



The Economic Contribution of Natural Resources to South Carolina's Economy

Quick Facts
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Authors

This summary reports on the results of an economic analysis performed at Clemson University by David B. Willis and Thomas J. Straka. The full 24-page report is available online at <http://www.clemson.edu/extension/publications/index.html> or the South Carolina Department of Natural Resources.



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South Carolina is blessed with abundant natural resources that enhance the state's quality and level of economic activity. Moreover, natural resources are the raw materials that sustain and promote economic activities. The continued sustained use of natural resources is fundamental to both the environmental and economic quality of life within South Carolina. Research at Clemson University in 2016 determined the economic contribution of natural resources to South Carolina's economy. While some values are outside traditional economic valuation, like the value of clean water or air, the economic contribution of expenditures in South Carolina's natural resource-based industrial sectors to the overall state economy is significant. Over \$33 billion of economic activity, nearly \$9 billion of labor income, and over 200,000 jobs were attributed to the natural resources sectors. This represented over 8% of gross state product and nearly 9% of South Carolina's employment.

South Carolinians have high levels of participation and preferences for outdoor recreational activities. A 2005 South Carolina Parks, Recreation and Tourism study showed that strong interest in outdoor recreation in the state. Percent of state residents participating in specific outdoor activities included:

Swimming/Boating

- Beach swimming/sunbathing 63%
- Motor boating 34%
- Lake/river swimming 28%
- Personal watercraft 12%
- Canoeing, kayaking, rafting 11%
- Water skiing 6%
- Sailing 3%

Fishing/Hunting/Wildlife Watching

- Freshwater fishing 37%
- Watching wildlife 33%
- Bird watching 20%
- Saltwater fishing 19%
- Hunting 14%
- Hunting dog field trials 2%

Other Outdoor Activities

- Visiting an unusual natural feature 35%
- Camping 23%
- Guided nature trail/study 20%
- Hiking 18%
- Rock climbing 6%

The Economic Contribution of Natural Resources

The economic contribution of natural resources to South Carolina's economy was estimated in a 2016 Clemson University study using input-output analysis (the IMPLAN model), a widely accepted economic analysis technique. The IMPLAN model divides the state economy into 536 mutually exclusive economic sectors (industry types). The IMPLAN sectoring scheme was used to create six mutually exclusive natural resource-based sectors that closely approximate the natural resource-based expenditure patterns in South Carolina. These six sectors are: fishing, hunting, and wildlife viewing; coastal tourism; commercial fisheries; boat industry; mining; and forestry.

For each natural resource-based sector the values for four economic key variables were reported:

- Employment (jobs generated by natural resources)
- Labor income (wages generated by natural resources)
- Value added (net contribution to the state's economy)
- Total industry output (value of total output or sales revenue)

Reported below are the total impacts of the various natural resource sectors. Total impact is the combination of three impacts: direct impacts – those effects generated within the particular sector that impact the state's economy, indirect impacts – effects between sectors (one sector causing additional, or less, activity in another sector, and induced impacts – the domino effect of changes in expenditures rippling through the economy. The total economic impact is the sum of the direct impact, indirect impact, and induced impact.

Over one-third of South Carolinians participate in fishing, hunting, or wildlife viewing. These activities generated a direct economic effect of over \$1.62 billion and a total effect of \$2.74 billion, resulting in nearly 32,000 jobs in the state.

Annual Economic Impact of Fishing, Hunting, and Wildlife Viewing on the South Carolina Economy

Impact	Direct Effect	Indirect Effect	Induced Effect	Total Effect
Employment (Jobs)	23,582	3,564	4,812	31,958
Labor Income (\$s)	686,777,000	152,588,179	188,904,885	1,028,270,064
Value Added (\$)	1,068,450,219	266,200,616	344,955,459	1,679,606,293
Output (\$s)	1,618,670,877	496,770,066	621,445,610	2,736,886,553

Many individuals (both in-state and out-of-state) vacation and/or engage in salt water fishing opportunities provided along the state's coastline. Coastal tourists spend money on hotels, fishing supplies, gasoline, guide services, and food. Eight South Carolina counties have coastal tourism: Beaufort, Berkeley, Charleston, Colleton, Dorchester, Georgetown, Jasper, and Horry. These counties accounted for 64% of the state's tourism revenue. This sector's total economic output impact was nearly \$9 billion and nearly 100,000 jobs were generated.

Annual Economic Impact of Coastal Tourism on the South Carolina Economy

Impact	Direct Effect	Indirect Effect	Induced Effect	Total Effect
Employment (Jobs)	71,702	14,157	13,467	99,325
Labor Income (\$s)	1,753,820,258	595,178,676	528,754,487	2,877,753,420
Value Added (\$s)	2,929,009,922	967,001,097	965,588,870	4,861,599,889
Output (\$s)	5,390,047,354	1,866,273,416	1,739,545,696	8,995,866,466

Commercial fishing differs from recreational fishing. A sustainable commercial fishing industry is essential to preserving the unique character of South Carolina's local seafood-based cuisine. The total economic contribution to the state's economy was over \$42 million and 840 jobs were generated.

Annual Economic Impact of the Commercial Fishery Sector on the South Carolina Economy

Impact	Direct Effect	Indirect Effect	Induced Effect	Total Effect
Employment (Jobs)	720	63	57	840
Labor Income (\$s)	6,748,846	3,270,117	2,247,978	12,266,940
Value Added (\$s)	12,753,626	4,400,029	4,102,040	21,255,695
Output (\$s)	25,371,754	9,603,013	7,388,915	42,363,682



The boat sector generated 2,450 direct jobs with an average salary of \$74,000 (due to the skills required to work in the industry), and 5,401 total jobs were created. Total economic contribution to the state's economy was almost \$1 billion.

Annual Economic Impact of the Boat Sector on the South Carolina Economy

Impact	Direct Effect	Indirect Effect	Induced Effect	Total Effect
Employment (Jobs)	2,450	1,484	1,466	5,401
Labor Income (\$s)	181,684,070	73,984,940	57,556,258	313,225,269
Value Added (\$s)	200,203,644	102,940,617	105,107,228	408,251,490
Output (\$s)	607,762,496	202,442,770	189,354,882	999,560,148

South Carolina's mining sector is concentrated in four broad industries: extracting natural gas and crude petroleum, stone mining and quarrying, sand and gravel mining, and the drilling of oil and gas wells. Mining activity is distributed across the state. Mining contributed \$1.2 billion to the state economy and generated nearly 6,000 jobs.

Annual Economic Impact of the Mining Sector on the South Carolina Economy

Impact	Direct Effect	Indirect Effect	Induced Effect	Total Effect
Employment (Jobs)	3,718	1,324	931	5,973
Labor Income (\$s)	94,436,943	67,997,518	36,545,425	198,979,886
Value Added (\$s)	250,673,478	103,454,705	66,729,565	420,857,748
Output (\$s)	828,422,766	223,702,962	120,213,107	1,172,338,835

Forestry is the second largest natural resource-based industry in the state, behind only agriculture. This industry sector consists of 29 specific industries (like pulp and paper, lumber, plywood, and logging). The total contribution of forestry to South Carolina's economy was \$19.4 billion and over 75,000 jobs were generated.

Annual Economic Impact of the Forestry Sector on the South Carolina Economy

Impact	Direct Effect	Indirect Effect	Induced Effect	Total Effect
Employment (Jobs)	28,719	26,898	19,605	75,222
Labor Income (\$s)	1,983,244,695	1,420,258,438	769,815,966	4,173,319,099
Value Added (\$s)	3,874,123,350	2,216,179,921	1,405,850,874	7,496,154,145
Output (\$s)	12,245,088,639	4,629,076,071	2,532,703,852	19,406,868,561

The total economic contribution of South Carolina's six natural resource-based economic sectors considered in the Clemson University study was \$33.4 billion, an increase of 15% since 2009. Total labor income was \$8.6 billion from the 218,719 jobs generated. These six sectors accounted for 8.3% of the gross state product and 8.6% of all jobs in the state.

Annual Economic Impact of all South Carolina Natural Resource Sectors on the SC Economy

Impact	Direct Effect	Indirect Effect	Induced Effect	Total Effect
Employment (Job)	130,891	47,490	40,337	218,719
Labor Income (\$s)	4,706,711,812	2,313,277,868	1,583,824,999	8,603,814,678
Value Added (\$s)	8,335,214,239	3,660,176,986	2,892,334,036	14,887,725,260
Output (\$s)	20,715,363,886	7,427,868,297	5,210,652,061	33,353,884,245