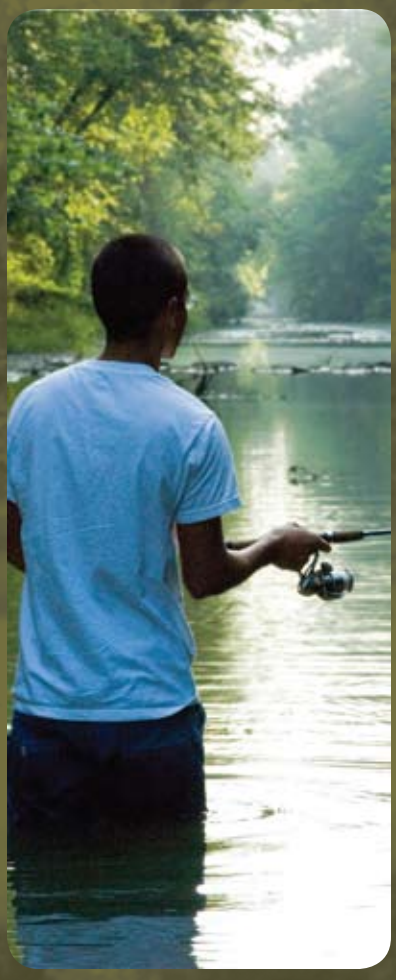
Economic Impacts of Wildlife- and Fisheries-Associated Recreation on the Mississippi Economy

An Input-Output Analysis



Forest and Wildlife Research Center
Mississippi State University
Research Bulletin

Based on 2006 data
Reported in 2010 dollars

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Authors

James E. Henderson is an assistant extension professor in the Department of Forestry. Stephen C. Grado and Ian A. Munn are professors in the Department of Forestry. Their research interest is natural resource economics. W. Daryl Jones is an associate extension professor in the Department of Wildlife, Fisheries and Aquaculture. His research interest is natural resource enterprises. This study was funded by a grant from Natural Resources Enterprises, a federal initiative of the U.S. Fish and Wildlife Service.

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Introduction

Fishing, hunting, and wildlife-associated recreation generate a considerable amount of economic activity benefiting local and state economies. According to the U.S. Fish and Wildlife Service National Survey of Fishing, Hunting, and Wildlife-Associated Recreation, over 87 million people participated in wildlife associated recreation activities nationally, spending $76.7 billion on trips and equipment. Direct expenditures by residents and non-residents engaged in hunting, fishing or wildlife watching in Mississippi generates economic activity not only in the sectors where the expenditures are made but also in other sectors of Mississippi's economy. This occurs as supporting sectors respond to resupply sectors where direct expenditures occur and as employees of the impacted sectors and supporting sectors purchase goods and services. Thus, the direct expenditures by recreationists are only a component of the total economic impact that results as other sectors of the economy respond to these wildlife-associated recreational purchases.

The flow of economic activity that results from wildlife-associated recreational spending can be divided into three types of impacts: direct, indirect, and induced. Direct impacts result when the final demand for a particular good or service occurs (i.e., expenditures associated with fishing, hunting or wildlife watching). The indirect impact results when a series of other economic sectors respond to spending from the directly impacted sectors (i.e., a restaurant buys inputs from other sectors of the economy). The induced impact occurs when employees of both the direct and indirectly impacted sectors purchase goods and services. Summing these three impacts provides the total economic impact. Impacts are measured by four key statistics: employment — the number of full- and part-time jobs; employee compensation — wages and salaries; output— total value of production; and value-added—total output minus the costs of purchased inputs. This study examines how wildlife-associated recreation spending moves through the Mississippi economy and reports the total economic impact of fishing, hunting, and wildlife-associated recreation to the Mississippi economy.

Methods

Previous studies have estimated economic impacts for several wildlife-associated recreational activities in Mississippi such as white-tailed deer (*Odocoileus virginianus*), waterfowl, and eastern wild turkey (*Meleagris gallopavo*) hunting (Grado et al. 2010, Grado et al. 2008, Grado et al. 1997). However, no study has examined the collective economic impacts of fishing, hunting, and wildlife watching to the Mississippi economy. Existing studies which examined the economic impacts of various wildlife-associated recreational activities to the Mississippi economy were identified to obtain expenditure estimates by wildlife-associated recreational activity (Grado et al. 2010, Grado et al. 2008, Grado et al. 1997, USFWS and USDC 2007). Additionally, estimates of participation rates in activity days for wildlife-associated recreational activity for the 2005-2006 season or for the calendar year 2006 were also collected from existing research (Grado et al. 2010, Hunt, Tegt, et al. 2007, Hunt, Brunke et al. 2007, USDI and USDC 2007, 2007a). An activity day is one person's participation in an activity for some period of time during a day. The most recent recreational data for all wildlife-associated recreational categories was available for year 2006, hence, it was chosen as the representative year for this study. Expenditures and other economic data from previous studies were deflated to 2006 dollars and combined with activity days for the 2005-2006 season to estimate the direct impacts of wildlife-associated recreational expenditures.

The indirect and induced impacts of wildlife-associated recreational expenditures on the Mississippi economy were estimated using input output analysis. The input-output model for the Mississippi economy was developed using IMpact Analysis for PLANning (IMPLAN) software and data (Olson and Lindal 2004). IMPLAN is a computerized database and modeling system used to construct regional economic accounts and regional input output tables. The IMPLAN model uses a 509 sector input output transactions table based upon the U.S. Bureau of Economic Analysis' National I-O table which is used to model the flow of goods and services through the an economy of interest. IMPLAN data for 2006 was selected for this study as activity day estimates for fishing, hunting, and wildlife-associated recreation were available for the 2005-2006 season. Activity levels were applied to expenditures within the input- output model (i.e., direct impacts). Indirect and induced impacts were calculated for each of the categories (hunting, fishing, and wildlife watching) and sub-categories and reported in 2010 dollars.

Results

Economic impacts (direct, indirect, and induced) resulting from recreational expenditures in Mississippi are reported in Table 1. Overall, recreationists spent $1.7 billion on goods and services associated with fishing, hunting and wildlife watching activities. This activity generated an additional $1.03 billion in output resulting in a total economic impact of $2.7 billion. This also resulted in the creation of $1.6 billion in new wealth (value-added) for the Mississippi economy. In addition, wildlife-associated recreation generated 66,171 full- and part-time jobs and over $1.14 billion in wages and salaries for Mississippians. Detailed impacts by aggregated economic sector are listed in the appendix and provide insights into which sectors of Mississippi's economy benefited the most from wildlife-associated recreation (See Appendix Tables A1–A7). The three primary components of Mississippi's wildlife-associated recreation include hunting, fishing, and wildlife watching. Of the three activities, hunting generated the largest total output at $1.14 billion with fishing and wildlife watching generating $773 million and $829 million, respectively (Table 2). Hunting impacts were also evaluated for the four sub-categories of white-tailed deer, waterfowl, eastern wild turkey, and small game hunting. White-tailed deer hunting produced an economic impact of over $860 million in output (Table 3). Waterfowl hunting was the next largest at $152 million followed by eastern wild turkey and small game hunting at $90 million and $34 million each.

Fishing economic impacts were evaluated for the two subcategories of freshwater and saltwater angling (Table 4). Freshwater fishing expenditures exceeded $462 million generating an additional $264 million in total impacts resulting in an overall economic outputs of $727 million. Saltwater angling accounted for $30 million in total output and generated an overall economic impact of over $46 million with 639 jobs paying over $18 million in wages.

Table 1. Economic impacts of wildlife- and fisheries-associated recreation in Mississippi based on 2006 expenditure estimates indicating output, full- and part-time jobs, wages, and value- added. Dollar values are expressed in millions and reported in 2010 dollars.

Wildlife and Fisheries Associated Recreation (2010 Dollars)				
	Output ($MM)	Jobs	Wages ($MM)	Value Added ($MM)
Direct	1,705.72	57,159	838.19	1,084.86
Indirect	354.86	2,878	106.61	176.64
Induced	677.16	6,134	199.32	375.73
Total	**2,737.73**	**66,171**	**1,144.12**	**1,637.23**

Table 2. Economic impacts of hunting, fishing, and wildlife watching in Mississippi based on 2006 expenditure estimates indicating output, full- and part-time jobs, wages, and value- added. Dollar values are expressed in millions and reported in 2010 dollars.

	Output ($MM)	Jobs	Wages ($MM)	Value Added ($MM)
Hunting (2010 Dollars)				
Direct	699.20	28,484	363.86	454.83
Indirect	143.27	1,236	43.94	73.63
Induced	293.06	2,651	86.24	162.35
Total	**1,135.53**	**32,371**	**494.04**	**690.81**
Fishing (2010 Dollars)				
Direct	493.08	10,378	203.01	301.53
Indirect	112.11	917	34.79	57.02
Induced	167.68	1,521	49.37	93.16
Total	**772.87**	**12,815**	**287.17**	**451.71**
Wildlife Watching (2010 Dollars)				
Direct	513.44	18,297	271.32	328.50
Indirect	99.48	725	27.88	45.99
Induced	216.41	1,963	63.71	120.23
Total	**829.33**	**20,985**	**362.92**	**494.71**

Table 3. Economic impacts of white-tailed deer, waterfowl, eastern wild turkey, and small game hunting in Mississippi based on 2006 expenditure estimates indicating output, full- and part-time jobs, wages, and value- added. Dollar values are expressed in millions and reported in 2010 dollars.

	Output ($MM)	Jobs	Wages ($MM)	Value Added ($MM)
White-tailed deer (2010 Dollars)				
Direct	522.27	24,974	292.39	351.01
Indirect	102.12	912	31.83	53.16
Induced	235.94	2,140	69.47	131.08
Total	**860.33**	**28,026**	**393.69**	**535.26**
Waterfowl (2010 Dollars)				
Direct	98.29	1,462	35.52	52.51
Indirect	25.12	188	7.18	12.18
Induced	28.14	249	8.24	15.16
Total	**151.55**	**1,898**	**50.94**	**79.86**
Eastern wild turkey (2010 Dollars)				
Direct	56.69	1,625	26.85	37.58
Indirect	11.44	98	3.50	5.90
Induced	21.58	196	6.35	11.99
Total	**89.71**	**1,918**	**36.70**	**55.47**
Small game (2010 Dollars)				
Direct	21.95	424	9.11	13.73
Indirect	4.60	39	1.42	2.38
Induced	7.41	67	2.18	4.11
Total	**33.95**	**530**	**12.71**	**20.23**

Table 4. Economic impact of freshwater and saltwater fishing in Mississippi based on 2006 expenditure estimates indicating output, full- and part-time jobs, wages, and value- added. Dollar values are expressed in millions and reported in 2010 dollars.

	Output ($MM)	Jobs	Wages ($MM)	Value Added ($MM)
Freshwater Fishing (2010 Dollars)				
Direct	462.98	9,876	189.50	284.58
Indirect	106.75	876	33.14	54.38
Induced	156.93	1,423	46.20	87.18
Total	**726.66**	**12,176**	**268.84**	**426.15**
Saltwater Fishing (2010 Dollars)				
Direct	30.10	502	13.52	16.95
Indirect	5.36	40	1.64	2.64
Induced	10.76	98	3.17	5.98
Total	**46.21**	**639**	**18.33**	**25.56**

Conclusions

Wildlife-associated recreation (fishing, hunting, and wildlife watching) in Mississippi collectively generated $2.7 billion in economic impacts from goods and services during the 2005-2006 season. Fishing, hunting, and wildlife watching recreational activities make an important contribution to the Mississippi economy. Understanding the depth and breadth of wildlife-associated recreation and associated expenditures fosters a greater appreciation for the role of natural resource management to maintaining and enhancing Mississippi's fisheries and wildlife resources. Clearly, caring for such resources is important to local and state economies that benefit from wildlife-associated recreational expenditures and the economic activity that is generated.

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Appendix

Table A.1. Economic impacts of white-tailed deer (*Odocoileus virginianus)* hunting in Mississippi based on 2006 expenditure estimates indicating output, full- and part-time jobs, wages, and value added by aggregated sectors. Dollar values are reported in 2010 dollars. All sectors of the economy are condensed to a nine sector aggregation using the 1 digit Stand Industrial Classification system.

Aggregated Sectors	Direct Impacts	Indirect Impacts	Induced Impacts	Totals
Output ($)				
Agriculture	42,483	1,183,876	4,146,429	5,372,788
Mining	0	7,309,981	7,881,497	15,191,479
Construction	0	1,265	64,991	66,256
Manufacturing	308,654,072	55,226,112	112,222,471	476,102,672
TCPU[a]	0	11,221,764	6,057,254	17,279,018
Trade	41,323,640	15,624,023	4,500,492	61,448,157
FIRE[b]	0	3,184,247	3,080,839	6,265,086
Services	172,027,116	8,365,121	97,989,194	278,381,450
Institutions	218,695	0	0	218,695
Totals	**522,266,006**	**102,116,388**	**235,943,167**	**860,325,599**
Wages ($)				
Agriculture	11,629	295,600	957,081	1,264,311
Mining	0	1,976,715	1,918,547	3,895,263
Construction	0	84	5,893	5,976
Manufacturing	124,563,237	14,319,111	29,770,022	168,652,370
TCPU[a]	0	4,670,220	2,681,916	7,352,137
Trade	2,795,061	6,838,141	1,910,092	11,543,294
FIRE[b]	0	1,104,721	1,358,917	2,463,638
Services	165,015,258	2,630,233	30,862,666	198,508,157
Institutions	0	0	0	0
Totals	**292,385,184**	**31,834,826**	**69,465,134**	**393,685,145**

[a]Transportation, communication, and public utilities.
[b]Finance, insurance, and real estate.

Table A.1. Economic impacts of white-tailed deer (*Odocoileus virginianus)* hunting in Mississippi based on 2006 expenditure estimates indicating output, full- and part-time jobs, wages, and value added by aggregated sectors. Dollar values are reported in 2010 dollars. All sectors of the economy are condensed to a nine sector aggregation using the 1 digit Stand Industrial Classification system *(continued)*.

Aggregated Sectors	Direct Impacts	Indirect Impacts	Induced Impacts	Totals
Value-Added ($)				
Agriculture	15,533	664,356	1,673,517	2,353,405
Mining	0	4,608,906	5,406,177	10,015,082
Construction	0	121	8,687	8,807
Manufacturing	191,111,815	28,440,400	53,166,561	272,718,768
TCPU[a]	0	5,513,346	3,257,119	8,770,466
Trade	12,992,329	8,431,291	2,295,626	23,719,246
FIRE[b]	0	1,507,232	1,522,162	3,029,392
Services	146,891,532	3,997,261	63,751,072	214,639,866
Institutions	0	0	0	0
Totals	**351,011,209**	**53,162,909**	**131,080,917**	**535,255,030**
Jobs (#)				
Agriculture	1	4	40	45
Mining	0	37	31	68
Construction	0	0	0	0
Manufacturing	6,827	416	877	8,120
TCPU[a]	0	106	57	162
Trade	93	179	58	330
FIRE[b]	0	57	65	121
Services	18,054	114	1,012	19,179
Institutions	0	0	0	0
Totals	**24,974**	**912**	**2,140**	**28,026**

[a]Transportation, communication, and public utilities.
[b]Finance, insurance, and real estate.

Table A.2. Economic impacts of waterfowl hunting in Mississippi based on 2006 expenditure estimates indicating output, full- and part-time jobs, wages, and value added by aggregated sectors. Dollar values are reported in 2010 dollars. All sectors of the economy are condensed to a nine sector aggregation using the 1 digit Stand Industrial Classification system.

Aggregated Sectors	Direct Impacts	Indirect Impacts	Induced Impacts	Totals
Output ($)				
Agriculture	149,184	371,024	335,707	855,915
Mining	1,342	215,707	170,523	387,574
Construction	50,889	550,329	299,718	900,934
Manufacturing	70,205,353	19,966,791	18,221,143	108,393,289
TCPU[a]	7,357,994	2,656,626	7,554,725	17,569,346
Trade	18,737,586	368,526	777,510	19,883,623
FIRE[b]	943,443	987,743	777,901	2,709,086
Services	826,159	0	0	826,159
Institutions	20,489	0	0	20,489
Totals	**98,292,439**	**25,116,746**	**28,137,227**	**151,546,415**
Wages ($)				
Agriculture	37,269	60,537	59,226	157,032
Mining	812	64,760	50,662	116,232
Construction	19,875	212,196	108,486	340,558
Manufacturing	24,009,934	5,517,824	4,079,809	33,607,568
TCPU[a]	2,267,034	658,041	3,254,071	6,179,146
Trade	7,667,421	119,372	275,322	8,062,116
FIRE[b]	777,858	549,618	411,560	1,739,036
Services	737,484	0	0	737,484
Institutions	0	0	0	0
Totals	**35,517,687**	**7,182,348**	**8,239,136**	**50,939,172**

[a]Transportation, communication, and public utilities.
[b]Finance, insurance, and real estate.

Table A.2. Economic impacts of waterfowl hunting in Mississippi based on 2006 expenditure estimates indicating output, full- and part-time jobs, wages, and value added by aggregated sectors. Dollar values are reported in 2010 dollars. All sectors of the economy are condensed to a nine sector aggregation using the 1 digit Stand Industrial Classification system *(continued)*.

Aggregated Sectors	Direct Impacts	Indirect Impacts	Induced Impacts	Totals
Value-Added ($)				
Agriculture	60,921	160,204	114,536	335,660
Mining	961	130,853	103,689	235,502
Construction	23,433	253,682	135,775	412,890
Manufacturing	36,593,204	9,310,338	9,656,246	55,559,787
TCPU[a]	3,219,544	1,534,427	4,256,809	9,010,779
Trade	10,982,274	191,767	451,200	11,625,242
FIRE[b]	803,471	602,861	444,815	1,851,146
Services	826,159	0	0	826,159
Institutions	0	0	0	0
Totals	**52,509,967**	**12,184,132**	**15,163,070**	**79,857,165**
Jobs (#)				
Agriculture	4	4	4	12
Mining	0	1	1	2
Construction	1	6	3	9
Manufacturing	976	141	118	1,235
TCPU[a]	141	22	96	259
Trade	317	5	11	334
FIRE[b]	7	9	16	31
Services	16	0	0	16
Institutions	0	0	0	0
Total	**1,462**	**188**	**249**	**1,898**

[a]Transportation, communication, and public utilities.
[b]Finance, insurance, and real estate.

Table A.3. Economic impacts of eastern wild turkey (*Meleagris gallopavo*) hunting in Mississippi based on 2006 expenditure estimates indicating output, full- and part-time jobs, wages, and value added by aggregated sectors. Dollar values are reported in 2010 dollars. All sectors of the economy are condensed to a nine sector aggregation using the 1 digit Stand Industrial Classification system.

Aggregated Sectors	Direct Impacts	Indirect Impacts	Induced Impacts	Totals
Output ($)				
Agriculture	0	136,912	379,203	516,115
Mining	0	1,009,483	720,796	1,730,280
Construction	0	128	5,944	6,072
Manufacturing	34,760,791	6,022,263	10,263,053	51,046,105
TCPU[a]	0	1,112,036	553,957	1,665,994
Trade	1,010,445	1,740,756	411,586	3,162,786
FIRE[b]	0	387,850	281,759	669,610
Services	20,922,797	1,029,192	8,961,476	30,913,464
Institutions	0	0	0	0
Totals	**56,694,032**	**11,438,620**	**21,577,775**	**89,710,425**
Wages ($)				
Agriculture	0	33,596	87,528	121,124
Mining	0	272,950	175,459	448,410
Construction	0	9	539	548
Manufacturing	13,663,222	1,562,979	2,722,546	17,948,748
TCPU[a]	0	443,579	245,271	688,850
Trade	68,345	741,040	174,685	984,070
FIRE[b]	0	124,686	124,281	248,967
Services	13,115,980	322,162	2,822,529	16,260,670
Institutions	0	0	0	0
Totals	**26,847,548**	**3,501,001**	**6,352,838**	**36,701,387**

[a]Transportation, communication, and public utilities.
[b]Finance, insurance, and real estate.

Table A.3. Economic impacts of eastern wild turkey (*Meleagris gallopavo*) hunting in Mississippi based on 2006 expenditure estimates indicating output, full- and part-time jobs, wages, and value added by aggregated sectors. Dollar values are reported in 2010 dollars. All sectors of the economy are condensed to a nine sector aggregation using the 1 digit Stand Industrial Classification system *(continued)*.

Aggregated Sectors	Direct Impacts	Indirect Impacts	Induced Impacts	Totals
Value-Added ($)				
Agriculture	0	76,184	153,048	229,232
Mining	0	635,654	494,418	1,130,071
Construction	0	12	794	807
Manufacturing	21,118,266	3,060,629	4,862,226	29,041,122
TCPU[a]	0	546,515	297,875	844,390
Trade	317,688	922,813	209,943	1,450,445
FIRE[b]	0	172,817	139,210	312,027
Services	16,142,033	485,394	5,830,260	22,457,687
Institutions	0	0	0	0
Totals	**37,577,987**	**5,900,018**	**11,987,776**	**55,465,782**
Jobs (#)				
Agriculture	0	0	4	4
Mining	0	5	3	8
Construction	0	0	0	0
Manufacturing	664	45	80	789
TCPU[a]	0	10	5	15
Trade	2	17	5	25
FIRE[b]	0	6	6	12
Services	958	14	93	1,065
Institutions	0	0	0	0
Totals	**1,625**	**98**	**196**	**1,918**

[a]Transportation, communication, and public utilities.
[b]Finance, insurance, and real estate.

Table A.4. Economic impacts of small game hunting in Mississippi based on 2006 expenditure estimates indicating output, full- and part-time jobs, wages, and value added by aggregated sectors. Dollar values are reported in 2010 dollars. All sectors of the economy are condensed to a nine sector aggregation using the 1 digit Stand Industrial Classification system.

Aggregated Sectors	Direct Impacts	Indirect Impacts	Induced Impacts	Totals
Output ($)				
Agriculture	0	56,682	130,138	186,820
Mining	0	318,789	247,367	566,156
Construction	0	48	2,040	2,088
Manufacturing	21,685,816	2,585,229	3,522,151	27,793,197
TCPU[a]	0	411,677	190,111	601,787
Trade	203,862	763,570	141,251	1,108,682
FIRE[b]	0	116,370	96,696	213,066
Services	54,964	345,915	3,075,459	3,476,338
Institutions	1,286	0	0	1,286
Totals	**21,945,929**	**4,598,277**	**7,405,212**	**33,949,418**
Wages ($)				
Agriculture	0	14,104	30,039	44,143
Mining	0	85,232	60,215	145,447
Construction	0	3	185	188
Manufacturing	9,043,715	680,254	934,344	10,658,313
TCPU[a]	0	176,038	84,174	260,211
Trade	13,789	320,555	59,950	394,294
FIRE[b]	0	40,924	42,651	83,575
Services	48,890	107,772	968,653	1,125,316
Institutions	0	0	0	0
Totals	**9,106,395**	**1,424,885**	**2,180,209**	**12,711,488**

[a]Transportation, communication, and public utilities.
[b]Finance, insurance, and real estate.

Table A.4. Economic impacts of small game hunting in Mississippi based on 2006 expenditure estimates indicating output, full- and part-time jobs, wages, and value added by aggregated sectors. Dollar values are reported in 2010 dollars. All sectors of the economy are condensed to a nine sector aggregation using the 1 digit Stand Industrial Classification system *(continued)*.

Aggregated Sectors	Direct Impacts	Indirect Impacts	Induced Impacts	Totals
Value-Added ($)				
Agriculture	0	32,552	52,525	85,077
Mining	0	206,632	169,677	376,310
Construction	0	4	272	277
Manufacturing	13,634,002	1,311,450	1,668,655	16,614,107
TCPU[a]	0	210,364	102,227	312,591
Trade	64,095	401,750	72,050	537,895
FIRE[b]	0	55,798	47,775	103,572
Services	36,353	165,782	2,000,869	2,203,004
Institutions	0	0	0	0
Totals	**13,734,450**	**2,384,333**	**4,114,048**	**20,232,831**
Jobs (#)				
Agriculture	0	0	1	2
Mining	0	2	1	3
Construction	0	0	0	0
Manufacturing	421	19	28	468
TCPU[a]	0	4	2	6
Trade	0	7	2	10
FIRE[b]	0	2	2	4
Services	2	5	32	38
Institutions	0	0	0	0
Totals	**424**	**39**	**67**	**530**

[a]Transportation, communication, and public utilities.
[b]Finance, insurance, and real estate.

Table A.5. Economic impacts of freshwater fishing in Mississippi based on 2006 expenditure estimates indicating output, full- and part-time jobs, wages, and value added by aggregated sectors. Dollar values are reported in 2010 dollars. All sectors of the economy are condensed to a nine sector aggregation using the 1 digit Stand Industrial Classification system.

Aggregated Sectors	Direct Impacts	Indirect Impacts	Induced Impacts	Totals
Output ($)				
Agriculture	0	1,689,808	2,757,818	4,447,627
Mining	0	7,225,441	5,242,082	12,467,522
Construction	0	1,194	43,226	44,420
Manufacturing	420,511,468	61,345,280	74,639,709	556,496,440
TCPU[a]	3,854,779	9,104,539	4,028,735	16,988,054
Trade	0	15,860,967	2,993,318	18,854,285
FIRE[b]	0	2,880,644	2,049,123	4,929,768
Services	38,617,043	8,642,525	65,173,582	112,433,152
Institutions	0	0	0	0
Totals	**462,983,290**	**106,750,398**	**156,927,592**	**726,661,266**
Wages ($)				
Agriculture	0	420,790	636,562	1,057,351
Mining	0	1,950,967	1,276,050	3,227,016
Construction	0	79	3,918	3,998
Manufacturing	164,508,756	16,629,250	19,800,166	200,938,164
TCPU[a]	2,175,431	3,841,077	1,783,767	7,800,275
Trade	0	6,735,786	1,270,420	8,006,207
FIRE[b]	0	961,079	903,842	1,864,922
Services	22,812,002	2,603,291	20,527,191	45,942,484
Institutions	0	0	0	0
Totals	**189,496,189**	**33,142,318**	**46,201,917**	**268,840,416**

[a]Transportation, communication, and public utilities.
[b]Finance, insurance, and real estate.

Table A.5. Economic impacts of freshwater fishing in Mississippi based on 2006 expenditure estimates indicating output, full- and part-time jobs, wages, and value added by aggregated sectors. Dollar values are reported in 2010 dollars. All sectors of the economy are condensed to a nine sector aggregation using the 1 digit Stand Industrial Classification system *(continued)*.

Aggregated Sectors	Direct Impacts	Indirect Impacts	Induced Impacts	Totals
Value-Added ($)				
Agriculture	0	990,789	1,113,067	2,103,856
Mining	0	4,674,477	3,595,717	8,270,194
Construction	0	113	5,778	5,890
Manufacturing	256,324,792	30,461,460	35,361,332	322,147,600
TCPU[a]	2,210,370	4,542,788	2,166,340	8,919,498
Trade	0	8,377,916	1,526,842	9,904,758
FIRE[b]	0	1,322,907	1,012,418	2,335,324
Services	26,045,761	4,014,450	42,401,403	72,461,608
Institutions	0	0	0	0
Totals	**284,580,923**	**54,384,898**	**87,182,896**	**426,148,728**
Jobs (#)				
Agriculture	0	5	27	32
Mining	0	36	21	56
Construction	0	0	0	0
Manufacturing	8,496	443	583	9,522
TCPU[a]	63	83	38	184
Trade	0	150	39	188
FIRE[b]	0	48	43	91
Services	1,318	112	673	2,103
Institutions	0	0	0	0
Totals	**9,876**	**876**	**1,423**	**12,176**

[a]Transportation, communication, and public utilities.
[b]Finance, insurance, and real estate.

Table A.6. Economic impacts of saltwater fishing in Mississippi based on 2006 expenditure estimates indicating output, full- and part-time jobs, wages, and value added by aggregated sectors. Dollar values are reported in 2010 dollars. All sectors of the economy are condensed to a nine sector aggregation using the 1 digit Stand Industrial Classification system.

Aggregated Sectors	Direct Impacts	Indirect Impacts	Induced Impacts	Totals
Output ($)				
Agriculture	0	51,613	189,010	240,623
Mining	0	296,317	359,271	655,588
Construction	0	60	2,963	3,023
Manufacturing	27,814,232	3,205,984	5,115,521	36,135,740
TCPU[a]	437,875	607,252	276,114	1,321,240
Trade	1,508,941	697,515	205,150	2,411,607
FIRE[b]	0	104,232	140,438	244,670
Services	264,424	392,699	4,466,740	5,123,862
Institutions	71,134	0	0	71,134
Totals	**30,096,605**	**5,355,672**	**10,755,206**	**46,207,486**
Wages ($)				
Agriculture	0	12,476	43,627	56,104
Mining	0	77,229	87,455	164,685
Construction	0	3	269	272
Manufacturing	11,735,762	856,636	1,357,028	13,949,426
TCPU[a]	247,113	258,268	122,252	627,633
Trade	1,252,763	272,138	87,070	1,611,971
FIRE[b]	0	36,636	61,946	98,582
Services	280,115	130,006	1,406,850	1,816,971
Institutions	0	0	0	0
Totals	**13,515,753**	**1,643,392**	**3,166,497**	**18,325,642**

[a]Transportation, communication, and public utilities.
[b]Finance, insurance, and real estate.

Table A.6. Economic impacts of saltwater fishing in Mississippi based on 2006 expenditure estimates indicating output, full- and part-time jobs, wages, and value added by aggregated sectors. Dollar values are reported in 2010 dollars. All sectors of the economy are condensed to a nine sector aggregation using the 1 digit Stand Industrial Classification system *(continued)*.

Aggregated Sectors	Direct Impacts	Indirect Impacts	Induced Impacts	Totals
Value-Added ($)				
Agriculture	0	28,414	76,285	104,699
Mining	0	188,268	246,436	434,704
Construction	0	5	396	401
Manufacturing	15,199,001	1,503,977	2,423,531	19,126,508
TCPU[a]	251,082	314,192	148,472	713,746
Trade	1,242,935	356,905	104,644	1,704,484
FIRE[b]	0	50,633	69,387	120,019
Services	256,625	194,114	2,906,026	3,356,765
Institutions	0	0	0	0
Totals	**16,949,644**	**2,636,507**	**5,975,177**	**25,561,326**
Jobs (#)				
Agriculture	0	0	2	2
Mining	0	1	1	3
Construction	0	0	0	0
Manufacturing	404	20	40	465
TCPU[a]	7	5	3	15
Trade	65	6	3	73
FIRE[b]	0	2	3	5
Services	25	6	46	77
Institutions	0	0	0	0
Totals	**502**	**40**	**98**	**639**

[a]Transportation, communication, and public utilities.
[b]Finance, insurance, and real estate.

Table A.7. Economic impacts of wildlife watching in Mississippi based on 2006 expenditure estimates indicating output, full- and part-time jobs, wages, and value added by aggregated sectors. Dollar values are reported in 2010 dollars. All sectors of the economy are condensed to a nine sector aggregation using the 1 digit Stand Industrial Classification system.

Aggregated Sectors	Direct Impacts	Indirect Impacts	Induced Impacts	Totals
Output ($)				
Agriculture	24,893,512	2,492,069	3,803,146	31,188,726
Mining	0	6,152,978	7,228,962	13,381,940
Construction	0	909	59,611	60,520
Manufacturing	352,381,920	62,062,000	102,931,648	517,375,584
TCPU[a]	1,660,125	8,237,030	5,555,766	15,452,920
Trade	0	11,338,404	4,127,888	15,466,292
FIRE[b]	0	2,193,824	2,825,757	5,019,581
Services	133,256,576	7,001,783	89,876,488	230,134,848
Institutions	1,250,213	0	0	1,250,213
Totals	**513,442,346**	**99,478,996**	**216,409,264**	**829,330,624**
Wages ($)				
Agriculture	14,349,702	854,869	877,845	16,082,415
Mining	0	1,658,531	1,759,705	3,418,236
Construction	0	60	5,404	5,464
Manufacturing	141,408,944	14,176,770	27,305,392	182,891,104
TCPU[a]	936,886	3,521,656	2,459,876	6,918,418
Trade	0	4,763,432	1,751,953	6,515,385
FIRE[b]	0	730,235	1,246,404	1,976,638
Services	114,626,952	2,174,573	28,307,428	145,108,944
Institutions	0	0	0	0
Totals	**271,322,484**	**27,880,126**	**63,714,006**	**362,916,603**

[a]Transportation, communication, and public utilities.
[b]Finance, insurance, and real estate.

Table A.7. Economic impacts of wildlife watching in Mississippi based on 2006 expenditure estimates indicating output, full- and part-time jobs, wages, and value added by aggregated sectors. Dollar values are reported in 2010 dollars. All sectors of the economy are condensed to a nine sector aggregation using the 1 digit Stand Industrial Classification system *(continued)*.

Aggregated Sectors	Direct Impacts	Indirect Impacts	Induced Impacts	Totals
Value-Added ($)				
Agriculture	18,633,778	1,547,031	1,534,967	21,715,776
Mining	0	3,966,464	4,958,581	8,925,045
Construction	0	84	7,968	8,052
Manufacturing	202,543,216	26,080,152	48,764,944	277,388,320
TCPU[a]	951,933	4,094,236	2,987,458	8,033,626
Trade	0	5,962,373	2,105,567	8,067,939
FIRE[b]	0	1,009,476	1,396,131	2,405,607
Services	106,369,912	3,326,099	58,473,036	168,169,056
Institutions	0	0	0	0
Totals	**328,498,839**	**45,985,914**	**120,228,651**	**494,713,420**
Jobs (#)				
Agriculture	314	17	37	367
Mining	0	31	28	59
Construction	0	0	0	0
Manufacturing	6,324	365	805	7,494
TCPU[a]	27	73	52	153
Trade	0	110	53	163
FIRE[b]	0	36	59	95
Services	11,632	94	928	12,654
Institutions	0	0	0	0
Totals	**18,297**	**725**	**1,963**	**20,985**

[a]Transportation, communication, and public utilities.
[b]Finance, insurance, and real estate.

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