



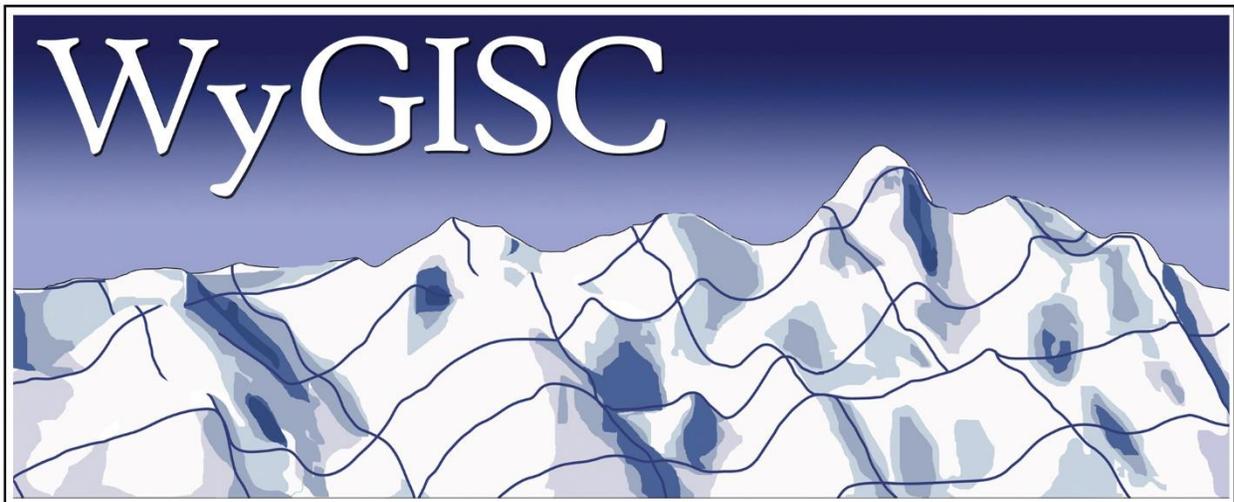
Sweetwater County Related Hunting and Fishing Spending, 2015

For the Sweetwater County Commissioners



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WYOMING GEOGRAPHIC INFORMATION SCIENCE CENTER
www.uwyo.edu/wygisc (307) 766-2532 wygisc@uwyo.edu

Introduction

Expenditures by hunters and anglers make an important contribution to Wyoming's economy. This contribution is particularly important during times of economic downturn in the state's energy sectors. The U.S. Fish and Wildlife Service (USFWS), in its National Survey of Fishing, Hunting, and Wildlife-Associated Recreation report, estimates that 443,000 resident and nonresident hunters and anglers participated in 4.8 million days hunting and fishing in Wyoming during 2011 (Table 1). The report also estimates that this recreation activity generates \$683.7 million of spending within the Wyoming economy.

Access to both public and private lands is important for hunting and fishing in Wyoming. For hunting, the USFWS report estimates that 49 percent of hunters in Wyoming hunt exclusively on public land, 35 percent hunt on both public and private land, and 16 percent hunt exclusively on private land. Overall, more than one-third of the hunters in Wyoming hunted on both public and private lands.

Although the statewide information on hunting and fishing expenditures is important, residents and local officials are also interested in the local economic importance of hunting and fishing expenditures. In response to this interest, this analysis attempts to estimate the spending associated with hunting and fishing for Sweetwater County, Wyoming.

Methodology

In order to estimate recreation spending, two types of information are needed. One is the amount of recreation use and the other is per unit expenditures associated with that recreation use. For this analysis recreation use for hunting was based on the hunter-day estimates from the Wyoming Game & Fish Department's (WGFD) 2015 Annual Harvest Reports by Hunt Area. Harvest reports were available for the following species: Antelope, Bighorn Sheep, Bison, Black Bear, Deer, Elk, Moose, and Mountain Goat. Because Hunt Area boundaries are based on habitat rather than county boundaries, not all the Hunt Areas found in Sweetwater County are located entirely within the borders of the county. To account for this, a GIS analysis was conducted by the Wyoming Geographic Information Science Center at the University of Wyoming to estimate the percent of each Hunt Area that was located within Sweetwater County. This percentage was then used to allocate the proportion of total hunter days for the Hunt Area in Sweetwater County. These percentages by hunt area are detailed in the maps at the end of this report. Unfortunately, there was no data available on fishing-days by sub-regions of the state. Because of this, recreation use for fishing was based on the WGFD's 2015 data on fishing licenses sold in Sweetwater County.

In order to estimate per unit expenditures for hunting and fishing in this analysis, per unit estimates for Wyoming from the USFWS 2011 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation report were used. These values were adjusted for inflation to 2015 dollars. Combining the recreational use amounts with the per unit of expenditures amounts provided estimates of hunting and fishing spending related to Sweetwater County. Since the USFWS expenditure estimates are for all of Wyoming, not just Sweetwater County and because the fishing associated with a Wyoming fishing license purchased in Sweetwater County can occur throughout the state, it is not possible to assume

that 100 percent of these expenditures actually occur within the Sweetwater County economy. However, based on proximity it does seem likely that a high percentage of these expenditures may in fact occur within the county's economy.

Results

Table 2 summarizes the estimates of Sweetwater County related hunting and fishing spending for 2015. From WGFD Hunt Area data it is estimated that there were more than 34,300 Big Game and Trophy Game hunting days in Sweetwater County in 2015. Based on USFWS expenditure estimates for Wyoming, adjusted to 2015 dollars (\$90.91 per day for residents and \$579.82 per day for nonresidents), it is estimated that these hunter-days generated spending of \$5.4 million. Information on the hunter-days by individual species can found in the Appendix Tables at the end of this report.

Fishing license sales data indicated that more than 15,100 fishing licenses were sold in Sweetwater County in 2015. From USFWS data for average fishing days in Wyoming, it is estimated that the holders of these fishing licenses participated in nearly 137,000 angler-days in Wyoming. The expenditures associated with these fishing licenses are estimated to be \$8.8 million. This spending estimate was developed by using USFWS annual individual expenditures in Wyoming by anglers for annual fishing licenses and USFWS daily individual expenditures in Wyoming by anglers for daily fishing licenses. Since USFWS expenditure data only applies to hunters and anglers 16 years-of-age and over, youth annual license sales, which are for ages 14-18, were reduced by 50 percent to account for anglers less than 16 years-of-age. Combined total hunting and fishing related spending related to Sweetwater County in 2015 is estimated to be \$14.2 million.

Summary and Conclusions

Hunting and fishing are economically important to the Sweetwater County economy. It is likely that much of the \$14.2 million of spending by hunters and anglers occurs within the Sweetwater County economy. In addition, those dollars that are spent locally generate secondary impacts in various other support sectors within the local economy. These types of economic contributions become particularly important during times of economic downturn in the state's energy sector. The popularity of hunting and fishing with both residents and nonresidents indicates that these recreational activities are important in terms of both contributions to the local economy and contributions to the residents' quality of life.

Table 1. 2011 Hunting and Fishing Spending in Wyoming					
Participation					
	Total	Resident	Nonresident	Resident	Nonresident
	Fishing	Fishing	Fishing	Fishing	Fishing
Total Individuals	303,000	110,000	193,000	36.3%	63.7%
Total Trips	2,902,000	1,510,000	1,392,000	52.0%	48.0%
Total Days	3,123,000	2,009,000	1,114,000	64.3%	35.7%
Average Days	10.3	18.3	5.8		
	Total	Resident	Nonresident	Resident	Nonresident
	Hunting	Hunting	Hunting	Hunting	Hunting
Total Individuals	140,000	76,000	64,000	54.3%	45.7%
Total Trips	1,204,000	978,000	225,000	81.2%	18.7%
Total Days	1,726,000	1,103,000	623,000	63.9%	36.1%
Average Days	12.3	14.5	9.7		
Source: USFWS, 2011 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation (Wyoming - Table 3)					
2011 Trip and Equipment Expenditures in Wyoming					
	Total	Resident	Nonresident	Resident	Nonresident
	Fishing	Fishing	Fishing	Fishing	Fishing
Total Amount	\$438,892,000	\$95,365,000	\$343,527,000	21.7%	78.3%
Per Individual	\$1,448.49	\$866.95	\$1,779.93		
Per Trip	\$151.24	\$63.16	\$246.79		
Per Day	\$140.54	\$47.47	\$308.37		
	Total	Resident	Nonresident	Resident	Nonresident
	Hunting	Hunting	Hunting	Hunting	Hunting
Total Amount	\$244,865,000	\$115,763,000	\$129,102,000	47.3%	52.7%
Per Individual	\$3,134.94	\$1,254.80	\$5,367.61		
Per Trip	\$364.53	\$97.51	\$1,526.79		
Per Day	\$254.28	\$86.46	\$551.41		
Source: USFWS, 2011 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation (Wyoming - Table 21)					

Table 2. Sweetwater County Related Hunting and Fishing Spending, 2015				
Big and Trophy Game Hunting				
	Resident	NonResident	Combined	
	Hunter	Hunter	Hunter	
Species	Days (1)	Days (1)	Days (1)	
Antelope	4,319	1,951	6,270	
Black Bear	730	13	744	
Deer	11,727	1,382	13,109	
Elk	12,799	1,351	14,150	
Moose	51	5	57	
Total Hunting Days	29,626	4,703	34,329	
Total Hunting Days	29,626	4,703	34,329	
Spending Per Day (2)	\$90.91	\$579.82	\$157.89	
Total Hunting Spending	\$2,693,469	\$2,726,922	\$5,420,391	
Fishing Licenses Sold in Sweetwater County 2015				
		Per	Total	Total
	License	Angler	Fishing	Angler
Type	Sold (3)	Spending (2)	Spending	Days (2)
Resident Annual	6,581	\$911.62	\$5,999,367	120,432
Resident Youth Annual	334	\$911.62	\$304,025	6,103
Resident Daily	3,162	\$49.92	\$157,834	3,162
Non-Resident Annual	374	\$1,871.64	\$699,994	2,169
Non-Resident Youth Annual	44	\$1,871.64	\$82,352	255
Non-Resident Daily	4,676	\$324.26	\$1,516,234	4,676
Total Fishing Spending	15,171	\$577.42	\$8,759,805	136,798
Combined Hunting & Fishing Spending			\$14,180,196	
(1) Based WGFD Annual Harvest Reports by Hunt Area and percent of Hunt Areas that are in the County				
(2) Based on USFWS 2011 National Survey of Fishing, Hunting, and Wildlife - Associated Recreation - Wyoming (Adjusted for inflation)				
(3) Adjusted for Youth under 16				

Appendix Table 1. Sweetwater County Antelope Hunting, 2015								
				Total	Total	County	County	Combined
				Resident	NonRes	Resident	NonRes	County
Hunt	Total	County	County	Hunter	Hunter	Hunter	Hunter	Hunter
Areas	Acres	Acres	Percent	Days	Days	Days	Days	Days
55	245,843	45,640	18.6%	310	69	58	13	70
57	1,136,387	831,610	73.2%	738	204	540	149	689
58	700,037	699,998	100.0%	168	23	168	23	191
59	353,479	353,479	100.0%	661	76	661	76	737
60	1,029,591	1,012,813	98.4%	98	37	96	36	133
61	804,234	568,728	70.7%	311	83	220	59	279
64	334,378	64,073	19.2%	208	75	40	14	54
90	1,044,370	202,779	19.4%	1,273	389	247	76	323
91	440,579	64,360	14.6%	1,197	678	175	99	274
92	861,162	827,708	96.1%	248	124	238	119	358
93	991,703	288,944	29.1%	1,338	329	390	96	486
94	548,032	30,196	5.5%	1,385	1,580	76	87	163
95	857,364	687,358	80.2%	1,399	1,219	1,122	977	2,099
96	615,138	615,128	100.0%	115	9	115	9	124
112	421,580	421,522	100.0%	173	118	173	118	291
Total	10,383,878	6,714,337	64.7%	9,622	5,013	4,319	1,951	6,270

Source: Wyoming Game and Fish Department Annual Harvest Reports, 2015

Appendix Table 2. Sweetwater County Black Bear Hunting, 2015								
				Total	Total	County	County	Combined
				Resident	NonRes	Resident	NonRes	County
Hunt	Total	County	County	Hunter	Hunter	Hunter	Hunter	Hunter
Areas	Acres	Acres	Percent	Days	Days	Days	Days	Days
9	1,752,492	45,302	2.6%	1,588	146	41	4	45
10	1,444,790	687,079	47.6%	233	14	111	7	117
11	1,122,710	295	0.0%	1,252	116	0	0	0
12	776,562	774,751	99.8%	367	0	366	0	366
19	2,071,245	65,765	3.2%	1,773	75	56	2	59
35	28,928,770	5,141,190	17.8%	876	3	156	1	156
Total	36,096,569	6,714,381	18.6%	6,089	354	730	13	744

Source: Wyoming Game and Fish Department Annual Harvest Reports, 2015

Appendix Table 3. Sweetwater County Deer Hunting, 2015								
				Total	Total	County	County	Combined
				Resident	NonRes	Resident	NonRes	County
Hunt	Total	County	County	Hunter	Hunter	Hunter	Hunter	Hunter
Areas	Acres	Acres	Percent	Days	Days	Days	Days	Days
84	367,580	45,640	12.4%	178	36	22	4	27
94	558,632	33,511	6.0%	1,599	284	96	17	113
96	434,973	60,921	14.0%	1,701	658	238	92	330
98	699,961	538,368	76.9%	2,648	248	2,037	191	2,227
100	1,136,387	831,610	73.2%	839	284	614	208	822
101	700,037	699,998	100.0%	92	37	92	37	129
102	775,060	775,001	100.0%	1,004	203	1,004	203	1,207
130	440,579	64,360	14.6%	874	50	128	7	135
131	2,563,120	2,510,075	97.9%	1,558	91	1,526	89	1,615
132	1,116,900	687,358	61.5%	5,085	529	3,129	326	3,455
134	800,037	30,196	3.8%	3,170	920	120	35	154
135	1,539,396	235,472	15.3%	15,163	1,005	2,319	154	2,473
138	1,043,099	201,826	19.3%	2,077	100	402	19	421
Total	12,175,760	6,714,337	55.1%	35,988	4,445	11,727	1,382	13,109

Source: Wyoming Game and Fish Department Annual Harvest Reports, 2015

Appendix Table 4. Sweetwater County Elk Hunting, 2015								
				Total	Total	County	County	Combined
				Resident	NonRes	Resident	NonRes	County
Hunt	Total	County	County	Hunter	Hunter	Hunter	Hunter	Hunter
Areas	Acres	Acres	Percent	Days	Days	Days	Days	Days
24	434,895	60,857	14.0%	2,033	365	284	51	336
25	776,638	74,047	9.5%	2,566	375	245	36	280
30	353,479	353,479	100.0%	226	22	226	22	248
31	179,514	179,507	100.0%	839	189	839	189	1,028
32	242,066	242,014	100.0%	928	96	928	96	1,024
98	1,237,965	394,523	31.9%	7,131	923	2,273	294	2,567
99	440,579	64,360	14.6%	2,630	439	384	64	448
100	2,389,159	2,258,021	94.5%	523	90	494	85	579
102	957,788	254,358	26.6%	9,773	1,220	2,595	324	2,919
105	1,087,107	30,196	2.8%	2,354	83	65	2	68
107	976,423	687,358	70.4%	4,592	44	3,233	31	3,264
108	367,580	45,640	12.4%	1,717	396	213	49	262
118	699,961	538,368	76.9%	323	58	248	45	293
124	1,836,424	1,531,608	83.4%	925	75	771	63	834
Total	11,979,579	6,714,338	56.0%	36,560	4,375	12,799	1,351	14,150

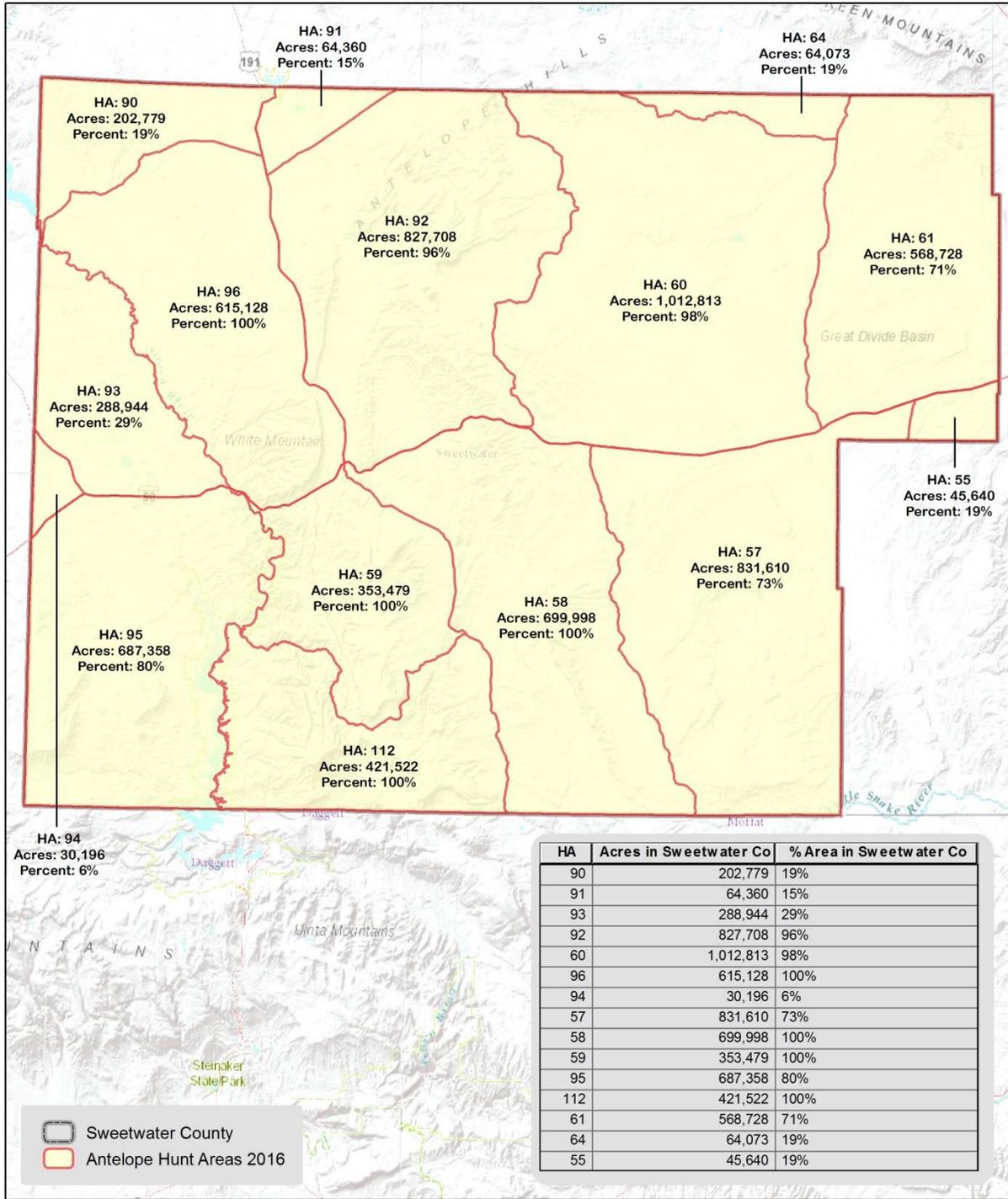
Source: Wyoming Game and Fish Department Annual Harvest Reports, 2015

Appendix Table 5. Sweetwater County Moose Hunting, 2015								
				Total	Total	County	County	Combined
				Resident	NonRes	Resident	NonRes	County
Hunt	Total	County	County	Hunter	Hunter	Hunter	Hunter	Hunter
Areas	Acres	Acres	Percent	Days	Days	Days	Days	Days
2	1,159,888	33,511	2.9%	65	4	2	0	2
25	960,423	4,476	0.5%	412	35	2	0	2
30	516,059	64,360	12.5%	67	13	8	2	10
33	177,739	174,927	98.4%	10	0	10	0	10
35	976,423	687,358	70.4%	39	5	27	4	31
40	961,243	265,668	27.6%	6	0	2	0	2
41	1,757,479	45,640	2.6%	0	0	0	0	0
44	1,475,092	1,474,998	100.0%	0	0	0	0	0
Total	7,984,346	2,750,938	34.5%	599	57	51	5	57

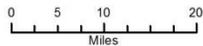
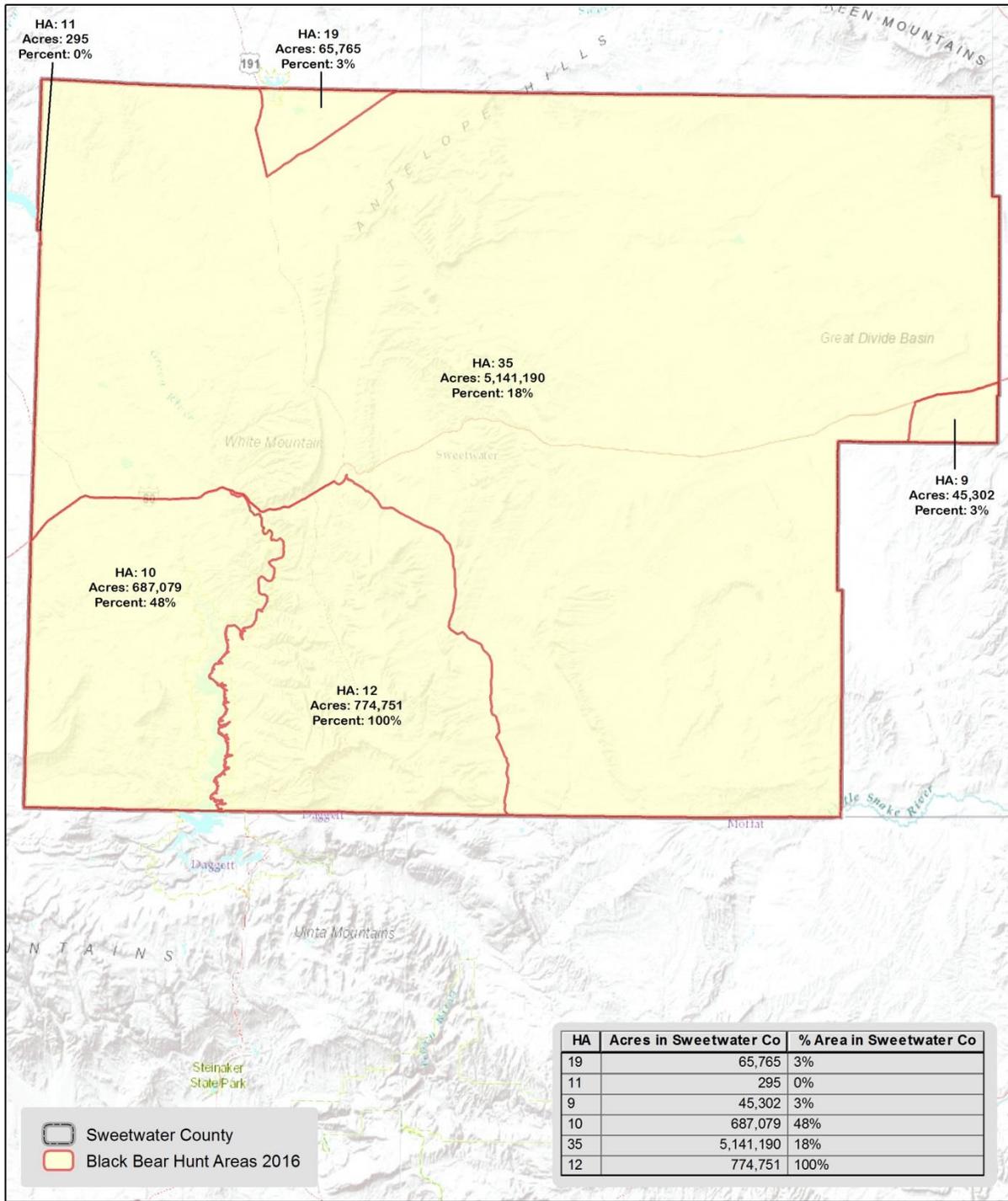
Source: Wyoming Game and Fish Department Annual Harvest Reports, 2015

Appendix Table 6. Fishing Licenses Sold in Sweetwater County 2015			
		Adjustment	County
	County	Youth Under	Over 16
Type	Licenses	16	Licenses
Resident Annual	6,581		6,581
Resident Youth Annual	667	50.0%	334
Resident Daily	3,162		3,162
Non-Resident Annual	374		374
Non-Resident Youth Annual	88	50.0%	44
Non-Resident Daily	4,676		4,676
Total	15,548		15,171

Source: Wyoming Game and Fish Department, 2015

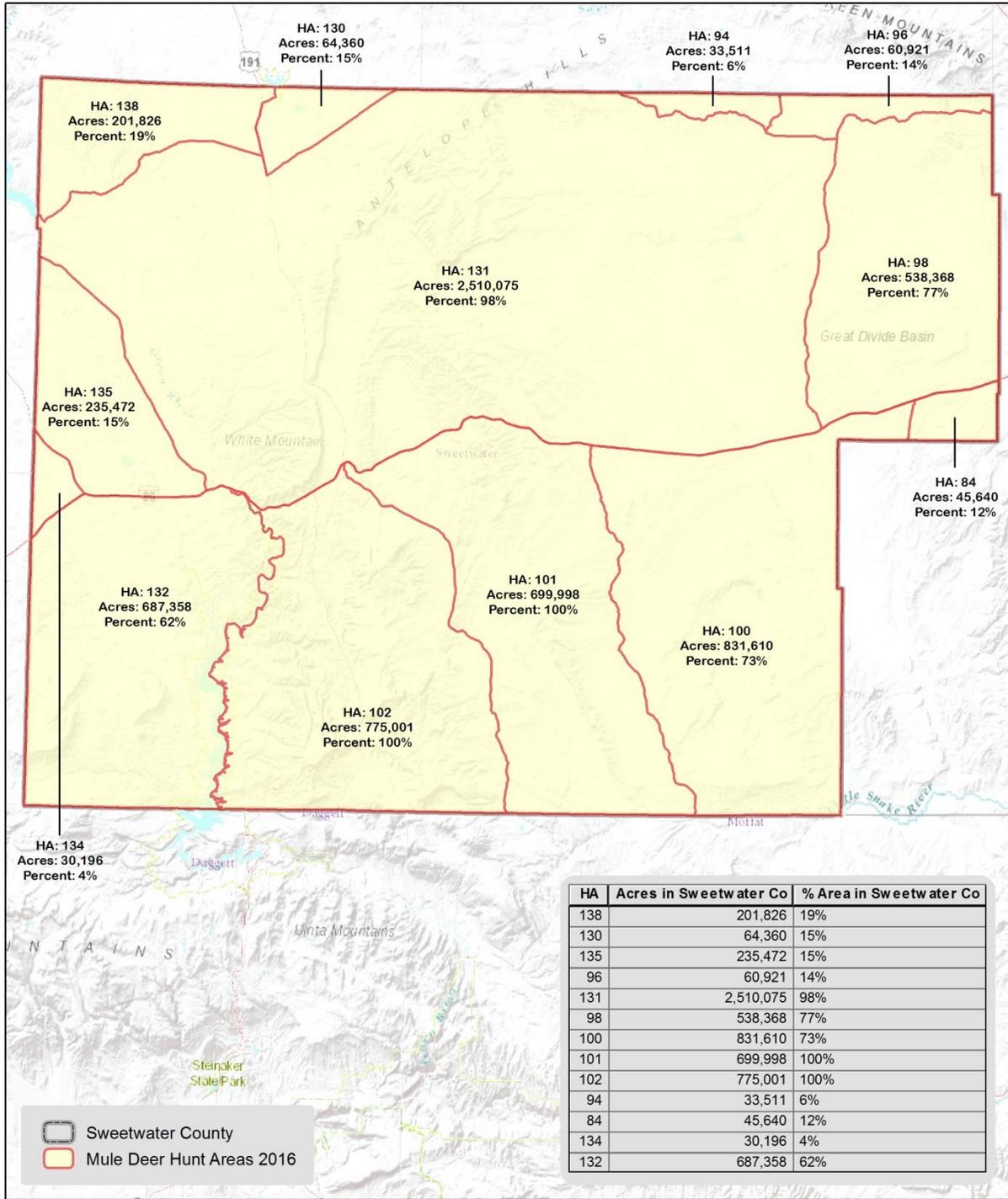


Percentage of 2016 Antelope Hunt Areas (HA) within Sweetwater County



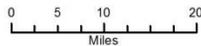
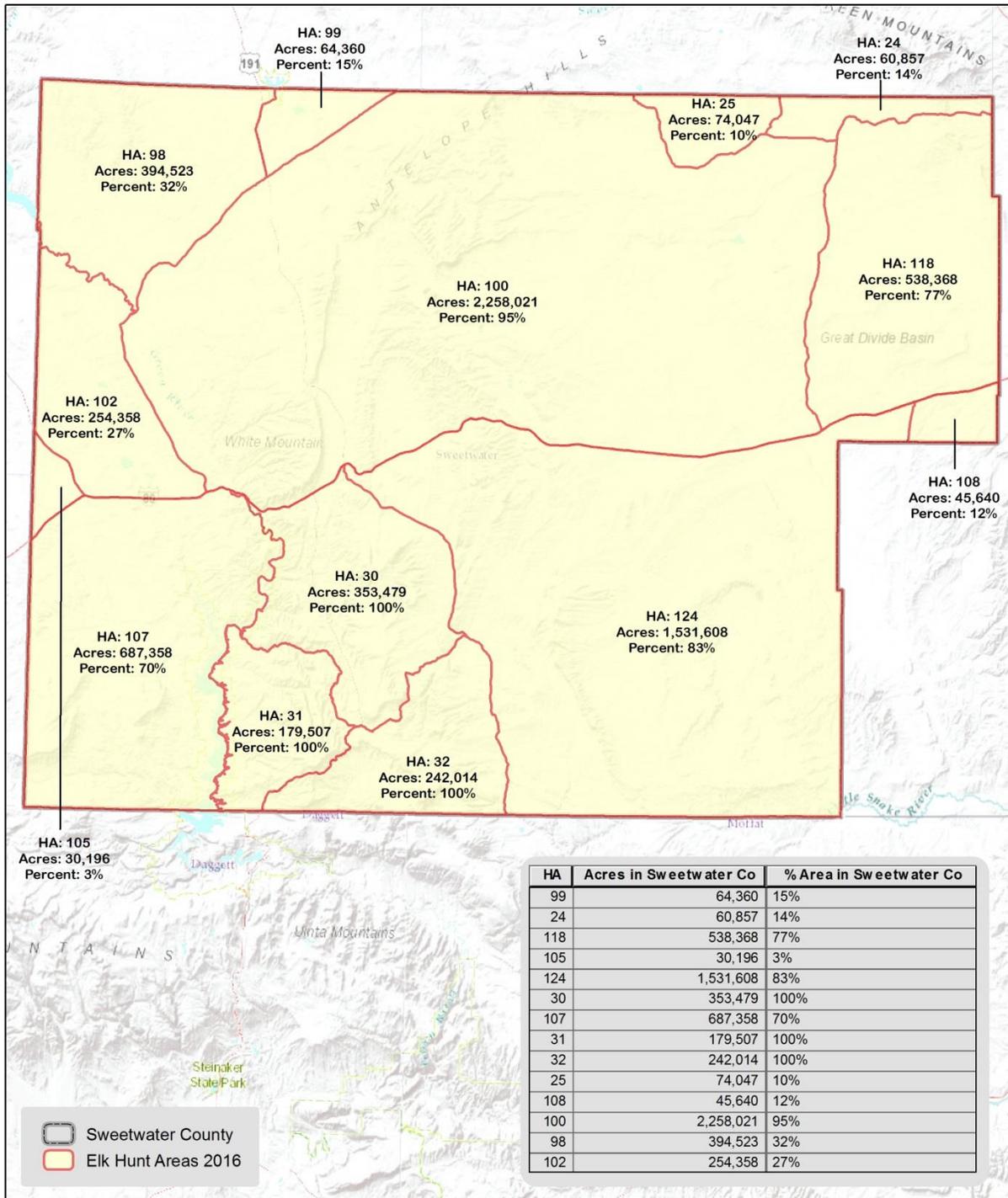
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Percentage of 2016 Black Bear Hunt Areas (HA) within Sweetwater County



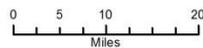
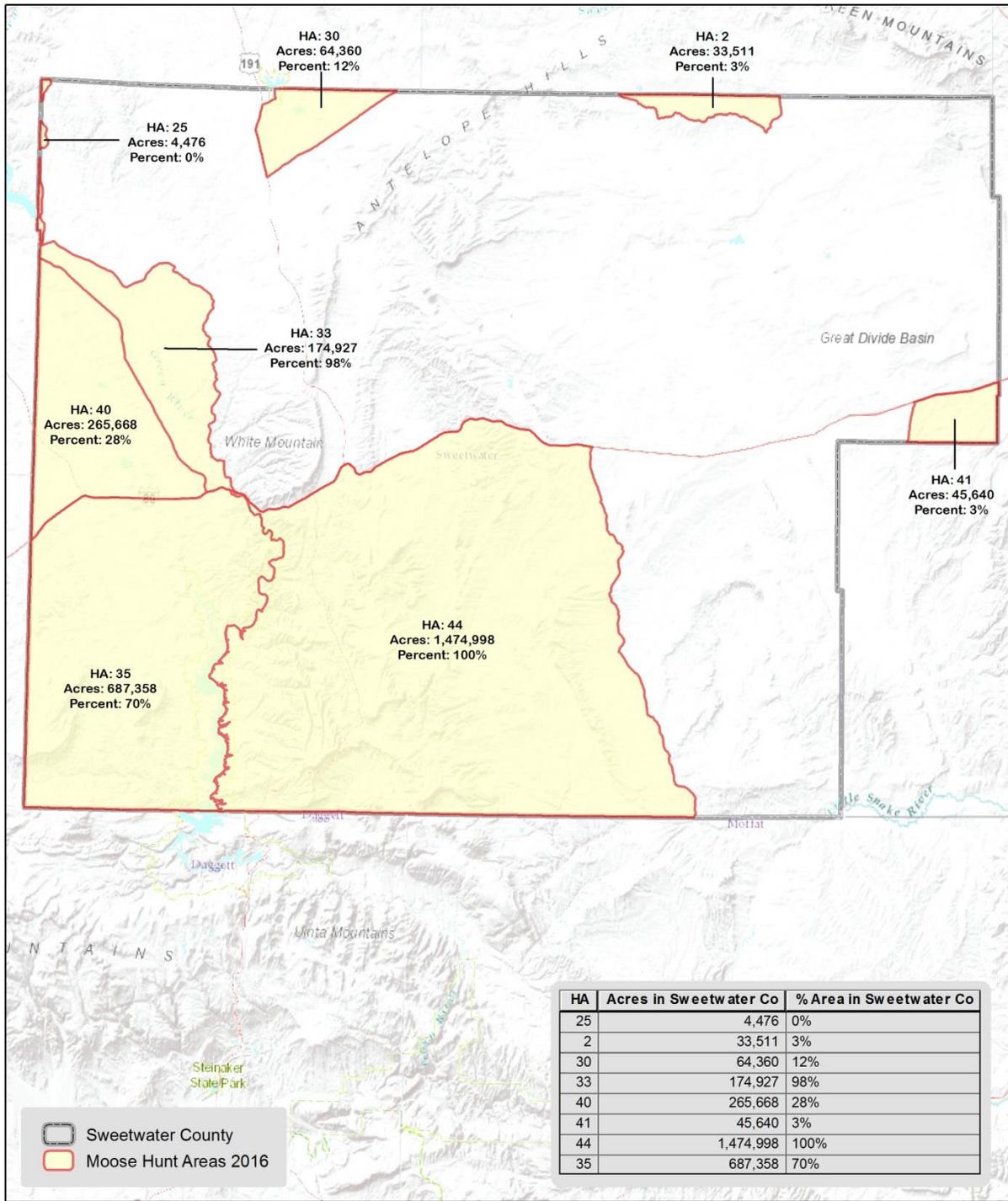
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Percentage of 2016 Mule Deer Hunt Areas (HA) within Sweetwater County



Scale: 1:1,000,000

Percentage of 2016 Elk Hunt Areas (HA) within Sweetwater County



Scale: 1:1,000,000

Percentage of 2016 Moose Hunt Areas (HA) within Sweetwater County