2012 wildlife and environmental attitudes of South Dakota citizen survey.

[8 pages: 77 – 84]

Copy of cover letters and post card reminders used for the 2012 wildlife and environmental attitudes of South Dakota citizen survey.

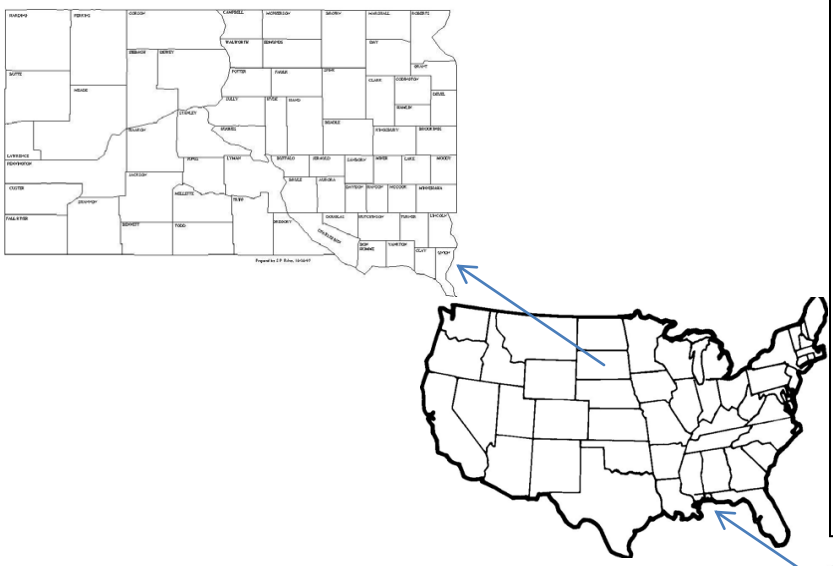
[3 pages: 85 – 87]

WILDLIFE AND ENVIRONMENTAL ATTITUDES OF SOUTH DAKOTA CITIZENS – A 2012 SURVEY

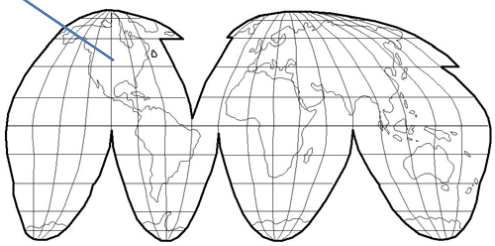
Dear South Dakota Resident,

South Dakota State University on behalf of Game, Fish & Parks (GFP), is conducting a research study aimed at understanding how people feel about wildlife, wildlife management and environmental issues in the South Dakota. This survey is part of GFP five-year revision of South Dakota's Wildlife Action Plan. Information about the South Dakota Wildlife Action Plan and this survey can be found on the GFP website at:

http://gfp.sd.gov/wildlife/management/plans/wildlife-action-plan.aspx



For this study we are requesting your participation in this survey. Any adult residing at this address can complete the survey. The survey is designed to take approximately 15-20 minutes to complete. It is important to us that your survey be completed and returned in order to ensure that the results will truly represent the target population for this study. **Even if you have little knowledge about or interest in wildlife in South Dakota, your opinions are important to us.**



S.D. Citizen Survey – Wildlife Action Plan
Attention: Larry Gigliotti
South Dakota State University
Box 2140B, SNP 201C
Brookings, SD 57007

Survey Version 1:

General Questions about Fish & Wildlife Management in South Dakota

Please circle one number for your response to each question.

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?

Not Important	Slightly Important	Moderately Important	Very Important	No Opinion
1	2	3	4	5

2. How important do you think healthy fish and wildlife populations are to the economy and well-being of South Dakota residents?

Not Important	Slightly Important	Moderately Important	Very Important	No Opinion
1	2	3	4	5

3. How strongly do you disagree or agree with the following statement?

The diversity of fish and wildlife in an area is a sign of the quality of the natural environment.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral or No Opinion	Slightly Agree	Moderately Agree	Strongly Agree
1	2	3	4	5	6	7

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

GFP's focus on wildlife diversity issues is…

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

5. Compared to other places where you could consider living, how would you rate life in South Dakota?

Would you say that life in South Dakota is…

Very Much Worse	Moderately Worse	Slightly Worse	About the Same	Slightly Better	Moderately Better	Very Much Better	No Opinion
1	2	3	4	5	6	7	8

6. In general, how much does fish and wildlife detract or contribute to a high "quality of life" for you?

Detracts Greatly	Detracts Moderately	Detracts Slightly	Neither	Contributes Slightly	Contributes Moderately	Contributes Greatly	No Opinion
1	2	3	4	5	6	7	8

Wildlife Value Orientation

Below are statements representing different ways that people might think about fish and wildlife. We are interested in knowing **your views about fish and wildlife**.
Please circle one number for your response to each question.

How strongly do you disagree or agree with…?	**Strongly Disagree**	**Moderately Disagree**	**Slightly Disagree**	**Neither**	**Slightly Agree**	**Moderately Agree**	**Strongly Agree**
Humans should manage fish and wildlife populations so that humans benefit.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Animals should have rights similar to the rights of humans.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
We should strive for a world where there is an abundance of fish and wildlife for hunting and fishing.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
I view all living things as part of one big family.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Hunting does not respect the lives of animals.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
I feel a strong emotional bond with animals.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
The needs of humans should take priority over fish and wildlife protection.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
I care about animals as much as I do other people.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Fish and wildlife are on earth primarily for people to use.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Hunting is cruel and inhumane to the animals.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
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**
I value the sense of companionship I receive from animals.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Wildlife are like my family and I want to protect them.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
People who want to hunt should be provided the opportunity to do so.	**1**	**2**	**3**	**4**	**5**	**6**	**7**

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 tracks of native grasslands, the current challenges are more related to the specific needs of certain species like black-footed ferrets, swift fox, black-tailed prairie dogs, and sage grouse. *Please circle one number for your response to each question.*

Do you disagree or agree that…	**Strongly Disagree**	**Moderately Disagree**	**Slightly Disagree**	**Neutral or No Opinion**	**Slightly Agree**	**Moderately Agree**	**Strongly Agree**
Maintaining a healthy native prairie ecosystem in South Dakota is important to me.	1	2	3	4	5	6	7
Prairie dogs are an important component of native prairie ecosystems and need some degree of protection.	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
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 am concerned about the accelerated conversion of native prairie habitat.	1	2	3	4	5	6	7

Situation 2. Thirteen species of bats are found in South Dakota. Bats roost (rest/sleep) in trees, buildings, caves, mines, and crevices. Bats play an important role in nature because they feed on insects. Places where bats feed and roost are vulnerable to disturbance and destruction.

Do you disagree or agree that…	**Strongly Disagree**	**Moderately Disagree**	**Slightly Disagree**	**Neutral or No Opinion**	**Slightly Agree**	**Moderately Agree**	**Strongly Agree**
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
I would enjoy having bats living and feeding near my house.	1	2	3	4	5	6	7
I am concerned about the impact of diseases, such as white nose syndrome, on bat populations.	1	2	3	4	5	6	7

Questions about Mountain Lions (Cougars) in South Dakota:

Do you disagree or agree with the following?	**Strongly Disagree**	**Moderately Disagree**	**Slightly Disagree**	**Neutral or No Opinion**	**Slightly Agree**	**Moderately Agree**	**Strongly Agree**
Having a healthy, viable population of mountain lions in South Dakota is important to me.	1	2	3	4	5	6	7
I am concerned about mountain lions killing too many game (hunted) animals.	1	2	3	4	5	6	7
Having any mountain lions in South Dakota is too dangerous a risk to people.	1	2	3	4	5	6	7

	Strongly Oppose	**Moderately Oppose**	**Slightly Oppose**	**Neutral or No Opinion**	**Slightly Favor**	**Moderately Favor**	**Strongly Favor**
Do you oppose or favor a regulated mountain lion season in South Dakota?	1	2	3	4	5	6	7

Wildlife Management in South Dakota – Miscellaneous Questions

Do you disagree or agree with the following?	**Strongly Disagree**	**Moderately Disagree**	**Slightly Disagree**	**Neutral or No Opinion**	**Slightly Agree**	**Moderately Agree**	**Strongly Agree**
I would support requirements to use non-toxic bullets for shooting prairie dogs to reduce lead poisoning of eagles, hawks and other wildlife.	1	2	3	4	5	6	7
I am concerned about feral (wild), free ranging house cats killing native birds.	1	2	3	4	5	6	7
I would support regulations to control commercial harvest and unregulated take of turtles, lizards, snakes, frogs and toads if information showed that their populations were declining to unacceptable levels.	1	2	3	4	5	6	7
Rattlesnakes are an important component of South Dakota's assemblage of wildlife and should not be killed indiscriminately.	1	2	3	4	5	6	7
In general, efforts should be made to reduce predator numbers to help increase the numbers of game animals for hunters.	1	2	3	4	5	6	7

Hunting & Fishing Participation (*Please check your responses for each question*).

Have you ever participated in recreational fishing? ❑ No ❑ Yes

→ If Yes,

a) Did you do any fishing during the past 2 years? ❑ No ❑ Yes

b) How important is fishing in relation to all your other types of recreation?

- ❑ 1. my MOST important recreational activity
- ❑ 2. VERY important, but not the most important
- ❑ 3. MODERATELY important
- ❑ 4. SLIGHTLY important
- ❑ 5. NOT important
- ❑ 6. No Opinion

Have you ever participated in recreational hunting? ❑ No ❑ Yes

→ If Yes,

a) Did you do any hunting during the past 2 years? ❑ No ❑ Yes

b) How important is hunting in relation to all your other types of recreation?

- ❑ 1. my MOST important recreational activity
- ❑ 2. VERY important, but not the most important
- ❑ 3. MODERATELY important
- ❑ 4. SLIGHTLY important
- ❑ 5. NOT important
- ❑ 6. No Opinion

Wildlife Viewing (*Please check your responses for each question*).

Have you ever taken any recreational trips for which fish and wildlife viewing was the primary purpose of the trip? ❑ No ❑ Yes

→ If Yes,

a) Did you take any recreational trips during the past 2 years for which fish and wildlife viewing was the primary purpose of the trip? ❑ No ❑ Yes

b) Were these wildlife viewing trips during the past 2 years…

❑ in South Dakota ❑ outside South Dakota ❑ Both

c) How important is taking wildlife viewing trips in relation to all your other types of recreation?

❑ 1. my MOST important recreational activity
❑ 2. VERY important, but not the most important
❑ 3. MODERATELY important
❑ 4. SLIGHTLY important
❑ 5. NOT important
❑ 6. No Opinion

	Not at all Interested	**Slightly Interested**	**Moderately Interested**	**Very Interested**
How interested are you in taking recreational trips in the future for which fish and wildlife viewing is the primary purpose of the trip?	1	2	3	4

Do you feed birds near your home for viewing purposes? ❑ No ❑ Yes

Do you feed other wildlife near your home for viewing purposes? ❑ No ❑ Yes

	Not at all Important	**Slightly Important**	**Moderately Important**	**Very Important**
How important is it to have wildlife viewing opportunities near your home?	1	2	3	4

Information about Yourself

The following demographic information will be used to help make general conclusions about South Dakota residents. Your responses will remain completely confidential.

1. What is your age and gender? _____years ☐ MALE ☐ FEMALE

2. About how long have you lived in South Dakota? _____ Years OR ❑ Less than one year
   (Write response or check box ☑ indicating less than one year.)

3. Which South Dakota county do you live in? _____

4. Is your current residence:
   ❑ RURAL
   ❑ SMALL TOWN
   ❑ CITY (greater than 10,000) (the following S.D. cities are greater than10,000: Sioux Falls, Rapid City, Aberdeen, Watertown, Brookings, Pierre-Ft.Pierre, Mitchell, Yankton, Huron, Vermillion)

5. Do you own land outside town/city? ❑ No ❑ Yes

6. Are you a farmer/rancher?
   ❑ No
   ❑ Yes – but retired
   ❑ Yes – Part-time
   ❑ Yes – Full-time

7. How would you describe the community in which you were raised?
   If more than one area, please check the place where you lived the longest while growing up.

   ❑ 1. a large city with 250,000 or more people
   ❑ 2. a city with 100,000 to 249,999 people
   ❑ 3. a small city with 50,000 to 99,999 people
   ❑ 4. a town with 10,000 to 49,999 people
   ❑ 5. a small town/village with less than 10,000 people
   ❑ 6. a farm/ranch or rural area

THANK YOU VERY MUCH FOR YOUR VALUABLE TIME COMPLETING THIS SURVEY.

Please return your questionnaire using the addressed, pre-paid return envelope provided.

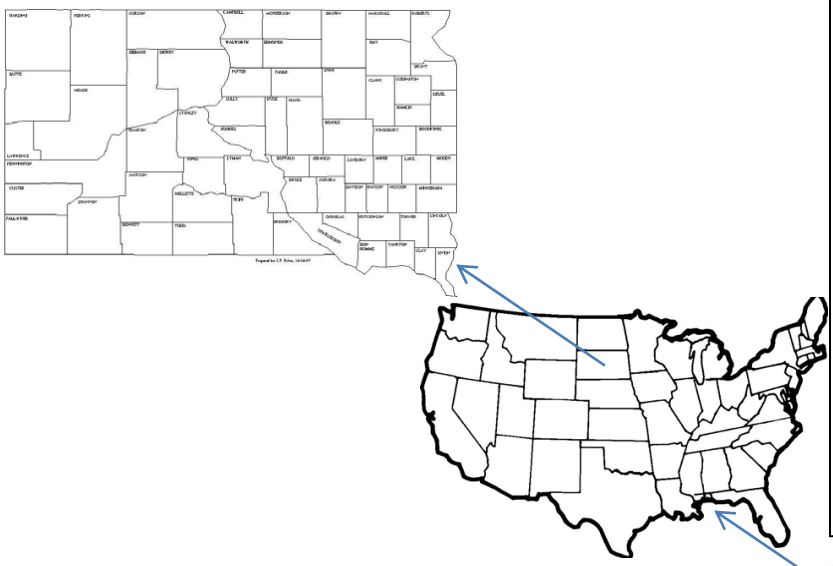
Summarized results from this survey will be posted on GFP's Web-site.

WILDLIFE AND ENVIRONMENTAL ATTITUDES OF SOUTH DAKOTA CITIZENS – A 2012 SURVEY

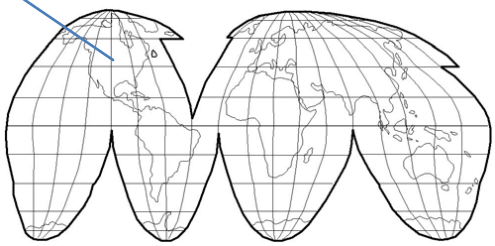
Dear South Dakota Resident,

South Dakota State University on behalf of Game, Fish & Parks (GFP), is conducting a research study aimed at understanding how people feel about wildlife, wildlife management and environmental issues in the South Dakota. This survey is part of GFP five-year revision of South Dakota's Wildlife Action Plan. Information about the South Dakota Wildlife Action Plan and this survey can be found on the GFP website at:

http://gfp.sd.gov/wildlife/management/plans/wildlife-action-plan.aspx



For this study we are requesting your participation in this survey. Any adult residing at this address can complete the survey. The survey is designed to take approximately 15-20 minutes to complete. It is important to us that your survey be completed and returned in order to ensure that the results will truly represent the target population for this study. **Even if you have little knowledge about or interest in wildlife in South Dakota, your opinions are important to us.**



S.D. Citizen Survey – Wildlife Action Plan
Attention: Larry Gigliotti
South Dakota State University
Box 2140B, SNP 201C
Brookings, SD 57007

Survey Version 2:

General Questions about Fish & Wildlife Management in South Dakota

Please circle one number for your response to each question.

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?

Not Important	Slightly Important	Moderately Important	Very Important	No Opinion
1	2	3	4	5

2. How important do you think healthy fish and wildlife populations are to the economy and well-being of South Dakota residents?

Not Important	Slightly Important	Moderately Important	Very Important	No Opinion
1	2	3	4	5

3. How strongly do you disagree or agree with the following statement?

The diversity of fish and wildlife in an area is a sign of the quality of the natural environment.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral or No Opinion	Slightly Agree	Moderately Agree	Strongly Agree
1	2	3	4	5	6	7

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

GFP's focus on wildlife diversity issues is…

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

5. Compared to other places where you could consider living, how would you rate life in South Dakota?

Would you say that life in South Dakota is…

Very Much Worse	Moderately Worse	Slightly Worse	About the Same	Slightly Better	Moderately Better	Very Much Better	No Opinion
1	2	3	4	5	6	7	8

6. In general, how much does fish and wildlife detract or contribute to a high "quality of life" for you?

Detracts Greatly	Detracts Moderately	Detracts Slightly	Neither	Contributes Slightly	Contributes Moderately	Contributes Greatly	No Opinion
1	2	3	4	5	6	7	8

Wildlife Value Orientation

Below are statements representing different ways that people might think about fish and wildlife. We are interested in knowing **your views about fish and wildlife**.
Please circle one number for your response to each question.

How strongly do you disagree or agree with…?	**Strongly Disagree**	**Moderately Disagree**	**Slightly Disagree**	**Neither**	**Slightly Agree**	**Moderately Agree**	**Strongly Agree**
Humans should manage fish and wildlife populations so that humans benefit.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Animals should have rights similar to the rights of humans.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
We should strive for a world where there is an abundance of fish and wildlife for hunting and fishing.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
I view all living things as part of one big family.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Hunting does not respect the lives of animals.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
I feel a strong emotional bond with animals.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
The needs of humans should take priority over fish and wildlife protection.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
I care about animals as much as I do other people.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Fish and wildlife are on earth primarily for people to use.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Hunting is cruel and inhumane to the animals.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
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**
I value the sense of companionship I receive from animals.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Wildlife are like my family and I want to protect them.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
People who want to hunt should be provided the opportunity to do so.	**1**	**2**	**3**	**4**	**5**	**6**	**7**

Situation 1. There has been a lot of talk recently about climate change (global warming) and its potential impacts. Climate change refers to changes occurring over approximately the past 100 years, not changes in climate over geological time periods. We are interested in learning **your views about climate change**.

Do you disagree or agree with the following?	**Strongly Disagree**	**Moderately Disagree**	**Slightly Disagree**	**Neutral or No Opinion**	**Slightly Agree**	**Moderately Agree**	**Strongly Agree**
I believe that climate change is currently affecting South Dakota.	1	2	3	4	5	6	7
I believe that climate change is a serious threat that requires changes in current life styles.	1	2	3	4	5	6	7
I support regulations to reduce carbon emissions to address climate change.	1	2	3	4	5	6	7
I don't believe that climate change will result in any negative impact on wildlife populations in South Dakota.	1	2	3	4	5	6	7

Beliefs concerning the causes of climate change generally range from totally natural causes to totally human activities or some approximate combination of both. Please indicate your personal belief about the causes of climate change (check this box ❑ if you have no opinion).

Climate change is due to natural cyclic changes in weather.			About half of each.			Climate change is the result of activities by humans.
❑ 1	❑ 2	❑ 3	❑ 4	❑ 5	❑ 6	❑ 7

Situation 2. Finding and developing alternative sources of energy as well as concerns over associated impacts of these activities on wildlife and the environment are often topics of discussion in South Dakota. We are interested in learning **your views about energy development in South Dakota**.

Do you disagree or agree with the following?	**Strongly Disagree**	**Moderately Disagree**	**Slightly Disagree**	**Neutral or No Opinion**	**Slightly Agree**	**Moderately Agree**	**Strongly Agree**
Wildlife impacts and grassland habitat loss should be considered when increasing biofuel production.	1	2	3	4	5	6	7
I support efforts to increase ethanol production in South Dakota.	1	2	3	4	5	6	7
Negative impacts on wildlife should be considered when developing wind energy in South Dakota.	1	2	3	4	5	6	7
I think people worry too much about possible environmental problems associated with pipelines for transporting oil across South Dakota.	1	2	3	4	5	6	7

Situation 3. Some wildlife management issues place wildlife managers in conflicting roles of making decisions to increase numbers of rare species while also providing satisfactory numbers of game animals and game fish for hunters and anglers; below are a couple of examples. We are interested in learning **your views**.

Do you disagree or agree with the following?	**Strongly Disagree**	**Moderately Disagree**	**Slightly Disagree**	**Neutral or No Opinion**	**Slightly Agree**	**Moderately Agree**	**Strongly Agree**
I would be concerned about River Otters taking too many game fish if their populations were to increase.	1	2	3	4	5	6	7
I would support releasing River Otters into suitable habitats in South Dakota.	1	2	3	4	5	6	7
I support efforts by GFP to increase Osprey numbers in South Dakota.	1	2	3	4	5	6	7
I would be concerned about Osprey taking too many game fish if their populations were to increase.	1	2	3	4	5	6	7
The Missouri River should not be managed for threatened or endangered species, such as terns and plovers, if it would in any way decrease game fish populations.	1	2	3	4	5	6	7

	Favor Game Species			**Balanced Approach**	**Favor Rare Wildlife Species**		
	Strongly	**Moderately**	**Slightly**		**Slightly**	**Moderately**	**Strongly**
In general, should wildlife management decisions favor game animals/fish OR rare wildlife species.	1	2	3	4	5	6	7

Wetlands perform many functions: please rate the importance of each function to you.

How important is…	**Not Important**	**Slightly Important**	**Moderately Important**	**Very Important**
Reducing flood events	0	1	2	3
Providing wildlife habitat	0	1	2	3
Providing recreational opportunities	0	1	2	3
Providing clean water	0	1	2	3
Providing economic opportunity	0	1	2	3

Hunting & Fishing Participation (*Please check your responses for each question*).

Have you ever participated in recreational fishing? ❑ No ❑ Yes

→ If Yes,

a) Did you do any fishing during the past 2 years? ❑ No ❑ Yes

b) How important is fishing in relation to all your other types of recreation?

- ❑ 1. my MOST important recreational activity
- ❑ 2. VERY important, but not the most important
- ❑ 3. MODERATELY important
- ❑ 4. SLIGHTLY important
- ❑ 5. NOT important
- ❑ 6. No Opinion

Have you ever participated in recreational hunting? ❑ No ❑ Yes

→ If Yes,

a) Did you do any hunting during the past 2 years? ❑ No ❑ Yes

b) How important is hunting in relation to all your other types of recreation?

- ❑ 1. my MOST important recreational activity
- ❑ 2. VERY important, but not the most important
- ❑ 3. MODERATELY important
- ❑ 4. SLIGHTLY important
- ❑ 5. NOT important
- ❑ 6. No Opinion

Wildlife Viewing (*Please check your responses for each question*).

Have you ever taken any recreational trips for which fish and wildlife viewing was the primary purpose of the trip? ❑ No ❑ Yes

→ If Yes,

a) Did you take any recreational trips during the past 2 years for which fish and wildlife viewing was the primary purpose of the trip? ❑ No ❑ Yes

b) Were these wildlife viewing trips during the past 2 years…

❑ in South Dakota ❑ outside South Dakota ❑ Both

c) How important is taking wildlife viewing trips in relation to all your other types of recreation?

❑ 1. my MOST important recreational activity
❑ 2. VERY important, but not the most important
❑ 3. MODERATELY important
❑ 4. SLIGHTLY important
❑ 5. NOT important
❑ 6. No Opinion

	Not at all Interested	**Slightly Interested**	**Moderately Interested**	**Very Interested**
How interested are you in taking recreational trips in the future for which fish and wildlife viewing is the primary purpose of the trip?	1	2	3	4

Do you feed birds near your home for viewing purposes? ❑ No ❑ Yes

Do you feed other wildlife near your home for viewing purposes? ❑ No ❑ Yes

	Not at all Important	**Slightly Important**	**Moderately Important**	**Very Important**
How important is it to have wildlife viewing opportunities near your home?	1	2	3	4

Information about Yourself

The following demographic information will be used to help make general conclusions about South Dakota residents. Your responses will remain completely confidential.

1. What is your age and gender? _____years ☐ MALE ☐ FEMALE

2. About how long have you lived in South Dakota? _____ Years
Please round your answer to the nearest whole number of years (if less than 6 months, enter 0).

3. Which South Dakota county do you live in? _____

4. Is your current residence:
   - ❑ RURAL
   - ❑ SMALL TOWN
   - ❑ CITY (greater than 10,000) (the following S.D. cities are greater than10,000: Sioux Falls, Rapid City, Aberdeen, Watertown, Brookings, Pierre-Ft.Pierre, Mitchell, Yankton, Huron, Vermillion)

5. Do you own land outside town/city? ❑ No ❑ Yes

6. Are you a farmer/rancher?
   - ❑ No
   - ❑ Yes – but retired
   - ❑ Yes – Part-time
   - ❑ Yes – Full-time

7. How would you describe the community in which you were raised?
If more than one area, please check the place where you lived the longest while growing up.

   - ❑ 1. a large city with 250,000 or more people
   - ❑ 2. a city with 100,000 to 249,999 people
   - ❑ 3. a small city with 50,000 to 99,999 people
   - ❑ 4. a town with 10,000 to 49,999 people
   - ❑ 5. a small town/village with less than 10,000 people
   - ❑ 6. a farm/ranch or rural area

THANK YOU VERY MUCH FOR YOUR VALUABLE TIME COMPLETING THIS SURVEY.

Please return your questionnaire using the addressed, pre-paid return envelope provided.

Summarized results from this survey will be posted on GFP's Web-site.

Dear South Dakota Resident,

South Dakota State University on behalf of Game, Fish & Parks (GFP), is conducting a research study aimed at understanding how people feel about wildlife, wildlife management and environmental issues in the South Dakota. This survey is part of GFP's five-year revision of South Dakota's Wildlife Action Plan. Information about the South Dakota Wildlife Action Plan and this survey can be found on the GFP website at: **http://gfp.sd.gov/wildlife/management/plans/wildlife-action-plan.aspx**.

For this study we are requesting your participation in the survey included in this mailing. Any adult residing at this address can complete the survey. The survey is designed to take approximately 15-20 minutes to complete. It is important to us that your survey be completed and returned in order to ensure that the results will truly represent the target population for this study. **Even if you have little knowledge about or interest in wildlife in South Dakota, your input is important to us.**

Your participation in this survey is voluntary (returning a blank survey will let us know that you do not want to participate and we will not send any reminders or follow-up requests to participate in this survey). You may leave any question or portion of the survey blank that you do not want to answer. Your responses will remain **completely confidential**. Your name and contact information will never in any way be released or associated with your responses in reporting of the data. In addition, there are no known risks or direct personal benefits associated with your participation.

In accordance with federal regulations, the SDSU Human Research Committee has reviewed and approved this study. If you have *questions about your rights as a participant in this research*, you may contact the SDSU Research Compliance Coordinator at (605) 688-6975. The questionnaire has an identification number affiliated with it to ensure that we do not bother you with subsequent mailings or phone calls related to this study effort.

We would be happy to answer any *questions you might have regarding the study*. Please feel free to contact us by phone or email (details provided below). Thank you very much for your assistance.
Sincerely,

Larry Gigliotti (*for questions about the survey*)
South Dakota State University
Box 2140B, SNP 201C
Brookings, SD 57007
(605) 688-6717
Larry.Gigliotti@sdstate.edu

Eileen Dowd Stukel (*for questions about the plan*)
523 E. Capitol
Pierre, SD 57501
(605) 773-4229
eileen.dowdstukel@state.sd.us

Dear South Dakota Resident,

South Dakota State University on behalf of Game, Fish & Parks (GFP), is conducting a research study aimed at understanding how people feel about wildlife, wildlife management and environmental issues in the South Dakota. This survey is part of GFP's five-year revision of South Dakota's Wildlife Action Plan. Information about the South Dakota Wildlife Action Plan and this survey can be found on the GFP website at: **http://gfp.sd.gov/wildlife/management/plans/wildlife-action-plan.aspx**.

Not long ago, we mailed your household a survey for this study. As of today, we have not yet received your completed questionnaire. If you have already completed and returned it to us, please disregard this notice and accept our sincere thanks. Enclosed is another copy of the survey which is designed to take approximately 15-20 minutes to complete and should be filled out by someone at least 18 years of age. It is important to us that your survey be completed and returned in order to ensure that the results will truly represent the target population for this study. **Even if you have little knowledge about or interest in wildlife in South Dakota, <u>your input is important to us.</u>**

Your participation in this survey is voluntary (returning a blank survey will let us know that you do not want to participate and we will not send any reminders or follow-up requests to participate in this survey). You may leave any question or portion of the survey blank that you do not want to answer. Your responses will remain **completely confidential**. Your name and contact information will never in any way be released or associated with your responses in reporting of the data. In addition, there are no known risks or direct personal benefits associated with your participation.

In accordance with federal regulations, the SDSU Human Research Committee has reviewed and approved this study. If you have *questions about your rights as a participant in this research*, you may contact the SDSU Research Compliance Coordinator at (605) 688-6975. The questionnaire has an identification number affiliated with it to ensure that we do not bother you with subsequent mailings or phone calls related to this study effort.

Deadline for returning your survey is March 23. Thank you very much for your assistance.

Sincerely,

Larry Gigliotti (*for questions about the survey*)
South Dakota State University
Box 2140B, SNP 201C
Brookings, SD 57007
(605) 688-6717
Larry.Gigliotti@sdstate.edu

Eileen Dowd Stukel (*for questions about the plan*)
523 E. Capitol
Pierre, SD 57501
(605) 773-4229
eileen.dowdstukel@state.sd.us

Post Card Reminder:

February 15, 2012

Last week I mailed you a survey about wildlife and environmental issues. This postcard reminder is being sent to ask you to complete and return your survey as soon as possible using the pre-paid return envelope provided. If you have already completed and returned it to us, please accept our sincere thanks.

YOUR response is needed to provide an accurate assessment of opinions held by South Dakota citizens. When the survey is completed a report f summarized results will be posted on the South Dakota Game, Fish and Parks web-site.

Please try to respond to the first mailing of the survey by February 27. If by some chance you did not receive the questionnaire, or if it got misplaced, don't worry (just wait and watch your mail) as a second questionnaire will be mailed to you in a couple of weeks if we don't receive your completed questionnaire in the mail.

Larry Gigliotti

Appendix B. Calculations for sex-age weighting of the citizen survey data (2012).

Males (Age)

Age-Group	Population %	Sample %	Formula	Weight
18 – 34	31.8	6.6	31.8 / 6.6	4.818
35 – 49	25.2	22.7	25.2 / 22.7	1.110
50 – 64	26.2	40.6	26.2 / 40.6	0.645
65+	16.8	30.1	16.8 / 30.1	0.558

Females (Age)

Age-Group	Population %	Sample %	Formula	Weight
18 – 34	29.2	5.9	29.2 / 5.9	4.949
35 – 49	24.1	15.7	24.1 / 15.7	1.535
50 – 64	25.3	31.1	25.3 / 31.1	0.814
65+	21.4	47.2	21.4 / 47.2	0.453

Sex weight

Sex	Population %	Sample %	Formula	Weight
Male	50.0	74.2	50 / 74.2	0.674
Female	50.0	25.8	50 / 25.8	1.938

Sex X Age weights

Male Age-Group	Age Weight	times	Sex Weight	Sex-Age Weight
18 – 34	4.818	X	0.674	**3.247**
35 – 49	1.110	X		**0.748**
50 – 64	0.645	X		**0.435**
65+	0.558	X		**0.376**
Female Age-Group	**Age Weight**	**times**	**Sex Weight**	**Sex-Age Weight**
18 – 34	4.949	X	1.938	**9.591**
35 – 49	1.535	X		**2.975**
50 – 64	0.814	X		**1.578**
65+	0.453	X		**0.878**

Appendix C. Demographic description of South Dakota anglers (measured in 2012).

Appendix C – Table 1. Mean age of South Dakota anglers analyzed by fishing status (weighted data).

Fishing Status	Mean Age	95% C.I.	Number
Never Fished	55.6	52.4 – 58.8	147
Have Fished	46.9	45.9 – 48.0	946
Mean Age	48.1	47.1 – 49.1	1,093
ANOVA: F=32.043; df=1/1,090; p<.001; Eta^2=.029			
Non-Angler	50.7	49.2 – 52.2	606
Recent Angler	44.8	43.5 – 46.2	487
Mean Age	48.1	47.6 – 49.1	1,093
ANOVA: F=31.248; df=1/1,090; p<.001; Eta^2=.028			
Past Angler	49.2	47.5 – 50.8	458
Recent Angler	44.8	43.5 – 46.2	487
Mean Age	46.9	45.9 – 48.0	946
ANOVA: F=15.715; df=1/943; p<.001; Eta^2=.016			

Appendix C – Table 2. Sex of South Dakota anglers analyzed by fishing status (weighted data).

Sex (Total N)	Never Fished		Have Fished	
	Number	**Percent**	**Number**	**Percent**
Male (553)	39	7.1%	514	92.9%
Female (539)	108	20.0%	431	80.0%
Total (1,092)	147	13.5%	945	86.5%
Chi-square: X^2=39.505; df=1, p<.001; Cramer's V = .190				
Sex (Total N)	**Non-Angler**		**Recent Angler**	
	Number	**Percent**	**Number**	**Percent**
Male (554)	194	35.0%	360	65.0%
Female (540)	412	76.3%	128	23.7%
Total (1,094)	606	55.4%	488	44.6%
Chi-square: X^2=188.569; df=1, p<.001; Cramer's V = .415				
Sex (Total N)	**Past Angler**		**Recent Angler**	
	Number	**Percent**	**Number**	**Percent**
Male (514)	154	30.0%	360	70.0%
Female (432)	304	70.4%	128	29.6%
Total (946)	458	48.4%	488	51.6%
Chi-square: X^2=153.467; df=1, p<.001; Cramer's V = .403				

Appendix C – Table 3. Mean number of yeas living in South Dakota analyzed by fishing status (weighted data).

Fishing Status	Mean Years Living in South Dakota	95% C.I.	Number
Never Fished	41.7	37.6 – 45.9	147
Have Fished	36.2	34.9 – 37.5	945
Mean Years	37.0	35.7 – 38.2	1,093
ANOVA: F=8.827; df=1/1,090; *p*=.003; Eta^2=.008			
Non-Angler	37.6	35.8 – 39.4	606
Recent Angler	36.2	34.5 – 37.8	487
Mean Years	37.0	35.7 – 38.2	1,093
ANOVA: F=1.250; df=1/1,090; *p*=.264; Eta^2=.001			
Past Angler	36.3	34.3 – 38.3	458
Recent Angler	36.2	34.5 – 37.8	487
Mean Years	36.2	34.9 – 37.5	945
ANOVA: F=0.006; df=1/943; *p*=.938; Eta^2<.001			

Appendix C – Table 4. Residence (GFP Regions) of South Dakota anglers analyzed by fishing status (weighted data).

GFP Region (Total N)	**Never Fished**		**Have Fished**	
	Number	**Percent**	**Number**	**Percent**
Region 1 (259)	23	8.9%	236	91.1%
Region 2 (95)	21	22.1%	74	77.9%
Region 3 (532)	72	13.5%	460	86.5%
Region 4 (196)	29	14.8%	167	85.2%
Total (1,082)	145	13.4%	937	86.6%
Chi-square: X^2=11.100; df=3, p=.011; Cramer's V = .101				
GFP Region (Total N)	**Non-Angler**		**Recent Angler**	
	Number	**Percent**	**Number**	**Percent**
Region 1 (259)	150	57.9%	109	42.1%
Region 2 (95)	51	53.7%	44	46.1%
Region 3 (532)	317	59.6%	215	40.4%
Region 4 (195)	78	40.0%	117	60.0%
Total (1,081)	596	55.1%	485	44.9%
Chi-square: X^2=23.209; df=3, p<.001; Cramer's V = .147				
GFP Region (Total N)	**Past Angler**		**Recent Angler**	
	Number	**Percent**	**Number**	**Percent**
Region 1 (236)	127	53.8%	109	46.2%
Region 2 (74)	30	40.5%	44	59.5%
Region 3 (461)	246	53.4%	215	46.6%
Region 4 (117)	49	29.5%	117	70.5%
Total (937)	452	48.2%	485	51.8%
Chi-square: X^2=32.840; df=3, p<.001; Cramer's V = .187				

Appendix C – Table 5. Residence (West River / East River) of South Dakota anglers analyzed by fishing status (weighted data).

Residence (Total N)	**Never Fished**		**Have Fished**	
	Number	**Percent**	**Number**	**Percent**
West River (289)	29	10.0%	260	90.0%
East River (792)	115	14.5%	677	85.5%
Total (1,081)	144	13.3%	937	86.7%
Chi-square: X^2=3.690; df=1, *p*=.055; Cramer's V = .058				
Residence (Total N)	**Non-Angler**		**Recent Angler**	
	Number	**Percent**	**Number**	**Percent**
West River (288)	160	55.6%	128	44.4%
East River (793)	436	55.0%	357	45.0%
Total (1,081)	596	55.1%	485	44.9%
Chi-square: X^2=0.028; df=1, *p*=.867; Cramer's V = .005				
Fishing (Total N)	**Past Angler**		**Recent Angler**	
	Number	**Percent**	**Number**	**Percent**
West River (259)	131	50.6%	128	49.4%
East River (677)	320	47.3%	357	52.7%
Total (936)	451	48.2%	485	51.8%
Chi-square: X^2=0.823; df=1, *p*=.364; Cramer's V = .030				

Appendix C – Table 6. Residence (Black Hills) of South Dakota anglers analyzed by fishing status (weighted data).

Residence (Total N)	Never Fished		Have Fished	
	Number	**Percent**	**Number**	**Percent**
Other (850)	126	14.8%	724	85.2%
Black Hills (232)	19	8.2%	213	91.8%
Total (1,082)	145	13.4%	937	86.8%
Chi-square: X^2=6.911; df=1, *p*=.009; Cramer's V = .080				
Residence (Total N)	**Non-Angler**		**Recent Angler**	
	Number	**Percent**	**Number**	**Percent**
Other (850)	460	54.1%	390	45.9%
Black Hills (232)	136	58.6%	96	41.4%
Total (1,082)	596	55.1%	486	44.9%
Chi-square: X^2=1.494; df=1, *p*=.222; Cramer's V = .037				
Residence (Total N)	**Past Angler**		**Recent Angler**	
	Number	**Percent**	**Number**	**Percent**
Other (724)	334	46.1%	390	53.9%
Black Hills (213)	117	54.9%	96	45.1%
Total (937)	451	48.1%	486	51.9%
Chi-square: X^2=5.102; df=1, *p*=.024; Cramer's V = .074				

Appendix C – Table 7. Type of residence of South Dakota anglers analyzed by fishing status (weighted data).

Residence Type (Total N)	**Never Fished**		**Have Fished**	
	Number	**Percent**	**Number**	**Percent**
Rural (264)	33	12.5%	231	87.5%
Small Town (346)	62	17.9%	284	82.1%
City (480)	50	10.4%	430	89.6%
Total (1,090)	145	13.3%	945	86.7%
Chi-square: X^2=10.007; df=2, *p*=.007; Cramer's V = .096				
Residence Type (Total N)	**Non-Angler**		**Recent Angler**	
	Number	**Percent**	**Number**	**Percent**
Rural (263)	128	48.7%	135	51.3%
Small Town (346)	200	57.8%	146	42.2%
City (479)	274	57.2%	205	42.8%
Total (1,088)	602	55.3%	486	44.7%
Chi-square: X^2=6.257; df=2, *p*=.044; Cramer's V = .076				
Residence Type (Total N)	**Past Angler**		**Recent Angler**	
	Number	**Percent**	**Number**	**Percent**
Rural (230)	95	41.3%	135	58.7%
Small Town (284)	138	48.6%	146	51.4%
City (430)	225	52.3%	205	47.7%
Total (944)	458	48.5%	486	51.5%
Chi-square: X^2=7.288; df=2, *p*=.026; Cramer's V = .088				

Appendix C – Table 8. Ownership of rural land analyzed by fishing status (weighted data).

Own Rural Land (Total N)	**Never Fished**		**Have Fished**	
	Number	**Percent**	**Number**	**Percent**
No (697)	85	12.2%	612	87.8%
Yes (390)	60	15.4%	330	84.6%
Total (1,087)	145	13.3%	942	86.7%
Chi-square: X^2=2.201; df=1, p=.138; Cramer's V = .045				
Own Rural Land (Total N)	**Non-Angler**		**Recent Angler**	
	Number	**Percent**	**Number**	**Percent**
No (698)	410	58.7%	288	41.3%
Yes (390)	191	49.0%	199	51.0%
Total (1,088)	601	55.2%	487	44.8%
Chi-square: X^2=9.649; df=1, p=.002; Cramer's V = .094				
Own Rural Land (Total N)	**Past Angler**		**Recent Angler**	
	Number	**Percent**	**Number**	**Percent**
No (612)	324	52.9%	288	47.1%
Yes (330)	131	39.7%	199	60.3%
Total (942)	455	48.3%	487	51.7%
Chi-square: X^2=15.060; df=1, p<.001; Cramer's V = .126				

Appendix C – Table 9-A. Farming/ranching status analyzed by fishing status (weighted data).

Farming/Ranching (Total N)	**Never Fished**		**Have Fished**	
	Number	**Percent**	**Number**	**Percent**
No (938)	116	12.4%	822	87.6%
Yes – but retired (33)	9	27.3%	24	72.7%
Yes – Part-time (67)	9	13.4%	58	86.6%
Yes – Full-time (46)	10	21.7%	36	78.3%
Total (1,084)	144	13.3%	940	86.7%
Chi-square: X^2=9.147; df=3, p=.027; Cramer's V = .092				
Farming/Ranching (Total N)	**Non-Angler**		**Recent Angler**	
	Number	**Percent**	**Number**	**Percent**
No (938)	526	56.1%	412	43.9%
Yes – but retired (33)	19	57.6%	14	42.4%
Yes – Part-time (67)	36	53.7%	31	46.3%
Yes – Full-time (46)	21	45.7%	25	54.3%
Total (1,084)	602	55.5%	482	44.5%
Chi-square: X^2=2.075; df=3, p=.557; Cramer's V = .044				
Farming/Ranching (Total N)	**Past Angler**		**Recent Angler**	
	Number	**Percent**	**Number**	**Percent**
No (822)	410	49.9%	412	50.1%
Yes – but retired (24)	10	41.7%	14	58.3%
Yes – Part-time (58)	27	46.6%	31	53.4%
Yes – Full-time (36)	11	30.6%	25	69.4%
Total (940)	458	48.7%	482	51.3%
Chi-square: X^2=5.783; df=3, p=.123; Cramer's V = .078				

Appendix C – Table 9-B. Farming/ranching status analyzed by fishing status (weighted data).

Farming/Ranching (Total N)	**Never Fished**		**Have Fished**	
	Number	**Percent**	**Number**	**Percent**
No (938)	116	12.4%	822	87.6%
Yes (146)	28	19.2%	118	80.8%
Total (1,084)	144	13.3%	940	86.7%
Chi-square: X^2=5.088; df=1, *p*=.024; Cramer's V = .069				
Farming/Ranching (Total N)	**Non-Angler**		**Recent Angler**	
	Number	**Percent**	**Number**	**Percent**
No (938)	526	56.1%	412	43.9%
Yes (146)	75	51.4%	71	48.6%
Total (1,084)	601	55.4%	483	44.6%
Chi-square: X^2=1.133; df=1, *p*=.287; Cramer's V = .032				
Farming/Ranching (Total N)	**Past Angler**		**Recent Angler**	
	Number	**Percent**	**Number**	**Percent**
No (822)	410	49.9%	412	50.1%
Yes (118)	47	39.8%	71	60.2%
Total (940)	457	48.6%	483	51.4%
Chi-square: X^2=4.170; df=1, *p*=.041; Cramer's V = .067				

Appendix C – Table 10. Size of community where raised analyzed by fishing status (weighted data).

Community Size[1] (Total N)	**Never Fished**		**Have Fished**	
	Number	**Percent**	**Number**	**Percent**
Large City (46)	9	19.6%	37	80.4%
City (167)	9	5.4%	158	94.6%
Town (165)	17	10.3%	148	89.7%
Small Town (381)	59	15.5%	322	84.5%
Rural Area (330)	51	15.5%	279	84.5%
Total (1,089)	145	13.3%	944	86.7%
Chi-square: X^2=14.807; df=4, p=.005; Cramer's V = .117				

Community Size[1] (Total N)	**Non-Angler**		**Recent Angler**	
	Number	**Percent**	**Number**	**Percent**
Large City (46)	27	58.7%	19	41.3%
City (167)	100	59.9%	67	40.1%
Town (166)	93	56.0%	73	44.0%
Small Town (380)	210	55.3%	170	44.7%
Rural Area (330)	171	51.8%	159	48.2%
Total (1,089)	601	55.2%	488	44.8%
Chi-square: X^2=3.279; df=4, p=.512; Cramer's V = .055				

Community Size[1] (Total N)	**Past Angler**		**Recent Angler**	
	Number	**Percent**	**Number**	**Percent**
Large City (37)	18	48.6%	19	51.4%
City (158)	91	57.6%	67	42.4%
Town (149)	76	51.0%	73	49.0%
Small Town (322)	152	47.2%	170	52.8%
Rural Area (279)	120	43.0%	159	57.0%
Total (945)	457	48.4%	488	51.6%
Chi-square: X^2=9.184; df=4, p=.057; Cramer's V = .099				

[1]Large City = 250,000+; City = 50,000 – 249,999; Town = 10,000 – 49,999; Small Town = <10,000. Rural = outside of and city or town boundaries

Appendix D. Demographic description of South Dakota hunters (measured in 2012).

Appendix D – Table 1. Mean age of South Dakota hunters analyzed by hunting status (weighted data).

Hunting Status	Mean Age	95% C.I.	Number
Never Hunted	48.6	46.8 – 50.4	442
Have Hunted	47.8	46.5 – 49.0	651
Mean Age	48.1	47.1 – 49.1	1,093
ANOVA: F=0.628; df=1/1,090; *p*=.428; Eta^2=.001			
Non-Hunter	50.2	48.8 – 51.5	696
Recent Hunter	44.5	43.0 – 46.0	397
Mean Age	48.1	35.4 – 38.7	1,093
ANOVA: F=26.880; df=1/1,090; *p*<.001; Eta^2=.024			
Past Hunter	52.8	50.7 – 55.0	264
Recent Hunter	44.5	43.0 – 46.0	397
Mean Age	47.8	40.6 – 45.5	651
ANOVA: F=42.489; df=1/648; *p*<.001; Eta^2=.062			

Appendix D – Table 2. Sex of South Dakota hunters analyzed by hunting status (weighted data).

Sex (Total N)	Never Hunted		Have Hunted	
	Number	**Percent**	**Number**	**Percent**
Male (553)	68	12.3%	485	87.7%
Female (540)	374	69.3%	166	30.7%
Total (1,093)	442	40.4%	651	59.6%
Chi-square: X^2=368.059; df=1, *p*<.001; Cramer's V = .580				
Sex (Total N)	**Non-Hunter**		**Recent Hunter**	
	Number	**Percent**	**Number**	**Percent**
Male (554)	203	36.6%	351	63.4%
Female (539)	493	91.5%	46	8.5%
Total (1,093)	696	63.7%	397	36.3%
Chi-square: X^2=355.014; df=1, *p*<.001; Cramer's V = .570				
Sex (Total N)	**Past Hunter**		**Recent Hunter**	
	Number	**Percent**	**Number**	**Percent**
Male (485)	134	27.6%	351	72.4%
Female (165)	119	72.1%	46	27.9%
Total (650)	253	38.9%	397	61.1%
Chi-square: X^2=102.518; df=1, *p*<.001; Cramer's V = .397				

Appendix D – Table 3. Mean number of yeas living in South Dakota analyzed by hunting status (weighted data).

Hunting Status	**Mean Years Living in South Dakota**	**95% C.I.**	**Number**
Never Hunted	33.6	31.4 – 35.8	442
Have Hunted	39.2	37.8 – 40.7	650
Mean Years	37.0	35.7 – 38.2	1,093
ANOVA: F=19.099; df=1/1,090; *p*<.001; Eta^2=.017			
Non-Hunter	37.1	35.4 – 38.7	695
Recent Hunter	36.8	35.0 –38.5	397
Mean Years	37.0	35.7 – 38.2	1,093
ANOVA: F=0.041; df=1/1,090; *p*=.839; Eta^2<.001			
Past Hunter	43.1	40.6 – 45.5	253
Recent Hunter	36.8	35.0 –38.5	397
Mean Years	39.2	37.8 – 40.7	650
ANOVA: F=17.255; df=1/648; *p*<.001; Eta^2=.026			

Appendix D – Table 4. Residence (GFP Regions) of South Dakota hunters analyzed by hunting status (weighted data).

GFP Region (Total N)	**Never Hunted**		**Have Hunted**	
	Number	**Percent**	**Number**	**Percent**
Region 1 (259)	95	36.7%	164	63.3%
Region 2 (95)	34	35.8%	61	64.2%
Region 3 (532)	242	45.5%	290	54.5%
Region 4 (195)	64	32.8%	131	67.2%
Total (1,081)	435	40.2%	646	59.8%
Chi-square: X^2=12.706; df=3, *p*=.005; Cramer's V = .108				
GFP Region (Total N)	**Non-Hunter**		**Recent Hunter**	
	Number	**Percent**	**Number**	**Percent**
Region 1 (259)	178	68.7%	81	31.3%
Region 2 (95)	50	52.6%	45	47.4%
Region 3 (532)	348	65.4%	184	34.6%
Region 4 (195)	109	55.9%	86	44.1%
Total (1,081)	685	63.4%	396	36.6%
Chi-square: X^2=13.568; df=3, *p*=.004; Cramer's V = .112				
GFP Region (Total N)	**Past Hunter**		**Recent Hunter**	
	Number	**Percent**	**Number**	**Percent**
Region 1 (164)	83	50.6%	81	49.4%
Region 2 (61)	16	26.2%	45	73.8%
Region 3 (290)	106	36.6%	184	63.4%
Region 4 (131)	45	34.4%	86	65.6%
Total (646)	250	38.7%	396	61.3%
Chi-square: X^2=15.413; df=3, *p*=.001; Cramer's V = .154				

Appendix D – Table 5. Residence (West River / East River) of South Dakota hunters analyzed by hunting status (weighted data).

Residence (Total N)	**Never Hunted**		**Have Hunted**	
	Number	**Percent**	**Number**	**Percent**
West River (288)	100	34.7%	188	65.3%
East River (793)	335	42.2%	458	57.8%
Total (1,081)	435	40.2%	646	59.8%
Chi-square: X^2=4.971; df=1, *p*=.026; Cramer's V = .068				
Residence (Total N)	**Non-Hunter**		**Recent Hunter**	
	Number	**Percent**	**Number**	**Percent**
West River (289)	188	65.1%	101	34.9%
East River (793)	498	62.8%	295	37.2%
Total (1,082)	686	63.4%	396	36.6%
Chi-square: X^2=0.463; df=1, *p*=.496; Cramer's V = .021				
Residence (Total N)	**Past Hunter**		**Recent Hunter**	
	Number	**Percent**	**Number**	**Percent**
West River (188)	87	46.3%	101	53.7%
East River (458)	163	35.6%	295	64.4%
Total (646)	250	38.7%	396	61.3%
Chi-square: X^2=6.417; df=1, *p*=.011; Cramer's V = .100				

Appendix D – Table 6. Residence (Black Hills) of South Dakota hunters analyzed by hunting status (weighted data).

Residence (Total N)	**Never Hunted**		**Have Hunted**	
	Number	**Percent**	**Number**	**Percent**
Other (849)	348	41.0%	501	59.0%
Black Hills (231)	87	47.7%	144	62.3%
Total (1,080)	435	40.3%	645	59.7%
Chi-square: X^2=0.836; df=1, p=.361; Cramer's V = .028				
Residence (Total N)	**Non-Hunter**		**Recent Hunter**	
	Number	**Percent**	**Number**	**Percent**
Other (850)	518	60.9%	332	39.1%
Black Hills (232)	168	72.4%	64	27.6%
Total (1,082)	686	63.4%	396	36.6%
Chi-square: X^2=10.338; df=1, p=.001; Cramer's V = .098				
Residence (Total N)	**Past Hunter**		**Recent Hunter**	
	Number	**Percent**	**Number**	**Percent**
Other (501)	169	33.7%	332	66.3%
Black Hills (145)	81	55.9%	64	44.1%
Total (646)	250	38.7%	396	61.3%
Chi-square: X^2=23.214; df=1, p<.001; Cramer's V = .190				

Appendix D – Table 7. Type of residence of South Dakota hunters analyzed by hunting status (weighted data).

Residence Type (Total N)	**Never Hunted**		**Have Hunted**	
	Number	**Percent**	**Number**	**Percent**
Rural (263)	72	27.4%	191	72.6%
Small Town (346)	137	39.6%	209	60.4%
City (480)	231	48.1%	249	51.9%
Total (1,089)	440	40.4%	649	59.6%
Chi-square: X^2=30.515; df=2, p<.001; Cramer's V = .167				
Residence Type (Total N)	**Non-Hunter**		**Recent Hunter**	
	Number	**Percent**	**Number**	**Percent**
Rural (264)	129	48.9%	135	51.1%
Small Town (346)	232	67.1%	114	32.9%
City (479)	331	69.1%	148	30.9%
Total (1,089)	692	63.5%	397	36.5%
Chi-square: X^2=32.787; df=2, p<.001; Cramer's V = .174				
Residence Type (Total N)	**Past Hunter**		**Recent Hunter**	
	Number	**Percent**	**Number**	**Percent**
Rural (191)	56	29.3%	135	70.7%
Small Town (209)	95	45.5%	114	54.5%
City (249)	101	40.6%	148	59.4%
Total (649)	252	38.8%	397	61.2%
Chi-square: X^2=11.450; df=2, p=.003; Cramer's V = .133				

Appendix D – Table 8. Ownership of rural land analyzed by hunting status (weighted data).

Own Rural Land (Total N)	**Never Hunted**		**Have Hunted**	
	Number	**Percent**	**Number**	**Percent**
No (698)	323	46.3%	375	53.7%
Yes (390)	117	30.0%	273	70.0%
Total (1,088)	440	40.4%	648	59.6%
Chi-square: X^2=27.515; df=1, p<.001; Cramer's V = .159				
Own Rural Land (Total N)	**Non-Hunter**		**Recent Hunter**	
	Number	**Percent**	**Number**	**Percent**
No (698)	484	69.3%	214	30.7%
Yes (389)	206	53.0%	183	47.0%
Total (1,087)	690	63.5%	397	36.5%
Chi-square: X^2=28.925; df=1, p<.001; Cramer's V = .163				
Own Rural Land (Total N)	**Past Hunter**		**Recent Hunter**	
	Number	**Percent**	**Number**	**Percent**
No (375)	161	42.9%	214	57.1%
Yes (273)	90	33.0%	183	67.0%
Total (648)	251	38.7%	397	61.3%
Chi-square: X^2=6.613; df=1, p=.010; Cramer's V = .101				

Appendix D – Table 9-A. Farming/ranching status analyzed by hunting status (weighted data).

Farming/Ranching (Total N)	**Never Hunted**		**Have Hunted**	
	Number	**Percent**	**Number**	**Percent**
No (938)	411	43.8%	527	56.2%
Yes – but retired (33)	13	39.4%	20	60.0%
Yes – Part-time (67)	11	16.4%	56	83.6%
Yes – Full-time (46)	5	10.9%	41	89.1%
Total (1,084)	449	40.6%	644	59.4%
Chi-square: X^2=37.153; df=3, p<.001; Cramer's V = .185				
Farming/Ranching (Total N)	**Non-Hunter**		**Recent Hunter**	
	Number	**Percent**	**Number**	**Percent**
No (937)	635	67.8%	302	32.2%
Yes – but retired (33)	22	66.7%	11	33.3%
Yes – Part-time (67)	22	32.8%	45	67.2%
Yes – Full-time (46)	12	26.1%	34	73.9%
Total (1,083)	691	63.8%	392	36.2%
Chi-square: X^2=62.655; df=3, p<.001; Cramer's V = .241				
Farming/Ranching (Total N)	**Past Hunter**		**Recent Hunter**	
	Number	**Percent**	**Number**	**Percent**
No (526)	244	42.6%	302	57.4%
Yes – but retired (20)	9	45.0%	11	55.0%
Yes – Part-time (56)	11	19.6%	45	80.4%
Yes – Full-time (41)	7	17.1%	34	82.9%
Total (643)	251	39.0%	392	61.0%
Chi-square: X^2=20.244; df=3, p<.001; Cramer's V = .177				

Appendix D – Table 9-B. Farming/ranching analyzed by hunting status (weighted data).

Farming/Ranching (Total N)	**Never Hunted**		**Have Hunted**	
	Number	**Percent**	**Number**	**Percent**
No (938)	411	43.8%	527	56.2%
Yes (146)	29	19.9%	117	80.1%
Total (1,084)	440	40.6%	644	59.4%
Chi-square: X^2=30.060; df=1, p<.001; Cramer's V = .167				
Farming/Ranching (Total N)	**Non-Hunter**		**Recent Hunter**	
	Number	**Percent**	**Number**	**Percent**
No (937)	635	67.8%	302	32.2%
Yes (146)	55	37.7%	91	62.3%
Total (1,083)	690	63.7%	393	36.3%
Chi-square: X^2=49.495; df=1, p<.001; Cramer's V = .214				
Farming/Ranching (Total N)	**Past Hunter**		**Recent Hunter**	
	Number	**Percent**	**Number**	**Percent**
No (526)	224	42.6%	302	57.4%
Yes (117)	26	22.2%	91	77.8%
Total (643)	250	38.9%	393	61.1%
Chi-square: X^2=16.701; df=1, p<.001; Cramer's V = .161				

Appendix D – Table 10. Size of community where raised analyzed by hunting status (weighted data).

Community Size[1] (Total N)	**Never Hunted**		**Have Hunted**	
	Number	**Percent**	**Number**	**Percent**
Large City (45)	25	55.6%	20	44.4%
City (167)	84	50.3%	83	49.7%
Town (165)	55	33.3%	110	66.7%
Small Town (381)	157	41.2%	224	58.8%
Rural Area (330)	118	35.8%	212	64.2%
Total (1,088)	439	40.3%	649	59.7%
Chi-square: X^2=17.574; df=4, *p*=.001; Cramer's V = .127				

Community Size[1] (Total N)	**Non-Hunter**		**Recent Hunter**	
	Number	**Percent**	**Number**	**Percent**
Large City (46)	34	73.9%	12	26.1%
City (167)	123	73.7%	44	26.3%
Town (165)	97	58.8%	68	41.2%
Small Town (380)	242	63.7%	138	36.3%
Rural Area (330)	195	59.1%	135	40.9%
Total (1,088)	691	63.5%	397	36.5%
Chi-square: X^2=13.935; df=4, *p*=.008; Cramer's V = .113				

Community Size[1] (Total N)	**Past Hunter**		**Recent Hunter**	
	Number	**Percent**	**Number**	**Percent**
Large City (21)	9	42.9%	12	57.1%
City (83)	39	47.0%	44	53.0%
Town (110)	42	38.2%	68	61.8%
Small Town (223)	85	38.1%	138	61.9%
Rural Area (212)	77	36.3%	135	63.7%
Total (649)	252	38.8%	397	61.2%
Chi-square: X^2=3.098; df=4, *p*=.542; Cramer's V = .069				

[1]Large City = 250,000+; City = 50,000 – 249,999; Town = 10,000 – 49,999; Small Town = <10,000. Rural = outside of and city or town boundaries

Appendix E. Demographic description of South Dakota wildlife watchers (measured in 2012).

Appendix E – Table 1. Mean age of South Dakota wildlife watchers analyzed by viewing status (weighted data).

Viewing Status	Mean Age	95% C.I.	Number
No Viewing Trips	48.5	47.0 – 50.0	558
Viewing Trips	47.5	46.1 –49.0	533
Mean Age	48.1	47.0 –49.1	1,091
ANOVA: F=0.889; df=1/1,088; *p*=.346; Eta^2=.001			
Non-Viewer	48.4	47.1 – 49.7	737
Recent Viewer	47.2	45.5 – 48.9	354
Mean Age	48.1	47.0 – 49.1	1,091
ANOVA: F=1.130; df=1/1,088; *p*=.288; Eta^2=.001			
Past Viewer	48.1	45.5 – 50.8	179
Recent Viewer	47.2	45.5 – 48.9	354
Mean Age	47.5	46.1 – 49.0	533
ANOVA: F=0.335; df=1/530; *p*=.563; Eta^2=.001			

Appendix E – Table 2. Sex of South Dakota wildlife watchers analyzed by viewing status (weighted data).

Sex (Total N)	**No Viewing Trips**		**Viewing Trips**	
	Number	**Percent**	**Number**	**Percent**
Male (552)	293	53.1%	259	46.9%
Female (538)	264	49.1%	274	50.9%
Total (1,090)	557	51.1%	533	48.9%
Chi-square: X^2=1.752; df=1, *p*=.186; Cramer's V = .040				
Sex (Total N)	**Non-Viewers**		**Recent Viewers**	
	Number	**Percent**	**Number**	**Percent**
Male (552)	362	65.6%	190	34.4%
Female (539)	375	69.6%	164	30.4%
Total (1,091)	737	67.6%	354	32.4%
Chi-square: X^2=1.984; df=1, *p*=.159; Cramer's V = .043				
Sex (Total N)	**Past Viewer**		**Recent Viewer**	
	Number	**Percent**	**Number**	**Percent**
Male (259)	69	26.6%	190	73.4%
Female (275)	111	40.4%	164	59.6%
Total (534)	180	33.7%	354	66.3%
Chi-square: X^2=11.240; df=1, *p*=.001; Cramer's V = .145				

Appendix E – Table 3. Mean number of yeas living in South Dakota analyzed by viewing status (weighted data).

Viewing Status	**Mean Years Living in South Dakota**	**95% C.I.**	**Number**
No Viewing Trips	38.4	36.7 – 40.1	558
Viewing Trips	35.2	33.4 – 37.0	532
Mean Years	36.2	35.6 – 38.1	1,090
ANOVA: F=6.334; df=1/1,088; *p*=.012; Eta^2=.006			
Non-Viewer	37.3	35.8 – 38.9	737
Recent Viewer	35.8	33.7 – 37.9	353
Mean Years	36.8	35.6 – 38.1	1,090
ANOVA: F=1.233; df=1/1,088; *p*=.267; Eta^2=.001			
Past Viewer	34.0	30.7 – 37.3	179
Recent Viewer	35.8	33.7 – 37.9	323
Mean Years	35.2	33.4 – 37.0	532
ANOVA: F=0.908; df=1/530; *p*=.341; Eta^2=.002			

Appendix E – Table 4. Residence (GFP Regions) of South Dakota wildlife watchers analyzed by viewing status (weighted data).

GFP Region (Total N)	**No Viewing Trips**		**Viewing Trips**	
	Number	**Percent**	**Number**	**Percent**
Region 1 (261)	113	43.3%	148	56.7%
Region 2 (95)	60	63.2%	35	36.8%
Region 3 (527)	269	51.0%	258	49.0%
Region 4 (196)	110	56.1%	86	43.9%
Total (1,079)	552	51.2%	527	48.8%
Chi-square: X^2=13.869; df=3, p=.003; Cramer's V = .113				
GFP Region (Total N)	**Non-Viewers**		**Recent Viewers**	
	Number	**Percent**	**Number**	**Percent**
Region 1 (261)	138	52.9%	123	47.1%
Region 2 (95)	68	71.6%	27	28.4%
Region 3 (527)	382	72.5%	145	27.5%
Region 4 (196)	142	72.4%	54	27.6%
Total (1,079)	730	67.7%	349	32.3%
Chi-square: X^2=34.407; df=3, p<.001; Cramer's V = .179				
GFP Region (Total N)	**Past Viewer**		**Recent Viewer**	
	Number	**Percent**	**Number**	**Percent**
Region 1 (148)	25	16.9%	123	83.1%
Region 2 (35)	8	22.9%	27	77.1%
Region 3 (258)	113	43.8%	145	56.2%
Region 4 (54)	32	37.2%	54	62.8%
Total (527)	178	33.8%	349	66.2%
Chi-square: X^2=32.767; df=3, p<.001; Cramer's V = .249				

Appendix E – Table 5. Residence (West River / East River) of South Dakota wildlife watchers analyzed by viewing status (weighted data).

Residence (Total N)	**No Viewing Trips**		**Viewing Trips**	
	Number	**Percent**	**Number**	**Percent**
West River (290)	130	44.8%	160	55.2%
East River (789)	422	53.5%	367	46.5%
Total (1,079)	552	51.2%	527	48.8%
Chi-square: X^2=6.362; df=1, p=.012; Cramer's V = .077				
Residence (Total N)	**Non-Viewers**		**Recent Viewers**	
	Number	**Percent**	**Number**	**Percent**
West River (290)	158	54.5%	132	45.5%
East River (788)	571	72.5%	217	27.5%
Total (1,078)	729	67.6%	349	32.4%
Chi-square: X^2=31.299; df=1, p<.001; Cramer's V = .170				
Fishing (Total N)	**Past Viewer**		**Recent Viewer**	
	Number	**Percent**	**Number**	**Percent**
West River (160)	28	17.5%	132	82.5%
East River (366)	149	40.7%	217	59.3%
Total (526)	177	33.7%	349	66.3%
Chi-square: X^2=26.863; df=1, p<.001; Cramer's V = .226				

Appendix E – Table 6. Residence (Black Hills) of South Dakota wildlife watchers analyzed by viewing status (weighted data).

Residence (Total N)	**No Viewing Trips**		**Viewing Trips**	
	Number	**Percent**	**Number**	**Percent**
Other (845)	452	53.5%	393	46.5%
Black Hills (233)	99	42.5%	134	57.5%
Total (1,078)	551	51.1%	527	48.9%
Chi-square: X^2=8.847; df=1, p=.003; Cramer's V = .091				
Residence (Total N)	**Non-Viewers**		**Recent Viewers**	
	Number	**Percent**	**Number**	**Percent**
Other (845)	609	72.1%	236	27.9%
Black Hills (233)	120	51.5%	113	48.5%
Total (1,078)	729	67.6%	349	32.4%
Chi-square: X^2=35.294; df=1, p<.001; Cramer's V = .181				
Residence (Total N)	**Past Viewer**		**Recent Viewer**	
	Number	**Percent**	**Number**	**Percent**
Other (393)	157	39.9%	236	60.1%
Black Hills (133)	20	15.0%	113	85.0%
Total (526)	177	33.7%	349	66.3%
Chi-square: X^2=27.621; df=1, p<.001; Cramer's V = .229				

Appendix E – Table 7. Type of residence of South Dakota wildlife watchers analyzed by viewing status (weighted data).

Residence Type (Total N)	**No Viewing Trips**		**Viewing Trips**	
	Number	**Percent**	**Number**	**Percent**
Rural (263)	138	52.5%	125	47.6%
Small Town (343)	195	56.9%	148	43.1%
City (480)	224	46.7%	256	53.3%
Total (1,086)	557	51.3%	529	48.7%
Chi-square: X^2=8.500; df=2, p=.014; Cramer's V = .088				
Residence Type (Total N)	**Non-Viewers**		**Recent Viewers**	
	Number	**Percent**	**Number**	**Percent**
Rural (263)	164	62.4%	99	37.6%
Small Town (343)	238	69.4%	105	30.6%
City (481)	333	69.2%	148	30.8%
Total (1,087)	735	67.6%	352	32.4%
Chi-square: X^2=4.386; df=2, p=.112; Cramer's V = .064				
Residence Type (Total N)	**Past Viewer**		**Recent Viewer**	
	Number	**Percent**	**Number**	**Percent**
Rural (125)	26	20.8%	99	79.2%
Small Town (148)	43	29.1%	105	70.9%
City (257)	109	42.4%	148	57.6%
Total (530)	178	33.6%	352	66.4%
Chi-square: X^2=19.501; df=2, p>.001; Cramer's V = .192				

Appendix E – Table 8. Ownership of rural land analyzed by viewing status (weighted data).

Own Rural Land (Total N)	**No Viewing Trips**		**Viewing Trips**	
	Number	**Percent**	**Number**	**Percent**
No (695)	356	51.2%	339	48.8%
Yes (390)	200	51.3%	190	48.7%
Total (1,085)	556	51.2%	529	48.8%
Chi-square: X^2<0.001; df=1, *p*=.985; Cramer's V = .001				
Own Rural Land (Total N)	**Non-Viewers**		**Recent Viewers**	
	Number	**Percent**	**Number**	**Percent**
No (695)	485	69.8%	210	30.2%
Yes (390)	248	63.6%	142	36.4%
Total (1,085)	733	67.6%	352	32.4%
Chi-square: X^2=4.374; df=1, *p*=.037; Cramer's V = .063				
Own Rural Land (Total N)	**Past Viewer**		**Recent Viewer**	
	Number	**Percent**	**Number**	**Percent**
No (339)	129	38.1%	210	61.9%
Yes (190)	48	25.3%	142	74.7%
Total (529)	177	33.5%	352	66.5%
Chi-square: X^2=8.946; df=1, *p*=.003; Cramer's V = .130				

Appendix E – Table 9-A. Farming/ranching status analyzed by viewing status (weighted data).

Farming/Ranching (Total N)	**No Viewing Trips**		**Viewing Trips**	
	Number	**Percent**	**Number**	**Percent**
No (936)	476	50.9%	460	49.1%
Yes – but retired (33)	20	60.6%	13	39.4%
Yes – Part-time (67)	33	49.3%	34	50.7%
Yes – Full-time (46)	26	56.5%	20	43.5%
Total (1,082)	555	51.3%	527	48.7%
Chi-square: X^2=1.833; df=3, *p*=.608; Cramer's V = .041				
Farming/Ranching (Total N)	**Non-Viewers**		**Recent Viewers**	
	Number	**Percent**	**Number**	**Percent**
No (936)	638	68.2%	298	31.8%
Yes – but retired (34)	26	76.5%	8	23.5%
Yes – Part-time (66)	39	59.1%	27	40.9%
Yes – Full-time (46)	30	65.2%	16	34.8%
Total (1,082)	733	67.7%	349	32.3%
Chi-square: X^2=3.656; df=3, *p*=.301; Cramer's V = .058				
Farming/Ranching (Total N)	**Past Viewer**		**Recent Viewer**	
	Number	**Percent**	**Number**	**Percent**
No (460)	162	35.2%	298	64.8%
Yes – but retired (13)	5	38.5%	8	61.5%
Yes – Part-time (33)	6	18.2%	27	81.8%
Yes – Full-time (20)	4	20.0%	16	80.0%
Total (526)	177	33.7%	349	66.3%
Chi-square: X^2=5.846; df=3, *p*=.119; Cramer's V = .105				

Appendix E – Table 9-B. Farming/ranching analyzed by viewing status (weighted data).

Farming/Ranching (Total N)	**No Viewing Trips**		**Viewing Trips**	
	Number	**Percent**	**Number**	**Percent**
No (936)	476	50.9%	460	49.1%
Yes (146)	79	54.1%	67	45.9%
Total (1,082)	555	51.3%	527	48.7%
Chi-square: X^2=0.536; df=1, p=.464; Cramer's V = .022				
Farming/Ranching (Total N)	**Non-Viewers**		**Recent Viewers**	
	Number	**Percent**	**Number**	**Percent**
No (936)	638	68.2%	298	31.8%
Yes (146)	95	65.1%	51	34.9%
Total (1,082)	733	67.7%	349	32.3%
Chi-square: X^2=0.553; df=1, p=.457; Cramer's V = .023				
Farming/Ranching (Total N)	**Past Viewer**		**Recent Viewer**	
	Number	**Percent**	**Number**	**Percent**
No (460)	162	35.2%	298	64.8%
Yes (67)	16	23.9%	51	76.1%
Total (527)	178	33.8%	349	66.2%
Chi-square: X^2=3.360; df=1, p=.067; Cramer's V = .080				

Appendix E – Table 10. Size of community where raised analyzed by viewing status (weighted data).

Community Size[1] (Total N)	**No Viewing Trips**		**Viewing Trips**	
	Number	**Percent**	**Number**	**Percent**
Large City (45)	18	40.0%	27	60.0%
City (168)	63	37.5%	105	62.5%
Town (165)	100	60.6%	65	39.4%
Small Town (377)	193	51.2%	184	48.8%
Rural Area (330)	183	55.5%	147	44.5%
Total (1,085)	557	51.3%	528	48.7%
Chi-square: X^2=23.108; df=4, p<.001; Cramer's V = .146				

Community Size[1] (Total N)	**Non-Viewers**		**Recent Viewers**	
	Number	**Percent**	**Number**	**Percent**
Large City (46)	22	47.8%	24	52.2%
City (168)	105	62.5%	63	37.5%
Town (166)	127	76.5%	39	23.5%
Small Town (378)	256	67.7%	122	32.3%
Rural Area (330)	224	67.9%	106	32.1%
Total (1,088)	734	67.5%	354	32.5%
Chi-square: X^2=16.188; df=4, p=.003; Cramer's V = .122				

Community Size[1] (Total N)	**Past Viewer**		**Recent Viewer**	
	Number	**Percent**	**Number**	**Percent**
Large City (28)	4	14.3%	24	85.7%
City (105)	42	40.0%	63	60.0%
Town (66)	27	40.9%	39	59.1%
Small Town (184)	62	33.7%	122	66.3%
Rural Area (147)	41	27.9%	106	72.1%
Total (530)	176	33.2%	354	66.8%
Chi-square: X^2=10.362; df=4, p=.035; Cramer's V = .140				

[1]Large City = 250,000+; City = 50,000 – 249,999; Town = 10,000 – 49,999; Small Town = <10,000. Rural = outside of and city or town boundaries

Appendix F. Wildlife and Environmental Attitudes: Tables comparing South Dakota adult citizens who have never fished with people who have fished sometime during their lifetime.

Appendix F – Table 1. General questions about fish and wildlife management in South Dakota comparing people who have never fished and people who have fished.

Question/Variable	**ANOVA F-statistic**	***p*-value**
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?	3.913	.048
How important do you think healthy fish and wildlife populations are to the economy and well-being of South Dakota residents?	2.222	.136
How strongly do you disagree or agree with the following statement? The diversity of fish and wildlife in an area is a sign of the quality of the natural environment.	7.286	.007
In general, how would you rate GFP's efforts to conserve and protect the diversity (variety) of fish and wildlife in South Dakota?	0.057	.811
Compared to other places where you could consider living, how would you rate life in South Dakota?	0.013	.908
In general, how much does fish and wildlife detract or contribute to a high "quality of life" for you?	47.020	<.001

Appendix F – Table 1-A. Mean values for the significant variables in table 1 comparing people who have never fished and people who have fished.

Significant Variables	**Never Fished**	**Have Fished**
South Dakota has a great diversity (variety) of fish and wildlife. How important is it to <u>you</u> that South Dakota conserves/protects as much fish and wildlife as possible where appropriate?[1]		
Mean	2.65	2.75
95% C.I.	2.55 – 2.75	2.71 – 2.79
Eta^2 / Percent Difference	.004	3%
How strongly do you disagree or agree with the following statement? The diversity of fish and wildlife in an area is a sign of the quality of the natural environment.[2]		
Mean	1.89	2.16
95% C.I.	1.67 – 2.11	2.09 – 2.23
Eta^2 / Percent Difference	.007	5%
In general, how much does fish and wildlife detract or contribute to a high "quality of life" for you?[3]		
Mean	1.28	1.98
95% C.I.	1.07 – 1.49	1.91 – 2.05
Eta^2 / Percent Difference	.043	12%

[1]Importance Scale: 0=Not Important, 1=Slightly Important; 2=Moderately Important; 3=Very Important

[2]Attitude Scale: -3=Strongly Disagree, -2=Moderately Disagree; -1=Slightly Disagree; 0=Neutral or No Opinion; +1 Slightly Agree; +2=Moderately Agree; +3=Strongly Agree

[3]Scale: -3=Detracts Greatly, -2=Detracts Moderately; -1=Detracts Slightly; 0=Neither; +1=Contributes Slightly; +2=Contributes Moderately; +3=Contributes Greatly

Appendix F – Table 2. Prairie ecosystem questions comparing people who have never fished and people who have fished.

Question/Variable	**ANOVA F-statistic**	***p*-value**
Maintaining a native prairie ecosystem in South Dakota is important to me.	0.683	.409
Prairie dogs are an important component of native ecosystems and need some degree of protection.	1.714	.191
Prairie dogs are a destructive agricultural pest that should be eliminated from South Dakota.	0.041	.839
I support using some money from hunting license fees for projects designed to conserve and enhance native prairie ecosystems and their associated wildlife.	0.013	.909
I am concerned about the accelerated conversion of native prairie habitat.	1.842	.175

Appendix F – Table 3. Questions about bats in South Dakota comparing people who have never fished and people who have fished.

Question/Variable	**ANOVA F-statistic**	***p*-value**
Maintaining healthy populations and diversity of bat species in South Dakota is important to me.	0.056	.813
Bats pose an unacceptable health risk to people.	6.597	.010
Bats are important and should have some legal protection from harm.	0.025	.874
I would enjoy having bats living and feeding near my house.	3.128	.078
I am concerned about the impact of diseases, such as white nose syndrome, on bat populations.	4.227	.040

Appendix F – Table 3-A. Mean values for the significant variables in table 3 comparing people who have never fished and people who have fished.

Significant Variables	**Never Fished**	**Have Fished**
Bats pose an unacceptable health risk to people.[1]		
Mean	-0.11	-0.68
95% C.I.	-0.55 – 0.33	-0.83 – -0.52
Eta^2 / Percent Difference	.012	10%
I am concerned about the impact of diseases, such as white nose syndrome, on bat populations.[1]		
Mean	.89	.51
95% C.I.	0.53 – 1.25	0.38 – 0.64
Eta^2 / Percent Difference	.008	6%

[1]Attitude Scale: -3=Strongly Disagree, -2=Moderately Disagree; -1=Slightly Disagree; 0=Neutral or No Opinion; +1 Slightly Agree; +2=Moderately Agree; +3=Strongly Agree

Appendix F – Table 4. Questions about mountain lions in South Dakota comparing people who have never fished and people who have fished.

Question/Variable	**ANOVA F-statistic**	***p*-value**
Having a healthy, viable population of mountain lions in S.D. is important to me.	0.013	.909
I am concern about mountain lions killing too many game (hunted) animals.	0.008	.930
Having any mountain lions in South Dakota is too dangerous a risk to people.	8.780	.003
Do you oppose or favor a regulated mountain lion season in South Dakota?	20.868	<.001

Appendix F – Table 4-A. Mean values for the significant variables in table 4 comparing people who have never fished and people who have fished.

Significant Variables	**Never Fished**	**Have Fished**
Having any mountain lions in South Dakota is too dangerous a risk to people.[1]		
Mean	-0.06	-0.79
95% C.I.	-0.54 – 0.42	-0.96 – -0.61
Eta^2 / Percent Difference	.016	12%
Do you oppose or favor a regulated mountain lion season in South Dakota?[2]		
Mean	0.88	1.77
95% C.I.	0.45 – 1.31	1.64 – 1.90
Eta^2 / Percent Difference	.038	15%

[1]Attitude Scale: -3=Strongly Disagree, -2=Moderately Disagree; -1=Slightly Disagree; 0=Neutral or No Opinion; +1 Slightly Agree; +2=Moderately Agree; +3=Strongly Agree

[2]Attitude Scale: -3=Strongly Oppose, -2=Moderately Oppose; -1=Slightly Oppose; 0=Neutral or No Opinion; +1 Slightly Favor; +2=Moderately Favor; +3=Strongly Favor

Appendix F – Table 5. Questions about rare non-game species vs. game animals/fish comparing people who have never fished and people who have fished.

Question/Variable	**ANOVA F-statistic**	***p*-value**
I would be concerned about River Otters taking too many game fish if their populations were to increase.	5.210	.023
I would support releasing River Otters into suitable habitats in South Dakota.	5.523	.019
I support efforts by GFP to increase Osprey numbers in South Dakota.	6.839	.009
I would be concerned about Osprey taking too many game fish if their populations were to increase.	8.904	.003
The Missouri River should not be managed for threatened or endangered species, such as terns and plovers, if it would in any way decrease game fish populations.	5.922	.015
In general, should wildlife management decisions favor game animals/fish OR rare wildlife species.	8.761	.003

Appendix F – Table 5-A. Mean values for the significant variables in table 5 comparing people who have never fished and people who have fished.

Significant Variables	**Never Fished**	**Have Fished**
I would be concerned about River Otters taking too many game fish if their populations were to increase.[1]		
Mean	0.22	-0.17
95% C.I.	-0.19 – 0.54	-0.30 – -0.05
Eta^2 / Percent Difference	.010	7%
I would support releasing River Otters into suitable habitats in South Dakota.[1]		
Mean	0.16	0.57
95% C.I.	-0.17 – 0.49	0.44 – 0.70
Eta^2 / Percent Difference	.010	6%
I support efforts by GFP to increase Osprey numbers in South Dakota.[1]		
Mean	0.29	0.75
95% C.I.	-0.02 – 0.60	0.62 – 0.88
Eta^2 / Percent Difference	.013	8%
I would be concerned about Osprey taking too many game fish if their populations were to increase.[1]		
Mean	0.20	-0.32
95% C.I.	-0.09 – 0.48	-0.45 – -0.19
Eta^2 / Percent Difference	.016	9%
The Missouri River should not be managed for threatened or endangered species, such as terns and plovers, if it would in any way decrease game fish populations.[1]		
Mean	0.34	-0.14
95% C.I.	0.03 – 0.65	-0.29 – 0.01
Eta^2 / Percent Difference	.011	9%
In general, should wildlife management decisions favor game animals/fish OR rare wildlife species.[2]		
Mean	0.17	-0.33
95% C.I.	-0.15 – 0.50	-0.45 – 0.20
Eta^2 / Percent Difference	.016	8%

[1]Attitude Scale: -3=Strongly Disagree, -2=Moderately Disagree; -1=Slightly Disagree; 0=Neutral or No Opinion; +1 Slightly Agree; +2=Moderately Agree; +3=Strongly Agree

[2] Scale: -3=Strongly Favor Game, -2=Moderately Favor Game; -1=Slightly Favor Game; 0=Balanced Approach; +1 Slightly Favor Rare Wildlife; +2=Moderately Favor Rare Wildlife; +3=Strongly Favor Rare Wildlife

Appendix F – Table 6. Miscellaneous wildlife management questions comparing people who have never fished and people who have fished.

Question/Variable	**ANOVA F-statistic**	***p*-value**
I would support requirements to use non-toxic bullets for shooting prairie dogs to reduce lead poisoning of eagles, hawks and other wildlife.	6.857	.009
I am concerned about feral (wild), free ranging house cats killing native birds.	0.180	.672
I would support regulations to control commercial harvest and unregulated take of turtles, lizards, snakes, frogs and toads if information showed that their populations were declining to unacceptable levels.	0.189	.664
Rattlesnakes are an important component of South Dakota's assemblage of wildlife and should not be killed indiscriminately.	0.055	.815
In general, efforts should be made to reduce predator numbers to help increase the numbers of game animals for hunters.	1.045	.307

Appendix F – Table 6-A. Mean values for the significant variables in table 6 comparing people who have never fished and people who have fished.

Significant Variables	**Never Fished**	**Have Fished**
I would support requirements to use non-toxic bullets for shooting prairie dogs to reduce lead poisoning of eagles, hawks and other wildlife.[1]		
Mean	1.21	0.55
95% C.I.	0.81 – 1.61	0.37 – 0.74
Eta^2 / Percent Difference	.012	11%

[1]Attitude Scale: -3=Strongly Disagree, -2=Moderately Disagree; -1=Slightly Disagree; 0=Neutral or No Opinion; +1 Slightly Agree; +2=Moderately Agree; +3=Strongly Agree

Appendix F – Table 7. Questions about climate change comparing people who have never fished and people who have fished.

Question/Variable	**ANOVA F-statistic**	***p*-value**
I believe that climate change is currently affecting South Dakota.	0.524	.470
I believe that climate change is a serious threat that requires changes in current life styles.	1.104	.294
I support regulations to reduce carbon emissions to address climate change.	1.024	.312
I don't believe that climate change will result in any negative impacts on wildlife populations in South Dakota	1.868	.172
Beliefs concerning the causes of climate change generally range from totally natural causes to totally human activities or some approximate combination of both. On this scale of 1 (all climate change is due to natural causes to 7 (all climate change is from human activities), please indicate your personal belief about the causes of climate change.	0.195	.659

Appendix F – Table 8. Questions about energy development comparing people who have never fished and people who have fished.

Question/Variable	**ANOVA F-statistic**	***p*-value**
Wildlife impacts and grassland habitat loss should be considered when increasing biofuel production.	4.457	.035
I support efforts to increase ethanol production in South Dakota.	0.358	.550
Negative impacts on wildlife should be considered when developing wind energy in South Dakota.	0.792	.374
I think people worry too much about possible environmental problems associated with pipelines for transporting oil across South Dakota.	0.064	.800

Appendix F – Table 8-A. Mean values for the significant variables in table 8 comparing people who have never fished and people who have fished.[1]

Significant Variables	**Never Fished**	**Have Fished**
Wildlife impacts and grassland habitat loss should be considered when increasing biofuel production.		
Mean	0.90	1.28
95% C.I.	0.53 – 1.26	1.15 – 1.41
Eta^2 / Percent Difference	.008	6%

[1]Attitude Scale: -3=Strongly Disagree, -2=Moderately Disagree; -1=Slightly Disagree; 0=Neutral or No Opinion; +1 Slightly Agree; +2=Moderately Agree; +3=Strongly Agree

Appendix F – Table 9. Respondents' ratings of the importance of wetland functions comparing people who have never fished and people who have fished.

Wetlands preform many functions: How important is…	**ANOVA F-statistic**	***p*-value**
… reducing flood events.	0.215	.643
… providing wildlife habitat.	22.793	<.001
… providing recreational opportunities.	5.497	.019
… providing clean water.	0.004	.952
… providing economic opportunity.	0.037	.848

[1]Importance Scale: 0=Not Important, 1=Slightly Important; 2=Moderately Important; 3=Very Important

Appendix F – Table 9-A. Mean values for the significant variables in table 9 comparing people who have never fished and people who have fished.[1]

Significant Variables	**Never Fished**	**Have Fished**
Wetland function…providing wildlife habitat		
Mean	2.01	2.43
95% C.I.	1.84 – 2.18	2.36 – 2.49
Eta^2 / Percent Difference	.040	7%
Wetland function…providing recreational opportunities		
Mean	1.81	2.06
95% C.I.	1.62 – 2.00	1.98 – 2.14
Eta^2 / Percent Difference	.010	4%

Appendix G. Wildlife and Environmental Attitudes: Tables comparing South Dakota adult citizens who have never fished or not fished recently with people who have fished recently (defined as sometime during the past two years).

Appendix G – Table 1. General questions about fish and wildlife management in South Dakota comparing non-anglers and recent anglers.

Question/Variable	**ANOVA F-statistic**	***p*-value**
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?	23.639	<.001
How important do you think healthy fish and wildlife populations are to the economy and well-being of South Dakota residents?	13.717	<.001
How strongly do you disagree or agree with the following statement? The diversity of fish and wildlife in an area is a sign of the quality of the natural environment.	9.113	.003
In general, how would you rate GFP's efforts to conserve and protect the diversity (variety) of fish and wildlife in South Dakota?	1.522	.218
Compared to other places where you could consider living, how would you rate life in South Dakota?	0.452	.502
In general, how much does fish and wildlife detract or contribute to a high "quality of life" for you?	107.817	<.001

Appendix G – Table 1-A. Mean values for the significant variables in table 1 comparing non-anglers and recent anglers.

Significant Variables	**Non-Anglers**	**Recent Anglers**
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?[1]		
Mean	2.66	2.82
95% C.I.	2.61 – 2.71	2.79 – 2.86
Eta^2 / Percent Difference	.021	5%
How important do you think healthy fish and wildlife populations are to the economy and well-being of South Dakota residents?[1]		
Mean	2.72	2.83
95% C.I.	2.67 – 2.76	2.79 – 2.86
Eta^2 / Percent Difference	.012	4%
How strongly do you disagree or agree with the following statement? The diversity of fish and wildlife in an area is a sign of the quality of the natural environment.[2]		
Mean	2.03	2.23
95% C.I.	1.93 – 2.13	2.15 – 2.32
Eta^2 / Percent Difference	.008	3%
In general, how much does fish and wildlife detract or contribute to a high "quality of life" for you?[3]		
Mean	1.57	2.24
95% C.I.	1.47 – 1.66	2.16 – 2.32
Eta^2 / Percent Difference	.092	11%

[1]Importance Scale: 0=Not Important, 1=Slightly Important; 2=Moderately Important; 3=Very Important

[2]Attitude Scale: -3=Strongly Disagree, -2=Moderately Disagree; -1=Slightly Disagree; 0=Neutral or No Opinion; +1 Slightly Agree; +2=Moderately Agree; +3=Strongly Agree

[3]Scale: -3=Detracts Greatly, -2=Detracts Moderately; -1=Detracts Slightly; 0=Neither; +1=Contributes Slightly; +2=Contributes Moderately; +3=Contributes Greatly

Appendix G – Table 2. Prairie ecosystem questions comparing non-anglers and recent anglers.

Question/Variable	**ANOVA F-statistic**	***p*-value**
Maintaining a native prairie ecosystem in South Dakota is important to me.	1.154	.283
Prairie dogs are an important component of native ecosystems and need some degree of protection.	2.454	.118
Prairie dogs are a destructive agricultural pest that should be eliminated from South Dakota.	0.290	.590
I support using some money from hunting license fees for projects designed to conserve and enhance native prairie ecosystems and their associated wildlife.	0.256	.613
I am concerned about the accelerated conversion of native prairie habitat.	0.045	.832

Appendix G – Table 3. Questions about bats in South Dakota comparing non-anglers and recent anglers.

Question/Variable	**ANOVA F-statistic**	***p*-value**
Maintaining healthy populations and diversity of bat species in South Dakota is important to me.	0.201	.654
Bats pose an unacceptable health risk to people.	0.864	.353
Bats are important and should have some legal protection from harm.	0.491	.484
I would enjoy having bats living and feeding near my house.	9.075	.003
I am concerned about the impact of diseases, such as white nose syndrome, on bat populations.	0.217	.641

Appendix G – Table 3-A. Mean values for the significant variables in table 3 comparing non-anglers and recent anglers.

Significant Variables	**Non-Anglers**	**Recent Anglers**
I would enjoy having bats living and feeding near my house.[1]		
Mean	-0.55	-0.05
95% C.I.	-0.78 – -0.31	-0.27 – 0.18
Eta^2 / Percent Difference	.016	8%

[1]Attitude Scale: -3=Strongly Disagree, -2=Moderately Disagree; -1=Slightly Disagree; 0=Neutral or No Opinion; +1 Slightly Agree; +2=Moderately Agree; +3=Strongly Agree

Appendix G – Table 4. Questions about mountain lions in South Dakota comparing non-anglers and recent anglers.

Question/Variable	**ANOVA F-statistic**	***p*-value**
Having a healthy, viable population of mountain lions in S.D. is important to me.	0.291	.590
I am concern about mountain lions killing too many game (hunted) animals.	9.860	.002
Having any mountain lions in South Dakota is too dangerous a risk to people.	6.281	.012
Do you oppose or favor a regulated mountain lion season in South Dakota?	39.308	<.001

Appendix G – Table 4-A. Mean values for the significant variables in table 4 comparing non-anglers and recent anglers.

Significant Variables	**Non-Anglers**	**Recent Anglers**
I am concern about mountain lions killing too many game (hunted) animals.[1]		
Mean	0.19	0.69
95% C.I.	-0.03 – 0.40	0.46 – 0.91
Eta^2 / Percent Difference	.017	8%
Having any mountain lions in South Dakota is too dangerous a risk to people.[1]		
Mean	-0.49	-0.90
95% C.I.	-0.72 – -0.25	-1.12 – -0.68
Eta^2 / Percent Difference	.011	7%
Do you oppose or favor a regulated mountain lion season in South Dakota?[2]		
Mean	1.26	2.05
95% C.I.	1.07 – 1.45	1.89 – 2.20
Eta^2 / Percent Difference	.067	13%

[1]Attitude Scale: -3=Strongly Disagree, -2=Moderately Disagree; -1=Slightly Disagree; 0=Neutral or No Opinion; +1 Slightly Agree; +2=Moderately Agree; +3=Strongly Agree

[2]Attitude Scale: -3=Strongly Oppose, -2=Moderately Oppose; -1=Slightly Oppose; 0=Neutral or No Opinion; +1 Slightly Favor; +2=Moderately Favor; +3=Strongly Favor

Appendix G – Table 5. Questions about rare non-game species vs. game animals/fish comparing non-anglers and recent anglers.

Question/Variable	**ANOVA F-statistic**	***p*-value**
I would be concerned about River Otters taking too many game fish if their populations were to increase.	2.300	.130
I would support releasing River Otters into suitable habitats in South Dakota.	0.748	.388
I support efforts by GFP to increase Osprey numbers in South Dakota.	0.048	.827
I would be concerned about Osprey taking too many game fish if their populations were to increase.	1.711	.191
The Missouri River should not be managed for threatened or endangered species, such as terns and plovers, if it would in any way decrease game fish populations.	0.302	.583
In general, should wildlife management decisions favor game animals/fish OR rare wildlife species.	16.913	<.000

Table 5-A. Mean values for the significant variables in table 5 comparing non-anglers and recent anglers.

Significant Variables	**Non-Anglers**	**Recent Anglers**
In general, should wildlife management decisions favor game animals/fish OR rare wildlife species.[1]		
Mean	-0.03	-0.51
95% C.I.	-0.19 – 0.12	-0.68 – -0.34
Eta^2 / Percent Difference	.030	8%

[1] Scale: -3=Strongly Favor Game, -2=Moderately Favor Game; -1=Slightly Favor Game; 0=Balanced Approach; +1 Slightly Favor Rare Wildlife; +2=Moderately Favor Rare Wildlife; +3=Strongly Favor Rare Wildlife

Appendix G – Table 6. Miscellaneous wildlife management questions comparing non-anglers and recent anglers.

Question/Variable	**ANOVA F-statistic**	***p*-value**
I would support requirements to use non-toxic bullets for shooting prairie dogs to reduce lead poisoning of eagles, hawks and other wildlife.	17.147	<.001
I am concerned about feral (wild), free ranging house cats killing native birds.	4.889	.027
I would support regulations to control commercial harvest and unregulated take of turtles, lizards, snakes, frogs and toads if information showed that their populations were declining to unacceptable levels.	0.015	.902
Rattlesnakes are an important component of South Dakota's assemblage of wildlife and should not be killed indiscriminately.	0.765	.382
In general, efforts should be made to reduce predator numbers to help increase the numbers of game animals for hunters.	19.783	<.001

Appendix G – Table 6-A. Mean values for the significant variables in table 6 comparing non-anglers and recent anglers.

Significant Variables	**Non-Anglers**	**Recent Anglers**
I would support requirements to use non-toxic bullets for shooting prairie dogs to reduce lead poisoning of eagles, hawks and other wildlife.[1]		
Mean	0.95	0.27
95% C.I.	0.74 – 1.17	0.03 – 0.52
Eta^2 / Percent Difference	.030	11%
I am concerned about feral (wild), free ranging house cats killing native birds.[1]		
Mean	0.42	0.74
95% C.I.	0.23 – 0.61	0.52 – 0.95
Eta^2 / Percent Difference	.009	5%
In general, efforts should be made to reduce predator numbers to help increase the numbers of game animals for hunters.[1]		
Mean	-0.02	0.66
95% C.I.	-0.23 – 0.18	0.44 – 0.87
Eta^2 / Percent Difference	.034	11%

[1]Attitude Scale: -3=Strongly Disagree, -2=Moderately Disagree; -1=Slightly Disagree; 0=Neutral or No Opinion; +1 Slightly Agree; +2=Moderately Agree; +3=Strongly Agree

Appendix G – Table 7. Questions about climate change comparing non-anglers and recent anglers.

Question/Variable	**ANOVA F-statistic**	***p*-value**
I believe that climate change is currently affecting South Dakota.	4.582	.033
I believe that climate change is a serious threat that requires changes in current life styles.	4.777	.029
I support regulations to reduce carbon emissions to address climate change.	4.142	.042
I don't believe that climate change will result in any negative impacts on wildlife populations in South Dakota	1.234	.267
Beliefs concerning the causes of climate change generally range from totally natural causes to totally human activities or some approximate combination of both. On this scale of 1 (all climate change is due to natural causes to 7 (all climate change is from human activities), please indicate your personal belief about the causes of climate change.	2.075	.150

Appendix G – Table 7-A. Mean values for the significant variables in table 7 comparing non-anglers and recent anglers.

Significant Variables	**Non-Anglers**	**Recent Anglers**
I believe that climate change is currently affecting South Dakota.[1]		
Mean	0.55	0.21
95% C.I.	0.35 – 0.76	-0.02 – 0.45
Eta^2 / Percent Difference	.008	6%
I believe that climate change is a serious threat that requires changes in current life styles.[1]		
Mean	0.39	0.03
95% C.I.	0.17 – 0.60	-0.22 – 0.27
Eta^2 / Percent Difference	.009	6%
I support regulations to reduce carbon emissions to address climate change.[1]		
Mean	0.87	0.55
95% C.I.	0.66 – 1.09	0.32 – 0.77
Eta^2 / Percent Difference	.007	5%

[1]Attitude Scale: -3=Strongly Disagree, -2=Moderately Disagree; -1=Slightly Disagree; 0=Neutral or No Opinion; +1 Slightly Agree; +2=Moderately Agree; +3=Strongly Agree

Appendix G – Table 8. Questions about energy development comparing non-anglers and recent anglers.

Question/Variable	**ANOVA F-statistic**	***p*-value**
Wildlife impacts and grassland habitat loss should be considered when increasing biofuel production.	0.819	.366
I support efforts to increase ethanol production in South Dakota.	0.057	.812
Negative impacts on wildlife should be considered when developing wind energy in South Dakota.	0.917	.339
I think people worry too much about possible environmental problems associated with pipelines for transporting oil across South Dakota.	0.694	.405

Appendix G – Table 9. Respondents' ratings of the importance of wetland functions comparing non-anglers and recent anglers.

Wetlands preform many functions: How important is…	**ANOVA F-statistic**	***p*-value**
… reducing flood events.	0.728	.394
… providing wildlife habitat.	19.653	<.001
… providing recreational opportunities.	12.075	.001
… providing clean water.	1.203	.273
… providing economic opportunity.	1.244	.265

Appendix G – Table 9-A. Mean values for the significant variables in table 9 comparing non-anglers and recent anglers.

Significant Variables	**Non-Anglers**	**Recent Anglers**
Wetland function…providing wildlife habitat		
Mean	2.25	2.51
95% C.I.	2.16 – 2.33	2.43 – 2.60
Eta^2 / Percent Difference	.034	9%
Wetland function…providing recreational opportunities		
Mean	1.91	2.17
95% C.I.	1.81 – 2.10	2.06 – 2.27
Eta^2 / Percent Difference	.021	9%

Appendix H. Wildlife and Environmental Attitudes: Tables comparing South Dakota past anglers (defined as some who has fished but not during the past two years) with recent anglers (defined as sometime during the past two years).

Appendix H – Table 1. General questions about fish and wildlife management in South Dakota comparing past anglers and recent anglers.

Question/Variable	**ANOVA F-statistic**	***p*-value**
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?	20.367	<.001
How important do you think healthy fish and wildlife populations are to the economy and well-being of South Dakota residents?	11.202	.001
How strongly do you disagree or agree with the following statement? The diversity of fish and wildlife in an area is a sign of the quality of the natural environment.	4.806	.029
In general, how would you rate GFP's efforts to conserve and protect the diversity (variety) of fish and wildlife in South Dakota?	2.173	.141
Compared to other places where you could consider living, how would you rate life in South Dakota?	0.844	.358
In general, how much does fish and wildlife detract or contribute to a high "quality of life" for you?	73.701	<.001

Appendix H – Table 1-A. Mean values for the significant variables in table 1 comparing past anglers and recent anglers.

Significant Variables	**Past Anglers**	**Recent Anglers**
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?[1]		
Mean	2.66	2.82
95% C.I.	2.59 – 2.72	2.79 – 2.86
Eta^2 / Percent Difference	.021	5%
How important do you think healthy fish and wildlife populations are to the economy and well-being of South Dakota residents?[1]		
Mean	2.72	2.83
95% C.I.	2.67 – 2.78	2.79 – 2.86
Eta^2 / Percent Difference	.012	4%
How strongly do you disagree or agree with the following statement? The diversity of fish and wildlife in an area is a sign of the quality of the natural environment.[2]		
Mean	2.07	2.23
95% C.I.	1.96 – 2.19	2.15 – 2.32
Eta^2 / Percent Difference	.005	3%
In general, how much does fish and wildlife detract or contribute to a high "quality of life" for you?[3]		
Mean	1.65	2.24
95% C.I.	1.54 – 1.76	2.16 – 2.32
Eta^2 / Percent Difference	.074	10%

[1]Importance Scale: 0=Not Important, 1=Slightly Important; 2=Moderately Important; 3=Very Important

[2]Attitude Scale: -3=Strongly Disagree, -2=Moderately Disagree; -1=Slightly Disagree; 0=Neutral or No Opinion; +1 Slightly Agree; +2=Moderately Agree; +3=Strongly Agree

[3]Scale: -3=Detracts Greatly, -2=Detracts Moderately; -1=Detracts Slightly; 0=Neither; +1=Contributes Slightly; +2=Contributes Moderately; +3=Contributes Greatly

Appendix H – Table 2. Prairie ecosystem questions comparing past anglers and recent anglers.

Question/Variable	**ANOVA F-statistic**	***p*-value**
Maintaining a native prairie ecosystem in South Dakota is important to me.	2.690	.102
Prairie dogs are an important component of native ecosystems and need some degree of protection.	1.094	.296
Prairie dogs are a destructive agricultural pest that should be eliminated from South Dakota.	0.716	.398
I support using some money from hunting license fees for projects designed to conserve and enhance native prairie ecosystems and their associated wildlife.	0.482	.488
I am concerned about the accelerated conversion of native prairie habitat.	0.729	.394

Appendix H – Table 3. Questions about bats in South Dakota comparing past anglers and recent anglers.

Question/Variable	**ANOVA F-statistic**	***p*-value**
Maintaining healthy populations and diversity of bat species in South Dakota is important to me.	0.097	.756
Bats pose an unacceptable health risk to people.	0.017	.897
Bats are important and should have some legal protection from harm.	0.773	.392
I would enjoy having bats living and feeding near my house.	5.514	.019
I am concerned about the impact of diseases, such as white nose syndrome, on bat populations.	0.082	.775

Appendix H – Table 3-A. Mean values for the significant variables in table 3 comparing past anglers and recent anglers.

Significant Variables	**Past Anglers**	**Recent Anglers**
I would enjoy having bats living and feeding near my house.[1]		
Mean	-0.47	-0.05
95% C.I.	-0.75 – -0.19	-0.27 – 0.18
Eta^2 / Percent Difference	.012	7%

[1]Attitude Scale: -3=Strongly Disagree, -2=Moderately Disagree; -1=Slightly Disagree; 0=Neutral or No Opinion; +1 Slightly Agree; +2=Moderately Agree; +3=Strongly Agree

Appendix H – Table 4. Questions about mountain lions in South Dakota comparing past anglers and recent anglers.

Question/Variable	**ANOVA F-statistic**	***p*-value**
Having a healthy, viable population of mountain lions in S.D. is important to me.	1.020	.313
I am concern about mountain lions killing too many game (hunted) animals.	12.068	.001
Having any mountain lions in South Dakota is too dangerous a risk to people.	2.314	.129
Do you oppose or favor a regulated mountain lion season in South Dakota?	25.036	<.001

Appendix H – Table 4-A. Mean values for the significant variables in table 4 comparing past anglers and recent anglers.

Significant Variables	**Past Anglers**	**Recent Anglers**
I am concern about mountain lions killing too many game (hunted) animals.[1]		
Mean	0.08	0.69
95% C.I.	-0.18 – 0.34	0.46 – 0.91
Eta^2 / Percent Difference	.025	10%
Do you oppose or favor a regulated mountain lion season in South Dakota?[2]		
Mean	1.39	2.05
95% C.I.	1.17 – 1.61	1.89 – 2.20
Eta^2 / Percent Difference	.051	11%

[1]Attitude Scale: -3=Strongly Disagree, -2=Moderately Disagree; -1=Slightly Disagree; 0=Neutral or No Opinion; +1 Slightly Agree; +2=Moderately Agree; +3=Strongly Agree

[2]Attitude Scale: -3=Strongly Oppose, -2=Moderately Oppose; -1=Slightly Oppose; 0=Neutral or No Opinion; +1 Slightly Favor; +2=Moderately Favor; +3=Strongly Favor

Appendix H – Table 5. Questions about rare non-game species vs. game animals/fish comparing past anglers and recent anglers.

Question/Variable	**ANOVA F-statistic**	***p*-value**
I would be concerned about River Otters taking too many game fish if their populations were to increase.	0.527	.468
I would support releasing River Otters into suitable habitats in South Dakota.	0.006	.938
I support efforts by GFP to increase Osprey numbers in South Dakota.	1.849	.175
I would be concerned about Osprey taking too many game fish if their populations were to increase.	0.053	.819
The Missouri River should not be managed for threatened or endangered species, such as terns and plovers, if it would in any way decrease game fish populations.	2.841	.093
In general, should wildlife management decisions favor game animals/fish OR rare wildlife species.	10.123	.002

Appendix H – Table 5-A. Mean values for the significant variables in table 5 comparing past anglers and recent anglers.

Significant Variables	**Past Anglers**	**Recent Anglers**
In general, should wildlife management decisions favor game animals/fish OR rare wildlife species.[1]		
Mean	-0.11	-0.51
95% C.I.	-0.29 – 0.07	-0.68 – -0.68
Eta^2 / Percent Difference	.021	7%

[1] Scale: -3=Strongly Favor Game, -2=Moderately Favor Game; -1=Slightly Favor Game; 0=Balanced Approach; +1 Slightly Favor Rare Wildlife; +2=Moderately Favor Rare Wildlife; +3=Strongly Favor Rare Wildlife

Appendix H – Table 6. Miscellaneous wildlife management questions comparing past anglers and recent anglers.

Question/Variable	**ANOVA F-statistic**	***p*-value**
I would support requirements to use non-toxic bullets for shooting prairie dogs to reduce lead poisoning of eagles, hawks and other wildlife.	12.904	<.001
I am concerned about feral (wild), free ranging house cats killing native birds.	8.200	.004
I would support regulations to control commercial harvest and unregulated take of turtles, lizards, snakes, frogs and toads if information showed that their populations were declining to unacceptable levels.	>0.001	.984
Rattlesnakes are an important component of South Dakota's assemblage of wildlife and should not be killed indiscriminately.	0.928	.336
In general, efforts should be made to reduce predator numbers to help increase the numbers of game animals for hunters.	21.757	<.001

Appendix H – Table 6-A. Mean values for the significant variables in table 6 comparing past anglers and recent anglers.

Significant Variables	**Past Anglers**	**Recent Anglers**
I would support requirements to use non-toxic bullets for shooting prairie dogs to reduce lead poisoning of eagles, hawks and other wildlife.[1]		
Mean	0.94	0.27
95% C.I.	0.68 – 1.20	0.03 – 0.52
Eta^2 / Percent Difference	.027	11%
I am concerned about feral (wild), free ranging house cats killing native birds.[1]		
Mean	0.27	0.74
95% C.I.	0.04 – 0.51	0.52 – 0.95
Eta^2 / Percent Difference	.006	8%
In general, efforts should be made to reduce predator numbers to help increase the numbers of game animals for hunters.[1]		
Mean	-0.13	0.66
95% C.I.	-0.38 – 0.12	0.44 – 0.87
Eta^2 / Percent Difference	.043	13%

[1]Attitude Scale: -3=Strongly Disagree, -2=Moderately Disagree; -1=Slightly Disagree; 0=Neutral or No Opinion; +1 Slightly Agree; +2=Moderately Agree; +3=Strongly Agree

Appendix H – Table 7. Questions about climate change comparing past anglers and recent anglers.

Question/Variable	**ANOVA F-statistic**	***p*-value**
I believe that climate change is currently affecting South Dakota.	4.126	.043
I believe that climate change is a serious threat that requires changes in current life styles.	3.576	.059
I support regulations to reduce carbon emissions to address climate change.	2.655	.104
I don't believe that climate change will result in any negative impacts on wildlife populations in South Dakota	2.812	.094
Beliefs concerning the causes of climate change generally range from totally natural causes to totally human activities or some approximate combination of both. On this scale of 1 (all climate change is due to natural causes to 7 (all climate change is from human activities), please indicate your personal belief about the causes of climate change.	1.811	.179

Appendix H – Table 7-A. Mean values for the significant variables in table 7 comparing past anglers and recent anglers.

Significant Variables	**Past Anglers**	**Recent Anglers**
I believe that climate change is currently affecting South Dakota.[1]		
Mean	0.56	0.21
95% C.I.	0.32 – 0.81	-0.02 – 0.45
Eta^2 / Percent Difference	.009	6%

[1]Attitude Scale: -3=Strongly Disagree, -2=Moderately Disagree; -1=Slightly Disagree; 0=Neutral or No Opinion; +1 Slightly Agree; +2=Moderately Agree; +3=Strongly Agree

Appendix H – Table 8. Questions about energy development comparing past anglers and recent anglers.

Question/Variable	**ANOVA F-statistic**	***p*-value**
Wildlife impacts and grassland habitat loss should be considered when increasing biofuel production.	0.001	.979
I support efforts to increase ethanol production in South Dakota.	0.141	.707
Negative impacts on wildlife should be considered when developing wind energy in South Dakota.	1.866	.173
I think people worry too much about possible environmental problems associated with pipelines for transporting oil across South Dakota.	0.795	.373

Appendix H – Table 9. Respondents' ratings of the importance of wetland functions comparing past anglers and recent anglers.

Wetlands preform many functions: How important is…	**ANOVA F-statistic**	***p*-value**
… reducing flood events.	1.371	.242
… providing wildlife habitat.	8.995	.003
… providing recreational opportunities.	8.579	.004
… providing clean water.	0.995	.319
… providing economic opportunity.	1.221	.270

Appendix H – Table 9-A. Mean values for the significant variables in table 9 comparing past anglers and recent anglers.

Significant Variables	**Past Anglers**	**Recent Anglers**
Wetland function…providing wildlife habitat		
Mean	2.32	2.51
95% C.I.	2.22 – 2.42	2.43 – 2.60
Eta^2 / Percent Difference	.019	6%
Wetland function…providing recreational opportunities		
Mean	1.93	2.17
95% C.I.	1.81 – 2.05	2.06 – 2.27
Eta^2 / Percent Difference	.018	8%

Appendix I. Wildlife and Environmental Attitudes: Tables comparing South Dakota adult citizens who have never hunted with people who have hunted sometime during their lifetime.

Appendix I – Table 1. General questions about fish and wildlife management in South Dakota comparing people who have never hunted and people who have hunted.

Question/Variable	**ANOVA F-statistic**	***p*-value**
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?	12.819	<.001
How important do you think healthy fish and wildlife populations are to the economy and well-being of South Dakota residents?	0.143	.705
How strongly do you disagree or agree with the following statement? The diversity of fish and wildlife in an area is a sign of the quality of the natural environment.	5.537	.019
In general, how would you rate GFP's efforts to conserve and protect the diversity (variety) of fish and wildlife in South Dakota?	0.543	.461
Compared to other places where you could consider living, how would you rate life in South Dakota?	3.372	.067
In general, how much does fish and wildlife detract or contribute to a high "quality of life" for you?	50.237	<.001

Appendix I – Table 1-A. Mean values for the significant variables in table 1 comparing people who have never hunted and people who have hunted.

Significant Variables	**Never Hunted**	**Hunted**
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?[1]		
Mean	2.64	2.78
95% C.I.	2.57 – 2.71	2.74 – 2.81
Eta^2 / Percent Difference	.012	5%
How strongly do you disagree or agree with the following statement? The diversity of fish and wildlife in an area is a sign of the quality of the natural environment.[2]		
Mean	2.00	2.18
95% C.I.	1.86 – 2.13	2.10 – 2.26
Eta^2 / Percent Difference	.005	3%
In general, how much does fish and wildlife detract or contribute to a high "quality of life" for you?[3]		
Mean	1.51	2.04
95% C.I.	1.37 – 1.64	1.97 – 2.12
Eta^2 / Percent Difference	.046	9%

[1]Importance Scale: 0=Not Important, 1=Slightly Important; 2=Moderately Important; 3=Very Important

[2]Attitude Scale: -3=Strongly Disagree, -2=Moderately Disagree; -1=Slightly Disagree; 0=Neutral or No Opinion; +1 Slightly Agree; +2=Moderately Agree; +3=Strongly Agree

[3]Scale: -3=Detracts Greatly, -2=Detracts Moderately; -1=Detracts Slightly; 0=Neither; +1=Contributes Slightly; +2=Contributes Moderately; +3=Contributes Greatly

Appendix I – Table 2. Prairie ecosystem questions comparing people who have never hunted and people who have hunted.

Question/Variable	**ANOVA F-statistic**	***p*-value**
Maintaining a native prairie ecosystem in South Dakota is important to me.	0.699	.403
Prairie dogs are an important component of native ecosystems and need some degree of protection.	14.493	<.001
Prairie dogs are a destructive agricultural pest that should be eliminated from South Dakota.	0.212	.645
I support using some money from hunting license fees for projects designed to conserve and enhance native prairie ecosystems and their associated wildlife.	0.003	.957
I am concerned about the accelerated conversion of native prairie habitat.	1.106	.293

Appendix I – Table 2-A. Mean values for the significant variables in table 2 comparing people who have never hunted and people who have hunted.

Significant Variables	**Never Hunted**	**Hunted**
Prairie dogs are an important component of native ecosystems and need some degree of protection.[1]		
Mean	0.53	-0.10
95% C.I.	0.26 – 0.79	-0.28 – 0.08
Eta^2 / Percent Difference	.026	11%

[1]Attitude Scale: -3=Strongly Disagree, -2=Moderately Disagree; -1=Slightly Disagree; 0=Neutral or No Opinion; +1 Slightly Agree; +2=Moderately Agree; +3=Strongly Agree

Appendix I – Table 3. Questions about bats in South Dakota comparing people who have never hunted and people who have hunted.

Question/Variable	**ANOVA F-statistic**	***p*-value**
Maintaining healthy populations and diversity of bat species in South Dakota is important to me.	0.044	.834
Bats pose an unacceptable health risk to people.	1.489	.223
Bats are important and should have some legal protection from harm.	0.034	.853
I would enjoy having bats living and feeding near my house.	6.989	.008
I am concerned about the impact of diseases, such as white nose syndrome, on bat populations.	1.776	.183

Appendix I – Table 3-A. Mean values for the significant variables in table 3 comparing people who have never hunted and people who have hunted.

Significant Variables	**Never Hunted**	**Hunted**
I would enjoy having bats living and feeding near my house.[1]		
Mean	-0.63	-0.14
95% C.I.	-0.95 – -0.31	-0.33 – 0.05
Eta^2 / Percent Difference	.013	8%

[1]Attitude Scale: -3=Strongly Disagree, -2=Moderately Disagree; -1=Slightly Disagree; 0=Neutral or No Opinion; +1 Slightly Agree; +2=Moderately Agree; +3=Strongly Agree

Appendix I – Table 4. Questions about mountain lions in South Dakota comparing people who have never hunted and people who have hunted.

Question/Variable	**ANOVA F-statistic**	***p*-value**
Having a healthy, viable population of mountain lions in S.D. is important to me.	0.032	.857
I am concern about mountain lions killing too many game (hunted) animals.	4.784	.029
Having any mountain lions in South Dakota is too dangerous a risk to people.	12.891	<.001
Do you oppose or favor a regulated mountain lion season in South Dakota?	44.994	<.001

Appendix I – Table 4-A. Mean values for the significant variables in table 4 comparing people who have never hunted and people who have hunted.

Significant Variables	**Never Hunted**	**Hunted**
I am concern about mountain lions killing too many game (hunted) animals.[1]		
Mean	0.16	0.55
95% C.I.	-0.13 – 0.44	0.35 – 0.74
Eta^2 / Percent Difference	.009	7%
Having any mountain lions in South Dakota is too dangerous a risk to people.[1]		
Mean	-0.23	-0.88
95% C.I.	-0.55 – 0.09	-1.07 – -0.69
Eta^2 / Percent Difference	.023	11%
Do you oppose or favor a regulated mountain lion season in South Dakota?[2]		
Mean	0.99	1.92
95% C.I.	0.72 – 1.25	1.79 – 2.06
Eta^2 / Percent Difference	.078	16%

[1]Attitude Scale: -3=Strongly Disagree, -2=Moderately Disagree; -1=Slightly Disagree; 0=Neutral or No Opinion; +1 Slightly Agree; +2=Moderately Agree; +3=Strongly Agree

[2]Attitude Scale: -3=Strongly Oppose, -2=Moderately Oppose; -1=Slightly Oppose; 0=Neutral or No Opinion; +1 Slightly Favor; +2=Moderately Favor; +3=Strongly Favor

Appendix I – Table 5. Questions about rare non-game species vs. game animals/fish comparing people who have never hunted and people who have hunted.

Question/Variable	**ANOVA F-statistic**	***p*-value**
I would be concerned about River Otters taking too many game fish if their populations were to increase.	4.914	.027
I would support releasing River Otters into suitable habitats in South Dakota.	1.811	.179
I support efforts by GFP to increase Osprey numbers in South Dakota.	0.551	.458
I would be concerned about Osprey taking too many game fish if their populations were to increase.	0.029	.865
The Missouri River should not be managed for threatened or endangered species, such as terns and plovers, if it would in any way decrease game fish populations.	1.142	.286
In general, should wildlife management decisions favor game animals/fish OR rare wildlife species.	6.233	.013

Appendix I – Table 5-A. Mean values for the significant variables in table 5 comparing people who have never hunted and people who have hunted.

Significant Variables	**Never Hunted**	**Hunted**
I would be concerned about River Otters taking too many game fish if their populations were to increase.[1]		
Mean	0.10	-0.20
95% C.I.	-0.11 – 0.32	-0.34 – -0.06
Eta^2 / Percent Difference	.009	5%
In general, should wildlife management decisions favor game animals/fish OR rare wildlife species.[2]		
Mean	-0.01	-0.35
95% C.I.	-0.23 – 0.20	-0.48 – -0.21
Eta^2 / Percent Difference	.011	6%

[1]Attitude Scale: -3=Strongly Disagree, -2=Moderately Disagree; -1=Slightly Disagree; 0=Neutral or No Opinion; +1 Slightly Agree; +2=Moderately Agree; +3=Strongly Agree

[2] Scale: -3=Strongly Favor Game, -2=Moderately Favor Game; -1=Slightly Favor Game; 0=Balanced Approach; +1 Slightly Favor Rare Wildlife; +2=Moderately Favor Rare Wildlife; +3=Strongly Favor Rare Wildlife

Appendix I – Table 6. Miscellaneous wildlife management questions comparing people who have never hunted and people who have hunted.

Question/Variable	**ANOVA F-statistic**	***p*-value**
I would support requirements to use non-toxic bullets for shooting prairie dogs to reduce lead poisoning of eagles, hawks and other wildlife.	33.511	<.001
I am concerned about feral (wild), free ranging house cats killing native birds.	5.479	.020
I would support regulations to control commercial harvest and unregulated take of turtles, lizards, snakes, frogs and toads if information showed that their populations were declining to unacceptable levels.	0.102	.749
Rattlesnakes are an important component of South Dakota's assemblage of wildlife and should not be killed indiscriminately.	0.257	.612
In general, efforts should be made to reduce predator numbers to help increase the numbers of game animals for hunters.	24.020	<.001

Appendix I – Table 6-A. Mean values for the significant variables in table 6 comparing people who have never hunted and people who have hunted.

Significant Variables	**Never Hunted**	**Hunted**
I would support requirements to use non-toxic bullets for shooting prairie dogs to reduce lead poisoning of eagles, hawks and other wildlife.[1]		
Mean	1.38	0.33
95% C.I.	1.15 – 1.62	0.13 – 0.54
Eta^2 / Percent Difference	.058	18%
I am concerned about feral (wild), free ranging house cats killing native birds.[1]		
Mean	0.28	0.66
95% C.I.	0.05 – 0.51	0.48 – 0.85
Eta^2 / Percent Difference	.010	6%
In general, efforts should be made to reduce predator numbers to help increase the numbers of game animals for hunters.[1]		
Mean	-0.30	0.53
95% C.I.	-0.57 – -0.03	0.35 – 0.72
Eta^2 / Percent Difference	.043	14%

[1]Attitude Scale: -3=Strongly Disagree, -2=Moderately Disagree; -1=Slightly Disagree; 0=Neutral or No Opinion; +1 Slightly Agree; +2=Moderately Agree; +3=Strongly Agree

Appendix I – Table 7. Questions about climate change comparing people who have never hunted and people who have hunted.

Question/Variable	**ANOVA F-statistic**	***p*-value**
I believe that climate change is currently affecting South Dakota.	3.153	.076
I believe that climate change is a serious threat that requires changes in current life styles.	2.754	.098
I support regulations to reduce carbon emissions to address climate change.	0.618	.432
I don't believe that climate change will result in any negative impacts on wildlife populations in South Dakota	0.533	.465
Beliefs concerning the causes of climate change generally range from totally natural causes to totally human activities or some approximate combination of both. On this scale of 1 (all climate change is due to natural causes to 7 (all climate change is from human activities), please indicate your personal belief about the causes of climate change.	0.731	.393

Appendix I – Table 8. Questions about energy development comparing people who have never hunted and people who have hunted.

Question/Variable	**ANOVA F-statistic**	***p*-value**
Wildlife impacts and grassland habitat loss should be considered when increasing biofuel production.	5.445	.020
I support efforts to increase ethanol production in South Dakota.	0.005	.945
Negative impacts on wildlife should be considered when developing wind energy in South Dakota.	4.052	.045
I think people worry too much about possible environmental problems associated with pipelines for transporting oil across South Dakota.	0.056	.813

Appendix I – Table 8-A. Mean values for the significant variables in table 8 comparing people who have never hunted and people who have hunted.[1]

Significant Variables	**Never Hunted**	**Hunted**
Wildlife impacts and grassland habitat loss should be considered when increasing biofuel production.		
Mean	0.98	1.31
95% C.I.	0.73 – 1.23	1.17 – 1.46
Eta^2 / Percent Difference	.010	6%
Negative impacts on wildlife should be considered when developing wind energy in South Dakota.[1]		
Mean	0.48	0.81
95% C.I.	0.22 – 0.75	0.64 – 0.97
Eta^2 / Percent Difference	.007	6%

[1]Attitude Scale: -3=Strongly Disagree, -2=Moderately Disagree; -1=Slightly Disagree; 0=Neutral or No Opinion; +1 Slightly Agree; +2=Moderately Agree; +3=Strongly Agree

Appendix I – Table 9. Respondents' ratings of the importance of wetland functions comparing people who have never hunted and people who have hunted.

Wetlands preform many functions: How important is…	**ANOVA F-statistic**	***p*-value**
… reducing flood events.	0.347	.556
… providing wildlife habitat.	19.663	<.001
… providing recreational opportunities.	20.423	<.001
… providing clean water.	0.315	.575
… providing economic opportunity.	0.128	.721

Appendix I – Table 9-A. Mean values for the significant variables in table 9 comparing people who have never hunted and people who have hunted.[1]

Significant Variables	**Never Hunted**	**Hunted**
Wetland function…providing wildlife habitat		
Mean	2.14	2.45
95% C.I.	2.02 – 2.27	2.38 – 2.51
Eta^2 / Percent Difference	.035	10%
Wetland function…providing recreational opportunities		
Mean	1.75	2.12
95% C.I.	1.60 – 1.89	2.04 – 2.21
Eta^2 / Percent Difference	.036	12%

[1]Importance Scale: 0=Not Important, 1=Slightly Important; 2=Moderately Important; 3=Very Important

Appendix J. Wildlife and Environmental Attitudes: Tables comparing South Dakota adult citizens who have never hunted or not hunted recently with people who have hunted recently (defined as sometime during the past two years).

Appendix J – Table 1. General questions about fish and wildlife management in South Dakota comparing non-hunters and recent hunters.

Question/Variable	**ANOVA F-statistic**	***p*-value**
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?	19.331	<.001
How important do you think healthy fish and wildlife populations are to the economy and well-being of South Dakota residents?	3.675	.055
How strongly do you disagree or agree with the following statement? The diversity of fish and wildlife in an area is a sign of the quality of the natural environment.	3.410	.065
In general, how would you rate GFP's efforts to conserve and protect the diversity (variety) of fish and wildlife in South Dakota?	1.169	.280
Compared to other places where you could consider living, how would you rate life in South Dakota?	2.955	.086
In general, how much does fish and wildlife detract or contribute to a high "quality of life" for you?	82.086	<.001

Appendix J – Table 1-A. Mean values for the significant variables in table 1 comparing non-hunters and recent hunters.

Significant Variables	**Non-Hunters**	**Recent Hunters**
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?[1]		
Mean	2.67	2.82
95% C.I.	2.62 – 2.72	2.78 – 2.87
Eta^2 / Percent Difference	.018	5%
In general, how much does fish and wildlife detract or contribute to a high "quality of life" for you?[2]		
Mean	1.63	2.24
95% C.I.	1.54 – 1.73	2.15 – 2.32
Eta^2 / Percent Difference	.073	10%

[1]Importance Scale: 0=Not Important, 1=Slightly Important; 2=Moderately Important; 3=Very Important

[2]Scale: -3=Detracts Greatly, -2=Detracts Moderately; -1=Detracts Slightly; 0=Neither; +1=Contributes Slightly; +2=Contributes Moderately; +3=Contributes Greatly

Appendix J – Table 2. Prairie ecosystem questions comparing non-hunters and recent hunters.

Question/Variable	**ANOVA F-statistic**	***p*-value**
Maintaining a native prairie ecosystem in South Dakota is important to me.	3.363	.067
Prairie dogs are an important component of native ecosystems and need some degree of protection.	8.797	.003
Prairie dogs are a destructive agricultural pest that should be eliminated from South Dakota.	0.360	.549
I support using some money from hunting license fees for projects designed to conserve and enhance native prairie ecosystems and their associated wildlife.	0.173	.678
I am concerned about the accelerated conversion of native prairie habitat.	0.421	.517

Appendix J – Table 2-A. Mean values for the significant variables in table 2 comparing non-hunters and recent hunters.

Significant Variables	**Non-Hunters**	**Recent Hunters**
Prairie dogs are an important component of native ecosystems and need some degree of protection.[1]		
Mean	0.27	-0.19
95% C.I.	0.08 – 0.46	-0.42 – 0.05
Eta^2 / Percent Difference	.016	8%

[1]Attitude Scale: -3=Strongly Disagree, -2=Moderately Disagree; -1=Slightly Disagree; 0=Neutral or No Opinion; +1 Slightly Agree; +2=Moderately Agree; +3=Strongly Agree

Appendix J – Table 3. Questions about bats in South Dakota comparing non-hunters and recent hunters.

Question/Variable	**ANOVA F-statistic**	***p*-value**
Maintaining healthy populations and diversity of bat species in South Dakota is important to me.	0.347	.556
Bats pose an unacceptable health risk to people.	0.502	.479
Bats are important and should have some legal protection from harm.	1.505	.221
I would enjoy having bats living and feeding near my house.	6.490	.011
I am concerned about the impact of diseases, such as white nose syndrome, on bat populations.	1.687	.195

Appendix J – Table 3-A. Mean values for the significant variables in table 3 comparing non-hunters and recent hunters.

Significant Variables	**Non-Hunters**	**Recent Hunters**
I would enjoy having bats living and feeding near my house.[1]		
Mean	-0.47	-0.03
95% C.I.	-0.69 – -0.24	-0.28 – 0.22
Eta^2 / Percent Difference	.012	7%

[1]Attitude Scale: -3=Strongly Disagree, -2=Moderately Disagree; -1=Slightly Disagree; 0=Neutral or No Opinion; +1 Slightly Agree; +2=Moderately Agree; +3=Strongly Agree

Appendix J – Table 4. Questions about mountain lions in South Dakota comparing non-hunters and recent hunters.

Question/Variable	**ANOVA F-statistic**	***p*-value**
Having a healthy, viable population of mountain lions in S.D. is important to me.	0.011	.917
I am concern about mountain lions killing too many game (hunted) animals.	18.406	<.001
Having any mountain lions in South Dakota is too dangerous a risk to people.	4.049	.045
Do you oppose or favor a regulated mountain lion season in South Dakota?	71.324	<.001

Appendix J – Table 4-A. Mean values for the significant variables in table 4 comparing non-hunters and recent hunters.

Significant Variables	**Non-Hunters**	**Recent Hunters**
I am concern about mountain lions killing too many game (hunted) animals.[1]		
Mean	0.14	0.83
95% C.I.	-0.06 – 0.34	0.59 – 1.08
Eta^2 / Percent Difference	.033	12%
Having any mountain lions in South Dakota is too dangerous a risk to people.[1]		
Mean	-0.55	-0.89
95% C.I.	-0.77 – -0.33	-1.14 – -0.64
Eta^2 / Percent Difference	.007	6%
Do you oppose or favor a regulated mountain lion season in South Dakota?[2]		
Mean	1.21	2.26
95% C.I.	1.03 – 1.39	2.11 – 2.41
Eta^2 / Percent Difference	.118	18%

[1]Attitude Scale: -3=Strongly Disagree, -2=Moderately Disagree; -1=Slightly Disagree; 0=Neutral or No Opinion; +1 Slightly Agree; +2=Moderately Agree; +3=Strongly Agree

[2]Attitude Scale: -3=Strongly Oppose, -2=Moderately Oppose; -1=Slightly Oppose; 0=Neutral or No Opinion; +1 Slightly Favor; +2=Moderately Favor; +3=Strongly Favor

Appendix J – Table 5. Questions about rare non-game species vs. game animals/fish comparing non-hunters and recent hunters.

Question/Variable	**ANOVA F-statistic**	***p*-value**
I would be concerned about River Otters taking too many game fish if their populations were to increase.	8.362	.004
I would support releasing River Otters into suitable habitats in South Dakota.	1.089	.279
I support efforts by GFP to increase Osprey numbers in South Dakota.	3.024	.083
I would be concerned about Osprey taking too many game fish if their populations were to increase.	0.224	.637
The Missouri River should not be managed for threatened or endangered species, such as terns and plovers, if it would in any way decrease game fish populations.	0.259	.611
In general, should wildlife management decisions favor game animals/fish OR rare wildlife species.	24.582	<.000

Appendix J – Table 5-A. Mean values for the significant variables in table 5 comparing non-hunters and recent hunters.

Significant Variables	**Non-Hunters**	**Recent Hunters**
I would be concerned about River Otters taking too many game fish if their populations were to increase.[1]		
Mean	0.04	-0.32
95% C.I.	-0.12 – 0.19	-0.50 – -0.13
Eta^2 / Percent Difference	.015	6%
In general, should wildlife management decisions favor game animals/fish OR rare wildlife species.[1]		
Mean	0.00	-0.58
95% C.I.	-0.16 – 0.15	-0.75 – -0.41
Eta^2 / Percent Difference	.044	10%

[1] Scale: -3=Strongly Favor Game, -2=Moderately Favor Game; -1=Slightly Favor Game; 0=Balanced Approach; +1 Slightly Favor Rare Wildlife; +2=Moderately Favor Rare Wildlife; +3=Strongly Favor Rare Wildlife

Appendix J – Table 6. Miscellaneous wildlife management questions comparing non-hunters and recent hunters.

Question/Variable	**ANOVA F-statistic**	***p*-value**
I would support requirements to use non-toxic bullets for shooting prairie dogs to reduce lead poisoning of eagles, hawks and other wildlife.	53.777	<.001
I am concerned about feral (wild), free ranging house cats killing native birds.	9.136	.003
I would support regulations to control commercial harvest and unregulated take of turtles, lizards, snakes, frogs and toads if information showed that their populations were declining to unacceptable levels.	0.102	.749
Rattlesnakes are an important component of South Dakota's assemblage of wildlife and should not be killed indiscriminately.	0.566	.452
In general, efforts should be made to reduce predator numbers to help increase the numbers of game animals for hunters.	39.202	<.001

Appendix J – Table 6-A. Mean values for the significant variables in table 6 comparing non-hunters and recent hunters.

Significant Variables	**Non-Hunters**	**Recent Hunters**
I would support requirements to use non-toxic bullets for shooting prairie dogs to reduce lead poisoning of eagles, hawks and other wildlife.[1]		
Mean	1.14	-0.07
95% C.I.	0.97 – 1.32	-0.35 – 0.22
Eta^2 / Percent Difference	.090	20%
I am concerned about feral (wild), free ranging house cats killing native birds.[1]		
Mean	0.36	0.82
95% C.I.	0.18 – 0.55	0.58 – 1.06
Eta^2 / Percent Difference	.017	8%
In general, efforts should be made to reduce predator numbers to help increase the numbers of game animals for hunters.[1]		
Mean	-0.11	0.85
95% C.I.	-0.30 – 0.08	0.62 – 1.09
Eta^2 / Percent Difference	.068	16%

[1]Attitude Scale: -3=Strongly Disagree, -2=Moderately Disagree; -1=Slightly Disagree; 0=Neutral or No Opinion; +1 Slightly Agree; +2=Moderately Agree; +3=Strongly Agree

Appendix J – Table 7. Questions about climate change comparing non-hunters and recent hunters.

Question/Variable	**ANOVA F-statistic**	***p*-value**
I believe that climate change is currently affecting South Dakota.	15.178	<.001
I believe that climate change is a serious threat that requires changes in current life styles.	15.803	<.001
I support regulations to reduce carbon emissions to address climate change.	6.132	.014
I don't believe that climate change will result in any negative impacts on wildlife populations in South Dakota	2.438	.119
Beliefs concerning the causes of climate change generally range from totally natural causes to totally human activities or some approximate combination of both. On this scale of 1 (all climate change is due to natural causes to 7 (all climate change is from human activities), please indicate your personal belief about the causes of climate change.	5.463	.020

Appendix J – Table 7-A. Mean values for the significant variables in table 7 comparing non-hunters and recent hunters.

Significant Variables	**Non-Hunters**	**Recent Hunters**
I believe that climate change is currently affecting South Dakota.[1]		
Mean	0.66	0.05
95% C.I.	0.47 – 0.86	-0.20 – 0.30
Eta^2 / Percent Difference	.027	10%
I believe that climate change is a serious threat that requires changes in current life styles.[1]		
Mean	0.51	-0.15
95% C.I.	0.30 – 0.71	-0.41 – 0.11
Eta^2 / Percent Difference	.028	11%
I support regulations to reduce carbon emissions to address climate change.[1]		
Mean	0.89	0.49
95% C.I.	0.68 – 1.09	0.25 – 0.73
Eta^2 / Percent Difference	.011	7%
Beliefs concerning the causes of climate change generally range from totally natural causes to totally human activities or some approximate combination of both. On this scale of 1 (all climate change is due to natural causes to 7 (all climate change is from human activities), please indicate your personal belief about the causes of climate change.[2]		
Mean	0.04	-0.32
95% C.I.	-0.16 – 0.24	-0.54 – -0.10
Eta^2 / Percent Difference	.011	6%

[1]Attitude Scale: -3=Strongly Disagree, -2=Moderately Disagree; -1=Slightly Disagree; 0=Neutral or No Opinion; +1 Slightly Agree; +2=Moderately Agree; +3=Strongly Agree

[2]7-Point Scale: -3 = entirely natural changes in weather; 0 = About half of each; +3 = entirely human activities

Appendix J – Table 8. Questions about energy development comparing non-hunters and recent hunters.

Question/Variable	**ANOVA F-statistic**	***p*-value**
Wildlife impacts and grassland habitat loss should be considered when increasing biofuel production.	0.522	.470
I support efforts to increase ethanol production in South Dakota.	0.011	.916
Negative impacts on wildlife should be considered when developing wind energy in South Dakota.	0.213	.645
I think people worry too much about possible environmental problems associated with pipelines for transporting oil across South Dakota.	2.069	.151

Appendix J – Table 9. Respondents' ratings of the importance of wetland functions comparing non-hunters and recent hunters.

Wetlands preform many functions: How important is…	**ANOVA F-statistic**	***p*-value**
… reducing flood events.	2.480	.116
… providing wildlife habitat.	14.544	<.001
… providing recreational opportunities.	7.022	.008
… providing clean water.	0.878	.349
… providing economic opportunity.	1.541	.215

Appendix J – Table 9-A. Mean values for the significant variables in table 9 comparing non-hunters and recent hunters.[1]

Significant Variables	**Non-Hunters**	**Recent Hunters**
Wetland function…providing wildlife habitat		
Mean	2.26	2.50
95% C.I.	2.18 – 2.35	2.41 – 2.58
Eta^2 / Percent Difference	.026	8%
Wetland function…providing recreational opportunities		
Mean	1.93	2.13
95% C.I.	1.84 – 2.03	2.03 – 2.24
Eta^2 / Percent Difference	.013	7%

[1]Importance Scale: 0=Not Important, 1=Slightly Important; 2=Moderately Important; 3=Very Important

Figure

Appendix K. Wildlife and Environmental Attitudes: Tables comparing South Dakota past hunters (defined as some who has hunted but not during the past two years) with recent hunters (defined as sometime during the past two years).

Appendix K – Table 1. General questions about fish and wildlife management in South Dakota comparing past hunters and recent hunters.

Question/Variable	**ANOVA F-statistic**	***p*-value**
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?	9.278	.002
How important do you think healthy fish and wildlife populations are to the economy and well-being of South Dakota residents?	4.115	.043
How strongly do you disagree or agree with the following statement? The diversity of fish and wildlife in an area is a sign of the quality of the natural environment.	0.488	.485
In general, how would you rate GFP's efforts to conserve and protect the diversity (variety) of fish and wildlife in South Dakota?	0.629	.428
Compared to other places where you could consider living, how would you rate life in South Dakota?	0.801	.371
In general, how much does fish and wildlife detract or contribute to a high "quality of life" for you?	40.879	<.001

Appendix K – Table 1-A. Mean values for the significant variables in table 1 comparing past hunters and recent hunters.

Significant Variables	**Past Hunters**	**Recent Hunters**
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?[1]		
Mean	2.70	2.82
95% C.I.	2.64 – 2.77	2.78 – 2.87
Eta^2 / Percent Difference	.012	4%
How important do you think healthy fish and wildlife populations are to the economy and well-being of South Dakota residents?[1]		
Mean	2.73	2.81
95% C.I.	2.67 – 2.79	2.76 – 2.85
Eta^2 / Percent Difference	.005	3%
In general, how much does fish and wildlife detract or contribute to a high "quality of life" for you?[2]		
Mean	1.75	2.24
95% C.I.	1.62 – 1.88	2.15 – 2.32
Eta^2 / Percent Difference	.051	8%

[1]Importance Scale: 0=Not Important, 1=Slightly Important; 2=Moderately Important; 3=Very Important

[2]Scale: -3=Detracts Greatly, -2=Detracts Moderately; -1=Detracts Slightly; 0=Neither; +1=Contributes Slightly; +2=Contributes Moderately; +3=Contributes Greatly

Table 2. Prairie ecosystem questions comparing past hunters and recent hunters.

Question/Variable	**ANOVA F-statistic**	***p*-value**
Maintaining a native prairie ecosystem in South Dakota is important to me.	2.804	.095
Prairie dogs are an important component of native ecosystems and need some degree of protection.	1.141	.286
Prairie dogs are a destructive agricultural pest that should be eliminated from South Dakota.	1.013	.315
I support using some money from hunting license fees for projects designed to conserve and enhance native prairie ecosystems and their associated wildlife.	0.282	.596
I am concerned about the accelerated conversion of native prairie habitat.	0.008	.927

Appendix K – Table 3. Questions about bats in South Dakota comparing past hunters and recent hunters.

Question/Variable	**ANOVA F-statistic**	***p*-value**
Maintaining healthy populations and diversity of bat species in South Dakota is important to me.	0.309	.579
Bats pose an unacceptable health risk to people.	0.003	.960
Bats are important and should have some legal protection from harm.	2.447	.119
I would enjoy having bats living and feeding near my house.	1.821	.178
I am concerned about the impact of diseases, such as white nose syndrome, on bat populations.	0.444	.505

Appendix K – Table 4. Questions about mountain lions in South Dakota comparing past hunters and recent hunters.

Question/Variable	**ANOVA F-statistic**	***p*-value**
Having a healthy, viable population of mountain lions in S.D. is important to me.	0.058	.811
I am concern about mountain lions killing too many game (hunted) animals.	13.275	<.001
Having any mountain lions in South Dakota is too dangerous a risk to people.	0.008	.931
Do you oppose or favor a regulated mountain lion season in South Dakota?	37.866	<.001

Appendix K – Table 4-A. Mean values for the significant variables in table 4 comparing past hunters and recent hunters.

Significant Variables	**Past Hunters**	**Recent Hunters**
I am concern about mountain lions killing too many game (hunted) animals.[1]		
Mean	0.13	0.83
95% C.I.	-0.16 – 0.42	0.59 – 1.08
Eta^2 / Percent Difference	.033	7%
Do you oppose or favor a regulated mountain lion season in South Dakota?[2]		
Mean	1.43	2.26
95% C.I.	1.19 – 1.67	2.11 – 2.41
Eta^2 / Percent Difference	.090	14%

[1]Attitude Scale: -3=Strongly Disagree, -2=Moderately Disagree; -1=Slightly Disagree; 0=Neutral or No Opinion; +1 Slightly Agree; +2=Moderately Agree; +3=Strongly Agree

[2]Attitude Scale: -3=Strongly Oppose, -2=Moderately Oppose; -1=Slightly Oppose; 0=Neutral or No Opinion; +1 Slightly Favor; +2=Moderately Favor; +3=Strongly Favor

Appendix K – Table 5. Questions about rare non-game species vs. game animals/fish comparing past hunters and recent hunters.

Question/Variable	**ANOVA F-statistic**	***p*-value**
I would be concerned about River Otters taking too many game fish if their populations were to increase.	3.864	.050
I would support releasing River Otters into suitable habitats in South Dakota.	0.136	.712
I support efforts by GFP to increase Osprey numbers in South Dakota.	6.016	.015
I would be concerned about Osprey taking too many game fish if their populations were to increase.	0.193	.681
The Missouri River should not be managed for threatened or endangered species, such as terns and plovers, if it would in any way decrease game fish populations.	1.556	.213
In general, should wildlife management decisions favor game animals/fish OR rare wildlife species.	17.731	<.000

Appendix K – Table 5-A. Mean values for the significant variables in table 5 comparing past hunters and recent hunters.

Significant Variables	**Past Hunters**	**Recent Hunters**
I would be concerned about River Otters taking too many game fish if their populations were to increase.[1]		
Mean	-0.03	-0.32
95% C.I.	-0.24 – 0.19	-0.50 – -0.13
Eta^2 / Percent Difference	.010	5%
I support efforts by GFP to increase Osprey numbers in South Dakota.[1]		
Mean	0.94	0.56
95% C.I.	0.70 – 1.17	0.37 – 0.75
Eta^2 / Percent Difference	.015	6%
In general, should wildlife management decisions favor game animals/fish OR rare wildlife species.[1]		
Mean	0.01	-0.58
95% C.I.	-0.21 – 0.23	-0.75 – -0.41
Eta^2 / Percent Difference	.043	10%

[1] Scale: -3=Strongly Favor Game, -2=Moderately Favor Game; -1=Slightly Favor Game; 0=Balanced Approach; +1 Slightly Favor Rare Wildlife; +2=Moderately Favor Rare Wildlife; +3=Strongly Favor Rare Wildlife

Appendix K – Table 6. Miscellaneous wildlife management questions comparing past hunters and recent hunters.

Question/Variable	**ANOVA F-statistic**	***p*-value**
I would support requirements to use non-toxic bullets for shooting prairie dogs to reduce lead poisoning of eagles, hawks and other wildlife.	21.394	<.001
I am concerned about feral (wild), free ranging house cats killing native birds.	3.902	.049
I would support regulations to control commercial harvest and unregulated take of turtles, lizards, snakes, frogs and toads if information showed that their populations were declining to unacceptable levels.	0.029	.864
Rattlesnakes are an important component of South Dakota's assemblage of wildlife and should not be killed indiscriminately.	0.309	.579
In general, efforts should be made to reduce predator numbers to help increase the numbers of game animals for hunters.	17.740	<.001

Appendix K – Table 6-A. Mean values for the significant variables in table 6 comparing past hunters and recent hunters.

Significant Variables	**Past Hunters**	**Recent Hunters**
I would support requirements to use non-toxic bullets for shooting prairie dogs to reduce lead poisoning of eagles, hawks and other wildlife.[1]		
Mean	0.90	-0.07
95% C.I.	0.62 – 1.18	-0.35 – 0.22
Eta^2 / Percent Difference	.053	16%
I am concerned about feral (wild), free ranging house cats killing native birds.[1]		
Mean	0.45	0.82
95% C.I.	0.17 – 0.73	0.58 – 1.06
Eta^2 / Percent Difference	.010	6%
In general, efforts should be made to reduce predator numbers to help increase the numbers of game animals for hunters.[1]		
Mean	0.08	0.85
95% C.I.	-0.20 – 0.35	0.62 – 1.09
Eta^2 / Percent Difference	.044	13%

[1]Attitude Scale: -3=Strongly Disagree, -2=Moderately Disagree; -1=Slightly Disagree; 0=Neutral or No Opinion; +1 Slightly Agree; +2=Moderately Agree; +3=Strongly Agree

Appendix K – Table 7. Questions about climate change comparing past hunters and recent hunters.

Question/Variable	**ANOVA F-statistic**	***p*-value**
I believe that climate change is currently affecting South Dakota.	11.478	.001
I believe that climate change is a serious threat that requires changes in current life styles.	13.067	<.001
I support regulations to reduce carbon emissions to address climate change.	5.820	.016
I don't believe that climate change will result in any negative impacts on wildlife populations in South Dakota.	5.249	.022
Beliefs concerning the causes of climate change generally range from totally natural causes to totally human activities or some approximate combination of both. On this scale of 1 (all climate change is due to natural causes to 7 (all climate change is from human activities), please indicate your personal belief about the causes of climate change.	4.850	.028

Appendix K – Table 7-A. Mean values for the significant variables in table 7 comparing past hunters and recent hunters.

Significant Variables	**Past Hunters**	**Recent Hunters**
I believe that climate change is currently affecting South Dakota.[1]		
Mean	0.70	0.05
95% C.I.	0.42 – 0.98	-0.20 – 0.30
Eta^2 / Percent Difference	.028	11%
I believe that climate change is a serious threat that requires changes in current life styles.[1]		
Mean	0.56	-0.15
95% C.I.	0.28 – 0.84	-0.41 – 0.11
Eta^2 / Percent Difference	.032	12%
I support regulations to reduce carbon emissions to address climate change.[1]		
Mean	0.95	0.49
95% C.I.	0.66 – 1.24	0.25 – 0.73
Eta^2 / Percent Difference	.014	8%
I don't believe that climate change will result in any negative impacts on wildlife populations in South Dakota.[1]		
Mean	-0.66	-0.23
95% C.I.	-0.94 – -0.38	-0.47 – 0.01
Eta^2 / Percent Difference	.013	7%
Beliefs concerning the causes of climate change generally range from totally natural causes to totally human activities or some approximate combination of both. On this scale of 1 (all climate change is due to natural causes to 7 (all climate change is from human activities), please indicate your personal belief about the causes of climate change.[2]		
Mean	0.07	-0.32
95% C.I.	-0.20 – 0.35	-0.54 – -0.10
Eta^2 / Percent Difference	.013	7%

[1]Attitude Scale: -3=Strongly Disagree, -2=Moderately Disagree; -1=Slightly Disagree; 0=Neutral or No Opinion; +1 Slightly Agree; +2=Moderately Agree; +3=Strongly Agree

[2]7-Point Scale: -3 = entirely natural changes in weather; 0 = About half of each; +3 = entirely human activities

Appendix K – Table 8. Questions about energy development comparing past hunters and recent hunters.

Question/Variable	**ANOVA F-statistic**	***p*-value**
Wildlife impacts and grassland habitat loss should be considered when increasing biofuel production.	0.386	.535
I support efforts to increase ethanol production in South Dakota.	0.027	.868
Negative impacts on wildlife should be considered when developing wind energy in South Dakota.	0.517	.472
I think people worry too much about possible environmental problems associated with pipelines for transporting oil across South Dakota.	2.325	.128

Appendix K – Table 9. Respondents' ratings of the importance of wetland functions comparing past hunters and recent hunters.

Wetlands preform many functions: How important is…	**ANOVA F-statistic**	***p*-value**
… reducing flood events.	2.088	.149
… providing wildlife habitat.	3.239	.073
… providing recreational opportunities.	0.106	.745
… providing clean water.	0.551	.459
… providing economic opportunity.	1.491	.223

Appendix L. Wildlife and Environmental Attitudes: Tables comparing South Dakota adult citizens who have never taken any trips for the primary purpose of viewing wildlife with people who have taken wildlife viewing trips sometime during their lifetime.

Appendix L – Table 1. General questions about fish and wildlife management in South Dakota comparing people who have taken no trips for wildlife viewing with people who have taken trips for wildlife viewing.

Question/Variable	**ANOVA F-statistic**	***p*-value**
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?	49.636	<.001
How important do you think healthy fish and wildlife populations are to the economy and well-being of South Dakota residents?	17.835	<.001
How strongly do you disagree or agree with the following statement? The diversity of fish and wildlife in an area is a sign of the quality of the natural environment.	37.327	<.001
In general, how would you rate GFP's efforts to conserve and protect the diversity (variety) of fish and wildlife in South Dakota?	14.214	<.001
Compared to other places where you could consider living, how would you rate life in South Dakota?	0.000	.999
In general, how much does fish and wildlife detract or contribute to a high "quality of life" for you?	71.542	<.001

Appendix L – Table 1-A. Mean values for the significant variables in table 1 comparing people who have taken no trips for wildlife viewing with people who have taken trips for wildlife viewing.

Significant Variables	**No Viewing Trips**	**Viewing Trips**
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?[1]		
Mean	2.62	2.86
95% C.I.	2.56 – 2.67	2.82 – 2.89
Eta^2 / Percent Difference	.044	8%
How important do you think healthy fish and wildlife populations are to the economy and well-being of South Dakota residents?[1]		
Mean	2.71	2.83
95% C.I.	2.66 – 2.76	2.80 – 2.87
Eta^2 / Percent Difference	.016	4%
How strongly do you disagree or agree with the following statement? The diversity of fish and wildlife in an area is a sign of the quality of the natural environment.[2]		
Mean	1.92	2.34
95% C.I.	1.82 – 2.02	2.25 – 2.42
Eta^2 / Percent Difference	.033	7%
In general, how would you rate GFP's efforts to conserve and protect the diversity (variety) of fish and wildlife in South Dakota?[3]		
Mean	0.09	-0.14
95% C.I.	0.01 0.18	-0.23 – -0.05
Eta^2 / Percent Difference	.015	4%
In general, how much does fish and wildlife detract or contribute to a high "quality of life" for you?[4]		
Mean	1.61	2.18
95% C.I.	1.52 – 1.71	2.09 – 2.27
Eta^2 / Percent Difference	.064	10%

[1]Importance Scale: 0=Not Important, 1=Slightly Important; 2=Moderately Important; 3=Very Important

[2]Attitude Scale: -3=Strongly Disagree, -2=Moderately Disagree; -1=Slightly Disagree; 0=Neutral or No Opinion; +1 Slightly Agree; +2=Moderately Agree; +3=Strongly Agree

[3]Scale: -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

[4]Scale: -3=Detracts Greatly, -2=Detracts Moderately; -1=Detracts Slightly; 0=Neither; +1=Contributes Slightly; +2=Contributes Moderately; +3=Contributes Greatly

Appendix L – Table 2. Prairie ecosystem questions comparing people who have taken no trips for wildlife viewing with people who have taken trips for wildlife viewing.

Question/Variable	**ANOVA F-statistic**	***p*-value**
Maintaining a native prairie ecosystem in South Dakota is important to me.	17.411	<.001
Prairie dogs are an important component of native ecosystems and need some degree of protection.	6.213	.003
Prairie dogs are a destructive agricultural pest that should be eliminated from South Dakota.	15.615	<.001
I support using some money from hunting license fees for projects designed to conserve and enhance native prairie ecosystems and their associated wildlife.	10.491	.001
I am concerned about the accelerated conversion of native prairie habitat.	7.706	.006

Appendix L – Table 2-A. Mean values for the significant variables in table 2 comparing people who have taken no trips for wildlife viewing with people who have taken trips for wildlife viewing.

Significant Variables	**No Viewing Trips**	**Viewing Trips**
Maintaining a native prairie ecosystem in South Dakota is important to me.[1]		
Mean	1.56	2.01
95% C.I.	1.40 – 1.72	1.87 – 2.15
Eta^2 / Percent Difference	.031	8%
Prairie dogs are an important component of native ecosystems and need some degree of protection.[1]		
Mean	-0.11	0.27
95% C.I.	-0.31 – 0.09	0.05 – 0.49
Eta^2 / Percent Difference	.011	6%
Prairie dogs are a destructive agricultural pest that should be eliminated from South Dakota.[1]		
Mean	-0.13	-0.74
95% C.I.	-0.34 – 0.08	-0.96 – -0.52
Eta^2 / Percent Difference	.028	10%
I support using some money from hunting license fees for projects designed to conserve and enhance native prairie ecosystems and their associated wildlife.[1]		
Mean	1.03	1.44
95% C.I.	0.84 – 1.21	1.27 – 1.62
Eta^2 / Percent Difference	.019	7%
I am concerned about the accelerated conversion of native prairie habitat.[1]		
Mean	0.77	1.12
95% C.I.	0.59 – 0.94	0.94 – 1.29
Eta^2 / Percent Difference	.014	6%

[1]Attitude Scale: -3=Strongly Disagree, -2=Moderately Disagree; -1=Slightly Disagree; 0=Neutral or No Opinion; +1 Slightly Agree; +2=Moderately Agree; +3=Strongly Agree

Appendix L – Table 3. Questions about bats in South Dakota comparing people who have taken no trips for wildlife viewing with people who have taken trips for wildlife viewing.

Question/Variable	**ANOVA F-statistic**	***p*-value**
Maintaining healthy populations and diversity of bat species in South Dakota is important to me.	7.315	.007
Bats pose an unacceptable health risk to people.	9.414	.002
Bats are important and should have some legal protection from harm.	16.263	<.001
I would enjoy having bats living and feeding near my house.	13.503	<.001
I am concerned about the impact of diseases, such as white nose syndrome, on bat populations.	0.275	.600

Appendix L – Table 3-A. Mean values for the significant variables in table 3 comparing people who have taken no trips for wildlife viewing with people who have taken trips for wildlife viewing.

Significant Variables	**No Viewing Trips**	**Viewing Trips**
Maintaining healthy populations and diversity of bat species in South Dakota is important to me.[1]		
Mean	0.43	0.82
95% C.I.	0.23 – 0.63	0.62 – 1.01
Eta^2 / Percent Difference	.013	7%
Bats pose an unacceptable health risk to people.[1]		
Mean	-0.38	-0.83
95% C.I.	-0.58 – -0.17	-1.04 – -0.63
Eta^2 / Percent Difference	.017	8%
Bats are important and should have some legal protection from harm.[1]		
Mean	0.04	0.59
95% C.I.	-0.16 – 0.23	0.41 – 0.78
Eta^2 / Percent Difference	.029	9%
I would enjoy having bats living and feeding near my house.[1]		
Mean	-0.58	0.04
95% C.I.	-0.81 – -0.35	-0.20 – 0.28
Eta^2 / Percent Difference	.024	10%

[1]Attitude Scale: -3=Strongly Disagree, -2=Moderately Disagree; -1=Slightly Disagree; 0=Neutral or No Opinion; +1 Slightly Agree; +2=Moderately Agree; +3=Strongly Agree

Appendix L – Table 4. Questions about mountain lions in South Dakota comparing people who have taken no trips for wildlife viewing with people who have taken trips for wildlife viewing.

Question/Variable	**ANOVA F-statistic**	***p*-value**
Having a healthy, viable population of mountain lions in S.D. is important to me.	20.553	<.001
I am concern about mountain lions killing too many game (Viewing Trips) animals.	1.370	.242
Having any mountain lions in South Dakota is too dangerous a risk to people.	28.883	<.001
Do you oppose or favor a regulated mountain lion season in South Dakota?	2.148	.143

Table 4-A. Mean values for the significant variables in table 4 comparing people who have taken no trips for wildlife viewing with people who have taken trips for wildlife viewing.

Significant Variables	**No Viewing Trips**	**Viewing Trips**
Having a healthy, viable population of mountain lions in S.D. is important to me.[1]		
Mean	-0.14	0.59
95% C.I.	-0.36 – 0.08	0.36 – 0.82
Eta^2 / Percent Difference	.036	12%
Having any mountain lions in South Dakota is too dangerous a risk to people.[1]		
Mean	-0.26	-1.14
95% C.I.	-0.49 – -0.02	-1.35 – -0.92
Eta^2 / Percent Difference	.051	15%

[1]Attitude Scale: -3=Strongly Disagree, -2=Moderately Disagree; -1=Slightly Disagree; 0=Neutral or No Opinion; +1 Slightly Agree; +2=Moderately Agree; +3=Strongly Agree

[2]Attitude Scale: -3=Strongly Oppose, -2=Moderately Oppose; -1=Slightly Oppose; 0=Neutral or No Opinion; +1 Slightly Favor; +2=Moderately Favor; +3=Strongly Favor

Appendix L – Table 5. Questions about rare non-game species vs. game animals/fish comparing people who have taken no trips for wildlife viewing with people who have taken trips for wildlife viewing.

Question/Variable	**ANOVA F-statistic**	***p*-value**
I would be concerned about River Otters taking too many game fish if their populations were to increase.	6.288	.012
I would support releasing River Otters into suitable habitats in South Dakota.	14.234	<.001
I support efforts by GFP to increase Osprey numbers in South Dakota.	11.390	.001
I would be concerned about Osprey taking too many game fish if their populations were to increase.	7.602	.006
The Missouri River should not be managed for threatened or endangered species, such as terns and plovers, if it would in any way decrease game fish populations.	5.202	.023
In general, should wildlife management decisions favor game animals/fish OR rare wildlife species.	5.293	.022

Appendix L – Table 5-A. Mean values for the significant variables in table 5 comparing people who have taken no trips for wildlife viewing with people who have taken trips for wildlife viewing.

Significant Variables	**No Viewing Trips**	**Viewing Trips**
I would be concerned about River Otters taking too many game fish if their populations were to increase.[1]		
Mean	0.02	-0.28
95% C.I.	-0.13 – 0.17	-0.47 – -0.10
Eta^2 / Percent Difference	.012	5%
I would support releasing River Otters into suitable habitats in South Dakota.[1]		
Mean	0.30	0.76
95% C.I.	0.13 – 0.46	0.58 – 93
Eta^2 / Percent Difference	.026	8%
I support efforts by GFP to increase Osprey numbers in South Dakota.[1]		
Mean	0.50	0.91
95% C.I.	0.34 – 0.66	0.73 – 1.10
Eta^2 / Percent Difference	.021	7%
I would be concerned about Osprey taking too many game fish if their populations were to increase.[1]		
Mean	-0.11	-0.45
95% C.I.	-0.27 – 0.05	-0.63 – -0.26
Eta^2 / Percent Difference	.014	6%
The Missouri River should not be managed for threatened or endangered species, such as terns and plovers, if it would in any way decrease game fish populations.[1]		
Mean	0.07	-0.24
95% C.I.	-0.10 – 0.24	-0.46 – -0.03
Eta^2 / Percent Difference	.010	5%
In general, should wildlife management decisions favor game animals/fish OR rare wildlife species.[2]		
Mean	-0.37	-0.10
95% C.I.	-0.52 – -0.21	-0.27 – 0.08
Eta^2 / Percent Difference	.010	5%

[1]Attitude Scale: -3=Strongly Disagree, -2=Moderately Disagree; -1=Slightly Disagree; 0=Neutral or No Opinion; +1 Slightly Agree; +2=Moderately Agree; +3=Strongly Agree

[2] Scale: -3=Strongly Favor Game, -2=Moderately Favor Game; -1=Slightly Favor Game; 0=Balanced Approach; +1 Slightly Favor Rare Wildlife; +2=Moderately Favor Rare Wildlife; +3=Strongly Favor Rare Wildlife

Appendix L – Table 6. Miscellaneous wildlife management questions comparing people who have taken no trips for wildlife viewing with people who have taken trips for wildlife viewing.

Question/Variable	**ANOVA F-statistic**	***p*-value**
I would support requirements to use non-toxic bullets for shooting prairie dogs to reduce lead poisoning of eagles, hawks and other wildlife.	1.880	.171
I am concerned about feral (wild), free ranging house cats killing native birds.	2.570	.109
I would support regulations to control commercial harvest and unregulated take of turtles, lizards, snakes, frogs and toads if information showed that their populations were declining to unacceptable levels.	13.350	<.001
Rattlesnakes are an important component of South Dakota's assemblage of wildlife and should not be killed indiscriminately.	9.623	.002
In general, efforts should be made to reduce predator numbers to help increase the numbers of game animals for recent viewers.	0.096	.757

Appendix L – Table 6-A. Mean values for the significant variables in table 6 comparing people who have taken no trips for wildlife viewing with people who have taken trips for wildlife viewing.

Significant Variables	**No Viewing Trips**	**Viewing Trips**
I would support regulations to control commercial harvest and unregulated take of turtles, lizards, snakes, frogs and toads if information showed that their populations were declining to unacceptable levels.		
Mean	0.78	1.28
95% C.I.	0.59 – 0.97	1.09 – 1.47
Eta^2 / Percent Difference	.024	8%
Rattlesnakes are an important component of South Dakota's assemblage of wildlife and should not be killed indiscriminately.		
Mean	-0.33	0.18
95% C.I.	-0.55 – -0.11	-0.05 – 0.41
Eta^2 / Percent Difference	.017	9%

[1]Attitude Scale: -3=Strongly Disagree, -2=Moderately Disagree; -1=Slightly Disagree; 0=Neutral or No Opinion; +1 Slightly Agree; +2=Moderately Agree; +3=Strongly Agree

Appendix L – Table 7. Questions about climate change comparing people who have taken no trips for wildlife viewing with people who have taken trips for wildlife viewing.

Question/Variable	**ANOVA F-statistic**	***p*-value**
I believe that climate change is currently affecting South Dakota.	0.457	.499
I believe that climate change is a serious threat that requires changes in current life styles.	1.610	.205
I support regulations to reduce carbon emissions to address climate change.	2.921	.088
I don't believe that climate change will result in any negative impacts on wildlife populations in South Dakota	4.030	.045
Beliefs concerning the causes of climate change generally range from totally natural causes to totally human activities or some approximate combination of both. On this scale of 1 (all climate change is due to natural causes to 7 (all climate change is from human activities), please indicate your personal belief about the causes of climate change.	1.991	.159

Appendix L – Table 7-A. Mean values for the significant variables in table 7 comparing people who have taken no trips for wildlife viewing with people who have taken trips for wildlife viewing.

Significant Variables	**No Viewing Trips**	**Viewing Trips**
I don't believe that climate change will result in any negative impacts on wildlife populations in South Dakota		
Mean	-0.24	-0.55
95% C.I.	-0.44 – -0.03	-0.79 – -0.31
Eta^2 / Percent Difference	.007	5%

[1]Attitude Scale: -3=Strongly Disagree, -2=Moderately Disagree; -1=Slightly Disagree; 0=Neutral or No Opinion; +1 Slightly Agree; +2=Moderately Agree; +3=Strongly Agree

Appendix L – Table 8. Questions about energy development comparing people who have taken no trips for wildlife viewing with people who have taken trips for wildlife viewing.

Question/Variable	**ANOVA F-statistic**	***p*-value**
Wildlife impacts and grassland habitat loss should be considered when increasing biofuel production.	13.462	<.001
I support efforts to increase ethanol production in South Dakota.	0.023	.879
Negative impacts on wildlife should be considered when developing wind energy in South Dakota.	13.107	<.001
I think people worry too much about possible environmental problems associated with pipelines for transporting oil across South Dakota.	5.460	.020

Appendix L – Table 8-A. Mean values for the significant variables in table 8 comparing people who have taken no trips for wildlife viewing with people who have taken trips for wildlife viewing.[1]

Significant Variables	**No Viewing Trips**	**Viewing Trips**
Wildlife impacts and grassland habitat loss should be considered when increasing biofuel production.[1]		
Mean	1.02	1.48
95% C.I.	0.84 – 1.19	1.31 – 1.65
Eta^2 / Percent Difference	.024	8%
Negative impacts on wildlife should be considered when developing wind energy in South Dakota.[1]		
Mean	0.49	1.01
95% C.I.	0.31 – 0.68	0.80 – 1.22
Eta^2 / Percent Difference	.023	9%
I think people worry too much about possible environmental problems associated with pipelines for transporting oil across South Dakota.[1]		
Mean	0.48	0.06
95% C.I.	0.25 – 0.71	-0.22 – 0.33
Eta^2 / Percent Difference	.010	7%

[1]Attitude Scale: -3=Strongly Disagree, -2=Moderately Disagree; -1=Slightly Disagree; 0=Neutral or No Opinion; +1 Slightly Agree; +2=Moderately Agree; +3=Strongly Agree

Appendix L – Table 9. Respondents' ratings of the importance of wetland functions comparing people who have taken no trips for wildlife viewing with people who have taken trips for wildlife viewing.

Wetlands preform many functions: How important is…	**ANOVA F-statistic**	***p*-value**
… reducing flood events.	0.326	.568
… providing wildlife habitat.	28.259	<.001
… providing recreational opportunities.	4.827	.028
… providing clean water.	0.248	.619
… providing economic opportunity.	0.184	.668

Appendix L – Table 9-A. Mean values for the significant variables in table 9 comparing people who have taken no trips for wildlife viewing with people who have taken trips for wildlife viewing.

Significant Variables	**No Viewing Trips**	**Viewing Trips**
Wetland function…providing wildlife habitat[1]		
Mean	2.22	2.54
95% C.I.	2.13 – 2.30	2.46 – 2.62
Eta^2 / Percent Difference	.049	11%
Wetland function…providing recreational opportunities[1]		
Mean	1.94	2.10
95% C.I.	1.84 – 2.04	1.99 – 2.21
Eta^2 / Percent Difference	.009	5%

[1]Importance Scale: 0=Not Important, 1=Slightly Important; 2=Moderately Important; 3=Very Important

Appendix M. Wildlife and Environmental Attitudes: Tables comparing South Dakota adult citizens who have never taken any trips for the primary purpose of viewing wildlife OR have taken wildlife viewing trips in the past (Non-Viewers) with people who have taken wildlife viewing trips recently (sometime during the past two years) (Recent Viewers).

Appendix M – Table 1. General questions about fish and wildlife management in South Dakota comparing non-viewers and recent viewers.

Question/Variable	**ANOVA F-statistic**	***p*-value**
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?	34.216	<.001
How important do you think healthy fish and wildlife populations are to the economy and well-being of South Dakota residents?	12.887	<.001
How strongly do you disagree or agree with the following statement? The diversity of fish and wildlife in an area is a sign of the quality of the natural environment.	33.950	<.001
In general, how would you rate GFP's efforts to conserve and protect the diversity (variety) of fish and wildlife in South Dakota?	17.413	<.001
Compared to other places where you could consider living, how would you rate life in South Dakota?	0.713	.399
In general, how much does fish and wildlife detract or contribute to a high "quality of life" for you?	67.884	<.001

Appendix M – Table 1-A. Mean values for the significant variables in table 1 comparing non-viewers and recent viewers.

Significant Variables	**Non-viewers**	**Recent viewers**
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?[1]		
Mean	2.66	2.88
95% C.I.	2.62 – 2.71	2.83 – 2.92
Eta^2 / Percent Difference	.031	7%
How important do you think healthy fish and wildlife populations are to the economy and well-being of South Dakota residents?[1]		
Mean	2.73	2.85
95% C.I.	2.69 – 2.77	2.80 – 2.89
Eta^2 / Percent Difference	.012	4%
How strongly do you disagree or agree with the following statement? The diversity of fish and wildlife in an area is a sign of the quality of the natural environment.[2]		
Mean	1.98	2.40
95% C.I.	1.89 – 2.06	2.30 – 2.50
Eta^2 / Percent Difference	.031	7%
In general, how would you rate GFP's efforts to conserve and protect the diversity (variety) of fish and wildlife in South Dakota?[3]		
Mean	0.07	-0.20
95% C.I.	0.00 – 0.15	-0.30 – -0.09
Eta^2 / Percent Difference	.018	5%
In general, how much does fish and wildlife detract or contribute to a high "quality of life" for you?[4]		
Mean	1.69	2.27
95% C.I.	1.61 – 1.78	2.17 – 2.38
Eta^2 / Percent Difference	.061	10%

[1]Importance Scale: 0=Not Important, 1=Slightly Important; 2=Moderately Important; 3=Very Important

[2]Attitude Scale: -3=Strongly Disagree, -2=Moderately Disagree; -1=Slightly Disagree; 0=Neutral or No Opinion; +1 Slightly Agree; +2=Moderately Agree; +3=Strongly Agree

[3]Scale: -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

[4]Scale: -3=Detracts Greatly, -2=Detracts Moderately; -1=Detracts Slightly; 0=Neither; +1=Contributes Slightly; +2=Contributes Moderately; +3=Contributes Greatly

Appendix M – Table 2. Prairie ecosystem questions comparing non-viewers and recent viewers.

Question/Variable	**ANOVA F-statistic**	***p*-value**
Maintaining a native prairie ecosystem in South Dakota is important to me.	21.873	<.001
Prairie dogs are an important component of native ecosystems and need some degree of protection.	5.269	.022
Prairie dogs are a destructive agricultural pest that should be eliminated from South Dakota.	12.518	<.001
I support using some money from hunting license fees for projects designed to conserve and enhance native prairie ecosystems and their associated wildlife.	14.095	<.001
I am concerned about the accelerated conversion of native prairie habitat.	8.934	.003

Appendix M – Table 2-A. Mean values for the significant variables in table 2 comparing non-viewers and recent viewers.

Significant Variables	**Non-viewers**	**Recent viewers**
Maintaining a native prairie ecosystem in South Dakota is important to me.[1]		
Mean	1.59	2.12
95% C.I.	1.46 – 1.73	1.96 – 2.29
Eta^2 / Percent Difference	.039	9%
Prairie dogs are an important component of native ecosystems and need some degree of protection.[1]		
Mean	-0.05	0.31
95% C.I.	-0.23 – 0.12	0.04 – 0.58
Eta^2 / Percent Difference	.010	6%
Prairie dogs are a destructive agricultural pest that should be eliminated from South Dakota.[1]		
Mean	-0.23	-0.80
95% C.I.	-0.42 – -0.04	-1.06 – -0.54
Eta^2 / Percent Difference	.023	10%
I support using some money from hunting license fees for projects designed to conserve and enhance native prairie ecosystems and their associated wildlife.[1]		
Mean	1.05	1.56
95% C.I.	0.89 – 1.22	1.36 – 1.76
Eta^2 / Percent Difference	.025	9%
I am concerned about the accelerated conversion of native prairie habitat.[1]		
Mean	0.80	1.19
95% C.I.	0.65 – 0.95	0.98 – 1.41
Eta^2 / Percent Difference	.016	7%

[1]Attitude Scale: -3=Strongly Disagree, -2=Moderately Disagree; -1=Slightly Disagree; 0=Neutral or No Opinion; +1 Slightly Agree; +2=Moderately Agree; +3=Strongly Agree

Appendix M – Table 3. Questions about bats in South Dakota comparing non-viewers and recent viewers.

Question/Variable	**ANOVA F-statistic**	***p*-value**
Maintaining healthy populations and diversity of bat species in South Dakota is important to me.	8.554	.004
Bats pose an unacceptable health risk to people.	12.228	.001
Bats are important and should have some legal protection from harm.	11.365	.001
I would enjoy having bats living and feeding near my house.	23.386	<.001
I am concerned about the impact of diseases, such as white nose syndrome, on bat populations.	0.097	.756

Appendix M – Table 3-A. Mean values for the significant variables in table 3 comparing non-viewers and recent viewers.

Significant Variables	**Non-viewers**	**Recent viewers**
Maintaining healthy populations and diversity of bat species in South Dakota is important to me.[1]		
Mean	0.47	0.90
95% C.I.	0.29 – 0.64	0.66 – 1.14
Eta^2 / Percent Difference	.016	7%
Bats pose an unacceptable health risk to people.[1]		
Mean	-0.41	-0.95
95% C.I.	-0.59 – -0.23	-1.19 – -0.71
Eta^2 / Percent Difference	.022	9%
Bats are important and should have some legal protection from harm.[1]		
Mean	0.14	0.63
95% C.I.	-0.03 – 0.31	0.40 – 0.86
Eta^2 / Percent Difference	.021	8%
I would enjoy having bats living and feeding near my house.[1]		
Mean	-0.57	0.27
95% C.I.	-0.77 – -0.37	-0.01 – 0.55
Eta^2 / Percent Difference	.042	14%

[1]Attitude Scale: -3=Strongly Disagree, -2=Moderately Disagree; -1=Slightly Disagree; 0=Neutral or No Opinion; +1 Slightly Agree; +2=Moderately Agree; +3=Strongly Agree

Appendix M – Table 4. Questions about mountain lions in South Dakota comparing non-viewers and recent viewers.

Question/Variable	**ANOVA F-statistic**	***p*-value**
Having a healthy, viable population of mountain lions in S.D. is important to me.	19.062	<.001
I am concern about mountain lions killing too many game (Viewing Trips) animals.	1.801	.180
Having any mountain lions in South Dakota is too dangerous a risk to people.	33.048	<.001
Do you oppose or favor a regulated mountain lion season in South Dakota?	3.580	.059

Appendix M – Table 4-A. Mean values for the significant variables in table 4 comparing non-viewers and recent viewers.

Significant Variables	**Non-viewers**	**Recent viewers**
Having a healthy, viable population of mountain lions in S.D. is important to me.[1]		
Mean	-0.04	0.69
95% C.I.	-0.23 – 0.16	0.42 – 0.97
Eta^2 / Percent Difference	.034	12%
Having any mountain lions in South Dakota is too dangerous a risk to people.[1]		
Mean	-0.35	-1.32
95% C.I.	-0.56 – -0.14	-1.57 – -1.07
Eta^2 / Percent Difference	.057	16%

[1]Attitude Scale: -3=Strongly Disagree, -2=Moderately Disagree; -1=Slightly Disagree; 0=Neutral or No Opinion; +1 Slightly Agree; +2=Moderately Agree; +3=Strongly Agree

Appendix M – Table 5. Questions about rare non-game species vs. game animals/fish comparing non-viewers and recent viewers.

Question/Variable	**ANOVA F-statistic**	***p*-value**
I would be concerned about River Otters taking too many game fish if their populations were to increase.	9.703	.002
I would support releasing River Otters into suitable habitats in South Dakota.	7.214	.007
I support efforts by GFP to increase Osprey numbers in South Dakota.	8.253	.004
I would be concerned about Osprey taking too many game fish if their populations were to increase.	13.403	<.001
The Missouri River should not be managed for threatened or endangered species, such as terns and plovers, if it would in any way decrease game fish populations.	9.807	.002
In general, should wildlife management decisions favor game animals/fish OR rare wildlife species.	2.740	.098

Appendix M – Table 5-A. Mean values for the significant variables in table 5 comparing non-viewers and recent viewers.

Significant Variables	**Non-viewers**	**Recent viewers**
I would be concerned about River Otters taking too many game fish if their populations were to increase.[1]		
Mean	0.01	-0.40
95% C.I.	-0.13 – 0.14	-0.64 – -0.17
Eta^2 / Percent Difference	.018	7%
I would support releasing River Otters into suitable habitats in South Dakota.[1]		
Mean	0.40	0.76
95% C.I.	0.25 – 0.54	0.54 – 0.97
Eta^2 / Percent Difference	.013	6%
I support efforts by GFP to increase Osprey numbers in South Dakota.[1]		
Mean	0.57	0.96
95% C.I.	0.43 – 0.72	0.73 – 1.19
Eta^2 / Percent Difference	.015	7%
I would be concerned about Osprey taking too many game fish if their populations were to increase.[1]		
Mean	-0.12	-0.60
95% C.I.	-0.25 – 0.02	-0.83 – -0.37
Eta^2 / Percent Difference	.024	8%
The Missouri River should not be managed for threatened or endangered species, such as terns and plovers, if it would in any way decrease game fish populations.[1]		
Mean	0.07	-0.40
95% C.I.	-0.08 – 0.22	-0.67 – -0.13
Eta^2 / Percent Difference	.018	8%

[1]Attitude Scale: -3=Strongly Disagree, -2=Moderately Disagree; -1=Slightly Disagree; 0=Neutral or No Opinion; +1 Slightly Agree; +2=Moderately Agree; +3=Strongly Agree

[2] Scale: -3=Strongly Favor Game, -2=Moderately Favor Game; -1=Slightly Favor Game; 0=Balanced Approach; +1 Slightly Favor Rare Wildlife; +2=Moderately Favor Rare Wildlife; +3=Strongly Favor Rare Wildlife

Appendix M – Table 6. Miscellaneous wildlife management questions comparing non-viewers and recent viewers.

Question/Variable	**ANOVA F-statistic**	***p*-value**
I would support requirements to use non-toxic bullets for shooting prairie dogs to reduce lead poisoning of eagles, hawks and other wildlife.	4.536	.034
I am concerned about feral (wild), free ranging house cats killing native birds.	3.252	.072
I would support regulations to control commercial harvest and unregulated take of turtles, lizards, snakes, frogs and toads if information showed that their populations were declining to unacceptable levels.	8.829	.003
Rattlesnakes are an important component of South Dakota's assemblage of wildlife and should not be killed indiscriminately.	4.258	.040
In general, efforts should be made to reduce predator numbers to help increase the numbers of game animals for recent viewers.	0.887	.347

Appendix M – Table 6-A. Mean values for the significant variables in table 6 comparing non-viewers and recent viewers.

Significant Variables	**Non-viewers**	**Recent viewers**
I would support requirements to use non-toxic bullets for shooting prairie dogs to reduce lead poisoning of eagles, hawks and other wildlife.[1]		
Mean	0.77	0.39
95% C.I.	0.57 – 0.97	0.09 – 0.69
Eta^2 / Percent Difference	.008	6%
I would support regulations to control commercial harvest and unregulated take of turtles, lizards, snakes, frogs and toads if information showed that their populations were declining to unacceptable levels.[1]		
Mean	0.88	1.30
95% C.I.	0.71 – 1.04	1.07 – 1.54
Eta^2 / Percent Difference	.016	7%
Rattlesnakes are an important component of South Dakota's assemblage of wildlife and should not be killed indiscriminately.[1]		
Mean	-0.20	0.15
95% C.I.	-0.39 – 0.00	-0.13 – 0.43
Eta^2 / Percent Difference	.008	6%

[1]Attitude Scale: -3=Strongly Disagree, -2=Moderately Disagree; -1=Slightly Disagree; 0=Neutral or No Opinion; +1 Slightly Agree; +2=Moderately Agree; +3=Strongly Agree

Appendix M – Table 7. Questions about climate change comparing non-viewers and recent viewers.

Question/Variable	**ANOVA F-statistic**	***p*-value**
I believe that climate change is currently affecting South Dakota.	1.003	.317
I believe that climate change is a serious threat that requires changes in current life styles.	0.625	.430
I support regulations to reduce carbon emissions to address climate change.	0.000	.986
I don't believe that climate change will result in any negative impacts on wildlife populations in South Dakota	0.833	.362
Beliefs concerning the causes of climate change generally range from totally natural causes to totally human activities or some approximate combination of both. On this scale of 1 (all climate change is due to natural causes to 7 (all climate change is from human activities), please indicate your personal belief about the causes of climate change.	0.390	.533

Appendix M – Table 8. Questions about energy development comparing non-viewers and recent viewers.

Question/Variable	**ANOVA F-statistic**	***p*-value**
Wildlife impacts and grassland habitat loss should be considered when increasing biofuel production.	10.208	.001
I support efforts to increase ethanol production in South Dakota.	2.556	.110
Negative impacts on wildlife should be considered when developing wind energy in South Dakota.	10.209	.001
I think people worry too much about possible environmental problems associated with pipelines for transporting oil across South Dakota.	2.025	.155

Appendix M – Table 8-A. Mean values for the significant variables in table 8 comparing people who have taken no trips for wildlife viewing with people who have taken trips for wildlife viewing.[1]

Significant Variables	**Non-viewers**	**Recent viewers**
Wildlife impacts and grassland habitat loss should be considered when increasing biofuel production.[1]		
Mean	1.09	1.53
95% C.I.	0.94 – 1.25	1.33 – 1.74
Eta^2 / Percent Difference	.019	7%
Negative impacts on wildlife should be considered when developing wind energy in South Dakota.[1]		
Mean	0.58	1.07
95% C.I.	0.41 – 0.75	0.82 – 1.33
Eta^2 / Percent Difference	.018	8%

[1]Attitude Scale: -3=Strongly Disagree, -2=Moderately Disagree; -1=Slightly Disagree; 0=Neutral or No Opinion; +1 Slightly Agree; +2=Moderately Agree; +3=Strongly Agree

Appendix M – Table 9. Respondents' ratings of the importance of wetland functions comparing non-viewers and recent viewers.

Wetlands preform many functions: How important is…	**ANOVA F-statistic**	***p*-value**
… reducing flood events.	0.189	.664
… providing wildlife habitat.	18.545	<.001
… providing recreational opportunities.	5.285	.022
… providing clean water.	0.287	.593
… providing economic opportunity.	0.862	.353

Appendix M – Table 9-A. Mean values for the significant variables in table 9 comparing non-viewers and recent viewers.

Significant Variables	**Non-viewers**	**Recent viewers**
Wetland function…providing wildlife habitat[1]		
Mean	2.28	2.56
95% C.I.	2.20 – 2.35	2.47 – 2/66
Eta^2 / Percent Difference	.033	9%
Wetland function…providing recreational opportunities[1]		
Mean	1.96	2.15
95% C.I.	1.87 – 2.05	2.01 – 2.28
Eta^2 / Percent Difference	.010	6%

[1]Importance Scale: 0=Not Important, 1=Slightly Important; 2=Moderately Important; 3=Very Important

Appendix N. Wildlife and Environmental Attitudes: Tables comparing South Dakota past viewers (defined as some who has taken wildlife viewing trips, but not during the past two years) with recent viewers (defined as sometime during the past two years).

Appendix N – Table 1. General questions about fish and wildlife management in South Dakota comparing past viewers and recent viewers.

Question/Variable	**ANOVA F-statistic**	***p*-value**
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?	2.165	.142
How important do you think healthy fish and wildlife populations are to the economy and well-being of South Dakota residents?	0.791	.374
How strongly do you disagree or agree with the following statement? The diversity of fish and wildlife in an area is a sign of the quality of the natural environment.	4.976	.026
In general, how would you rate GFP's efforts to conserve and protect the diversity (variety) of fish and wildlife in South Dakota?	4.029	.045
Compared to other places where you could consider living, how would you rate life in South Dakota?	1.424	.233
In general, how much does fish and wildlife detract or contribute to a high "quality of life" for you?	10.628	.001

Appendix N – Table 1-A. Mean values for the significant variables in table 1 comparing past viewers and recent viewers.

Significant Variables	**Past Viewers**	**Recent Viewers**
How strongly do you disagree or agree with the following statement? The diversity of fish and wildlife in an area is a sign of the quality of the natural environment.[1]		
Mean	2.19	2.40
95% C.I.	2.03 – 2.35	2.30 – 2.50
Eta^2 / Percent Difference	.009	4%
In general, how would <u>you</u> rate GFP's efforts to conserve and protect the diversity (variety) of fish and wildlife in South Dakota?[2]		
Mean	0.00	-0.20
95% C.I.	-0.16 – 0.16	-0.30 – -0.09
Eta^2 / Percent Difference	.008	3%
In general, how much does fish and wildlife detract or contribute to a high "quality of life" for you?[3]		
Mean	1.96	2.27
95% C.I.	1.81 – 2.11	2.17 – 2.38
Eta^2 / Percent Difference	.020	5%

[1]Attitude Scale: -3=Strongly Disagree, -2=Moderately Disagree; -1=Slightly Disagree; 0=Neutral or No Opinion; +1 Slightly Agree; +2=Moderately Agree; +3=Strongly Agree

[2]Scale: -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

[3]Scale: -3=Detracts Greatly, -2=Detracts Moderately; -1=Detracts Slightly; 0=Neither; +1=Contributes Slightly; +2=Contributes Moderately; +3=Contributes Greatly

Appendix N – Table 2. Prairie ecosystem questions comparing past viewers and recent viewers.

Question/Variable	**ANOVA F-statistic**	***p*-value**
Maintaining a native prairie ecosystem in South Dakota is important to me.	6.056	.014
Prairie dogs are an important component of native ecosystems and need some degree of protection.	0.387	.534
Prairie dogs are a destructive agricultural pest that should be eliminated from South Dakota.	0.759	.384
I support using some money from hunting license fees for projects designed to conserve and enhance native prairie ecosystems and their associated wildlife.	4.132	.043
I am concerned about the accelerated conversion of native prairie habitat.	1.844	.176

Appendix N – Table 2-A. Mean values for the significant variables in table 2 comparing past viewers and recent viewers.

Significant Variables	**Past Viewers**	**Recent Viewers**
Maintaining a native prairie ecosystem in South Dakota is important to me.[1]		
Mean	1.73	2.12
95% C.I.	1.44 – 2.01	1.96 – 2.29
Eta^2 / Percent Difference	.022	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]		
Mean	1.16	1.56
95% C.I.	0.79 – 1.52	1.36 – 1.76
Eta^2 / Percent Difference	.015	7%

[1]Attitude Scale: -3=Strongly Disagree, -2=Moderately Disagree; -1=Slightly Disagree; 0=Neutral or No Opinion; +1 Slightly Agree; +2=Moderately Agree; +3=Strongly Agree

Appendix N – Table 3. Questions about bats in South Dakota comparing past viewers and recent viewers.

Question/Variable	**ANOVA F-statistic**	***p*-value**
Maintaining healthy populations and diversity of bat species in South Dakota is important to me.	1.881	.171
Bats pose an unacceptable health risk to people.	3.283	.071
Bats are important and should have some legal protection from harm.	0.337	.562
I would enjoy having bats living and feeding near my house.	9.102	.003
I am concerned about the impact of diseases, such as white nose syndrome, on bat populations.	0.013	.908

Appendix N – Table 3-A. Mean values for the significant variables in table 3 comparing past viewers and recent viewers.

Significant Variables	**Past Viewers**	**Recent Viewers**
I would enjoy having bats living and feeding near my house.[1]		
Mean	-0.54	0.27
95% C.I.	-0.99 – -0.09	-0.01 – 0.55
Eta^2 / Percent Difference	.033	14%

[1]Attitude Scale: -3=Strongly Disagree, -2=Moderately Disagree; -1=Slightly Disagree; 0=Neutral or No Opinion; +1 Slightly Agree; +2=Moderately Agree; +3=Strongly Agree

Appendix N – Table 4. Questions about mountain lions in South Dakota comparing past viewers and recent viewers.

Question/Variable	**ANOVA F-statistic**	***p*-value**
Having a healthy, viable population of mountain lions in S.D. is important to me.	2.119	.147
I am concern about mountain lions killing too many game (Viewing Trips) animals.	0.444	.506
Having any mountain lions in South Dakota is too dangerous a risk to people.	7.296	.007
Do you oppose or favor a regulated mountain lion season in South Dakota?	1.325	.251

Appendix N – Table 4-A. Mean values for the significant variables in table 4 comparing past viewers and recent viewers.

Significant Variables	**Past Viewers**	**Recent Viewers**
Having any mountain lions in South Dakota is too dangerous a risk to people.[1]		
Mean	-0.66	-1.32
95% C.I.	-1.11 – -0.22	-1.57 – -1.07
Eta^2 / Percent Difference	.026	11%

[1]Attitude Scale: -3=Strongly Disagree, -2=Moderately Disagree; -1=Slightly Disagree; 0=Neutral or No Opinion; +1 Slightly Agree; +2=Moderately Agree; +3=Strongly Agree

Appendix N – Table 5. Questions about rare non-game species vs. game animals/fish comparing past viewers and recent viewers.

Question/Variable	**ANOVA F-statistic**	***p*-value**
I would be concerned about River Otters taking too many game fish if their populations were to increase.	3.119	.079
I would support releasing River Otters into suitable habitats in South Dakota.	<0.001	.988
I support efforts by GFP to increase Osprey numbers in South Dakota.	0.405	.525
I would be concerned about Osprey taking too many game fish if their populations were to increase.	5.310	.022
The Missouri River should not be managed for threatened or endangered species, such as terns and plovers, if it would in any way decrease game fish populations.	3.995	.047
In general, should wildlife management decisions favor game animals/fish OR rare wildlife species.	0.000	1.000

Appendix N – Table 5-A. Mean values for the significant variables in table 5 comparing past viewers and recent viewers.

Significant Variables	**Past Viewers**	**Recent Viewers**
I would be concerned about Osprey taking too many game fish if their populations were to increase.[1]		
Mean	-0.14	-0.60
95% C.I.	-0.44 – 0.15	-0.83 – -0.37
Eta^2 / Percent Difference	.021	8%
The Missouri River should not be managed for threatened or endangered species, such as terns and plovers, if it would in any way decrease game fish populations.[1]		
Mean	0.06	-0.40
95% C.I.	-0.29 –0.41	-0.67 – -0.13
Eta^2 / Percent Difference	.016	8%

[1]Attitude Scale: -3=Strongly Disagree, -2=Moderately Disagree; -1=Slightly Disagree; 0=Neutral or No Opinion; +1 Slightly Agree; +2=Moderately Agree; +3=Strongly Agree

Appendix N – Table 6. Miscellaneous wildlife management questions comparing past viewers and recent viewers.

Question/Variable	**ANOVA F-statistic**	***p*-value**
I would support requirements to use non-toxic bullets for shooting prairie dogs to reduce lead poisoning of eagles, hawks and other wildlife.	2.567	.110
I am concerned about feral (wild), free ranging house cats killing native birds.	0.743	.389
I would support regulations to control commercial harvest and unregulated take of turtles, lizards, snakes, frogs and toads if information showed that their populations were declining to unacceptable levels.	0.144	.705
Rattlesnakes are an important component of South Dakota's assemblage of wildlife and should not be killed indiscriminately.	0.117	.733
In general, efforts should be made to reduce predator numbers to help increase the numbers of game animals for recent viewers.	2.773	.097

Appendix N – Table 7. Questions about climate change comparing past viewers and recent viewers.

Question/Variable	**ANOVA F-statistic**	***p*-value**
I believe that climate change is currently affecting South Dakota.	4.421	.037
I believe that climate change is a serious threat that requires changes in current life styles.	5.719	.018
I support regulations to reduce carbon emissions to address climate change.	3.183	.076
I don't believe that climate change will result in any negative impacts on wildlife populations in South Dakota	0.532	.466
Beliefs concerning the causes of climate change generally range from totally natural causes to totally human activities or some approximate combination of both. On this scale of 1 (all climate change is due to natural causes to 7 (all climate change is from human activities), please indicate your personal belief about the causes of climate change.	0.316	.575

Appendix N – Table 7-A. Mean values for the significant variables in table 7 comparing past viewers and recent viewers.

Significant Variables	**Past Viewers**	**Recent Viewers**
I believe that climate change is currently affecting South Dakota.[1]		
Mean	0.82	0.29
95% C.I.	0.45 – 1.19	-0.01 – 0.59
Eta^2 / Percent Difference	.018	9%
I believe that climate change is a serious threat that requires changes in current life styles.[1]		
Mean	0.76	0.12
95% C.I.	0.36 – 1.17	-0.20 – 0.44
Eta^2 / Percent Difference	.023	11%

[1]Attitude Scale: -3=Strongly Disagree, -2=Moderately Disagree; -1=Slightly Disagree; 0=Neutral or No Opinion; +1 Slightly Agree; +2=Moderately Agree; +3=Strongly Agree

Appendix N – Table 8. Questions about energy development comparing past viewers and recent viewers.

Question/Variable	**ANOVA F-statistic**	***p*-value**
Wildlife impacts and grassland habitat loss should be considered when increasing biofuel production.	0.752	.387
I support efforts to increase ethanol production in South Dakota.	4.397	.037
Negative impacts on wildlife should be considered when developing wind energy in South Dakota.	0.722	.396
I think people worry too much about possible environmental problems associated with pipelines for transporting oil across South Dakota.	0.121	.728

Appendix N – Table 8-A. Mean values for the significant variables in table 8 comparing past viewers and recent viewers.

Significant Variables	**Past Viewers**	**Recent Viewers**
I support efforts to increase ethanol production in South Dakota.[1]		
Mean	0.98	0.45
95% C.I.	0.61 – 1.35	0.16 – 0.75
Eta^2 / Percent Difference	.017	9%

[1]Attitude Scale: -3=Strongly Disagree, -2=Moderately Disagree; -1=Slightly Disagree; 0=Neutral or No Opinion; +1 Slightly Agree; +2=Moderately Agree; +3=Strongly Agree

Appendix N – Table 9. Respondents' ratings of the importance of wetland functions comparing past viewers and recent viewers.

Wetlands preform many functions: How important is…	**ANOVA F-statistic**	***p*-value**
… reducing flood events.	1.448	.230
… providing wildlife habitat.	0.651	.421
… providing recreational opportunities.	1.050	.306
… providing clean water.	0.061	.805
… providing economic opportunity.	0.794	.373