March 30, 2017

Economic Impact of Hunting, Fishing, Trapping, Boating, and Wildlife Viewing in South Dakota

Produced for:

South Dakota Game, Fish, and Parks

SOUTHWICK ASSOCIATES

PO Box 6435 ■ Fernandina Beach, FL 32035 ■ Office (904) 277-9765

Executive Summary

South Dakota Game, Fish and Parks commissioned this study to estimate the regional and statewide economic activity generated by the State's fish, wildlife and boating-related resources. Drawing from license sales records and survey-based data sources, this report presents economic contributions based on retail spending in South Dakota attributable to recreational fishing, hunting, wildlife viewing, boating and trapping. The study also quantifies the total economic contributions for each region and presents results for selected species to estimate their individual share of the total economic contributions. Results report the economic impacts that occurred over a 12-month period starting October 2015 through September, 2016.

With hundreds of thousands of participants, South Dakota hosts 8.9 million days of fish, wildlife and boating-related activity annually (Table E-1). Significant dollars are spent in support of these activities, including $271.3 million by anglers, $682.8 million by hunters, $51.7 million by wildlife viewers, and $1.6 million and $86.0 million by trappers and boaters, respectively. Altogether, the State's fish, wildlife and boating resources generate over $1 billion in retail sales annually. Non-residents contribute a sizeable percentage of these dollars, $294.4 million or 27% of the state's total fish, wildlife and boating-related spending, which is an important source of new dollars for the South Dakota economy.

Table ES 1. Annual participation and spending by resident and nonresident anglers, hunters, wildlife viewers, boaters and trappers in South Dakota

Activity	Participants	Days	Spending
Fishing	215,173	3,258,635	$ 271,313,012
Hunting	215,793	2,471,499	$ 682,765,532
Trapping	3,233	61,427	$ 1,638,368
Wildlife - watching	173,825	2,596,817	$ 51,727,124
Boating	58,972	476,154	$ 85,961,195
Total	**na**	**8,872,843**	**$ 1,093,405,231**

The expenditures stimulate significant economic effects for the South Dakota economy, supporting 13,380 full- and part-time jobs that provide $428.7 million in salaries, wages and small business earnings (Table E2). These effects collectively contribute $697.7 million to the state's economic growth (gross domestic product) and add $69.5 million in state and local tax revenue. The impacts for each major activity are presented in Table E-3. Table E-4 highlights the economic activity stimulated by non-resident visitors who enjoy South Dakota's fish, wildlife and boating resources.

Table ES 2. Direct, multiplier, and total contributions from fish, wildlife and boating recreation in South Dakota

Total Effect	Employment	Labor Income	State GDP (Value Added)	Tax Revenues: Federal	Tax Revenues: State & Local
Direct Effect	9,484	$265,862,688	$406,938,487	$60,285,858	$47,436,432
Multiplier Effect	3,896	$162,801,204	$290,787,106	$40,513,784	$22,021,274
Total Effect	13,380	$428,663,892	$697,725,593	$100,799,642	$69,457,706

Table E-3. Annual contributions from fish, wildlife and boating recreation in South Dakota by residents and nonresidents combined

	Jobs	Labor Income	State GDP (Value Added)	Tax Revenues	
				Federal	State & Local
Fishing	3,032	$97,843,140	$158,450,207	$22,999,033	$17,013,931
Hunting	9,012	$283,386,680	$463,570,801	$66,771,005	$43,730,735
Big game	*2,659*	*$86,931,549*	*$144,381,709*	*$20,679,267*	*$13,261,778*
Small game	*1,164*	*$36,861,116*	*$60,431,296*	*$8,691,590*	*$5,682,024*
Migratory birds	*1,059*	*$34,098,280*	*$56,367,635*	*$8,069,553*	*$5,156,372*
Pheasants	*4,130*	*$125,495,735*	*$202,390,161*	*$29,330,595*	*$19,630,561*
Wildlife Viewing	636	$20,472,223	$31,738,968	$4,616,455	$3,214,431
Trapping	15	$540,141	$919,930	$130,114	$81,072
Boating	685	$26,421,708	$43,045,687	$6,283,035	$5,417,537
Total, all activities combined	**13,380**	**$428,663,892**	**$697,725,593**	**$100,799,642**	**$69,457,706**

Note: Values reflect total economic effect which includes both direct and multiplier effects. Economic effects per outdoor recreationalist are included in Appendix E.

Table E-4. Fish, wildlife and boating-related economic impacts by nonresidents in South Dakota

	Jobs	Labor Income	State GDP (Value Added)	Tax Revenues	
				Federal	State & Local
Fishing	943	$28,585,871	$44,463,769	$6,493,553	$4,523,828
Hunting	4,265	$129,499,649	$209,879,782	$30,322,700	$19,996,174
Big game	*752*	*$24,247,282*	*$40,750,908*	*$5,784,394*	*$3,531,964*
Small game	*448*	*$13,822,161*	*$22,479,005*	*$3,235,235*	*$2,115,980*
Migratory birds	*414*	*$13,098,039*	*$21,542,273*	*$3,088,069*	*$1,953,563*
Pheasants	*2,662*	*$78,603,347*	*$125,427,674*	*$18,269,068*	*$12,433,091*
Wildlife Viewing	255	$7,857,263	$12,195,981	$1,780,436	$1,227,218
Trapping	na	na	na	na	na
Boating	61	$1,858,588	$3,103,171	$446,444	$305,341
Total, all activities combined	**5,524**	**$167,801,371**	**$269,642,703**	**$39,043,133**	**$26,052,561**

Note: Values reflect total economic effect which includes both direct and multiplier effects. Economic effects per outdoor recreationalist are included in Appendix E.

Overall, fish, wildlife and boating-based activities generate high-levels of economic activity in South Dakota, which compares favorably to other major economic activities. For example, the number of jobs supported are three times greater than the total employees of Ellsworth Air Force Base, one of South Dakota's top three employers, or four times greater than Citibank South Dakota.[1] Finally, the total income generated by people experiencing the state's fish, wildlife and boating resources is equivalent to the total value of the state's annual wheat harvest.[2] With effective management and adequate support, the State's fish, wildlife and boating resources will continue to provide valuable economic benefits to South Dakota.

[1] www.careerinfonet.org

[2] USDA National Agriculture Statistics Service. www.nass.usda.gov.

Table of Contents

Introduction 1

Methodology 1

Survey Design and Implementation 1
Sampling 3
Data Cleaning, Response Rate, Weighting 4
Analysis and Economic Modeling 4
Effort 5
Equipment Expenses 5
Trip Expenses 5
Economic Modeling 6

Findings 8

Hunting 8
Effort 8
Trip and Equipment Expenses 9
Economic Effect 11
Trapping 14
Effort 14
Trip and Equipment Expenses 15
Economic Effect 16
Fishing 18
Effort 18
Trip and Equipment Expenses 19
Economic Effect 20
Effort 22
Trip and Equipment Expenses 23
Economic Effect 24
Wildlife Viewers 24
Effort 24
Trip and Equipment Expenses 25
Economic Effect 27

Appendices 29

Appendix A: Online Survey Questionnaire 30
Appendix B: Mail Survey Questionnaire –Cover Letters and Postcards Sent to Sportsmen Receiving Mail Surveys 51
Appendix C: Mail Survey Questionnaire – Hunting, Wildlife Viewing and Boating 56
Appendix D: Mail Survey Questionnaire – Fishing, Wildlife Viewing and Boating 61
Appendix E: Economic Contributions per Hunter, Angler, Trapper, Boater, and Wildlife Viewer 66

List of Tables

Table 1. Species targeted by hunters 8
Table 2. Hunting days by species, region, and residency 8
Table 3. Total days hunting by species and residency 9
Table 4. Hunter participation in other outdoor activities in South Dakota during the past year 9
Table 5. Hunting: Equipment related spending profiles by residency 10
Table 6. Hunting: Trip-related spending profiles by residency 10
Table 7. Hunter's direct spending in South Dakota by region and residency 11
Table 8. Hunter direct spending in South Dakota by region, species, and residency 12
Table 9. Economic effects of hunting in South Dakota by residency 13
Table 10. Trapping days by region 14
Table 11. Participation in other outdoor activities in South Dakota by trappers during the past year 14
Table 12. Trapping: Equipment related spending profiles by residency 15
Table 13. Trapping: Trip-related spending profiles by residency 16
Table 14. Trapper direct spending in South Dakota by region 16
Table 15. Economic effects of trapping in South Dakota 17
Table 16. Angler days by region and residency 18
Table 17. Participation in other outdoor activities in South Dakota by anglers during the past year 18
Table 18. Fishing: Equipment related spending profiles by residency 19
Table 19. Fishing: Trip-related spending profiles by residency 20
Table 20. Angler direct spending in South Dakota by region and residency 20
Table 21. Economic effects of angling in South Dakota by residency 21
Table 22. Total boaters and days by residency and activity 22
Table 23. Average number of days boating by residency 22
Table 24. Participation in other outdoor activities in South Dakota by boaters during the past year 23
Table 25. Boating: Equipment related spending profiles by residency 23
Table 26. Boating: Trip-related spending profiles by residency 24
Table 27. Boater direct spending in South Dakota by residency 24
Table 28. Economic effects of hunting in South Dakota by residency 24
Table 29. Total away from home wildlife viewer and days by region and residency 25
Table 30. Participation in other outdoor activities in South Dakota by wildlife viewers during the past year 25
Table 31. Away from Home Wildlife Viewing: Equipment related spending profiles by residency 26
Table 32. Away from home Wildlife Viewing: Trip-related spending profiles by residency 26
Table 33. Away from Home Wildlife Viewing: Direct spending in South Dakota by region and residency 27
Table 34. Economic Effects of Away from Home Wildlife Viewing in South Dakota by residency 28

List of Figures

Figure 1. Regions of interest for hunting, trapping and wildlife viewing 3
Figure 2. Regions of interest for boating and fishing (two regions: Missouri river and everywhere else). 3

Introduction

The South Dakota Department of Game, Fish and Parks (Department) engaged Southwick Associates to estimate the economic returns from public participation in outdoor activities within the state. Outdoor activities of interest include hunting, fishing, trapping, pleasure boating and wildlife viewing. The research reported herein was designed to produce statewide and regional estimates for each activity, using data collected from surveys of South Dakota residents and nonresidents. Individuals surveyed were identified from the Department's database of licensed sportsmen and women, and results were then applied to the broader population of participants.

The next section of this report describes data collection and analysis methods used for this effort. Research results then follow. The study findings are organized by activity, and within each activity, the estimated days of effort, equipment and trip expenses are reported, followed by economic contribution estimates. The report concludes with a discussion of the findings.

Methodology

This section presents the data collection methods, data preparation and analytical steps. The details include a description of the survey design, sampling frame and survey implementation. Data preparation provides an understanding of data cleaning and weighting procedures used to help ensure the results are representative of the population of interest. Lastly, this section provides a description of the analyses procedures used for developing estimates of effort and economic returns for each activity investigated.

Survey Design and Implementation

The data needed for estimating economic returns of leisure activities such as hunting, fishing, trapping, boating and wildlife viewing are not available in any database. This research required collecting information directly from participants. Data were collected using an online questionnaire, a copy of which is provided in Appendix A, along with mail surveys, as presented in appendices B, C, & D. The combined approach allowed contact with greater numbers of people at a lower cost than exclusively relying on a mail survey. The survey formats and logic were the same across the surveys to allow data from all three to be combined into one data set for unified analysis.

The surveys collected information on people's participation in five activities within South Dakota for a one-year period:

- hunting
- fishing
- trapping
- pleasure boating
- wildlife watching

Hunters were directed to provide additional information for species or wildlife groups targeted during their trips. These included deer, other big game, pheasant, other small game, and migratory birds.

For each activity, the survey contained questions asking for the number of days a respondent participated, estimated equipment costs, and estimated trip costs. Because one goal of this research was to develop estimates of economic returns by region, survey questions asked respondents to provide regional estimates of the number of days spent pursuing each activity by region. Respondents were permitted to report participation in more than one activity, and could report participation in more than one activity.

Regions were defined by Game, Fish and Parks. Table 1 and Figure 1 identify the regions for each activity. Figures A and B depict the regions graphically.

The questionnaires concluded with demographic questions, such as year of birth, education and household income.

Residents and nonresidents received the same survey. The online survey was implemented between October 21 and November 7, 2016 using a SurveyGizmo software hosted on Southwick Associates' in-house servers. The mail survey was implemented with a pre-survey postcard September 9th followed by the initial survey mailing on September 19th. One week later, a follow-up postcard was mailed and on October 3rd the second survey with cover letter was mailed to those who had not yet responded.

Table 1. Regions identified for outdoor activities in South Dakota

	Region				
Activity	Black Hills	West River	East River	Missouri River	Elsewhere
Hunting					
Deer	✓	✓	✓		
Other Big Game	✓	✓	✓		
Pheasant		✓	✓		
Other Small Game	✓	✓	✓		
Migratory Birds	✓	✓	✓		
Trapping	✓	✓	✓		
Fishing				✓	✓
Boating				✓	✓
Viewing Wildlife	✓	✓	✓	✓	

Figure 1. Regions of interest for hunting, trapping and wildlife viewing
(Black Hills, West River, East River and for wildlife-viewing only, Missouri River)

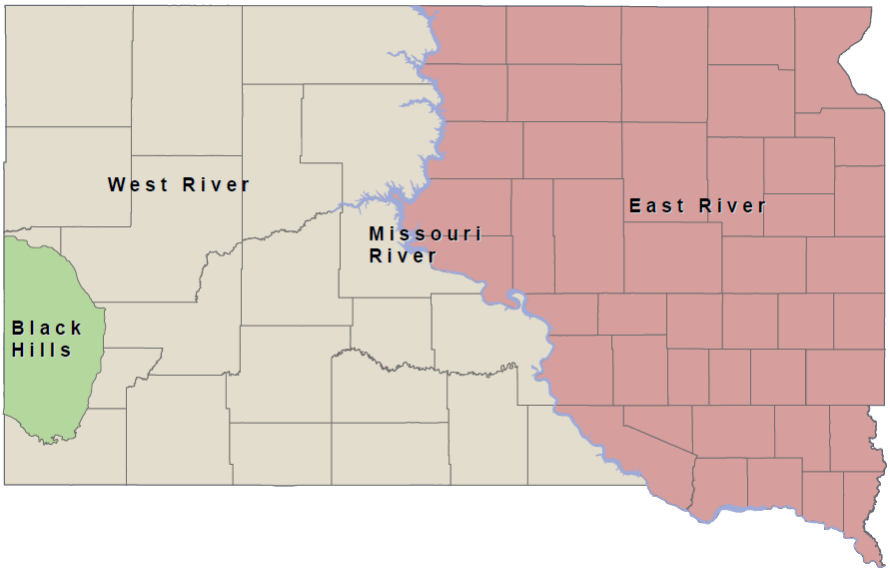
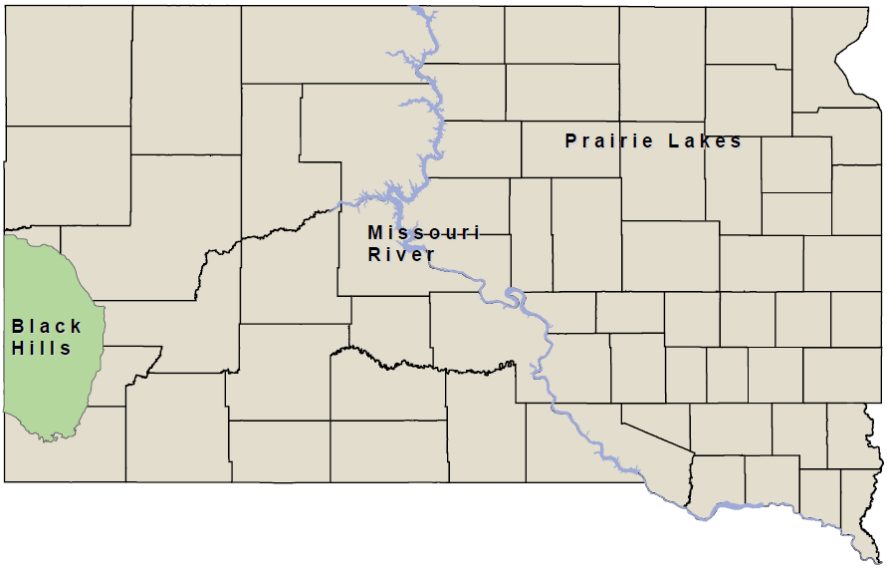


Figure 2. Regions of interest for boating and fishing
(two regions: Missouri river and 'Everywhere Else'. Black Hills is not a region).



Sampling

A random sample of resident and nonresident hunters, anglers and trappers was drawn from South Dakota's license database. License records from the sample were profiled by gender, age, privileges purchased and county of residence, and compared to the population of licenses. This procedure was repeated until comparison of the general profile of the sample was representative of the general profile of all sportsmen and women.

Given wildlife viewers do not need a license, and the number of boat users who do not own their own boat, it was not possible to sample each of these groups. Therefore, the average expenditure for these

users was determined by asking hunters and anglers about their boating and wildlife viewing expenditures and activity. The number of boaters was determined using the U.S. Coast Guard estimate of registered boats, assuming one boat equals one boater, which results in a conservative and defensible estimate. For wildlife viewers, participants were estimated using a ratio of viewers to hunters as reported by the 2011 National Survey of Fishing, Hunting and Wildlife-Associated Recreation (USFWS), and applying this ratio to the number of licensed hunters reported by the GFP.

Surveys were distributed in three rounds of mailing, both for the mail and online surveys. In total, 9,321 completed surveys were collected online plus 2,565 partials from a total of 72,129 sent for a 16.5% response rate. From the mail survey, 281 surveys were collected from a total of 1,000 sent (56% of the sample received the angling-focused survey and 46% received the hunting-focused survey), for a 28.1% response rate.

Data Cleaning, Response Rate, Weighting

Data were analyzed using PASW Statistics 18, Release 18.0. Data cleaning steps helped identify and remove outliers (values outside of reasonable ranges). The final dataset of hunters, anglers and trappers includes 9,602 records aged 18 years or older. Of those, 35% are South Dakota residents and 65% are nonresidents.

Statistical tests were conducted on the samples to ensure representativeness. Comparisons of the mail survey responses to the online survey responses for key questions did not identify any statistically significant differences. With the lower response rate to the online survey, we conducted limited tests for nonresponse bias. The online survey was conducted over a period of twenty days (October 21 through November 9) and included an initial invitation and two follow-up reminders. We compared the 730 responses received on the first day of the survey to the 423 responses received over the final three days and found no statistically significant differences on the key questions.

Because not all license holders reported an email address, the survey data were weighted such that results represent the distribution of all licensed hunters, anglers, and trappers based on the demographics of the full population of fishing, hunting and trapping licenses and avidity as reported by the 2011 National Survey of Fishing, Hunting and Wildlife-Associated Recreation (USFWS). For boaters, the data were weighted based on boat length and whether the respondents reported fishing or not. The boating weights were benchmarked to registered boats across 15 states who participate in the Recreational Boating and Fishing Foundation's Boat Registration Marketing Program. All results reported within this report are based on weighted data.

Analysis and Economic Modeling

This section describes the procedures used to develop statewide and regional estimates of effort (in days); per person equipment and trip costs; total equipment and trip costs for the state; and economic contributions to the state.

Effort

For this project, effort is measured in days and was reported by survey respondents for each region in which the respondent participated in an activity.

Within each activity — hunting, trapping, fishing, boating and wildlife viewing — the average effort per person is computed as the average number of days reported for that activity across all respondents. Per person effort is computed for residents and nonresidents statewide and within each region of interest.

The total effort reflects the estimated number of days all participants contributed to an activity throughout the whole state. It is calculated as the product of the per-person average and the number of people engaged in an activity. For example, suppose the average number of days spent fishing over the course of a year is five days per person. If there are 10,000 licensed anglers during that year, we would estimate the total effort to be 10,000 x 5 days, or 50,000 days of effort for the year.

Effort is reported statewide and by region for each activity. For hunting and trapping, the regions include Black Hills, West River and East River. For fishing and boating, the regions are Missouri River and Elsewhere (anywhere in the state other than the Missouri River). Finally, wildlife viewing effort is presented for four separate regions: Black Hills, West River, East River and Missouri River.

Equipment Expenses

Equipment expenses reflect purchases that occurred in South Dakota during the past year for equipment that is used primarily for hunting, fishing, trapping, boating or wildlife viewing. Reported costs include amounts spent for children in the home who are under 18 years of age. Equipment expenses are reported first as estimated average expenses per person, and second, as an estimated total for the population of participants (e.g., for resident hunters, nonresident hunters, resident anglers, nonresident anglers, etc.). Per person and total estimates are computed in the same manner described above for effort.

Equipment expenses are reported by region (Black Hills, West River and East River Regions) for each activity. Equipment purchased by residents are assumed to have occurred within the region of residence (Black Hills, West River or East River) as determined by the survey respondent's ZIP code. Nonresident equipment purchases reported to occur within South Dakota were distributed between the three based upon the distribution of general merchandise sales as reported by the South Dakota Department of Revenue. As a result, regardless of where nonresidents participated in activities within South Dakota, most equipment expenses are assumed to occur within the East River Region. For hunters, equipment expenditures were allocated to specific species based on the reported days of hunting for each species or species group.

Trip Expenses

Trip expenses include purchases that occurred within South Dakota and are consumable: that is, the items purchased are not lasting and are used up during a trip. Typical trip-related expenses are food and drink, lodging, fuel and transportation costs, guide fees, etc. The questionnaire solicited typical trip-related costs for hunting, fishing, trapping, boating and wildlife viewing trips that occurred within the state during the past 12 months. Respondents were asked

to report typical trip-related costs associated with a particular activity (fishing, hunting, trapping, wildlife viewing or boating). Hunters were asked to report typical expenses associated with trips for a specific species or species group.

Trip expenses are reported as estimated average expenses per person, as well as an estimated total for the population of participants (e.g., for resident hunters, nonresident hunters, resident anglers, nonresident anglers, etc.). Trip expenses are computed in the same manner that per person and total effort and equipment expenses are calculated, as described earlier.

The regions used for trip costs are the same as those regions used for effort. Trip costs reported by hunters are further divided by the type of wildlife targeted (deer, other big game, pheasant, other small game, or migratory birds). For fishing and boating, trip costs are also reported statewide, but the regions used for these activities include Missouri River and elsewhere (anywhere in the state other than the Missouri River). Costs for wildlife viewing trips are reported statewide and by four separate regions — Black Hills, West River, East River, Missouri River.

For trip-related spending, it was assumed that one half of grocery and fuel purchases occurred within a person's region of residence, and one half occurred within the region(s) that trips occurred. Thus, one half of reported costs for groceries and fuel was assigned to the region of residence, which was determined based on the respondent's license address. Remaining trip expenses are assumed to occur in the region where the activity occurred.

Economic Modeling

Participants' direct spending cycles through the state and regional economies generating additional rounds of spending by businesses that provide supporting services and goods. This is known as the multiplier effect and includes indirect contributions arising from additional spending within businesses supporting those businesses frequented by participants' as well as induced contributions which result from household spending by employees of affected businesses. The total economic contributions reflect the collective effect of the direct retail spending as well as the indirect and the induced effect. It is important to mention that findings explored within the body of the report focus on the total economic contribution, or the collective effect of both direct spending and multiplier contributions.

All economic contributions in this study were estimated with the latest statewide model data available from Implan© (2015) with inflation adjustments to reflect 2016 spending. The results, therefore, reflect statewide impacts and economic contributions regardless of where the direct spending occurred.

Four types of economic activity are measured and reported for each activity and target species:

- *Employment*: The number of full- and part-time jobs created or supported as a result of the economic activity.
- *Labor income*: Total payroll, including salaries, wages and benefits paid to employees and business proprietors
- *State GDP:* This represents the total (Value Added) contribution of economic output made by the industries impacted by state park visitation.
- *Tax Revenue*: All local, state, and federal taxes paid by individuals and businesses.

The economic contributions from outdoor recreation, both direct effects and total effects, were estimated with an IMPLAN input-output model built simulating the South Dakota economy. IMPLAN was developed by MIG, Inc. originally for use by the U.S. Forest Service. Inherent in each IMPLAN model is the relationship between the economic output of each industry (i.e. sales) and the jobs, income and taxes associated with a given level of output. Through those models, it is possible to determine the jobs, income and taxes supported directly by wildlife-based recreationists with and without the multiplier effects.

Input-output models describe how sales in one industry affect other industries. For example, once a consumer makes a purchase, the retailer buys more merchandise from wholesalers, who buy more from manufacturers, who, in turn, purchase new inputs and supplies. In addition, the salaries and wages paid by these businesses stimulate more benefits. Simply, the first purchase creates numerous rounds of purchasing. Input-output analysis tracks the flow of dollars from the consumer through all of the businesses that are affected, either directly or indirectly.

To apply the IMPLAN model, each specific expenditure for outdoor recreation activities was matched to the appropriate industry sector affected by the initial purchase. The spending was estimated with models of the South Dakota economy, therefore all of the resulting contributions represent salaries and wages, total economic effects, jobs and tax revenues that occur *within* the state. Likewise, models based on specific regions represent the economic effects within the selected region or county. The results do not include any economic activity or indirect contributions that leak out of the state or region of interest. As a result of this leakage, economic contributions at the state level are typically larger than the sum of corresponding regional contributions. This occurs because a portion of spending in a particular region leaks to other regions within the state, this reducing the amount of indirect impacts that are created within the region.

The IMPLAN model estimates detailed tax revenues at the state and local level and at the federal level. The summary estimates provided in this report represent the total taxes estimated by the IMPLAN model including all income, sales, property and other taxes and fees that accrue to the various local, state and federal taxing authorities.

Findings

Results are organized by activity: hunting, fishing, trapping, boating and wildlife viewing. Within each activity, effort (expressed as days of activity) and spending are estimated for residents and nonresidents, at statewide and regional levels, using regions defined by South Dakota Game, Fish and Parks. Economic contributions for each activity are measured and reported for each activity, as well as for all activities combined using economic models specific to South Dakota.

Findings represent a one year time period, as respondents reported participation and expenses for the prior 12 months ending in October, 2016.

Hunting

Effort

Resident hunters primarily targeted pheasant and deer in South Dakota during the past 12 months (75% and 51%, respectively) (Table 1). Comparatively fewer hunters sought other species: small game, migratory birds and other large game animals were each targeted by roughly one third of hunters. Not surprisingly, for nonresidents, pheasant were the primary target species with 81% of hunters seeking this game bird, but only 6% targeted deer.

Table 1. Species targeted by hunters

	Residents		Nonresidents	
	Hunters	**%**	**Hunters**	**%**
Deer	52,900	51%	6,230	6%
Other Big Game	14,854	14%	3,015	3%
Pheasant	77,938	75%	91,175	81%
Other small game	38,080	37%	14,979	13%
Migratory Bird	25,436	25%	9,808	9%
Total Hunters	**103,619**	**na**	**112,174**	**na**

Resident hunters dedicated an average 18 days of hunting in South Dakota during the past 12 months compared to five days reported by nonresident hunters.

Table 2. Hunting days by species, region, and residency

		Average Number of Days				
Region	**Residency**	Deer	Other Big Game	Pheasant	Other Small Game	Migratory Birds
Statewide	Residents	9.6	7.0	8.3	9.2	9.7
	Nonresidents	6.6	4.6	4.8	4.9	5.1
Black Hills Region	Residents	1.5	3.2	0.0	0.7	0.1
	Nonresidents	0.8	2.0	0.0	0.1	0.0
West River Region	Residents	2.2	2.4	1.5	3.0	1.2
	Nonresidents	3.0	2.0	1.2	2.4	0.3
East River Region	Residents	6.0	1.4	6.8	5.5	8.2
	Nonresidents	2.7	0.6	3.6	2.3	4.6

Examining days of hunting effort for each species or wildlife group across regions and statewide reveals that most hunting effort was expended in the East River Region for residents and nonresidents alike, although residents expended a greater level of effort within the region and statewide compared to nonresident hunters.

Table 3. Total days hunting by species and residency

Species	Residents	Nonresidents	Total Days
Deer	506,644	41,019	547,663
Other Big Game	103,419	13,868	117,287
Pheasant	648,293	439,215	1,087,507
Other Small Game	350,795	72,750	423,545
Migratory Birds	245,756	49,740	295,496
Total Days	**1,854,906**	**616,593**	**2,471,499**

Fully 70% of hunters reported fishing in South Dakota and nearly half (45%) reported viewing wildlife. During the same time period, 37% of hunters boated for pleasure, and 8% trapped. Similarly, few non-resident hunters reported trapping, boating for pleasure or viewing wildlife in South Dakota.

Table 4. Hunter participation in other outdoor activities in South Dakota during the past year

	Percent	
	Residents	Nonresidents
Fished	70%	10%
Trapped	8%	0%
Boated	37%	2%
Viewed Wildlife	45%	10%

Trip and Equipment Expenses

While equipment expenses add up to significant economic impacts, it is notable that many hunters purchase very little equipment: for most types of equipment presented in the survey, a majority of hunters reported spending $0 in South Dakota.

Trip expenses provide the majority of economic impact, and the amount associated with each species or wildlife groups varies based on the days of activity spent pursuing each.

Table 5. Hunting: Equipment related spending profiles by residency

Spending category	Residents	Nonresidents
Firearms	15%	15%
Bows, Arrows, Archery Equipment	10%	6%
Ammunition	5%	5%
Telescopic Sights	5%	3%
Decoys or Game Calls	2%	1%
Hunting Dogs and Expenses	5%	6%
Other Hunting Equipment	5%	7%
Camping Equipment	2%	1%
Binoculars, Field Glasses, Telescopes	3%	1%
Clothing and Footwear for Hunting	4%	5%
Animal Processing and Taxidermy	6%	4%
Cabins	3%	10%
Motorized Vehicles	22%	10%
Magazines, Books, DVDs	1%	2%
Membership Dues and Contributions	1%	1%
Land Leasing and Ownership	7%	11%
Licenses, Stamps, Tags, and Permits	4%	13%
Total	100%	100%

Table 6. Hunting: Trip-related spending profiles by residency

Spending category	Residents	Nonresidents
Groceries, Food, Liquor	27%	20%
Restaurants, Bars, Take-Out	23%	13%
Lodging	16%	21%
Transportation (fuel, oil and services)	31%	24%
Guide Fees, Pack Trip, or Package Fees	1%	16%
Equipment Rental	0%	4%
Heating and Cooking Fuel	1%	0%
Souvenirs, Gifts, Other Miscellaneous	2%	1%
Total	100%	100%

Economic Effect

The economic contributions generated by hunters was determined by applying their expenditures to IMPLAN economic models, as described earlier. The following three tables present hunters' spending regionally and by select species, plus the resulting economic impacts statewide and by region, for residents and nonresidents.

Table 7. Hunter's direct spending in South Dakota by region and residency

Region	Residents	Nonresidents	TOTAL
Statewide			
Trip-related	$107,790,205	$175,582,024	$283,372,229
Equipment & gear	$264,265,072	$135,128,231	$399,393,303
Total	**$372,055,277**	**$310,710,255**	**$682,765,532**
Black Hills Region			
Trip-related	$10,807,324	$3,066,381	$13,873,705
Equipment & gear	$51,976,854	$23,106,927	$75,083,781
Total	**$62,784,178**	**$26,173,309**	**$88,957,487**
West River Region			
Trip-related	$25,092,389	$48,006,841	$73,099,230
Equipment & gear	$27,373,948	$7,972,566	$35,346,514
Total	**$52,466,337**	**$55,979,407**	**$108,445,744**
East River Region			
Trip-related	$71,890,493	$124,508,802	$196,399,295
Equipment & gear	$184,914,270	$104,048,738	$288,963,008
Total	**$256,804,762**	**$228,557,540**	**$485,362,302**

Table 8. Hunter direct spending in South Dakota by region, species, and residency

Region	Residents	Nonresidents	TOTAL
Statewide			
Deer	$112,455,415	$47,856,796	$160,312,211
Other Big Game	$40,873,155	$19,743,227	$60,616,382
Pheasant	$112,141,308	$175,220,529	$287,361,837
Other Small Game	$55,394,828	$34,331,217	$89,726,045
Migratory Birds	$51,190,571	$33,558,486	$84,749,057
Total	**$372,055,277**	**$310,710,255**	**$682,765,532**
Black Hills Region			
Deer	$28,485,643	$9,802,560	$38,288,203
Other Big Game	$26,311,123	$14,211,087	$40,522,210
Pheasant	$0	$0	$0
Other Small Game	$7,240,990	$2,159,661	$9,400,651
Migratory Birds	$746,422	$0	$746,422
Total	**$62,784,178**	**$26,173,309**	**$88,957,487**
West River Region			
Deer	$14,852,065	$5,420,294	$20,272,359
Other Big Game	$7,510,132	$2,207,398	$9,717,530
Pheasant	$13,747,305	$37,686,088	$51,433,393
Other Small Game	$12,411,198	$9,863,257	$22,274,455
Migratory Birds	$3,945,636	$802,370	$4,748,006
Total	**$52,466,337**	**$55,979,407**	**$108,445,744**
East River Region			
Deer	$69,117,707	$32,633,942	$101,751,649
Other Big Game	$7,051,900	$3,324,742	$10,376,642
Pheasant	$98,394,004	$137,534,441	$235,928,445
Other Small Game	$35,742,639	$22,308,299	$58,050,938
Migratory Birds	$46,498,513	$32,756,116	$79,254,629
Total	**$256,804,762**	**$228,557,540**	**$485,362,302**

Table 9. Economic effects of hunting in South Dakota by residency

Region	Residents	Nonresidents	TOTAL
Statewide			
Jobs	4,747	4,265	9,012
Labor Income	$153,887,031	$129,499,649	283,386,680
State GDP (Value Added)	$253,691,019	$209,879,782	463,570,801
Federal Taxes	$36,448,305	$30,322,700	66,771,005
State & Local Taxes	$23,734,561	$19,996,174	43,730,735
Black Hills Region			
Jobs	730	283	1,013
Labor Income	$25,111,837	$9,187,002	34,298,839
State GDP (Value Added)	$41,615,821	$15,541,975	57,157,796
Federal Taxes	$5,997,515	$2,199,074	8,196,589
State & Local Taxes	$3,980,594	$1,323,942	5,304,536
West River Region			
Jobs	679	872	1,551
Labor Income	$21,464,157	$25,681,089	47,145,246
State GDP (Value Added)	$34,991,884	$40,674,981	75,666,865
Federal Taxes	$5,055,343	$5,942,035	10,997,378
State & Local Taxes	$3,361,216	$4,097,215	7,458,431
East River Region			
Jobs	3,339	3,110	6,449
Labor Income	$107,311,037	$94,631,558	$201,942,595
State GDP (Value Added)	$177,083,315	$153,662,826	$330,746,141
Federal Taxes	$25,395,447	$22,181,591	$47,577,038
State & Local Taxes	$16,392,751	$14,575,017	$30,967,768

Note: Economic effects per hunter are included in Appendix E.

Trapping

This section reports information for resident trappers. Only two nonresident trappers responded to this questionnaire; a result that represents too few respondents for representation.

Effort

Resident trappers averaged 19 days of trapping in South Dakota during the past 12 months. By far, most trapping effort was reported to occur in the East River Region, with the 16 days of effort reported as the average number of days spent per person.

Table 10. Trapping days by region

	Residents
Trappers	**3,233**
Total Days	**61,427**
Average Number of Days	
Statewide	19.0
Black Hills Region	1.0
West River Region	4.0
East River Region	16.0

Almost all resident respondents who trapped (97%) stated they hunted in South Dakota during the past 12 months (Table 11). Most trappers who hunted targeted pheasant, deer, small game and migratory birds (89%, 86%, 66% and 61%, respectively), while fewer than one half of trappers who hunted (43%) sought other big game species. Trappers appear to be more avid hunters than the general population of hunters, as they reported higher levels of hunting participation for each species or wildlife grouping than the general population of hunters. South Dakota trappers also reported fishing (81%), viewing wildlife (59%) and boating for pleasure (39%) during the same time period.

Table 11. Participation in other outdoor activities in South Dakota by trappers during the past year

	Percent Residents
Hunted	97%
Wildlife Hunted:	
Deer	86%
Other Big Game	43%
Pheasant	89%
Other Small Game	66%
Migratory Birds	61%
Fished	81%
Boated	39%
Viewed	59%

Trip and Equipment Expenses

This analyses assumes that equipment was purchased within the region of residency. Statewide, the top per-person equipment expenditures for trappers were traps and snares, followed by vehicles, lures and scents, then a tie between firearms & knives and licenses & permits. Considering travel-related expenses, too, fuel is by far the largest expense for trappers.

Table 12. Trapping: Equipment related spending profiles by residency

Spending Category	Proportion
Traps, Snares	29%
Trap or Snare Parts, Accessories, Tools	14%
Lures and Bait	6%
Bedding, Sifters, Covers	3%
Firearms and Knives	5%
Ammunition	3%
Animal and Fur Handling Equipment	4%
Other Trapping Expenses	4%
Camping Equipment	0.1%
Binoculars, Field Glasses, Telescopes	1%
Clothing for Trapping	3.0%
Packbaskets, Packs and Pouches	1%
Animal Processing and Taxidermy	1%
Cabins	0.0%
Motorized Vehicles	18%
Magazines, Books, DVDs	1%
Membership Dues and Contributions	1%
Land Leasing and Ownership	0.3%
Licenses, Stamps, Tags, and Permits	5%
Total	**100%**

Similar to the results reported for hunters, these results show that for most types of equipment presented in the survey, a majority of trappers reported spending $0 in South Dakota.

Table 13. Trapping: Trip-related spending profiles by residency

Spending category	Proportion
Groceries, Food, Liquor	3%
Restaurants, Bars, Take-Out	4%
Lodging	3%
Transportation (fuel, oil services)	90%
Guide Fees, Pack Trip, or Package Fees	0.0%
Equipment Rental	0.0%
Heating and Cooking Fuel	0.0%
Souvenirs, Gifts, Other Miscellaneous	0.04%
Total	100%

Economic Effect

The economic contributions generated by trappers was determined by applying their expenditures to IMPLAN economic models, as described earlier. The following two tables present trappers' spending regionally and by select species, plus the resulting economic impacts statewide and by region. Due to a very low number of returned surveys from the small group of nonresidents who bought South Dakota trapper licenses, results are not available for nonresidents.

Table 14. Trapper direct spending in South Dakota by region

Region	Residents
Statewide	
Trip-related	$541,980
Equipment & gear	$1,096,388
Total	**$1,638,368**
Black Hills Region	
Trip-related	$19,268
Equipment & gear	$152,524
Total	**$171,792**
West River Region	
Trip-related	$111,614
Equipment & gear	$260,126
Total	**$371,740**
East River Region	
Trip-related	$337,120
Equipment & gear	$727,629
Total	**$1,064,749**

Table 15. Economic effects of trapping in South Dakota

Region	Residents
Statewide	
Jobs	15
Labor Income	$540,141
State GDP (Value Added)	$919,930
Federal Taxes	$130,114
State & Local Taxes	$81,072
Black Hills Region	
Jobs	1
Labor Income	$22,789
State GDP (Value Added)	$36,750
Federal Taxes	$5,209
State & Local Taxes	$2,681
West River Region	
Jobs	3
Labor Income	$128,229
State GDP (Value Added)	$228,128
Federal Taxes	$31,663
State & Local Taxes	$18,015
East River Region	
Jobs	11
Labor Income	$389,123
State GDP (Value Added)	$655,052
Federal Taxes	$93,242
State & Local Taxes	$60,376

Note: Economic effects per trapper are included in Appendix E.

Fishing

Effort

Resident anglers averaged 18 days of fishing in South Dakota during the past 12 months (Table 16). Nonresident anglers averaged 9 days of fishing. Both groups expended greater fishing effort in locations throughout the state (referred to as "Elsewhere") than in the Missouri River Region. On average, resident anglers fished 6 days per angler and nonresident anglers fished 4 days per angler in the Missouri river region. Elsewhere in the state, compared to the Missouri River, residents fished 13 days and nonresidents fished an average of 5 days.

Table 16. Angler days by region and residency

	Residents	Nonresident	Total
Anglers	140,550	74,623	215,173
Total Days	2,589,330	669,305	3,258,635
Average Number of Days			
Statewide	18	9	
Missouri river	6	4	
Everywhere Else	13	5	

Almost three quarters of resident respondents who reported fishing in South Dakota during the past 12 months also hunted in the state (Table 17). A majority of this group hunted pheasant (77%) and deer (69%), while fewer than half sought other small game, other large game or migratory birds. Resident anglers reported boating for pleasure (41%) and viewing wildlife (47%), but few participated in trapping (7%).

Approximately one third (32%) of nonresident anglers reported hunting in South Dakota. Fully 67% of anglers who reported hunting targeted pheasant. Twelve percent of nonresident anglers also boated and 14% viewed wildlife in South Dakota during the past 12 months. No nonresident anglers reported trapping in South Dakota.

Table 17. Participation in other outdoor activities in South Dakota by anglers during the past year

	Percent	
	Residents	Nonresidents
Hunted	74%	32%
Wildlife Hunted		
Deer	69%	19%
Other Big Game	30%	6%
Pheasant	77%	67%
Other Small Game	39%	18%
Migratory Birds	39%	19%
Trapped	7%	0%
Boated	41%	12%
Viewed Wildlife	47%	14%

Trip and Equipment Expenses

Not surprisingly, the largest fishing equipment expenditure for residents and nonresidents is for rods and reels (Table 18). Fuel is the largest travel-related expenditure, though anglers' trip spending is fairly evenly divided across food/groceries and other travel expenditures (Table 19).

Table 18. Fishing: Equipment related spending profiles by residency

Spending Category	Resident	Nonresident
Fishing		
Rods, Reels, Poles, and Rod-making Components	11%	8%
Lines and Leaders	4%	1%
Lures, Bait and Bait Containers	5%	0%
Hooks, Sinkers, Other Items Attached to Lines	3%	1%
Fish Finders and Other Electronic Fish Devices	5%	0%
Tackle Boxes and Other Fishing Item Storage	2%	0%
Creels, Fish Bags, Hooks, Landing Nets	1%	0%
Other Fishing Equipment	1%	0%
Subtotal (Fishing only)	*33%*	*11%*
Camping Equipment	1%	0%
Binoculars, Field Glasses, Telescopes	1%	0%
Clothing for Fishing	2%	0%
Animal Processing and Taxidermy	1%	6%
Cabins	2%	15%
Motorized Vehicles	5%	0%
Fishing Magazines, Books, DVDs	0%	3%
Membership Dues and Contributions for Fishing	0%	1%
Fishing Land Leasing and Ownership	1%	12%
Licenses, Stamps, Tags, and Permits	3%	38%
Subtotal (Fishing only)	*17%*	*75%*
Boating (Used for Fishing)		
Boats (Motorboats, Sailboats, Canoes, Kayaks, Etc.)	36%	10%
Boat Trailers	3%	1%
Outboard, Inboard, Trolling Motors	3%	1%
Electronics (Depth Finders, GPS, Radios, Etc.)	2%	1%
Boat and Trailer Accessories (Anchors, Ropes, Buoys, Bumpers, Etc.)	2%	0%
Other Boating Equipment	1%	0%
Coolers	1%	0%
Life Jackets, Life Preservers, PFDs	1%	0%
Clothing for Boating	0%	0%
Boating Magazines, Books, DVDs	0%	0%
Boating Membership Dues and Contributions	0%	0%
Boating Land Leasing and Ownership	0%	0%
Boat Storage Fees, Mooring Fees, Launch Fees	2%	1%
Subtotal (Boating only)	*50%*	*14%*

Total	**100%**	**100%**

Table 19. Fishing: Trip-related spending profiles by residency

Spending Category	Resident	Nonresident
Groceries, Food, Liquor	22%	22%
Restaurants, Bars, and Take-Out	16%	16%
Lodging	14%	26%
Transportation (fuel, oil, services)	45%	30%
Guide Fees, Pack Trip, or Package Fees	2%	4%
Equipment Rental	1%	1%
Heating and Cooking Fuel	1%	1%
Souvenirs, Gifts, Other Miscellaneous	1%	1%
Total	100%	100%

Economic Effect

The economic contributions generated by anglers was determined by applying their expenditures to IMPLAN economic models, as described earlier. The following three tables present anglers' spending regionally, plus the resulting economic impacts statewide and by region, for residents and nonresidents.

Table 20. Angler direct spending in South Dakota by region and residency

	Residents	Nonresidents	TOTAL
Trip-related			
Statewide	$82,053,267	$52,264,177	$134,317,444
Missouri River	$25,716,846	$21,650,976	$47,367,822
Elsewhere in the state	$56,336,421	$30,613,202	$86,949,623
Equipment related			
Statewide	$127,461,860	$9,533,709	$136,995,569
West River	$37,665,487	$2,192,753	$39,858,240
East River	$89,796,373	$7,340,956	$97,137,329
TOTAL	$209,515,127	$61,797,886	$271,313,012

Table 21. Economic effects of angling in South Dakota by residency

	Residents	Nonresidents	TOTAL
Statewide (all spending)			
Jobs	2,089	943	3,032
Labor Income	$69,257,269	$28,585,871	$97,843,140
State GDP (Value Added)	$113,986,438	$44,463,769	$158,450,207
Federal Taxes	$16,505,480	$6,493,553	$22,999,033
State & Local Taxes	$12,490,103	$4,523,828	$17,013,931
Trip-related			
Missouri River (trip related spending)			
Jobs	362	356	718
Labor Income	$11,596,871	$10,904,319	$22,501,190
State GDP (Value Added)	$17,958,358	$16,844,569	$34,802,927
Federal Taxes	$2,623,479	$2,466,819	$5,090,298
State & Local Taxes	$1,924,521	$1,751,743	$3,676,264
Rest of the State (trip related spending)			
Jobs	587	513	1,100
Labor Income	$17,247,622	$15,810,529	$33,058,151
State GDP (Value Added)	$27,299,738	$24,517,358	$51,817,096
Federal Taxes	$4,017,513	$3,586,981	$7,604,494
State & Local Taxes	$2,898,236	$2,515,583	$5,413,819
Equipment related			
West River (equipment related spending)			
Jobs	337	17	354
Labor Income	$11,942,136	$430,335	$12,372,471
State GDP (Value Added)	$20,309,498	$713,424	$21,022,922
Federal Taxes	$2,914,996	$101,144	$3,016,140
State & Local Taxes	$2,265,731	$58,995	$2,324,726
East River (equipment related spending)			
Jobs	803	57	860
Labor Income	$28,470,640	$1,440,688	$29,911,328
State GDP (Value Added)	$48,418,844	$2,388,418	$50,807,262
Federal Taxes	$6,949,492	$338,609	$7,288,101
State & Local Taxes	$5,401,615	$197,507	$5,599,122

Note: Economic effects per angler are included in Appendix E.

Boaters

Effort

Resident boaters spent an average of 8 days per boater on South Dakota waters during the past 12 months, compared to an average of 10 days per boaters spent by nonresidents.

Table 22. Total boaters and days by residency and activity

	Residents	Nonresidents	Total
Total Boaters	**56,023**	**2,949**	**58,972**
Boaters only	33,614	1,769	35,383
Boaters and anglers	22,409	1,179	23,589
Total Days	**447,864**	**28,290**	**476,154**
Boating only	262,817	16,211	279,029
Boating and fishing	185,046	12,079	197,126

Table 23. Average number of days boating by residency

	Resident	Nonresident
Statewide	**8**	**10**
Black Hills	*2*	*1*
Missouri River	*2*	*1*
Elsewhere	*5*	*8*

Most people who reported boating in South Dakota during the past year also reported that they hunted in the state during the same time period (87%) (Table 24). Wildlife species most commonly sought by this group were pheasant (81%) and deer (68%). Other small or large game species and migratory birds were sought by fewer than 50% of boaters who hunted. Resident boater also reported fishing (88%) and viewing wildlife (58%) in South Dakota. Eleven percent of boaters stated that they trapped in the state during the past 12 months.

Approximately 44% of nonresident boaters stated that they also hunted in South Dakota during the past 12 months. Of those, 57% reported hunting pheasant, and 26% stated they hunted big game other than deer. Migratory birds, deer and small game were less popular with nonresident boaters. Fishing, however, was popular with this group, with 87% of boaters reporting that they also fished in South Dakota, and nearly one third of boaters (32%) viewed wildlife. No nonresident boaters reported trapping in South Dakota.

Table 24. Participation in other outdoor activities in South Dakota by boaters during the past year

	Percent	
	Residents	Nonresidents
Hunted	87%	44%
Wildlife Hunted		
Deer	68%	13%
Other Big Game	34%	26%
Pheasant	81%	57%
Other Small Game	47%	1%
Migratory Birds	46%	15%
Trapped	11%	0%
Fished	88%	87%
Viewed Wildlife	58%	32%

Trip and Equipment Expenses

Table 25. Boating: Equipment related spending profiles by residency

Spending Category	Resident	Nonresident
Boats (Motorboats, Sailboats, Canoes, Kayaks, Etc.)	70%	29%
Boat Trailers	8%	15%
Outboard, Inboard, Trolling Motors	7%	1%
Electronics (Depth Finders, GPS, Radios, Etc.)	1%	0%
Boat and Trailer Accessories (Anchors, Ropes, Buoys, Bumpers, Etc.)	2%	10%
Other Boating Equipment	1%	15%
Coolers	1%	10%
Life Jackets, Life Preservers, PFDs	1%	3%
Clothing for Boating	1%	14%
Boating Magazines, Books, DVDs	0%	0%
Boating Membership Dues and Contributions	0%	0%
Boating Land Leasing and Ownership	4%	0%
Boat Storage Fees, Mooring Fees, Launch Fees	3%	2%
Total	100%	100%

Table 26. Boating: Trip-related spending profiles by residency

Spending Category	Resident	Nonresident
Groceries, Food, Liquor	25%	7%
Restaurants, Bars, and Take-Out	14%	43%
Lodging	14%	12%
Transportation (fuel, oil, services)	44%	34%
Guide Fees, Pack Trip, or Package Fees	1%	0%
Equipment Rental	0%	0%
Heating and Cooking Fuel	0%	1%
Souvenirs, Gifts, Other Miscellaneous	0%	2%
Total	100%	100%

Economic Effect

Resident boaters spent an average of $1,462 per person on boating-related equipment purchases, which is similar to the amount spent by nonresident boaters, who spent an average of $1,372 per person. These expenditures were then assessed using the IMPLAN economic models to estimate boating's economic contributions (Tables 27 and 28).

Table 27. Boater direct spending in South Dakota by residency

	Residents	Nonresidents	TOTAL
Statewide			
Trip-related	$65,896,317	$1,424,445	$67,320,762
Equipment & gear	$16,019,526	$2,620,907	$18,640,433
Total	**$81,915,843**	**$4,045,352**	**$81,961,195**

Table 28. Economic effects of boating in South Dakota by residency

	Residents	Nonresidents	TOTAL
Statewide			
Jobs	624	61	685
Labor Income	$24,563,120	$1,858,588	$26,421,708
State GDP (Value Added)	$39,942,516	$3,103,171	$43,045,687
Federal Taxes	$5,836,591	$446,444	$6,283,035
State & Local Taxes	$5,112,196	$305,341	$5,417,537

Note: Economic effects per boater are included in Appendix E.

Wildlife Viewers

Effort

Resident wildlife viewers averaged 23 days of away from home wildlife viewing in South Dakota during the past 12 months. Nonresident wildlife viewers averaged 6 days of away from home wildlife viewing. Both groups expended greater wildlife viewing effort in

the East River and Black Hills locations. On average, resident wildlife viewers spent 10 days and 7 days, respectively, in these two regions.

Table 29. Total away from home wildlife viewer and days by region and residency

	Residents	Nonresidents	Total
Total Wildlife Viewers	89,277	84,548	173,825
Total Days Away from Home	2,068,180	528,636	2,596,817
Average Number of Days			
Statewide	23	6	
Black Hills Region	7	2	
West River	4	1	
East River	10	2	
Missouri River	2	1	

More than three quarters of resident respondents who reported wildlife viewing in South Dakota during the past 12 months also hunted in the state (Table 30). A majority of this group hunted pheasant (77%) and deer (73%), while fewer than half sought other small game, other large game or migratory birds. Resident wildlife viewers reported boating for pleasure (39%) and fishing (75%), but few participated in trapping (9%).

Three quarters (76%) of nonresident wildlife viewers reported hunting in South Dakota. Fully 70% of anglers who reported hunting targeted pheasant. Fewer than 25% of this group sought any other species or wildlife grouping. One third (33%) of nonresident wildlife viewers also fished and 9% boated for recreation in South Dakota during the past 12 months. No nonresident wildlife viewing reported trapping in South Dakota.

Table 30. Participation in other outdoor activities in South Dakota by wildlife viewers during the past year

	Percent	
	Residents	Nonresidents
Hunted	85%	76%
Wildlife Hunted		
Deer	73%	19%
Other Big Game	34%	14%
Pheasant	77%	70%
Other Small Game	44%	22%
Migratory Birds	38%	11%
Fished	75%	33%
Trapped	9%	0%
Boated	39%	9%

Trip and Equipment Expenses

South Dakota resident and nonresident wildlife viewers spend the largest proportions of their annual equipment purchases on tools to improve visualization such as binoculars, field glasses, etc. (25% for residents and 28% for nonresidents) and tools to capture images such as cameras and accessories (31% for residents and 21% for nonresidents).

Table 31. Away from Home Wildlife Viewing: Equipment related spending profiles by residency

	Residents	Nonresidents
Binoculars, Field Glasses, Spotting Scopes, Etc.	25%	28%
Cameras and Accessories	31%	21%
Pack-baskets, Packs and Pouches	9%	15%
Animal Feed	12%	3%
Camping Equipment (Tents, Backpacks, Etc.)	10%	13%
Magazines, Books, Field Guides, DVDs	2%	9%
Membership Dues and Contributions	2%	6%
Plantings	10%	4%
Total	100%	100%

Trip-related spending revolves around three major categories, food, lodging and fuel. Forty percent of resident spending is allocated to fuel for private transportation, 34% is allocated to food, and 19% is allocated to lodging. Among nonresidents, the largest proportion is allocated to food (41% in total), 28% is allocated to lodging, and 23% to fuel.

Table 32. Away from home Wildlife Viewing: Trip-related spending profiles by residency

	Residents	Nonresidents
Groceries, Food, Liquor	19%	22%
Restaurants, Bars, and Take-Out	15%	19%
Lodging	19%	28%
Transportation (fuel, oil services)	46%	26%
Guide Fees, Pack Trip, or Package Fees	0%	1%
Equipment Rental	0%	0%
Heating and Cooking Fuel	0%	0%
Souvenirs, Gifts, Other Miscellaneous	2%	4%
Total	100%	100%

Economic Effect

The economic contributions generated by wildlife viewers was determined by applying their expenditures to IMPLAN economic models, as described earlier. The following two tables present their spending regionally, plus the resulting economic impacts statewide and by region, for residents and nonresidents.

Table 33. Away from Home Wildlife Viewing: Direct spending in South Dakota by region and residency

Region	Residents	Nonresidents	TOTAL
Statewide			
Trip-related	$27,834,530	$17,241,499	$45,076,029
Equipment & gear	$5,044,514	$1,606,582	$6,651,095
Total	$32,879,043	$18,848,081	$51,727,124
Black Hills Region			
Trip-related	$8,997,900	$7,755,251	$16,753,151
Equipment & gear	$862,612	$274,725	$1,137,337
Total	$9,860,512	$8,029,976	$17,890,488
West River Region			
Trip-related	$3,602,740	$2,420,527	$6,023,267
Equipment & gear	$297,626	$94,788	$392,415
Total	$3,900,367	$2,515,315	$6,415,682
East River Region			
Trip-related	$13,730,255	$5,781,502	$19,511,757
Equipment & gear	$664,211	$211,539	$875,750
Total	$14,394,466	$5,993,041	$20,387,507
Missouri River Region			
Trip-related	$1,503,635	$1,284,219	$2,787,853
Equipment & gear	$0	$0	$0
Total	$1,503,635	$1,284,219	$2,787,853

Table 34. Economic Effects of Away from Home Wildlife Viewing in South Dakota by residency

	Residents	Nonresidents	TOTAL
Statewide			
Jobs	381	255	636
Labor Income	$12,614,960	$7,857,263	$20,472,223
State GDP (Value Added)	$19,542,987	$12,195,981	$31,738,968
Federal Taxes	$2,836,019	$1,780,436	$4,616,455
State & Local Taxes	$1,987,213	$1,227,218	$3,214,431
Black Hills			
Jobs	133	124	257
Labor Income	$4,435,135	$3,814,752	$8,249,887
State GDP (Value Added)	$6,875,223	$5,920,837	$12,796,060
Federal Taxes	$996,982	$864,384	$1,861,366
State & Local Taxes	$693,965	$595,927	$1,289,892
West River			
Jobs	53	39	92
Labor Income	$1,750,995	$1,195,221	$2,946,216
State GDP (Value Added)	$2,713,499	$1,855,551	$4,569,050
Federal Taxes	$393,628	$270,859	$664,487
State & Local Taxes	$274,889	$186,589	$461,478
East River			
Jobs	195	92	288
Labor Income	$6,428,830	$2,847,290	$9,276,120
State GDP (Value Added)	$9,954,265	$4,419,593	$14,373,858
Federal Taxes	$1,445,409	$645,193	$2,090,602
State & Local Taxes	$1,018,359	$444,702	$1,463,061

Note: Economic effects per wildlife viewer are included in Appendix E.

Appendices

Appendix A: Online survey questionnaire

Appendix B: Mail Survey Questionnaire –Cover Letters and Postcards Sent to Sportsmen Receiving Mail Surveys

Appendix C: Mail survey questionnaire – Hunting, Wildlife Viewing, Pleasure Boating

Appendix D: Mail survey questionnaire – Fishing, Wildlife Viewing, Pleasure Boating

Appendix E: Economic Contributions per Hunter, Angler, Trapper, Boater, and Wildlife Viewer

Appendix A: Online Survey Questionnaire

South Dakota Outdoor Survey

Welcome to our survey of fishing, hunting, trapping, boating, and wildlife viewing in South Dakota. This survey is being conducted to help us understand the economic contributions of our state's sportsmen. Your responses will be strictly confidential and will not be shared with anyone outside of the research team. Thank you for your participation!

Screener Section
Page exit logic: Skip / Disqualify Logic**IF:** Question "Please indicate which of the following activities you participated in anywhere in South Dakota in the past **12 months**. (Check all that apply). " is one of the following answers ("None of the above") **THEN:** Disqualify and display: "Sorry, you do not qualify to take this survey."

Please indicate which of the following activities you participated in anywhere in South Dakota in the past 12 months. (Check all that apply).

[ ] Hunting
[ ] Fishing
[ ] Trapping
[ ] Boating for non-fishing recreation (including power boats, jetskis/PWC, sail boats, rowboats, canoes/kayaks, etc.)
[ ] Wildlife viewing
[ ] None of the above

Page entry logic: This page will show when: Question "Please indicate which of the following activities you participated in anywhere in South Dakota in the past **12 months**. (Check all that apply). " is one of the following answers ("Hunting")
HUNTING

Which of the following species did you hunt in South Dakota during the past 12 months?

[ ] Deer
[ ] Other Big Game (antelope, elk, bighorn sheep, mountain goat, mountain lion, or turkey)
[ ] Pheasant
[ ] Other Small Game (partridge, squirrel, rabbit, grouse, quail)
[ ] Migratory Birds (mourning dove, waterfowl, sandhill crane, common snipe)

Logic: Hidden unless: Question "Which of the following species did you hunt in South Dakota during the past 12 months? " is one of the following answers ("Deer")
How many days did you hunt *DEER*?

_____

Logic: Hidden unless: Question "Which of the following species did you hunt in South Dakota during the past 12 months? " is one of the following answers ("Other Big Game (antelope, elk, bighorn sheep, mountain goat, mountain lion, or turkey)")
How many days did you hunt *OTHER BIG GAME*?

_____

Logic: Hidden unless: Question "Which of the following species did you hunt in South Dakota during the past 12 months? " is one of the following answers ("Pheasant")
How many days did you hunt *PHEASANT*?

_____

Logic: Hidden unless: Question "Which of the following species did you hunt in South Dakota during the past 12 months? " is one of the following answers ("Other Small Game (partridge, squirrel, rabbit, grouse, quail)")
How many days did you hunt *OTHER SMALL GAME*?

_____

Logic: Hidden unless: Question "Which of the following species did you hunt in South Dakota during the past 12 months? " is one of the following answers ("Migratory Birds (mourning dove, waterfowl, sandhill crane, common snipe)")
How many days did you hunt *MIGRATORY BIRDS*?

_____

Page entry logic: This page will show when: Question "Which of the following species did you hunt in South Dakota during the past **12 months**? " is one of the following answers ("Deer")

Deer

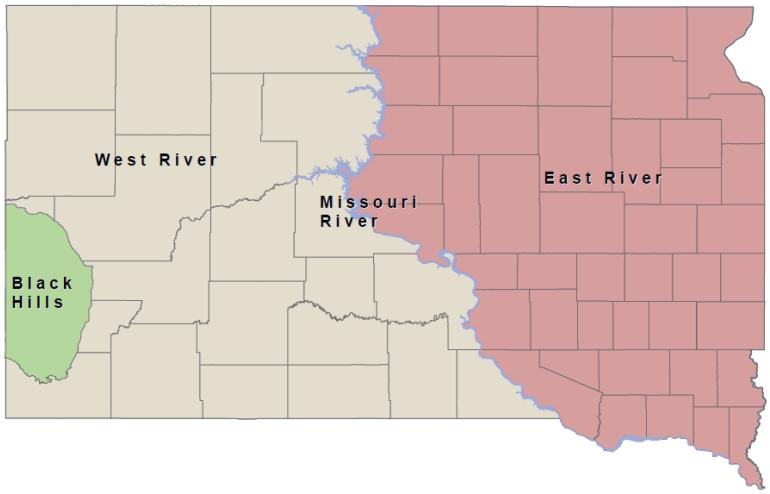
Please report the number of days that you hunted DEER in each region of the state in the past 12 months.

Earlier you reported hunting deer for *[question("value"), id="68"]* days.

_____Black Hills
_____West River
_____East River

Page entry logic: This page will show when: Question "Which of the following species did you hunt in South Dakota during the past **12 months**? " is one of the following answers ("Other Big Game (antelope, elk, bighorn sheep, mountain goat, mountain lion, or turkey)")

Other Big Game

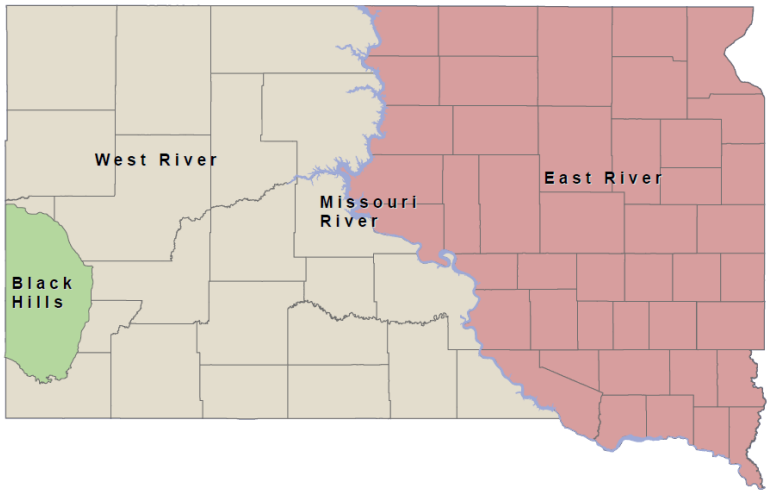


Please report the number of days that you hunted OTHER BIG GAME in each region of the state in the past 12 months.

Earlier, you reported hunting other big game for [question("value"), id="69"] day(s).

_____Black Hills
_____West River
_____East River

Page entry logic: This page will show when: Question "Which of the following species did you hunt in South Dakota during the past **12 months**? " is one of the following answers ("Pheasant")
Pheasant

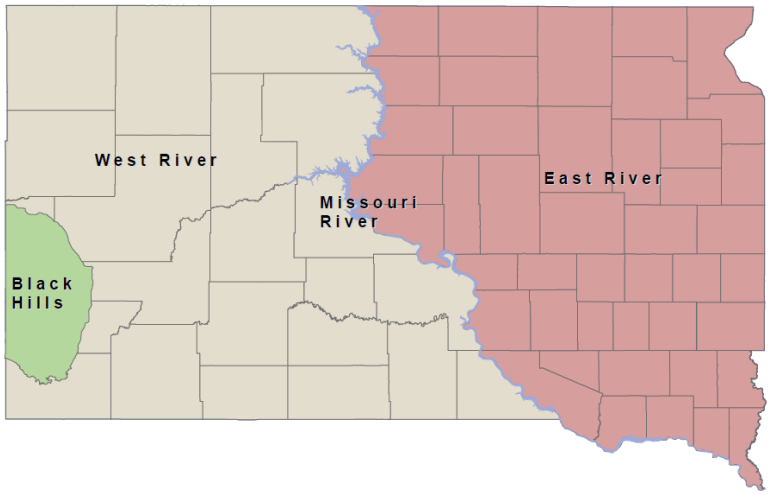


Please report the number of days that you hunted PHEASANT in each region of the state in the past 12 months.
Earlier, you reported hunting pheasant for [question("value"), id="70"] day(s).

_____West River
_____East River

Page entry logic: This page will show when: Question "Which of the following species did you hunt in South Dakota during the past **12 months**? " is one of the following answers ("Other Small Game (partridge, squirrel, rabbit, grouse, quail)")

Small Game



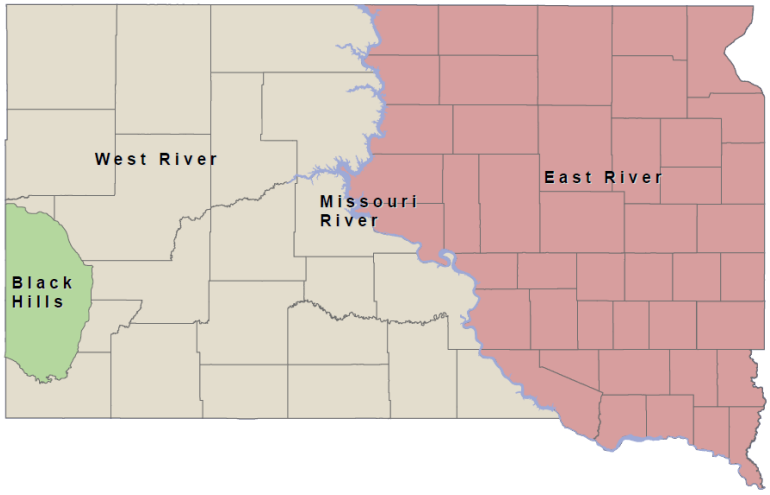
Please report the number of days that you hunted OTHER SMALL GAME in each region of the state in the past 12 months.

Earlier, you reported hunting small game for [question("value"), id="71"] day(s).

_____Black Hills
_____West River
_____East River

Page entry logic: This page will show when: Question "Which of the following species did you hunt in South Dakota during the past **12 months**? " is one of the following answers ("Migratory Birds (mourning dove, waterfowl, sandhill crane, common snipe)")

Migratory Birds



Please report the number of days that you hunted MIGRATORY BIRDS in each region of the state in the past 12 months.

Earlier, you reported hunting migratory birds for [question("value"), id="72"] day(s).

_____Black Hills
_____West River
_____East River

Page entry logic: This page will show when: Question "Which of the following species did you hunt in South Dakota during the past **12 months**? " is one of the following answers ("Deer","Other Big Game (antelope, elk, bighorn sheep, mountain goat, mountain lion, or turkey)","Pheasant","Other Small Game (partridge, squirrel, rabbit, grouse, quail)","Migratory Birds (mourning dove, waterfowl, sandhill crane, common snipe)")
Hidden Page for SPENDING Species Assignment

Logic: Hidden by default
Checkbox to create array for select logic
[ ] Deer
[ ] Other Big Game
[ ] Pheasants
[ ] Other Small Game
[ ] Migratory Birds
Logic: Hidden by default
Radio Buttons
( ) DEER
( ) OTHER BIG GAME
( ) PHEASANT
( ) OTHER SMALL GAME
( ) MIGRATORY BIRDS

Page entry logic: This page will show when: Question "Please indicate which of the following activities you participated in anywhere in South Dakota in the past **12 months**. (Check all that apply). " is one of the following answers ("Hunting")
Hunting Equipment Expenditures

Please tell us how much you have spent in the past 12 months on the following equipment and accessories for ALL HUNTING activities that took place in South Dakota.

We are interested in items bought *primarily for hunting*, big or small, including such things as apparel and footwear, equipment, accessories, etc. Include any amount that you also spent for children under age 18 who live in your home. If you did not spend any money in the past 12 months, or if the items were not used in South Dakota, please enter ‘$0’. Include *only* items that you purchased in South Dakota.

NOTE: Some items can be used for multiple purposes. Please report spending only for items that were used *primarily* for hunting activities in South Dakota within the past 12 months.

Hunting Equipment

_____Firearms (rifles, shotguns, handguns)
_____Bows, arrows, archery equipment
_____Ammunition
_____Telescopic sights
_____Decoys or game calls
_____Hunting dogs and associated costs
_____Other hunting equipment

Auxillary Equipment

_____Camping equipment
_____Binoculars, field glasses, telescopes, etc.
_____Clothing & footwear for hunting
_____Animal processing and taxidermy

Special equipment purchased primarily for hunting:

_____Cabins
_____Motorized vehicles (trail bikes, 4X4s, ATVs, snowmobiles, camping trailers, RVs, etc.)

Other expenditures

_____Magazines, books, DVDs
_____Membership dues & contributions
_____Land leasing and ownership
_____Licenses, stamps, tags, and permits

Page entry logic: This page will show when: Question "Which of the following species did you hunt in South Dakota during the past **12 months**? " is one of the following answers ("Deer","Other Big Game (antelope, elk, bighorn sheep, mountain goat, mountain lion, or turkey)","Pheasant","Other Small Game (partridge, squirrel, rabbit, grouse, quail)","Migratory Birds (mourning dove, waterfowl, sandhill crane, common snipe)")

Hunting Expenditures

The following questions ask about your spending during your [question("value"), id="115"] hunting trips in South Dakota within the past 12 months.

Thinking about trips you took *primarily* to go hunting for [question("value"), id="115"] in South Dakota in the past 12 months, please tell us how much you spent on all of your trips.

Food and Lodging

_____Groceries, food, liquor bought in stores (not in restaurants or bars)
_____Restaurants, bars, and take-out food purchases
_____Overnight accommodations (hotels/motels, B&Bs, campgrounds, cabin rental, etc.)

Transportation

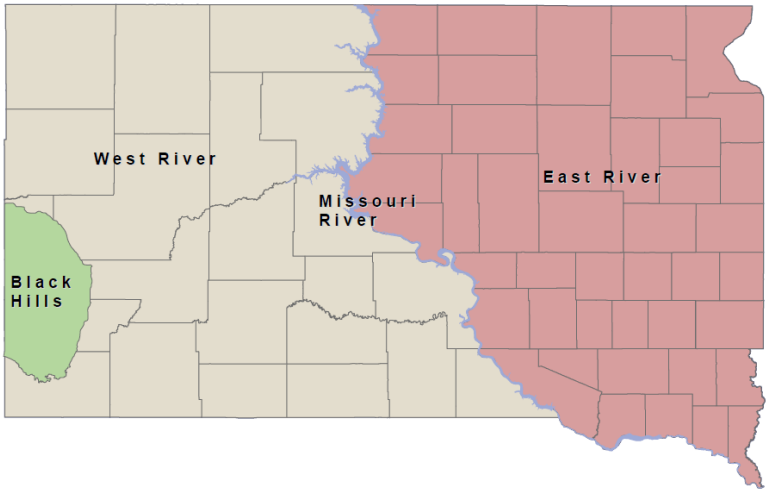
_____Fuel and oil for your car, truck, boat, airplane, ATV & other transportation
_____Transportation services (air transport, taxi, boat ferries, shuttle vans, etc.)

Other Trip Costs

_____Guide fees, pack trip, or package fees
_____Equipment rental
_____Heating and cooking fuel
_____Souvenirs, gifts, other miscellaneous

Page entry logic: This page will show when: Question "Please indicate which of the following activities you participated in anywhere in South Dakota in the past **12 months**. (Check all that apply). " is one of the following answers ("Trapping")

TRAPPING



Please report the number of days that you went *TRAPPING* in each region of the state in the past 12 months.

_____Black Hills
_____West River
_____East River

Page entry logic: This page will show when: Question "Please indicate which of the following activities you participated in anywhere in South Dakota in the past **12 months**. (Check all that apply). " is one of the following answers ("Trapping")

Trapping Equipment and Other Expenditures

Please tell us how much you have spent in the past 12 months on the following equipment and accessories for *TRAPPING* activities that took place in South Dakota.

We are interested in items bought *primarily for trapping*, big or small, including such things as apparel and footwear, equipment, accessories, etc. Include any amount that you also spent for children under age 18 who live in your home. If you did not spend any money in the past 12 months, or if the items were not used in South Dakota, please enter '$0'. Include *only* items that you purchased in South Dakota.

NOTE: Some items can be used for multiple purposes. Please report spending only for items that were used *primarily* for trapping activities in South Dakota within the past 12 months.

Trapping Equipment

_____Traps, snares, etc.
_____Trap or snare parts, accessories, and tools
_____Lures and bait
_____Bedding, sifters, covers
_____Firearms and knives
_____Ammunition
_____Animal and fur handling equipment
_____Other trapping equipment

Auxiliary Equipment

_____Camping equipment
_____Binoculars, field glasses, telescopes, etc.
_____Clothing for trapping
_____Packbaskets, packs, & pouches
_____Processing and taxidermy

Special equipment purchased primarily for trapping:

_____Cabins
_____Motorized vehicles (trail bikes, 4X4s, ATVs, snowmobiles, camping trailers, RVs, etc.)

Other expenditures
_____Magazines, books, DVDs
_____Membership dues & contributions
_____Land leasing and ownership
_____Licenses, stamps, tags, and permits

Page entry logic: This page will show when: Question "Please indicate which of the following activities you participated in anywhere in South Dakota in the past **12 months**. (Check all that apply). " is one of the following answers ("Trapping")
Trapping Trip Expenditures

The following questions ask about your spending during your TRAPPING trips in South Dakota within the past 12 months.

Thinking about trips you took *primarily* to go TRAPPING in South Dakota in the past 12 months, please tell us how much you spent on all of your trips.

Food and Lodging

_____Groceries, food, liquor bought in stores (not in restaurants or bars)
_____Restaurants, bars, and take-out food purchases
_____Overnight accommodations (hotels/motels, B&Bs, campgrounds, cabin rental, etc.)

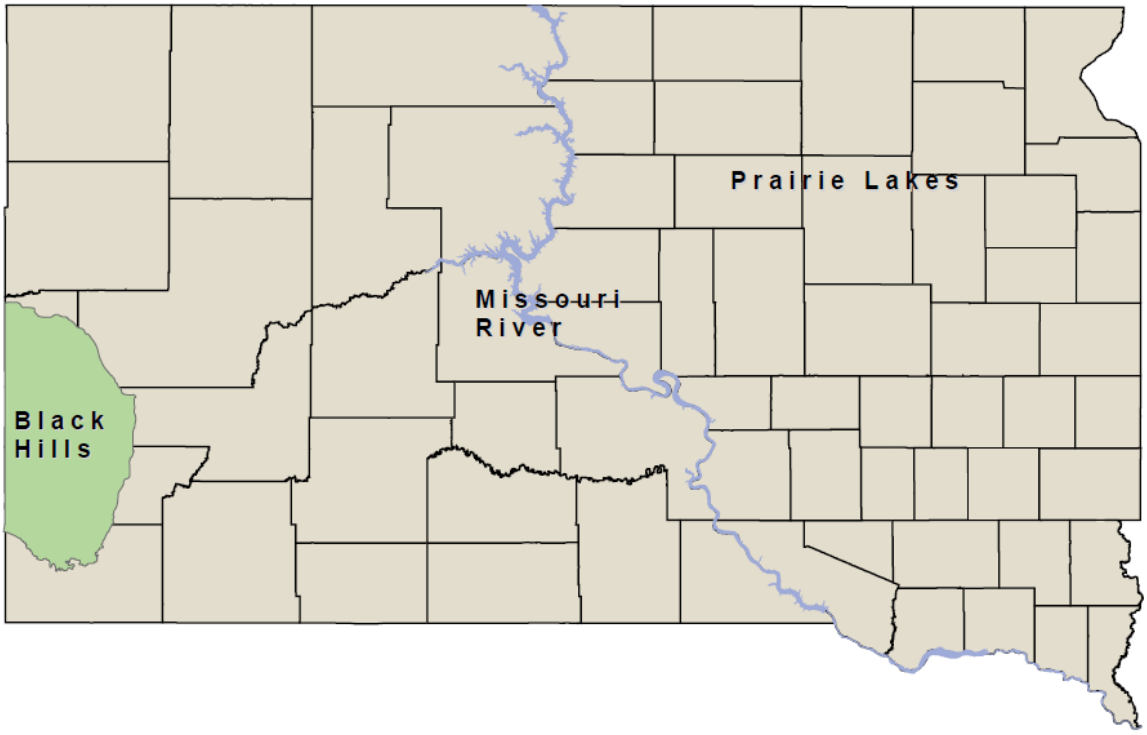
Transportation

_____Fuel and oil for your car, truck, boat, airplane, ATV & other transportation
_____Transportation services (air transport, taxi, boat ferries, shuttle vans, etc.)

Other Trip Costs

_____Guide fees, pack trip, or package fees
_____Equipment rental
_____Heating and cooking fuel
_____Souvenirs, gifts, other miscellaneous

Page entry logic: This page will show when: Question "Please indicate which of the following activities you participated in anywhere in South Dakota in the past **12 months**. (Check all that apply). " is one of the following answers ("Fishing")
Fishing



Please report the number of days that you went *FISHING* in each region of the state in the past 12 months.

_____Black Hills
_____Missouri River
_____Elsewhere in South Dakota

Page entry logic: This page will show when: Question "Please indicate which of the following activities you participated in anywhere in South Dakota in the past **12 months**. (Check all that apply). " is one of the following answers ("Fishing")

Fishing Equipment & Other Expenditures

Please tell us how much you have spent in the past 12 months on the following equipment and accessories for *FISHING* activities that took place in South Dakota.

We are interested in items bought *primarily for fishing*, big or small, including such things as apparel and footwear, equipment, accessories, etc. Include any amount that you also spent for children under age 18 who live in your home. If you did not spend any money in the past 12 months, or if the items were not used in South Dakota, please enter '$0'. Include *only* items that you purchased in South Dakota.

NOTE: Some items can be used for multiple purposes. Please report spending only for items that were used *primarily* for fishing activities in South Dakota within the past 12 months.

Fishing Equipment
_____Rods, reels, poles, and rod-making components
_____Lines and leaders
_____Lures, bait and bait containers
_____Hooks, sinkers, other items attached to lines
_____Fish finders and other electronic fish devices
_____Tackle boxes and other fishing item storage
_____Creels, fish bags, hooks, landing nets
_____Other fishing equipment

Auxiliary Equipment
_____Camping equipment
_____Binoculars, field glasses, telescopes, etc.
_____Clothing for fishing
_____Animal processing and taxidermy

Special equipment purchased primarily for fishing:
_____Cabins

_____Motorized vehicles (trail bikes, 4X4s, ATVs, snowmobiles, camping trailers, RVs, etc.)

Fishing Boat Equipment
_____Boats (motorboats, sailboats, canoes, kayaks, etc.)
_____Boat trailers
_____Motors (outboard, inboard, trolling, etc.)
_____Electronics (depth finder, GPS, radios, etc.)
_____Boat and trailer accessories (anchors, ropes, buoys, bumpers, etc.)
_____Other boating equipment

Other expenditures

_____Magazines, books, DVDs
_____Membership dues & contributions
_____Land leasing and ownership
_____Licenses, stamps, tags, and permits

Page entry logic: This page will show when: Question "Please indicate which of the following activities you participated in anywhere in South Dakota in the past **12 months**. (Check all that apply). " is one of the following answers ("Fishing")
Fishing Trip Expenditures

The following questions ask about your spending during your *FISHING* trips in South Dakota within the past 12 months.

Thinking about trips you took *primarily* to go FISHING in South Dakota in the past 12 months, please tell us how much you spent on all of your trips.

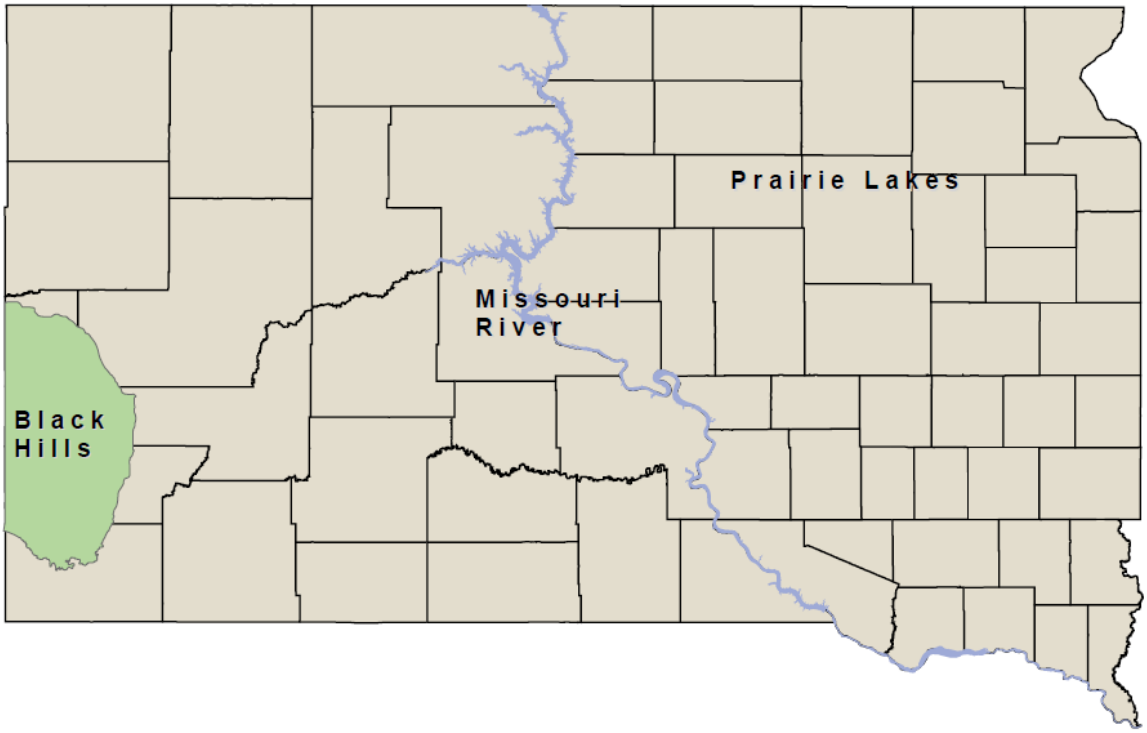
Food and Lodging
_____Groceries, food, liquor bought in stores (not in restaurants or bars)
_____Restaurants, bars, and take-out food purchases
_____Overnight accommodations (hotels/motels, B&Bs, campgrounds, cabin rental, etc.)

Transportation
_____Fuel and oil for your car, truck, boat, airplane, ATV & other transportation
_____Transportation services (air transport, taxi, boat ferries, shuttle vans, etc.)

Other Trip Costs
_____Guide fees, pack trip, or package fees
_____Equipment rental
_____Heating and cooking fuel
_____Souvenirs, gifts, other miscellaneous

Page entry logic: This page will show when: Question "Please indicate which of the following activities you participated in anywhere in South Dakota in the past **12 months**. (Check all that apply). " is one of the following answers ("Boating for non-fishing recreation (including power boats, jetskis/PWC, sail boats, rowboats, canoes/kayaks, etc.)")

Boating



Please report the number of days that you went *BOATING for non-fishing recreation* in each region of the state in the past 12 months. Please do not include days for which the primary event was fishing.

_____Black Hills
_____Missouri River
_____Elsewhere in South Dakota

Page entry logic: This page will show when: Question "Please indicate which of the following activities you participated in anywhere in South Dakota in the past **12 months**. (Check all that apply). " is one of the following answers ("Fishing","Boating for non-fishing recreation (including power boats, jetskis/PWC, sail boats, rowboats, canoes/kayaks, etc.)")
Do Boaters Own Boats?

Do you own any boats (including power boats, jetskis/PWC, sail boats, rowboats, canoes/kayaks, etc.)?

( ) Yes
( ) No

Logic: Hidden unless: Question "Do you own any boats (including power boats, jetskis/PWC, sail boats, rowboats, canoes/kayaks, etc.)?" #2 is one of the following answers ("Yes")

How many watercraft of each size do you own? Please include all power boats, jetskis/PWC, sail boats, rowboats, canoes/kayaks, etc.

Under 12 feet: _____
12 to 16 feet: _____
17 to 26 feet: _____
Larger than 26 feet:
_____

Page entry logic: This page will show when: Question "Please indicate which of the following activities you participated in anywhere in South Dakota in the past **12 months**. (Check all that apply). " is one of the following answers ("Boating for non-fishing recreation (including power boats, jetskis/PWC, sail boats, rowboats, canoes/kayaks, etc.)")
Boating Equipment Expenditures

Please tell us how much you have spent in the past 12 months on the following equipment and accessories for BOATING for non-fishing recreation activities that took place in South Dakota.

We are interested in items bought *primarily for boating,* big or small, including such things as apparel and footwear, equipment, accessories, etc. Include any amount that you also spent for children under age 18 who live in your home. If you did not spend any money in the past 12 months, or if the items were not used in South Dakota, please enter ‘$0’. Include *only* items that you purchased in South Dakota.

NOTE: Some items can be used for multiple purposes. Please report spending only for items that were used *primarily* for boating activities in South Dakota within the past 12 months.

Boating Equipment for *non-fishing* recreation

_____Boats (motorboats, sailboats, canoes, kayaks, etc.)
_____Boat trailers
_____Motors (outboard, inboard, trolling)
_____Electronics (depth finders, GPS, radios, etc.)
_____Boat and trailer accessories (anchors, ropes, buoys, bumpers, etc.)
_____Other boating equipment

Auxiliary Equipment

_____Coolers
_____Binoculars, field glasses, telescopes, etc.
_____Life jackets, life preservers, and personal flotation devices
_____Clothing for boating

Other expenditures

_____Magazines, books, DVDs
_____Membership dues & contributions
_____Land leasing and ownership
_____Licenses, stamps, tags, and permits (i.e. boat storage fees, launch ramp fees, etc.)

Page entry logic: This page will show when: Question "Please indicate which of the following activities you participated in anywhere in South Dakota in the past **12 months**. (Check all that apply). " is one of the following answers ("Boating for non-fishing recreation (including power boats, jetskis/PWC, sail boats, rowboats, canoes/kayaks, etc.)")

Boating Trip Expenditures

The following questions ask about your spending during your *BOATING for non-fishing recreation* trips in South Dakota within the past 12 months.

Thinking about trips you took *primarily* to go BOATING for non-fishing recreation in South Dakota in the past 12 months, please tell us how much you spent on all of your trips.

Food and Lodging

_____Groceries, food, liquor bought in stores (not in restaurants or bars)
_____Restaurants, bars, and take-out food purchases
_____Overnight accommodations (hotels/motels, B&Bs, campgrounds, cabin rental, etc.)

Transportation

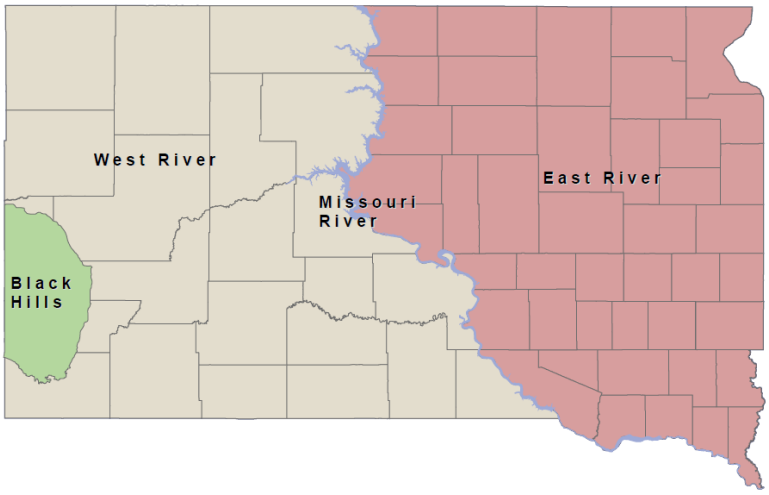
_____Fuel and oil for your car, truck, boat, airplane, ATV & other transportation
_____Transportation services (air transport, taxi, boat ferries, shuttle vans, etc.)

Other Trip Costs

_____Guide fees, pack trip, or package fees
_____Equipment rental
_____Heating and cooking fuel
_____Souvenirs, gifts, other miscellaneous

Page entry logic: This page will show when: Question "Please indicate which of the following activities you participated in anywhere in South Dakota in the past **12 months**. (Check all that apply). " is one of the following answers ("Wildlife viewing")

Wildlife Watching



Please report the number of days that you went *WILDLIFE VIEWING* in each region of the state in the past 12 months.

_____Black Hills
_____West River
_____East River

Page entry logic: This page will show when: Question "Please indicate which of the following activities you participated in anywhere in South Dakota in the past **12 months**. (Check all that apply). " is one of the following answers ("Wildlife viewing")
Wildlife Watching Equipment Expenditures

Please tell us how much you have spent in the past 12 months on the following equipment and accessories for *WILDLIFE VIEWING* activities that took place in South Dakota.

We are interested in items bought *primarily for wildlife viewing*, big or small, including such things as apparel and footwear, equipment, accessories, etc. Include any amount that you also spent for children under age 18 who live in your home. If you did not spend any money in the past 12 months, or if the items were not used in South Dakota, please enter '$0'. Include *only* items that you purchased in South Dakota.

NOTE: Some items can be used for multiple purposes. Please report spending only for items that were used *primarily* for wildlife viewing activities in South Dakota within the past 12 months.

Wildlife Viewing Equipment

_____Binoculars, field glasses, spotting scopes, etc.
_____Cameras and accessories
_____Pack-baskets, packs, & pouches
_____Animal feed

Other expenditures

_____Camping equipment (tents, backpacks, etc.)
_____Magazines, books, field guides, DVDs
_____Membership dues & contributions
_____Plantings

Page entry logic: This page will show when: Question "Please indicate which of the following activities you participated in anywhere in South Dakota in the past **12 months**. (Check all that apply). " is one of the following answers ("Wildlife viewing")
Wildlife Watching Trip Expenditures

The following questions ask about your spending during your *WILDLIFE VIEWING* trips in South Dakota within the past 12 months.

Thinking about trips you took *primarily* to go WILDLIFE VIEWING in South Dakota in the past 12 months, please tell us how much you spent on all of your trips.

Food and Lodging

_____Groceries, food, liquor bought in stores (not in restaurants or bars)
_____Restaurants, bars, and take-out food purchases
_____Overnight accommodations (hotels/motels, B&Bs, campgrounds, cabin rental, etc.)

Transportation

_____Fuel and oil for your car, truck, boat, airplane, ATV & other transportation
_____Transportation services (air transport, taxi, boat ferries, shuttle vans, etc.)

Other Trip Costs

_____Guide fees, pack trip, or package fees
_____Equipment rental
_____Heating and cooking fuel
_____Souvenirs, gifts, other miscellaneous

Demographic Info

Are you...?

( ) Male
( ) Female

In what year were you born? Please enter your response as a four-digit number (for example, 1976).
_____

What is your ZIP postal code?

_____

What is the highest level of education you have attained?

( ) 11 years or less
( ) High school diploma

( ) Some college
( ) Associates degree
( ) Bachelors degree
( ) Advanced degree

What is your household income?

( ) Less than $20,000
( ) $20,000 to $29,999
( ) $30,000 to $39,999
( ) $40,000 to $49,999
( ) $50,000 to $74,999
( ) $75,000 to $99,999
( ) $100,000 to $149,999
( ) $150,000 to $199,999
( ) $200,000 or more

What is your race/ethnicity?

( ) White or caucasian
( ) African American
( ) Asian/Pacific Islander
( ) Hispanic or Latino
( ) American Indian
( ) Other
( ) I prefer not to say

Thank You!
Thank you for taking our survey. Your response is very important to us.

Appendix B: Mail Survey Questionnaire –Cover Letters and Postcards Sent to Sportsmen Receiving Mail Surveys

Mail survey: First cover letter

SOUTH DAKOTA DEPARTMENT OF
GAME, FISH AND PARKS
523 EAST CAPITOL AVENUE | PIERRE, SD 57501

September, 2016

Dear [Sportsman Name],

South Dakota Game, Fish and Parks is conducting a study to understand the economic contributions made by hunters, anglers and other outdoor enthusiasts to the state's economy. Because you are a valued participant in South Dakota's sporting tradition, we need your help to accurately measure the economic importance of outdoor sporting activity in our state.

Please take a few minutes to complete the attached survey being conducted for us by Southwick Associates. It asks about your fishing, hunting, trapping and boating activity and how much you spend in South Dakota on those activities. The survey will take about ten minutes for you to complete. You were randomly selected in a sample to represent all South Dakota sportsmen, therefore it is especially important that your input is included. Even if you only fish, hunt, trap or boat occasionally, we still would like to hear from you.

When you have completed the survey, simply return it in the enclosed postage-paid envelope. Your responses will be kept fully confidential, and no one will contact you as a result of participating in this survey. If you have any questions about the survey, please contact Cindy Longmire at (605) 773-4231 or by e-mail at cynthia.longmire@state.sd.us.

Thank you for taking time to provide your valuable input about your time outdoors in South Dakota.

Sincerely,

Kelly

Kelly Hepler

605.223.7660 | GFP.SD.GOV
WILDINFO@STATE.SD.US | PARKSINFO@STATE.SD.US

Mail survey: Second cover letter

SOUTH DAKOTA DEPARTMENT OF
GAME, FISH AND PARKS
523 EAST CAPITOL AVENUE | PIERRE, SD 57501

September, 2016

Dear [Sportsman Name]:

Recently, we sent you a survey about your fishing, hunting trapping and boating activities. Many of the other South Dakota sportsmen who received the survey have already responded, but we have not yet received your completed questionnaire.

Information about your spending on the outdoors is very valuable to this study because you have been selected as part of a random sample of South Dakota sportsmen that will represent all other people who enjoy the outdoors in our state. Therefore, it is very important that we hear from you. The survey is being conducted for us by Southwick Associates, a leading firm in the area of fish and wildlife matters.

Enclosed is a replacement questionnaire. Please take a few minutes to respond to the survey and return it in the postage-paid envelope. *Your responses to the survey questions will be kept strictly confidential* and your name will never be associated with the information you provide.

If you have any questions about the survey, you can contact Cindy Longmire at (605) 773-4231 or by e-mail at cynthia.longmire@state.sd.us.

I'd like to thank you again for participating in this important study.

Sincerely,

Kelly

Kelly Hepler

605.223.7660 | GFP.SD.GOV
WILDINFO@STATE.SD.US | PARKSINFO@STATE.SD.US

Mail survey: Pre-survey postcard

ADVANCE POSTCARD: sent one week before the first survey mailing

South Dakota Game, Fish and Parks
523 East Capitol Avenue
Pierre, SD 57501

Ms. Jane Doe
123 Bass Cove
Somewhere, SD 12345

Dear Jane Doe,

In about one week, you will receive a short survey in the mail asking about your outdoor recreational activities in South Dakota. When it arrives in an envelope from South Dakota Game, Fish and Parks, please take a few moments to complete the survey. The entire questionnaire should take about ten minutes to complete.

The agency is conducting this survey to help us better understand the economic contributions made by South Dakota's outdoor sportsmen and boaters. If you need a replacement questionnaire, or if you have any questions about the survey, please do not hesitate to contact Cindy Longmire at cynthia.longmire@state.sd.us

Sincerely,

Kelly

Kelly Hepler
South Dakota Game, Fish and Parks

Mail survey: Reminder postcard

***THANK-YOU / REMINDER POSTCARD:** to be sent one week after the first survey mailing.*

South Dakota Game, Fish and Parks
523 East Capitol Avenue
Pierre, SD 57501

Ms. Jane Doe
123 Bass Cove
Someplace, SD 12345

Dear Jane Doe:

A few days ago we sent you a survey seeking information about your spending on outdoor activities in South Dakota. If you have already completed and returned the questionnaire, please accept our sincere "Thank you" -- the information that you have provided will be used to help us serve you better.

If you have not yet completed the survey, please take a few minutes to do so today. Your information is very important to the success of our economic study.

If you need a replacement questionnaire, or if you have any questions about the survey, please do not hesitate to contact Cindy Longmire at cynthia.longmire@state.sd.us

Sincerely,

Kelly

Kelly Hepler
South Dakota Fame, Fish and Parks

Appendix C: Mail Survey Questionnaire – Hunting, Wildlife Viewing and Boating

999999

South Dakota Game, Fish, and Parks

Welcome to our survey of outdoor sporting recreation in South Dakota! This survey is being conducted to help us understand the economic contributions of our state's sportsmen.

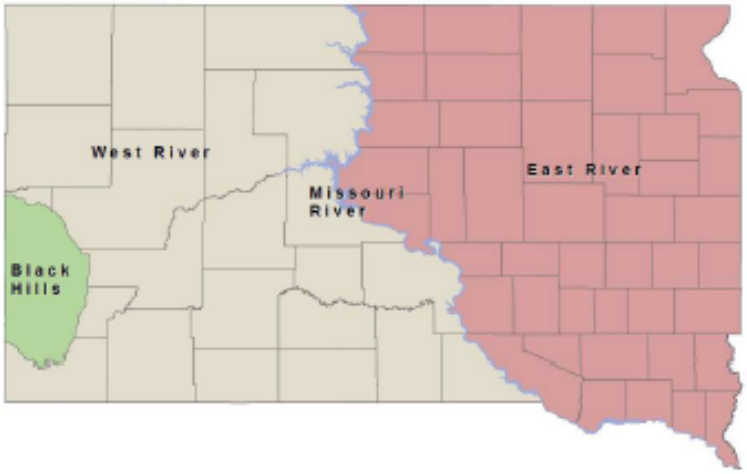
Thank you for your participation!

1) Outdoor Activity

Using the map below, please report the **number of days** for each type of activity you participated in over the **past 12 months** for each region.

Activities		Black Hills (days)	West River (days)	East River (days)	Missouri River (days)
Hunting (Total across all species.)					
Hunting days by species	Deer				
	Other big game (turkey, elk, bison, etc.)				
	Pheasant				
	Other small game (rabbit, squirrel, etc.)				
	Migratory birds (waterfowl, mourning dove, etc.)				
	Other (prairie dogs, coyotes, foxes, etc.)				
Trapping					
Wildlife viewing*					
Fishing					
Pleasure boating (not fishing)					

****NOTE**: A wildlife viewing trip is one where you travelled away from home for the primary purpose of viewing wildlife.*



2) **Which species did you primarily target on your <u>most recent</u> hunting trip *within the last 12 months*?**

- ❑ Deer
- ❑ Other Big Game (antelope, elk, bighorn sheep, mtn. goat, mtn. lion, or turkey)
- ❑ Pheasant
- ❑ Other Small Game (partridge, squirrel, rabbit, grouse, quail)
- ❑ Migratory Birds (mourning dove, waterfowl, sandhill crane, snipe)
- ❑ Other (please specify) _____
- ❑ I did not do any hunting in the last 12 months

3) **TYPICAL TRIP EXPENDITURES**

Thinking about a **<u>typical trip</u>** that you took to go hunting, wildlife viewing, or pleasure boating in South Dakota within the past 12 months, please tell us how much you spent on the following. Include ***only*** spending that took place in South Dakota.

NOTE: If you hunted, please base your response on the species that you most recently hunted and reported in question #2 above.

If you did not take a trip to go hunting, wildlife viewing or boating in the last 12 months, check the appropriate box below and leave the spending boxes blank.

	Hunting (Species in #2)	Wildlife Viewing	Pleasure Boating
I did not take a trip in the last 12 months:	❑	❑	❑
Food and Lodging			
Groceries, food, liquor bought in stores (not in restaurants or bars)	$	$	$
Restaurants, bars, and take-out food purchases	$	$	$
Overnight accommodations (hotels/motels, B&Bs, campgrounds, cabin rental, etc.)	$	$	$
Transportation			
Fuel and oil for your car, truck, boat, airplane, ATV & other transportation	$	$	$
Transportation services (air transport, taxi, boat ferries, shuttle vans, etc.)	$	$	$
Guide fees, pack trip, or package fees	$	$	$
Other Trip Costs			
Equipment rental	$	$	$
Heating and cooking fuel	$	$	$
Souvenirs, gifts, other miscellaneous	$	$	$
How many days long is a typical trip?	days	days	days

4) Hunting Equipment Expenditures

Please tell us how much you **spent in the past 12 months** on the following equipment and accessories for **ALL** of your hunting that took place in **South Dakota**. Include any amount that you also spent for children under age 18 who live in your home. Include ***only*** items that you purchased in South Dakota.

❒ *Check here if you did not purchase any hunting equipment in the last 12 months;* ***SKIP*** *to question #5.*

NOTE: Some items can be used for multiple purposes. **Please report spending only for items that were used *primarily* for hunting activities in South Dakota within the past 12 months.**

Hunting equipment	
$	Firearms (rifles, shotguns, handguns)
$	Bows, arrows, archery equipment
$	Ammunition
$	Telescopic sights
$	Decoys or game calls
$	Hunting dogs & associated costs
Other equipment purchased primarily for hunting	
$	Camping equipment
$	Binoculars, field glasses, telescopes, etc.
$	Clothing & footwear for hunting
$	Animal processing and taxidermy
$	Other (magazine, books, land leases, membership dues, licenses, etc.)
$	Cabins
$	Motorized vehicles (trail bikes, 4X4s, ATVs, snowmobiles, etc.).

5) Wildlife Viewing Equipment Expenditures

Please tell us how much you spent in the past **12 months** on the following equipment and accessories for wildlife viewing activities that took place in **South Dakota**. Include any amount that you also spent for children under age 18 who live in your home. Include ***only*** items that you purchased in South Dakota.

❒ *Check here if you did not purchase any wildlife viewing equipment in the last 12 months;* ***SKIP*** *to question #6.*

NOTE: Some items can be used for multiple purposes**. Please report spending only for items that were used *primarily* for wildlife viewing activities in South Dakota within the past 12 months.**

Wildlife viewing equipment	
$	Binoculars, field glasses, spotting scopes, etc.
$	Cameras and accessories
$	Pack-baskets, packs, & pouches
$	Animal feed
Other equipment used primarily for wildlife viewing	
$	Camping equipment (tents, backpacks, etc.)
$	Magazines, books, field guides, DVDs
$	Membership dues & contributions
$	Plantings

6) How many of each size of boat shown below did you **own that were registered for use in the last 12 months**? Please include all power boats, jet-skis/PWC, sail boats, rowboats, canoes/kayaks, etc.

❒ *Check here if you did not own or register any boats in the last 12 months and **SKIP** to question #7.*

# of boats	Type of watercraft
	Personal watercraft of any size (jet skis, PWC)
	Under 12 feet
	12 to 16 feet
	17 to 26 feet
	Larger than 26 feet

7) **Boating Equipment Expenditures**

Please tell us how much you spent in the past **12 months** on the following equipment and accessories for **ALL** of your boating (both fishing and non-fishing) recreation activities that took place in **South Dakota**. Include any amount that you also spent for children under age 18 who live in your home. Include *only* items that you purchased in South Dakota.

❒ *Check here if you did not purchase any boat equipment in the last 12 months; **SKIP** to question #8.*

NOTE: Some items can be used for multiple purposes. **Please report spending only for items that were used *primarily* for boating activities (fishing or pleasure boating) in South Dakota within the past 12 months.**

Boating equipment	
$	Boats (motorboats, sailboats, canoes, kayaks, etc.)
$	Boat trailers
$	Motors (outboard, inboard, trolling)
$	Electronics (depth finders, GPS, radios, etc.)
$	Boat and trailer accessories (anchors, ropes, buoys, bumpers, etc.)
$	Other boating equipment
Other equipment used primarily for boating	
$	Coolers
$	Boat storage fees, launch ramp fees, mooring fees, etc.
$	Life jackets, life preservers, and personal flotation devices
$	Clothing for boating
$	Other (magazine, books, land leases, membership dues, licenses, etc.)
%	**What percent of your spending on boating equipment was primarily for fishing?**

8) **What is the highest level of education you have attained?**

❒ 11 years or less ❒ High school ❒ Some college

❒ Associates degree ❒ Bachelor's degree ❒ Advanced degree

9) **What is your race/ethnicity?**

❒ White or Caucasian ❒ Hispanic or Latino ❒ African American

❒ Asian/Pacific Islander ❒ American Indian ❒ Other

Thank you for taking our survey. Your input is very important to us.

Appendix D: Mail Survey Questionnaire – Fishing, Wildlife Viewing and Boating

999999

South Dakota Game, Fish, and Parks

Welcome to our survey of outdoor sporting recreation in South Dakota! This survey is being conducted to help us understand the economic contributions of our state's sportsmen.

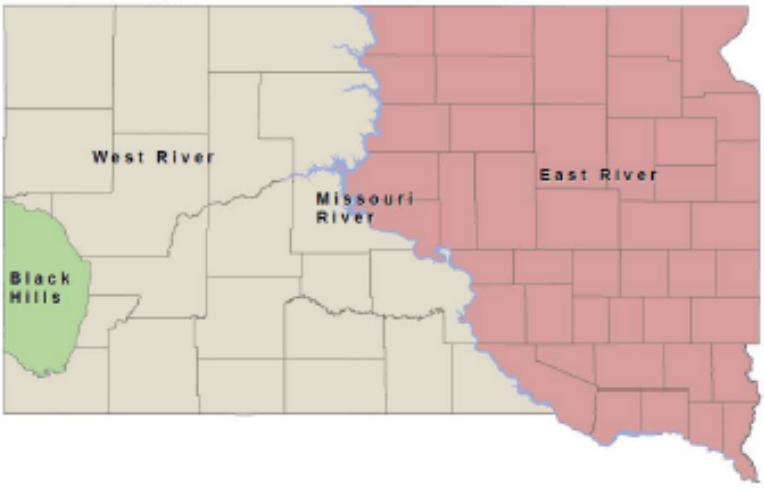
Thank you for your participation!

1) Outdoor Activity

Using the map below, please report the **number of days** for each type of activity you participated in over the **past 12 months** for each region.

Activities		Black Hills (days)	West River (days)	East River (days)	Missouri River (days)
Hunting (Total across all species.)					
Hunting days by species	Deer				
	Other big game (turkey, elk, bison, etc.)				
	Pheasant				
	Other small game (rabbit, squirrel, etc.)				
	Migratory birds (waterfowl, mourning dove, etc.)				
	Other (prairie dogs, coyotes, foxes, etc.)				
Trapping					
Wildlife viewing*					
Fishing					
Pleasure boating (not fishing)					

****NOTE**: A wildlife viewing trip is one where you travelled away from home for the primary purpose of viewing wildlife.*



2) Typical Trip Expenditures

Thinking about a **typical trip** that you took to go fishing, wildlife viewing, or pleasure boating in South Dakota within the past 12 months, please tell us how much you spent on the following. Include ***only*** spending that took place in South Dakota.

If you did not take a trip to go fishing, wildlife viewing or pleasure boating in the last 12 months, check the appropriate box below and leave the spending boxes blank.

	Fishing	Wildlife Viewing	Pleasure Boating
I did not take a trip in the last 12 months:	❒	❒	❒
Food and Lodging			
Groceries, food, liquor bought in stores (not in restaurants or bars)	$	$	$
Restaurants, bars, and take-out food purchases	$	$	$
Overnight accommodations (hotels/motels, B&Bs, campgrounds, cabin rental, etc.)	$	$	$
Transportation			
Fuel and oil for your car, truck, boat, airplane, ATV & other transportation	$	$	$
Transportation services (air transport, taxi, boat ferries, shuttle vans, etc.)	$	$	$
Guide fees, pack trip, or package fees	$	$	$
Other Trip Costs			
Equipment rental	$	$	$
Heating and cooking fuel	$	$	$
Souvenirs, gifts, other miscellaneous	$	$	$
How many days long is a typical trip?	days	days	days

3) Fishing Equipment Expenditures

Please tell us how much you **spent in the past 12 months** on the following equipment and accessories for **ALL** of your fishing that took place in **South Dakota**. Include any amount that you also spent for children under age 18 who live in your home. Include ***only*** items that you purchased in South Dakota.

❒ *Check here if you did not purchase any fishing equipment in the last 12 months;* ***SKIP*** *to question #4.*

NOTE: Some items can be used for multiple purposes. **Please report spending only for items that were used *primarily* for fishing in South Dakota within the past 12 months.**

Fishing equipment	
$	Rods, reels, poles, and rod-making components
$	Lines and leaders
$	Lures, bait and bait containers
$	Hooks, sinkers, other items attached to lines
$	Fish finders and other electronic fish devices
$	Tackle boxes and other fishing item storage
$	Creels, fish bags, hooks, landing nets
$	Other fishing equipment
Other equipment purchased primarily for fishing	
$	Camping equipment
$	Binoculars, field glasses, telescopes, etc.
$	Clothing & footwear for fishing
$	Animal processing and taxidermy
$	Other (magazine, books, land leases, membership dues, licenses, etc.)
$	Cabins
$	Motorized vehicles (trail bikes, 4X4s, ATVs, snowmobiles, etc.).

4) Wildlife Viewing Equipment Expenditures

Please tell us how much you spent in the past **12 months** on the following equipment and accessories for wildlife viewing activities that took place in **South Dakota**. Include any amount that you also spent for children under age 18 who live in your home. Include ***only*** items that you purchased in South Dakota.

❒ *Check here if you did not purchase any wildlife viewing equipment in the last 12 months;* ***SKIP*** *to question #5.*

NOTE: Some items can be used for multiple purposes. **Please report spending only for items that were used *primarily* for wildlife viewing activities in South Dakota within the past 12 months.**

Wildlife viewing equipment	
$	Binoculars, field glasses, spotting scopes, etc.
$	Cameras and accessories
$	Pack-baskets, packs, & pouches
$	Animal feed
Other equipment used primarily for wildlife viewing	
$	Camping equipment (tents, backpacks, etc.)
$	Magazines, books, field guides, DVDs
$	Membership dues & contributions
$	Plantings

5) How many of each size of boat shown below did you **own that were registered for use in the last 12 months**? Please include all power boats, jet-skis/PWC, sail boats, rowboats, canoes/kayaks, etc.

❒ *Check here if you did not own or register any boats in the last 12 months and **SKIP** to question #7.*

# of boats	Type of watercraft
	Personal watercraft of any size (jet skis, PWC)
	Under 12 feet
	12 to 16 feet
	17 to 26 feet
	Larger than 26 feet

6) **Boating Equipment Expenditures**

Please tell us how much you spent in the past **12 months** on the following equipment and accessories for **ALL** of your boating (both fishing and non-fishing) recreation activities that took place in **South Dakota**. Include any amount that you also spent for children under age 18 who live in your home. Include *only* items that you purchased in South Dakota.

❒ *Check here if you did not purchase any boat equipment in the last 12 months; **SKIP** to question #7.*

NOTE: Some items can be used for multiple purposes. **Please report spending only for items that were used *primarily* for boating activities (fishing or pleasure boating) in South Dakota within the past 12 months.**

Boating equipment	
$	Boats (motorboats, sailboats, canoes, kayaks, etc.)
$	Boat trailers
$	Motors (outboard, inboard, trolling)
$	Electronics (depth finders, GPS, radios, etc.)
$	Boat and trailer accessories (anchors, ropes, buoys, bumpers, etc.)
$	Other boating equipment
Other equipment used primarily for boating	
$	Coolers
$	Boat storage fees, launch ramp fees, mooring fees, etc.
$	Life jackets, life preservers, and personal flotation devices
$	Clothing for boating
$	Other (magazine, books, land leases, membership dues, licenses, etc.)
%	**What percent of your spending on boating equipment was primarily for fishing?**

7) **What is the highest level of education you have attained?**

❒ 11 years or less ❒ High school ❒ Some college
❒ Associates degree ❒ Bachelor's degree ❒ Advanced degree

8) **What is your race/ethnicity?**

❒ White or Caucasian ❒ Hispanic or Latino ❒ African American
❒ Asian/Pacific Islander ❒ American Indian ❒ Other

Thank you for taking our survey! Your input is very important to us.

Appendix E: Economic Contributions per Hunter, Angler, Trapper, Boater, and Wildlife Viewer

Tables E1 and E2 present estimated annual spending and impacts per participant in fishing, hunting, wildlife viewing, trapping, and boating. These estimates can be used to estimate economic contributions attributable to wildlife management plans when it is known how the plans will change participation in these particular activities. Table E1 reports average spending based on both resident and nonresident participants. Table E2 reports average spending based on nonresident participants only.

Table E 1. Economic contributions per hunter, angler, trapper, boater, and wildlife viewer (both residents and nonresidents)

Economic contributions	Fishing	Hunting	Wildlife Viewing	Trapping	Boating
Direct spending	$1,261	$3,164	$298	$507	$1,458
Jobs (per 100 participants)	1.4	4.2	0.4	0.5	1.2
Labor Income	$455	$1,313	$118	$167	$448
State GDP "Value Added"	$736	$2,148	$183	$285	$730
Tax Revenues					
Federal	$107	$309	$27	$40	$107
State & local	$79	$203	$18	$25	$92

Table E 2. Economic contributions per **nonresident** hunter, angler, boater, and wildlife viewer

	Fishing	Hunting	Wildlife Viewing	Trapping	Boating
Direct spending	$828	$2,770	$223	na	$1,372
Jobs (per 100 participants)	1.3	3.8	0.3	na	2.1
Labor Income	$383	$1,154	$93	na	$630
State GDP "Value Added"	$596	$1,871	$144	na	$1,052
Tax Revenues					
Federal	$87	$270	$21	na	$151
State & local	$61	$178	$15	na	$104