



The Impact of Resource Based Industries on the Maryland Economy

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The Impact of Resource Based Industries on the Maryland Economy

Introduction

To determine the impact of resource based industries (RBI) on the Maryland economy, an IMPLAN model was utilized. Separate impacts were run for the state, each county, and each region (i.e. Western, Central, Southern, Eastern Shore, etc.). Based on these models, using the most recent datasets (2005) available, the total economic impact of resource based industries in Maryland is estimated to be around \$16.5 billion annually, supporting over 94,500 jobs, and generating over \$680 million in state and local tax revenue (see Tables 1A to 1C for more detail).¹ In 2008 dollars, this impact is estimated to be over \$18 Billion.

¹ 2004 is the latest year in which complete datasets are available for IMPLAN and complete data has been released by the federal government.

Table 1A RBI Economic Impact: Output

**Resource Industry Economic Impacts:
Output**

All RBI Industry Sectors

Geographic Entity	Sector Output			Total	% of total
	Direct	Indirect	Induced		
State of Maryland	10,605,311,826	3,574,545,900	2,279,008,298	16,458,866,025	100.0%
Regions					
Western Maryland	2,241,589,551	954,407,164	447,429,044	3,643,425,759	22.1%
Appalachian Maryland	1,316,257,910	472,859,393	235,360,920	2,024,478,223	12.3%
Central Maryland	5,162,763,415	1,425,378,463	1,146,036,664	7,734,178,542	47.0%
Southern Maryland	283,947,058	59,105,591	44,465,311	387,517,960	2.4%
Eastern Shore of Maryland	2,917,011,802	1,135,654,682	641,077,279	4,693,743,763	28.5%
Upper Eastern Shore	667,864,352	202,082,605	136,727,415	1,006,674,373	6.3%
Mid Shore	1,064,633,657	388,415,689	197,351,339	1,650,400,685	10.4%
Lower Eastern Shore	1,184,513,769	449,757,704	251,367,152	1,885,638,625	11.8%
Counties					
Allegany	281,970,046	69,675,970	40,929,022	392,575,038	2.4%
Anne Arundel	724,896,768	290,896,451	145,386,411	1,161,179,630	7.1%
Baltimore	1,040,928,434	314,140,029	301,473,484	1,656,541,948	10.1%
Baltimore City	1,308,333,345	470,053,929	207,212,495	1,985,599,770	12.1%
Calvert	54,190,042	8,071,076	10,146,380	72,407,498	0.4%
Caroline	223,653,902	40,209,269	33,386,515	297,249,686	1.8%
Carroll	400,762,701	129,884,198	87,447,588	618,094,487	3.8%
Cecil	205,807,171	57,616,413	55,662,560	319,086,144	1.9%
Charles	177,436,798	42,156,869	30,932,318	250,525,985	1.5%
Dorchester	609,793,731	242,166,376	100,226,666	952,186,773	5.8%
Frederick	524,568,932	297,011,495	121,760,795	943,341,222	5.7%
Garrett	280,151,397	91,186,361	57,790,004	429,127,762	2.6%
Harford	214,352,761	65,648,237	53,954,457	333,955,455	2.0%
Howard	223,783,634	62,878,109	53,272,538	339,934,281	2.1%
Kent	240,639,312	89,670,862	56,360,399	386,670,573	2.3%
Montgomery	1,098,932,422	155,143,747	250,097,131	1,504,173,300	9.1%
Prince George's	551,536,081	179,871,481	122,423,543	853,831,105	5.2%
Queen Anne's	221,417,873	54,431,458	43,360,020	319,209,352	1.9%
Saint Mary's	52,320,216	15,608,524	12,862,637	80,791,377	0.5%
Somerset	217,737,438	44,074,856	25,463,547	287,275,841	1.7%
Talbot	231,186,037	104,062,965	58,593,981	393,842,983	2.4%
Washington	754,136,460	331,649,260	167,947,061	1,253,732,780	7.6%
Wicomico	660,642,480	304,230,111	187,433,770	1,152,306,361	7.0%
Worcester	306,133,846	114,207,852	54,884,977	475,226,675	2.9%

Table 1B RBI Economic Impact: Employment

**Resource Industry Economic Impacts:
Employment**

All RBI Industry Sectors

Geographic Entity	Sector Employment			Total	% of total
	Direct	Indirect	Induced		
State of Maryland	49,076	24,429	21,058	94,564	100.0%
Regions					
Western Maryland	11,517	7,728	4,362	23,607	25.0%
Appalachian Maryland	5,829	3,518	2,428	11,775	12.5%
Central Maryland	19,841	8,680	9,958	38,479	40.7%
Southern Maryland	2,288	452	443	3,182	3.4%
Eastern Shore of Maryland	15,431	7,569	6,295	29,296	31.0%
Upper Eastern Shore	4,541	1,670	1,407	7,618	8.4%
Mid Shore	5,287	2,336	1,934	9,556	10.6%
Lower Eastern Shore	5,604	2,818	2,408	10,829	12.0%
Counties					
Allegany	900	601	430	1,931	2.0%
Anne Arundel	2,857	1,517	1,332	5,707	6.0%
Baltimore	5,298	2,184	2,680	10,163	10.7%
Baltimore City	2,360	2,783	1,641	6,784	7.2%
Calvert	507	67	98	672	0.7%
Caroline	1,136	345	325	1,806	1.9%
Carroll	2,670	1,331	855	4,857	5.1%
Cecil	1,691	497	534	2,722	2.9%
Charles	878	275	289	1,441	1.5%
Dorchester	2,749	1,438	1,017	5,203	5.5%
Frederick	3,018	2,329	1,119	6,465	6.8%
Garrett	1,764	817	693	3,273	3.5%
Harford	1,759	604	519	2,882	3.0%
Howard	1,395	473	474	2,343	2.5%
Kent	1,649	750	629	3,028	3.2%
Montgomery	3,693	1,000	2,039	6,732	7.1%
Prince George's	2,478	1,157	1,101	4,735	5.0%
Queen Anne's	1,202	493	426	2,121	2.2%
Saint Mary's	903	171	138	1,211	1.3%
Somerset	1,085	416	246	1,748	1.8%
Talbot	1,402	604	551	2,556	2.7%
Washington	3,165	2,261	1,616	7,042	7.4%
Wicomico	2,946	1,718	1,757	6,421	6.8%
Worcester	1,572	599	549	2,720	2.9%

Table 1C RBI Economic Impact: Tax Revenue

**Resource Industry Economic Impacts:
State and Local Government Tax Impact**

All RBI Industry Sectors

Geographic Entity	Sources of Tax Revenue					Total (\$)	% of total
	Employee Compensation	Household Expenditures	Corporations	Indirect Business Taxes			
State of Maryland	4,464,312	173,541,347	88,414,402	413,844,954	680,265,014	100.0%	
Regions							
Western Maryland	959,282	35,726,473	18,591,518	89,652,612	144,929,885	21.3%	
Appalachian Maryland	578,400	17,538,055	9,338,059	52,134,871	79,589,384	11.7%	
Central Maryland	1,990,793	84,487,031	36,667,178	225,032,070	348,177,072	51.2%	
Southern Maryland	116,167	4,448,006	1,847,239	7,952,047	14,363,459	2.1%	
Eastern Shore of Maryland	1,398,070	48,879,836	31,308,467	91,208,225	172,794,597	25.4%	
Upper Eastern Shore	339,551	12,922,745	5,728,085	22,336,587	41,326,968	6.5%	
Mid Shore	370,045	15,221,892	9,093,408	29,629,626	54,314,971	8.6%	
Lower Eastern Shore	596,243	18,033,842	14,532,599	32,553,590	65,716,275	10.3%	
Counties							
Allegany	109,549	2,960,617	1,326,411	10,219,875	14,616,452	2.1%	
Anne Arundel	227,595	11,539,357	5,466,351	22,987,588	40,220,890	5.9%	
Baltimore	475,699	21,362,930	8,543,992	37,425,018	67,807,640	10.0%	
Baltimore City	687,337	11,760,281	6,693,671	35,507,322	54,648,612	8.0%	
Calvert	29,339	977,082	273,349	2,090,429	3,370,198	0.5%	
Caroline	62,840	3,203,043	3,401,074	5,244,855	11,911,813	1.8%	
Carroll	175,051	7,777,002	4,524,908	13,610,387	26,087,348	3.8%	
Cecil	122,185	4,968,137	1,747,892	7,757,895	14,596,109	2.1%	
Charles	84,459	2,919,047	1,231,672	4,715,470	8,950,647	1.3%	
Dorchester	292,174	8,521,235	5,657,491	17,585,218	32,056,117	4.7%	
Frederick	195,301	9,784,254	4,351,476	21,755,050	36,086,081	5.3%	
Garrett	134,323	4,281,007	2,573,124	16,631,598	23,620,052	3.5%	
Harford	99,762	4,656,462	1,741,424	8,094,363	14,592,013	2.1%	
Howard	91,189	4,209,495	1,857,932	7,786,397	13,945,013	2.0%	
Kent	102,390	4,601,853	1,175,294	7,353,114	13,232,651	1.9%	
Montgomery	266,552	19,253,857	9,354,893	103,478,591	132,353,893	19.5%	
Prince George's	260,992	9,929,636	3,772,912	17,480,918	31,444,458	4.6%	
Queen Anne's	106,180	4,411,130	2,372,003	7,714,007	14,603,320	2.1%	
Saint Mary's	16,353	1,225,943	418,043	1,790,248	3,450,587	0.5%	
Somerset	136,527	2,592,245	2,988,578	4,195,606	9,912,957	1.5%	
Talbot	62,805	4,003,153	1,323,622	6,525,079	11,914,660	1.8%	
Washington	305,756	11,899,995	5,705,173	27,051,035	44,961,958	6.6%	
Wicomico	300,360	12,242,689	7,933,812	20,488,241	40,965,102	6.0%	
Worcester	119,595	4,460,895	3,979,305	6,356,648	14,916,443	2.2%	

This overall impact represents a relative decline of the impact of resource-based industries when compared to other major industry sectors in the State of Maryland over the past five years. The two most important factors for this were the construction boom in the first half of these five years, and the post 9-11 growth of government related economic activity throughout the state. Both the defense and homeland security related activity and activity in other federally funded or supported industry sectors have added greatly to the growth of their relative importance. At the same time, most of the resource-based industries were subject to a variety of pressures such as energy costs, globalization effects, aging farmers, immigration-related pressures on the agricultural workforce, and pressure from housing and commercial development in the rural areas. Finally, the age of the available data sets (2005) introduces a major concern: Since, commodity prices increased drastically after this date, the total impact of Resource Based Industries on the economy of the State of Maryland is probably as much as 20% higher now than what this study indicates.

However, there is also an emerging bright spot for the future of resource-based industries in the State of Maryland: Resource-Based Inputs for Renewable Energy. The State of Maryland is one of the leading proponents of increasing the use of biomass in the production of energy. Some current and proposed initiatives throughout the state such as bio-diesel and cellulosic ethanol projects will have a positive impact of the forestry and agricultural sectors. As these activities increase their share of the State's energy pie, their economic impact will increase dramatically.

The Impacts by Industry Sectors:

Breaking-down the RBI economic output total by industry, the agriculture industry was the largest, contributing \$7.96 billion to the state economy (48.4% of the RBI total) of which the poultry, cattle, and dairy industry contributed \$4.4 billion to the state economy (26.5% of the RBI total), followed by the forestry and wood derivatives industry, contributing \$4.7 billion (28.4% of the RBI total), followed by the mining industry, which contributed \$1.8 billion to (10.6% of the RBI total), followed by the natural gas and petroleum extraction industry, which contributed \$1.5 billion (9.2% of the RBI total), and finally the seafood and misc.

animal processing industry contributed just under \$900 million to the state economy (5.5% of the RBI total).² NOTE: The impacts of the equine industry and of hunting and trapping were also included in the overall RBI impact totals.

The Impacts by Regions:

Breaking-down the RBI economic output total by region, Central Maryland was largest with \$7.7 billion in total output (47.0% of the RBI total), followed by the Eastern Shore, which contributed \$4.7 billion to the state economy (28.5% of the RBI total), followed by Western Maryland with \$3.6 billion in total output (22.1% of the RBI total), followed by Southern Maryland, which contributed just under \$400 million in total output (2.4% of the RBI total).³

Agriculture

For clarity purposes, agriculture is divided into two sectors, Crop and Nursery Production and Animal Agriculture. The crop and nursery production sector consists of oilseed farming, grain farming, vegetable and melon farming, fruit farming, greenhouse and nursery production, tobacco farming, all other crop farming, flour milling, soybean processing, fats and oils refining and blending, sugar manufacturing, and fruit and vegetable canning and drying. A complete list of the agriculture industries along with IMPLAN industry codes, and corresponding NAICS industries and codes are provided in Table 2.

² This report does not include recreational fishing (only commercial fishing), because such data are not collected and reported by the federal government.

³ Regional shares of jobs supported and tax revenue generated are very similar to the output shares provided, and are hence not reported here.

Table 2 IMPLAN and NAICS Industries in Agriculture Sector

Agriculture

NAICS Codes	NAICS Industries	IMPLAN Code	IMPLAN Industry
11111	Soybean farming	1	Oilseed farming
11112	Oilseed (except soybean) farming		
11113	Dry pea and bean farming	2	Grain farming
11114	Wheat farming		
11115	Corn farming		
11116	Rice farming		
11119	Other grain farming		
1112	Vegetable and melon farming	3	Vegetable and melon farming
11131	Orange groves	5	Fruit farming
11132	Citrus (except orange) groves		
11133	Noncitrus fruit and tree nut farming		
1114	Greenhouse, nursery, and floriculture production	6	Greenhouse and nursery production
11191	Tobacco farming	7	Tobacco farming
11194	Hay farming	10	All other crop farming
111992	Peanut farming		
111998	All other miscellaneous crop farming		
311211	Flour milling	48	Flour milling
311222	Soybean processing	52	Soybean processing
311225	Fats and oils refining and blending	54	Fats and oils refining and blending
31131	Sugar manufacturing	56	Sugar manufacturing
31142	Fruit and vegetable canning, pickling, and drying	61	Fruit and vegetable canning and drying

These industries represent the agricultural commodity producers (i.e. the farmers) and the immediate “down-stream” processors and refiners (e.g. flour milling). The animal agriculture sector consists of poultry and egg production, poultry processing, cattle ranching and farming, fluid milk manufacturing, cheese manufacturing, dry condensed and evaporated dairy products, animal (except poultry) slaughtering, meat processed from carcasses, rendering and meat byproduct processing, leather and hide tanning and finishing. A complete list of the poultry, cattle, and dairy industries along with IMPLAN industry codes, and corresponding NAICS industries and codes are provided in Table 3.

Table 3 IMPLAN and NAICS Industries in Poultry, Cattle, and Dairy Sector

Poultry, Cattle, and Dairy

NAICS Codes	NAICS Industries	IMPLAN Code	IMPLAN Industry
1123	Poultry and egg production	12	Poultry and egg production
11231	Chicken egg production		
11232	Broilers and other meat-type chicken production		
11233	Turkey production		
11234	Poultry hatcheries		
11239	Other poultry production		
311615	Poultry processing	70	Poultry processing
11211	Beef cattle ranching and farming, including feedlots		
11212	Dairy cattle and milk production	11	Cattle ranching and farming
11213	Dual-purpose cattle ranching and farming		
311511	Fluid milk manufacturing	62	Fluid milk manufacturing
311513	Cheese manufacturing	64	Cheese manufacturing
311514	Dry, condensed, and evaporated dairy products	65	Dry, condensed, and evaporated dairy products
311611	Animal (except poultry) slaughtering	67	Animal (except poultry) slaughtering
311612	Meat processed from carcasses	68	Meat processed from carcasses
311613	Rendering and meat byproduct processing	69	Rendering and meat byproduct processing
3161	Leather and hide tanning and finishing	109	Leather and hide tanning and finishing

The industries represent the poultry, cattle, and dairy commodity producers (e.g. poultry and egg production) and the immediate downstream processors and refiners (e.g. meat processed from carcasses).

Crop and Nursery Production:

The crop and nursery production sector produced \$2.4 billion in direct output in 2004, which in-turn generated nearly \$1.3 billion in additional indirect and induced economic activity (see section II Model Details for a description of these terms). The crop and nursery sector also supported (both directly and indirectly) a total of 47,828 jobs and generated (both directly and indirectly) over \$288 million in state and local tax revenue.

Focusing exclusively on the oilseed and grain industries, the state-level impacts for the two groups topped \$407 million and supported 5,554 jobs in 2004. Oilseed farming, which consists of soybean farming and oilseed (except soybean) farming totaled just under \$62 million, while grain farming, which consists of dry peas and beans, wheat, corn, rice, and other grain farming equaled just over \$345 million. Detailed impact data for each of these oilseed and grain sub-industries (at the state level) are provided in Table 4A, while county-level impacts for the combined group are provided in Table 4B.

Table 4A Oilseed and Grain Farming -- Output, Employment, and Tax Impact by Sub-Industry (2004)

	Economic Impact												
	Direct		Indirect		Induced		Total		Taxes				
	(\$)	(jobs)	(\$)	(jobs)	(\$)	(jobs)	(\$)	(jobs)	Employee Compensation	Household Expenditures	Corporations	Indirect Business Taxes	Total
Oilseed Farming													
Soybean farming (11111)	46,413,605	710	7,010,912	56	8,517,637	79	61,942,155	845	7,271	648,495	891,398	1,707,406	3,254,569
Oilseed (except soybean) farming (11112)	0	0	0	0	0	0	0	0	0	0	0	0	0
Grain Farming													
Dry pea and bean farming (11113)	0	0	0	0	0	0	0	0	0	0	0	0	0
Wheat farming (11114)	21,331,922	326	3,222,250	26	3,914,748	36	28,468,920	388	3,342	298,051	409,691	784,732	1,495,816
Corn farming (11115)	108,037,120	1,653	16,319,326	130	19,826,536	183	144,182,982	1,967	16,925	1,509,504	2,074,909	3,974,334	7,575,673
Rice farming (11116)	0	0	0	0	0	0	0	0	0	0	0	0	0
Other grain farming (11119)	129,309,449	1,979	19,532,575	156	23,730,348	219	172,572,372	2,354	20,258	1,806,723	2,483,455	4,756,874	9,067,310
Maryland Total >>>	<u>305,092,096</u>	<u>4,669</u>	<u>46,085,063</u>	<u>368</u>	<u>55,989,270</u>	<u>517</u>	<u>407,166,429</u>	<u>5,554</u>	<u>47,796</u>	<u>4,262,773</u>	<u>5,859,453</u>	<u>11,223,346</u>	<u>21,393,368</u>

Notes:

1) Economic Impact is apportioned based on each industry's share of total output for the broader NAICS 1111 sector from the USDA's 2002 Census of Agriculture for the State of Maryland from the USDA's 2002 Census of Agriculture for the State of Maryland

Table 4B Oilseed and Grain Farming -- Output, Employment, and Tax Impact by County (2004)

	Economic Impact												
	Direct		Indirect		Induced		Total		Taxes				
	(\$)	(jobs)	(\$)	(jobs)	(\$)	(jobs)	(\$)	(jobs)	Employee Compensation	Household Expenditures	Corporations	Indirect Business Taxes	Total
Maryland	305,092,096	4,669	46,085,063	368	55,989,270	517	407,166,429	5,554	47,796	4,262,773	5,859,453	11,223,346	21,393,368
Allegany	1,372,434	21	207,310	2	251,864	2	1,831,608	25	215	19,176	26,358	50,487	96,236
Anne Arundel	11,665,690	179	1,762,137	14	2,140,840	20	15,568,667	212	1,828	162,994	224,046	429,143	818,010
Baltimore	8,371,848	128	1,264,592	10	1,536,368	14	11,172,808	152	1,312	116,972	160,786	307,973	587,042
Calvert	10,842,229	166	1,637,751	13	1,989,722	18	14,469,702	197	1,699	151,489	208,231	398,850	760,268
Caroline	21,958,945	336	3,316,964	26	4,029,817	37	29,305,726	400	3,440	306,812	421,733	807,798	1,539,784
Carroll	20,998,241	321	3,171,846	25	3,853,513	36	28,023,600	382	3,290	293,389	403,282	772,457	1,472,418
Cecil	14,822,288	227	2,238,950	18	2,720,126	25	19,781,365	270	2,322	207,098	284,670	545,264	1,039,354
Charles	12,077,420	185	1,824,330	15	2,216,399	20	16,118,149	220	1,892	168,747	231,953	444,289	846,881
Dorchester	13,998,828	214	2,114,564	17	2,569,008	24	18,682,400	255	2,193	195,593	268,855	514,971	981,612
Frederick	18,390,617	281	2,777,957	22	3,374,972	31	24,543,545	335	2,881	256,955	353,201	676,531	1,289,569
Garrett	4,254,546	65	642,662	5	780,777	7	5,677,984	77	667	59,445	81,711	156,511	298,333
Harford	11,940,176	183	1,803,599	14	2,191,213	20	15,934,988	217	1,871	166,829	229,317	439,240	837,257
Howard	4,254,546	65	642,662	5	780,777	7	5,677,984	77	667	59,445	81,711	156,511	298,333
Kent	23,468,623	359	3,545,005	28	4,306,867	40	31,320,495	427	3,677	327,906	450,727	863,334	1,645,644
Montgomery	5,901,467	90	891,434	7	1,083,013	10	7,875,914	107	925	82,456	113,341	217,096	413,817
Prince George's	12,626,394	193	1,907,254	15	2,317,145	21	16,850,792	230	1,978	176,417	242,496	464,484	885,376
Queen Anne's	27,036,951	414	4,084,011	33	4,961,712	46	36,082,675	492	4,236	377,763	519,259	994,602	1,895,859
St Mary's	23,194,136	355	3,503,543	28	4,256,494	39	30,954,173	422	3,634	324,070	445,455	853,237	1,626,396
Somerset	7,960,118	122	1,202,399	10	1,460,809	13	10,623,326	145	1,247	111,219	152,878	292,827	558,172
Talbot	15,508,505	237	2,342,606	19	2,846,058	26	20,697,169	282	2,430	216,686	297,849	570,507	1,087,472
Washington	9,332,552	143	1,409,710	11	1,712,672	16	12,454,934	170	1,462	130,395	179,237	343,314	654,408
Wicomico	10,979,473	168	1,658,482	13	2,014,909	19	14,652,863	200	1,720	153,406	210,867	403,899	769,892
Worcester	14,136,071	216	2,135,295	17	2,594,195	24	18,865,561	257	2,215	197,510	271,491	520,020	991,236

Notes:

1) Economic Impact is apportioned based on each county's share of NAICS 1111 sector farms operating in the county, as reported in the USDA's 2002 Census of Agriculture for the State of Maryland

Breaking the output figure down by region, the Eastern Shore was the largest (38.5% of the agriculture total), followed by Central Maryland (36.1% of the agriculture total), followed by Western Maryland (24.8% of the agriculture total), and the smallest was Southern Maryland (0.6% of the agriculture total). See Tables 5A to 5C for more details.

Table 5A Agriculture Economic Impact: Output

**Resource Industry Economic Impacts:
Output**

**Industry Sector: All Agriculture (Crops, Poultry, Cattle, Dairy, and
Misc. Animal Production)**

Geographic Entity	Sector Output				% of total
	Direct	Indirect	Induced	Total	
State of Maryland	4,961,811,922	1,985,511,578	1,012,620,884	7,959,944,384	100.0%
Regions					
Western Maryland	1,153,228,504	620,253,499	198,325,358	1,971,807,362	24.8%
Appalachian Maryland	675,867,744	288,967,969	95,684,599	1,060,520,312	13.3%
Central Maryland	1,877,128,650	596,323,149	401,950,576	2,875,402,376	36.1%
Southern Maryland	39,011,829	4,163,039	7,439,171	50,614,039	0.6%
Eastern Shore of Maryland	1,892,442,938	764,771,892	404,905,778	3,062,120,608	38.5%
Upper Eastern Shore	355,244,905	103,516,575	72,332,738	531,094,218	7.0%
Mid Shore	717,868,217	269,187,565	121,874,489	1,108,930,271	14.5%
Lower Eastern Shore	819,329,789	314,706,672	165,255,310	1,299,291,771	17.0%
Counties					
Allegany	167,150,656	38,143,637	14,030,872	219,325,166	2.8%
Anne Arundel	25,694,495	52,579,432	11,893,938	90,167,865	1.1%
Baltimore	215,376,507	62,445,181	82,441,526	360,263,214	4.5%
Baltimore City	1,146,626,034	411,993,295	177,106,711	1,735,726,040	21.8%
Calvert	6,253,761	1,278,690	2,151,038	9,683,489	0.1%
Caroline	176,256,145	25,764,138	23,181,445	225,201,728	2.8%
Carroll	145,883,665	56,918,742	33,722,048	236,524,454	3.0%
Cecil	63,068,523	17,170,547	18,015,206	98,254,275	1.2%
Charles	14,834,019	3,141,069	3,706,978	21,682,066	0.3%
Dorchester	385,975,466	163,602,375	52,119,255	601,697,096	7.6%
Frederick	331,477,090	235,754,881	69,471,258	636,703,229	8.0%
Garrett	58,272,352	16,150,971	9,295,048	83,718,371	1.1%
Harford	58,468,952	16,941,101	13,991,708	89,401,761	1.1%
Howard	82,985,687	18,465,221	18,273,837	119,724,745	1.5%
Kent	120,693,154	56,617,184	37,727,062	215,037,401	2.7%
Montgomery	102,940,198	16,597,269	38,006,136	157,543,603	2.0%
Prince George's	245,036,800	89,705,263	46,583,696	381,325,759	4.8%
Queen Anne's	171,483,235	37,458,681	31,749,536	240,691,453	3.0%
Saint Mary's	17,924,049	2,797,687	5,225,109	25,946,845	0.3%
Somerset	148,876,777	19,116,634	10,343,778	178,337,189	2.2%
Talbot	155,636,621	79,102,936	41,502,312	276,241,869	3.5%
Washington	450,444,728	238,017,129	97,051,334	785,513,190	9.9%
Wicomico	415,202,501	229,397,479	132,736,666	777,336,646	9.8%
Worcester	255,250,507	96,352,036	42,294,389	393,896,931	4.9%

Table 5B Agriculture Economic Impact: Employment

**Resource Industry Economic Impacts:
Employment**

**Industry Sector: All Agriculture (Crops, Poultry, Cattle, Dairy, and
Misc. Animal Production)**

Geographic Entity	Sector Employment			Total	% of total
	Direct	Indirect	Induced		
State of Maryland	24,589	13,687	9,552	47,828	100.0%
Regions					
Western Maryland	6,440	5,297	1,955	13,692	28.6%
Appalachian Maryland	3,053	2,261	1,013	6,327	13.2%
Central Maryland	7,417	3,497	3,342	14,256	29.8%
Southern Maryland	1,362	68	65	1,494	3.1%
Eastern Shore of Maryland	9,370	4,825	4,190	18,386	38.4%
Upper Eastern Shore	2,644	914	755	4,313	9.6%
Mid Shore	3,398	1,629	1,375	6,402	14.3%
Lower Eastern Shore	3,328	1,592	1,609	6,529	14.6%
Counties					
Allegany	325	383	159	868	1.8%
Anne Arundel	392	145	83	620	1.3%
Baltimore	1,543	584	782	2,909	6.1%
Baltimore City	1,944	2,436	1,404	5,784	12.1%
Calvert	329	13	14	356	0.7%
Caroline	858	247	229	1,334	2.8%
Carroll	1,409	794	341	2,543	5.3%
Cecil	773	196	176	1,145	2.4%
Charles	385	36	37	458	1.0%
Dorchester	1,715	1,037	735	3,488	7.3%
Frederick	1,979	1,875	641	4,495	9.4%
Garrett	695	249	123	1,066	2.2%
Harford	826	154	128	1,108	2.3%
Howard	688	198	161	1,047	2.2%
Kent	1,003	418	396	1,817	3.8%
Montgomery	876	117	225	1,218	2.5%
Prince George's	1,147	577	410	2,135	4.5%
Queen Anne's	869	381	337	1,587	3.3%
Saint Mary's	647	45	55	747	1.6%
Somerset	316	169	116	600	1.3%
Talbot	824	380	375	1,580	3.3%
Washington	2,033	1,682	945	4,660	9.7%
Wicomico	1,823	1,094	1,243	4,160	8.7%
Worcester	1,189	477	437	2,103	4.4%

Table 5C Agriculture Economic Impact: Tax Revenue

**Resource Industry Economic Impacts:
State and Local Government Tax Impact**

**Industry Sector: All Agriculture (Crops, Poultry, Cattle, Dairy, and
Misc. Animal Production)**

Geographic Entity	Sources of Tax Revenue					Total (\$)	% of total
	Employee Compensation	Household Expenditures	Corporations	Indirect Business Taxes			
State of Maryland	1,845,836	75,868,106	47,318,556	163,585,321	288,617,820	100.0%	
Regions							
Western Maryland	402,359	16,220,203	9,094,346	44,691,889	70,408,797	24.4%	
Appalachian Maryland	237,174	7,137,614	3,965,297	22,109,477	33,449,562	11.6%	
Central Maryland	601,216	28,925,506	12,823,785	62,548,264	104,898,770	36.3%	
Southern Maryland	6,558	692,489	439,604	1,112,188	2,250,840	0.8%	
Eastern Shore of Maryland	835,702	30,029,909	24,960,821	55,232,980	111,059,412	38.5%	
Upper Eastern Shore	155,463	6,799,692	3,767,616	11,473,054	22,195,825	8.4%	
Mid Shore	220,410	9,688,703	7,406,896	19,267,735	36,583,744	13.9%	
Lower Eastern Shore	367,903	11,145,001	12,094,088	18,850,118	42,457,110	16.1%	
Counties							
Allegany	42,694	990,675	498,385	3,650,455	5,182,209	1.8%	
Anne Arundel	-12,728	1,009,634	508,863	1,663,428	3,169,198	1.1%	
Baltimore	66,342	5,667,909	2,500,216	9,986,207	18,220,674	6.3%	
Baltimore City	588,614	10,057,967	4,926,486	30,784,807	46,357,874	16.1%	
Calvert	-4,445	188,689	70,218	272,135	526,598	0.2%	
Caroline	38,653	2,352,894	3,035,793	3,698,565	9,125,904	3.2%	
Carroll	49,762	3,205,839	1,854,653	6,053,373	11,163,627	3.9%	
Cecil	30,534	1,722,281	609,077	2,536,516	4,898,409	1.7%	
Charles	908	404,751	215,859	619,745	1,241,263	0.4%	
Dorchester	205,760	5,448,323	4,796,449	11,739,023	22,189,554	7.7%	
Frederick	94,272	5,739,600	3,056,445	15,152,047	24,042,364	8.3%	
Garrett	8,056	752,142	639,863	2,304,836	3,704,896	1.3%	
Harford	9,148	1,131,544	661,612	2,132,554	3,934,858	1.4%	
Howard	19,007	1,565,188	928,615	3,314,964	5,827,773	2.0%	
Kent	40,055	2,684,717	714,286	3,606,637	7,045,695	2.4%	
Montgomery	-10,591	3,187,944	2,057,511	13,588,941	18,823,805	6.5%	
Prince George's	87,344	3,981,370	1,613,880	7,606,236	13,288,830	4.6%	
Queen Anne's	78,917	3,455,299	2,134,135	6,034,852	11,703,203	4.1%	
Saint Mary's	1,994	456,871	176,413	511,794	1,147,071	0.4%	
Somerset	63,641	1,019,917	2,640,456	1,488,695	5,212,709	1.8%	
Talbot	23,400	2,389,773	848,614	3,543,416	6,805,204	2.4%	
Washington	156,673	6,717,133	2,942,840	16,989,212	26,805,859	9.3%	
Wicomico	179,417	8,285,663	6,201,648	11,622,215	26,288,943	9.1%	
Worcester	88,407	3,451,983	3,686,241	4,684,670	11,911,301	4.1%	

Animal Agriculture:

The animal agriculture sector produced just over \$2.6 billion in "direct" output in 2004, which in-turn generated just over \$1.7 billion in additional "indirect" and "induced" economic activity (see section II "Model Details" for a description of these terms). The poultry, cattle, and dairy sector also supported (both directly and indirectly) a total of 22,031 jobs and generated (both directly and indirectly) just over \$139 million in state and local tax revenue.

The poultry and egg production industry, which consists of chicken egg production, broilers and other meat-type chicken production, turkey production, poultry hatcheries, and other poultry production, accounted for just under \$1 billion in Maryland economic activity in 2004, and supported just under 3,700 jobs. A state-level breakdown of the economic impact for each of the poultry sub-industries is provided in Table 6A, while a county-level breakdown for the aggregate sector is provided in Table 6B.

Table 6A Poultry and Egg Production -- Output, Employment, and Tax Impact by Sub-Industry (2004)

	Economic Impact													
	Direct		Indirect		Induced		Total		Taxes					
	(\$)	(jobs)	(\$)	(jobs)	(\$)	(jobs)	(\$)	(jobs)	Employee Comp.	Household Exp.	Corps	Indirect Businesss Taxes	Total	
Poultry and Egg Production														
Chicken egg production (11231)	63,847,023	148	11,343,245	75	9,931,438	92	85,121,707	315	14,108	756,206	1,016,632	1,164,413	2,951,359	
Broilers and other meat-type chicken production (11232)	594,557,061	1,375	105,630,708	700	92,483,666	855	792,671,435	2,929	131,381	7,041,955	9,467,091	10,843,259	27,483,686	
Turkey production (11233)	6,797,724	16	1,207,703	8	1,057,390	10	9,062,817	33	1,502	80,512	108,240	123,974	314,228	
Poultry hatcheries (11234)	81,766,733	189	14,526,912	96	12,718,859	118	109,012,503	403	18,068	968,448	1,301,966	1,491,224	3,779,707	
Other poultry production (11239)	760,215	2	135,062	1	118,252	1	1,013,529	4	168	9,019	12,124	13,887	35,198	
Maryland Total >>>	<u>747,729,984</u>	<u>1,729</u>	<u>132,843,848</u>	<u>880</u>	<u>116,309,796</u>	<u>1,075</u>	<u>996,883,628</u>	<u>3,684</u>	<u>165,228</u>	<u>8,856,140</u>	<u>11,906,053</u>	<u>13,636,757</u>	<u>34,564,178</u>	

Notes:

1) Economic Impact is apportioned based on each industry's share of total output for the broader NAICS 1123 sector from the USDA's 2002 Census of Agriculture for the State of Maryland

Table 6B Poultry and Egg Production-- Output, Employment, and Tax Impact by County (2004)

	Economic Impact												
	Direct		Indirect		Induced		Total		Taxes				
	(\$)	(jobs)	(\$)	(jobs)	(\$)	(jobs)	(\$)	(jobs)	Employee Compensation	Household Expenditures	Corporations	Indirect Business Taxes	Total
Maryland	747,729,984	1,729	132,843,848	880	116,309,796	1,075	996,883,628	3,684	165,228	8,856,140	11,906,053	13,636,757	34,564,178
Allegany	3,102,614	7	551,219	4	482,613	4	4,136,447	15	686	36,747	49,403	56,584	143,420
Anne Arundel	2,326,961	5	413,414	3	361,960	3	3,102,335	11	514	27,561	37,052	42,438	107,565
Baltimore	9,307,842	22	1,653,658	11	1,447,840	13	12,409,340	46	2,057	110,242	148,208	169,752	430,259
Calvert	2,326,961	5	413,414	3	361,960	3	3,102,335	11	514	27,561	37,052	42,438	107,565
Caroline	96,181,035	222	17,087,798	113	14,961,011	138	128,229,844	474	21,253	1,139,172	1,531,484	1,754,106	4,446,015
Carroll	13,186,110	30	2,342,682	16	2,051,106	19	17,579,898	65	2,914	156,177	209,962	240,482	609,534
Cecil	3,102,614	7	551,219	4	482,613	4	4,136,447	15	686	36,747	49,403	56,584	143,420
Charles	8,532,189	20	1,515,853	10	1,327,186	12	11,375,228	42	1,885	101,056	135,857	155,606	394,405
Dorchester	61,276,627	142	10,886,581	72	9,531,612	88	81,694,820	302	13,540	725,763	975,704	1,117,535	2,832,542
Frederick	17,840,031	41	3,169,511	21	2,775,026	26	23,784,568	88	3,942	211,298	284,066	325,358	824,664
Garrett	4,653,921	11	826,829	5	723,920	7	6,204,670	23	1,028	55,121	74,104	84,876	215,130
Harford	10,083,496	23	1,791,463	12	1,568,493	14	13,443,451	50	2,228	119,429	160,559	183,898	466,114
Howard	3,878,268	9	689,024	5	603,267	6	5,170,558	19	857	45,934	61,753	70,730	179,275
Kent	10,083,496	23	1,791,463	12	1,568,493	14	13,443,451	50	2,228	119,429	160,559	183,898	466,114
Montgomery	5,429,575	13	964,634	6	844,573	8	7,238,782	27	1,200	64,308	86,455	99,022	250,985
Prince George's	9,307,842	22	1,653,658	11	1,447,840	13	12,409,340	46	2,057	110,242	148,208	169,752	430,259
Queen Anne's	20,942,645	48	3,720,730	25	3,257,640	30	27,921,014	103	4,628	248,045	333,468	381,942	968,084
St Mary's	6,980,882	16	1,240,243	8	1,085,880	10	9,307,005	34	1,543	82,682	111,156	127,314	322,695
Somerset	110,918,452	256	19,706,089	131	17,253,424	159	147,877,966	546	24,510	1,313,722	1,766,147	2,022,880	5,127,259
Talbot	24,045,259	56	4,271,949	28	3,740,253	35	32,057,461	118	5,313	284,793	382,871	438,526	1,111,504
Washington	6,980,882	16	1,240,243	8	1,085,880	10	9,307,005	34	1,543	82,682	111,156	127,314	322,695
Wicomico	176,849,000	409	31,419,499	208	27,508,956	254	235,777,456	871	39,079	2,094,606	2,815,954	3,225,291	8,174,930
Worcester	140,393,285	325	24,942,673	165	21,838,250	202	187,174,208	692	31,023	1,662,823	2,235,473	2,560,428	6,489,747

Notes:

1) Economic Impact is apportioned based on each county's share of NAICS 1123 sector farms operating in the county, as reported in the USDA's 2002 Census of Agriculture for the State of Maryland

Breaking the output figure down by region, the Eastern Shore was the largest (48.8% of the poultry, cattle, and dairy total), followed by Western Maryland (33.5% of the poultry, cattle, and dairy total), followed by Central Maryland (17.5% of the poultry, cattle, and dairy total), and the smallest was Southern Maryland (0.2% of the poultry, cattle, and dairy total). See Tables 7A to 7D for more details.

Table 7A Poultry, Cattle, and Dairy Economic Impact: Output

**Resource Industry Economic Impacts:
Output**

Industry Sector: Poultry, Cattle, and Dairy

Geographic Entity	Sector Output			
	Direct	Indirect	Induced	Total
State of Maryland	2,632,712,594	1,260,915,179	468,101,271	4,361,729,044
Regions				
Western Maryland	809,352,403	515,081,416	137,512,332	1,461,946,151
Appalachian Maryland	467,718,383	236,950,921	73,751,409	778,420,713
Central Maryland	522,680,498	161,959,239	77,499,392	762,139,130
Southern Maryland	5,204,826	2,179,147	550,031	7,934,004
Eastern Shore of Maryland	1,295,474,867	581,695,376	252,539,517	2,129,709,760
Upper Eastern Shore	109,445,235	47,652,629	15,960,305	173,058,170
Mid Shore	467,758,753	222,245,496	85,303,814	775,308,063
Lower Eastern Shore	718,270,840	277,922,882	138,615,326	1,134,809,047
Counties				
Allegany	38,300,150	11,704,406	3,939,783	53,944,339
Anne Arundel	1,227,487	317,467	148,380	1,693,334
Baltimore	31,724,539	10,037,144	5,364,547	47,126,229
Baltimore City	236,970,495	66,707,853	25,176,089	328,854,438
Calvert	1,068,540	518,039	143,970	1,730,549
Caroline	121,512,345	16,909,358	12,913,201	151,334,904
Carroll	74,303,850	40,104,979	10,978,973	125,387,802
Cecil	19,477,014	7,522,324	3,242,368	30,241,706
Charles	1,441,390	685,976	157,532	2,284,898
Dorchester	218,464,747	141,316,041	36,305,849	396,086,637
Frederick	267,330,174	208,811,330	48,991,362	525,132,866
Garrett	20,879,233	13,898,982	2,415,131	37,193,347
Harford	16,380,626	9,249,239	2,063,787	27,693,652
Howard	28,651,672	9,715,853	3,595,932	41,963,456
Kent	56,765,058	36,996,327	11,380,430	105,141,815
Montgomery	6,871,845	1,548,792	517,748	8,938,385
Prince George's	200,853,840	80,173,823	30,996,880	312,024,543
Queen Anne's	33,203,168	7,497,255	3,787,521	44,487,944
Saint Mary's	2,694,895	1,329,795	383,694	4,408,384
Somerset	132,697,319	15,910,343	10,692,348	159,300,009
Talbot	127,781,675	68,080,039	31,591,672	227,453,386
Washington	408,539,004	218,132,375	83,375,369	710,046,748
Wicomico	362,100,531	206,303,284	104,627,815	673,031,630
Worcester	223,472,997	87,444,154	35,310,894	346,228,044

Table 7B Poultry, Cattle, and Dairy Economic Impact: Employment

**Resource Industry Economic Impacts:
Employment**

Industry Sector: Poultry, Cattle, and Dairy

Geographic Entity	Sector Employment (jobs)			Total
	Direct	Indirect	Induced	
State of Maryland	9,504	8,202	4,325	22,031
Regions				
Western Maryland	3,462	4,221	1,305	8,988
Appalachian Maryland	1,889	1,820	755	4,464
Central Maryland	1,428	1,109	624	3,160
Southern Maryland	146	38	5	190
Eastern Shore of Maryland	4,467	2,834	2,392	9,693
Upper Eastern Shore	493	324	161	978
Mid Shore	1,692	1,004	806	3,502
Lower Eastern Shore	2,282	1,314	1,275	4,871
Counties				
Allegany	106	117	43	266
Anne Arundel	9	3	1	13
Baltimore	143	120	45	308
Baltimore City	486	368	193	1,046
Calvert	39	13	1	53
Caroline	320	136	124	580
Carroll	465	426	106	997
Cecil	113	76	31	219
Charles	35	10	1	46
Dorchester	830	621	362	1,813
Frederick	1,109	1,709	435	3,253
Garrett	246	148	29	423
Harford	164	91	20	275
Howard	80	69	29	178
Kent	292	250	125	667
Montgomery	45	11	4	60
Prince George's	502	534	264	1,300
Queen Anne's	88	65	36	189
Saint Mary's	72	26	4	102
Somerset	204	123	101	427
Talbot	542	319	288	1,150
Washington	1,537	1,563	787	3,887
Wicomico	1,306	993	951	3,250
Worcester	772	413	345	1,530

Table 7C Poultry, Cattle, and Dairy Economic Impact: Tax Revenue

**Resource Industry Economic Impacts:
State and Local Government Tax Impact**

Industry Sector: Poultry, Cattle, and Dairy

Geographic Entity	Sources of Tax Revenue				Total (\$)
	Employee Compensation	Household Expenditures	Corporations	Indirect Business Taxes	
State of Maryland	924,996	35,645,907	24,566,920	78,128,121	139,265,944
Regions					
Western Maryland	289,307	11,026,299	5,659,735	32,751,503	49,726,843
Appalachian Maryland	185,632	5,385,742	2,597,407	16,142,325	24,311,105
Central Maryland	126,333	5,548,815	2,140,984	13,670,966	21,487,097
Southern Maryland	1,426	59,698	37,073	240,557	338,754
Eastern Shore of Maryland	507,931	19,011,095	16,729,128	31,465,095	67,713,250
Upper Eastern Shore	39,614	1,563,178	1,093,156	3,330,270	6,026,219
Mid Shore	145,486	6,507,059	4,761,546	9,963,992	21,378,083
Lower Eastern Shore	301,201	9,742,424	10,151,460	15,938,249	36,133,335
Counties					
Allegany	13,871	279,031	153,590	791,077	1,237,569
Anne Arundel	170	12,356	8,793	46,274	67,594
Baltimore	6,928	364,585	138,373	1,073,458	1,583,343
Baltimore City	82,210	1,447,978	707,213	4,815,281	7,052,681
Calvert	468	15,824	7,785	55526.94536	79,604
Caroline	24,288	1,321,247	2,013,109	1,943,292	5,301,937
Carroll	22,629	1,037,935	695,156	3,267,149	5,022,869
Cecil	6,831	316,822	195,317	809,574	1,328,544
Charles	393	15,816	12,927	77,555	106,691
Dorchester	106,894	3,177,885	2,806,750	4,868,812	10,960,340
Frederick	74,849	4,058,512	2,092,468	12,919,310	19,145,139
Garrett	4,564	181,065	226,591	1,140,931	1,553,151
Harford	3,560	197,630	136,167	941,461	1,278,818
Howard	5,577	303,065	152,010	810,725	1,271,377
Kent	24,159	946,170	322,364	1,901,872	3,194,566
Montgomery	445	40,686	50,383	308,567	400,081
Prince George's	71,784	2,673,706	852,813	6,143,932	9,742,235
Queen Anne's	8,639	400,728	427,560	898,905	1,735,832
Saint Mary's	576	39,164	16,109	143,991	199,841
Somerset	44,301	1,124,330	2,383,013	1,767,916	5,319,561
Talbot	32,218	2,149,268	648,105	3,268,983	6,098,574
Washington	148,095	5,830,587	2,225,260	15,864,866	24,068,808
Wicomico	163,227	6,783,658	5,237,106	10,371,645	22,555,636
Worcester	78,321	2,927,860	3,057,957	3,897,016	9,961,154

Table 7D Poultry, Cattle, and Dairy: Economic Impact (Production vs. Processing)

**Resource Industry Economic Impacts:
Output, Employment, and Taxes for State of Maryland**

Industry Sector: Poultry, Cattle, & Dairy (Production vs. Processing)

	Sector Direct		Sector Indirect		Sector Induced		Sector Total		Total Tax Impact
	Output	Jobs	Output	Jobs	Output	Jobs	Output	Total	
Total Animal Production	1,030,375,584	4,393	253,857,438	1,917	149,498,050	1,381	1,433,731,072	7,691	52,334,067
Total Animal Processing	1,602,337,010	5,111	1,007,057,741	6,285	318,603,221	2,944	2,927,997,972	14,340	86,931,877
Total	2,632,712,594	9,504	1,260,915,179	8,202	468,101,271	4,325	4,361,729,044	22,031	139,265,944

Forestry Activities and Wood Derivatives

The forestry sector consists of logging, forest nurseries, forest products, timber, agriculture and forestry support activities, the three-digit NAICS (312) "wood product and manufacturing" sector, the three-digit NAICS (322) "paper manufacturing" sector, and the pertinent, wood-related sub-industries within the three-digit NAICS (337) "furniture and related product manufacturing" sector. A complete list of the forestry industries along with IMPLAN industry codes, and corresponding NAICS industries and codes are provided in Table 8.

Table 8 IMPLAN and NAICS Industries in Forestry and Wood Derivatives
Sector

Forestry Activities and Wood Derivatives

NAICS Codes	NAICS Industries	IMPLAN Code	IMPLAN Industry
1133	Logging	14	Logging
1131	Timber tract operations	15	Forest nurseries- forest products- and timber
1132	Forest nurseries and gathering of forest products		
115	Support activities for agriculture and forestry	18	Agriculture and forestry support activities
321113	Sawmills	112	Sawmills
321114	Wood preservation	113	Wood preservation
321219	Reconstituted wood product manufacturing	114	Reconstituted wood product manufacturing
321211, 321212	Veneer and plywood manufacturing	115	Veneer and plywood manufacturing
321213, 321214	Engineered wood member and truss manufacturing	116	Engineered wood member and truss manufacturing
321911	Wood windows and door manufacturing	117	Wood windows and door manufacturing
321912	Cut stock, resawing lumber, and planing	118	Cut stock, resawing lumber, and planing
321918	Other millwork, including flooring	119	Other millwork, including flooring
321920	Wood container and pallet manufacturing	120	Wood container and pallet manufacturing
321999	Misc. wood product manufacturing	123	Misc. wood product manufacturing
32212, 32213	Paper and paperboard mills	125	Paper and paperboard mills
32221	Paperboard container manufacturing	126	Paperboard container manufacturing
322221, 322222	Coated and laminated paper/package materials	129	Coated and laminated paper/package materials
322231	Die-cut paper office supplies manufacturing	131	Die-cut paper office supplies manufacturing
322232	Envelope manufacturing	132	Envelope manufacturing
322233	Stationary and related product manufacturing	133	Stationary and related product manufacturing
322299	All other converted paper product manufacturing	135	All other converted paper product manufacturing
33711	Wood kitchen cabinet and countertop manufacturing	362	Wood kitchen cabinet and countertop manufacturing
337122	Nonupholstered wood household furniture	364	Nonupholstered wood household furniture
337211	Wood office furniture manufacturing	368	Wood office furniture manufacturing
337212	Custom architectural woodwork and millwork	369	Custom architectural woodwork and millwork

These industries represent the forestry commodity producers (e.g. forestry nurseries) and the immediate "down-stream" processors, refiners, and manufactures.

The forestry and wood derivatives sector produced \$3 billion in "direct" output in 2004, which in-turn generated just over \$1.7 billion in additional "indirect" and "induced" economic activity (see section II "Model Details" for a description of these terms). The forestry sector also supported (both directly and indirectly) a total of 29,309 jobs and generated (both directly and indirectly) just under \$173 million in state and local tax revenue.

Breaking the output figure down by region, Central Maryland was the largest (56.7% of the forestry total), followed by Western Maryland (20.4% of the forestry total), followed by the Eastern Shore (19.6% of the forestry total), and the smallest was Southern Maryland (3.4% of the forestry total). See Tables 9A to 9C for more details.

Table 9A Forestry Activities Economic Impact: Output

**Resource Industry Economic Impacts:
Output**

Industry Sector: Forest Activities and Wood Derivatives

Geographic Entity	Sector Output			Total
	Direct	Indirect	Induced	
State of Maryland	2,969,435,336	975,073,449	737,449,453	4,681,958,238
Regions				
Western Maryland	607,438,466	196,553,153	150,402,387	954,394,007
Appalachian Maryland	339,931,824	106,139,462	76,833,398	522,904,685
Central Maryland	1,702,833,337	527,709,721	423,791,052	2,654,334,110
Southern Maryland	100,625,520	36,785,584	20,382,696	157,793,801
Eastern Shore of Maryland	558,538,013	214,024,990	142,873,318	915,436,321
Upper Eastern Shore	157,670,030	54,949,760	39,516,189	252,135,979
Mid Shore	159,410,451	53,023,634	37,212,410	249,646,494
Lower Eastern Shore	241,457,539	96,791,816	62,506,982	400,756,337
Counties				
Allegany	70,930,735	21,242,065	16,931,655	109,104,454
Anne Arundel	341,733,846	108,286,972	81,824,088	531,844,906
Baltimore	561,956,655	175,993,735	142,400,169	880,350,558
Baltimore City	846,943	125,686	226,830	1,199,459
Calvert	18,176,642	6,020,415	4,428,425	28,625,482
Caroline	34,736,221	11,113,036	8,380,326	54,229,583
Carroll	117,337,965	38,683,916	31,527,717	187,549,598
Cecil	100,722,825	34,233,293	26,566,427	161,522,545
Charles	50,450,168	21,042,367	10,736,876	82,229,411
Dorchester	66,131,843	22,715,077	15,412,832	104,259,753
Frederick	150,168,679	47,587,462	41,314,359	239,070,500
Garrett	90,260,922	42,727,727	17,200,552	150,189,202
Harford	123,380,827	38,957,152	32,412,889	194,750,868
Howard	129,480,330	41,137,533	32,485,614	203,103,477
Kent	33,607,260	15,181,705	8,764,854	57,553,820
Montgomery	319,326,177	100,390,701	82,091,798	501,808,676
Prince George's	226,108,553	71,562,709	56,340,584	354,011,847
Queen Anne's	23,339,941	7,493,148	6,282,134	37,115,223
Saint Mary's	31,998,710	12,020,551	7,183,807	51,203,068
Somerset	31,073,946	11,306,159	7,303,320	49,683,425
Talbot	58,542,387	19,155,108	13,867,795	91,565,290
Washington	178,740,166	56,891,530	44,292,050	279,923,747
Wicomico	175,304,836	58,528,719	39,919,757	273,753,313
Worcester	35,078,757	12,676,684	9,554,594	57,310,034

Table 9B Forestry and Wood Derivatives Economic Impact: Employment

**Resource Industry Economic Impacts:
Employment**

Industry Sector: Forest Activities and Wood Derivatives

Geographic Entity	Sector Employment			Total
	Direct	Indirect	Induced	
State of Maryland	15,928	6,567	6,814	29,309
Regions				
Western Maryland	3,385	1,418	1,405	6,209
Appalachian Maryland	1,601	687	726	3,015
Central Maryland	8,434	3,293	3,869	15,596
Southern Maryland	529	228	194	950
Eastern Shore of Maryland	3,580	1,628	1,346	6,554
Upper Eastern Shore	1,180	383	378	1,940
Mid Shore	901	326	348	1,574
Lower Eastern Shore	1,499	907	583	2,989
Counties				
Allegany	337	139	159	635
Anne Arundel	1,698	668	748	3,114
Baltimore	2,643	1,112	1,300	5,055
Baltimore City	8	1	2	11
Calvert	97	38	41	176
Caroline	210	78	78	365
Carroll	971	272	294	1,537
Cecil	686	243	246	1,175
Charles	229	119	98	446
Dorchester	349	139	144	631
Frederick	813	353	376	1,542
Garrett	441	276	190	906
Harford	697	341	301	1,339
Howard	667	259	298	1,224
Kent	319	131	88	538
Montgomery	1,697	627	745	3,069
Prince George's	1,025	448	519	1,993
Queen Anne's	175	50	58	283
Saint Mary's	203	105	72	381
Somerset	440	118	68	626
Talbot	342	130	127	599
Washington	824	358	409	1,591
Wicomico	779	479	363	1,622
Worcester	280	83	90	453

Table 9C Forestry and Wood Derivatives Economic Impact: Tax Revenue

**Resource Industry Economic Impacts:
State and Local Government Tax Impact**

Industry Sector: Forest Activities and Wood Derivatives

Geographic Entity	Sources of Tax Revenue				Total (\$)
	Employee Compensation	Household Expenditures	Corporations	Indirect Business Taxes	
State of Maryland	1,580,740	56,153,705	20,338,830	94,470,331	172,543,606
Regions					
Western Maryland	319,133	11,559,674	4,091,182	19,105,503	35,075,493
Appalachian Maryland	169,956	5,796,695	2,326,336	10,085,877	18,378,864
Central Maryland	897,659	32,028,091	11,597,018	54,089,580	98,612,348
Southern Maryland	45,359	1,781,517	734,629	2,919,474	5,480,979
Eastern Shore of Maryland	318,589	10,784,423	3,916,002	18,355,773	33,374,787
Upper Eastern Shore	91,422	3,251,755	1,013,878	5,023,498	9,380,553
Mid Shore	77,582	2,827,815	1,035,176	4,674,927	8,615,500
Lower Eastern Shore	154,798	4,528,297	1,773,281	8,188,550	14,644,926
Counties					
Allegany	37,715	1,274,791	474,737	2,170,281	3,957,524
Anne Arundel	163,672	6,247,532	2,505,194	10,482,316	19,398,713
Baltimore	297,561	10,633,886	3,854,486	18,128,816	32,914,748
Baltimore City	462	12,139	5,154	21,460	39,215
Calvert	9,845	352,904	122,292	566,985	1,052,026
Caroline	18,811	667,961	229,554	1,098,998	2,015,323
Carroll	65,329	2,508,902	766,172	3,800,914	7,141,317
Cecil	59,420	2,123,258	659,437	3,293,484	6,135,599
Charles	26,246	892,054	410,411	1,520,156	2,848,867
Dorchester	34,252	1,184,858	456,311	1,994,219	3,669,640
Frederick	81,278	3,154,468	981,173	5,141,020	9,357,938
Garrett	40,606	1,226,234	746,771	2,296,595	4,310,206
Harford	66,772	2,574,598	805,758	4,396,112	7,843,241
Howard	69,486	2,476,785	864,272	4,136,615	7,547,159
Kent	15,465	672,674	184,750	1,034,476	1,907,365
Montgomery	171,569	6,227,996	2,116,985	10,274,099	18,790,648
Prince George's	124,315	4,296,791	1,516,229	7,229,654	13,166,990
Queen Anne's	15,769	525,880	145,497	779,573	1,466,718
Saint Mary's	10,599	628,090	213,090	989,259	1,841,038
Somerset	48,653	674,427	172,558	884,111	1,779,750
Talbot	23,148	977,604	336,721	1,610,007	2,947,479
Washington	96,085	3,359,530	1,203,291	5,696,426	10,355,332
Wicomico	79,775	2,729,363	1,348,616	5,852,715	10,010,469
Worcester	23,907	730,984	219,372	1,072,038	2,046,302

Mining

The mining sector consists of coal mining, stone mining and quarrying, sand gravel clay and refractory mining, other nonmetallic mineral mining, support activities for other mining, cement manufacturing, ready-mix concrete manufacturing, gypsum product manufacturing, cut stone and stone product manufacturing, miscellaneous nonmetallic mineral products. A complete list of the mining industries along with IMPLAN industry codes, and corresponding NAICS industries and codes are provided in Table 10.

Table 10 IMPLAN and NAICS Industries in Mining Sector

Mining and Mineral Extraction			
NAICS Codes	NAICS Industries	IMPLAN Code	IMPLAN Industry
2121	Coal mining	20	Coal mining
21231	Stone mining and quarrying	24	Stone mining and quarrying
21232	Sand, gravel, clay, and refractory mining	25	Sand, gravel, clay, and refractory mining
21239	Other nonmetallic mineral mining and quarrying	26	Other nonmetallic mineral mining
213113	Support Activities for Coal Mining		
213114	Support Activities for Metal Mining	29	Support activities for other mining
213115	Support activities for nonmetallic minerals (except fuels)		
32731	Cement manufacturing	191	Cement manufacturing
32732	Ready-mix concrete manufacturing	192	Ready-mix concrete manufacturing
32742	Gypsum product manufacturing	197	Gypsum product manufacturing
327991	Cut stone and stone product manufacturing	199	Cut stone and stone product manufacturing
327999	Miscellaneous nonmetallic mineral products	202	Miscellaneous nonmetallic mineral products

These industries represent the mining commodity producers (e.g. coal mining) and the immediate "down-stream" processors and refiners (e.g. cement manufacturing).

The mining sector produced \$1.1 billion in "direct" output in 2004, which in-turn generated just under \$607 million in additional "indirect" and "induced" economic activity (see section II "Model Details" for a description of these terms). The mining sector also supported (both directly and indirectly) a total of 9,272 jobs and generated (both directly and indirectly) just over \$87 million in state and local tax revenue.

Breaking the output figure down by region, Central Maryland was the largest (52.6% of the mining total), followed by Western Maryland (36.6% of the mining total), followed by the Eastern Shore (5.8% of the mining total), and the smallest was Southern Maryland (4.9% of the mining total). See Tables 11A to 11C for more details.

Table 11A Mining Economic Impact: Output

**Resource Industry Economic Impacts:
Output**

Industry Sector: Mining and Mineral Extraction

Geographic Entity	Sector Output			Total
	Direct	Indirect	Induced	
State of Maryland	1,144,633,340	311,426,252	295,461,486	1,751,521,078
Regions				
Western Maryland	428,186,952	121,214,397	91,973,912	641,375,262
Appalachian Maryland	268,096,031	71,599,590	59,087,748	398,783,370
Central Maryland	585,297,427	164,177,467	171,670,548	921,145,442
Southern Maryland	62,812,611	11,782,476	11,994,272	86,589,359
Eastern Shore of Maryland	68,336,350	14,251,911	19,822,753	102,411,015
Upper Eastern Shore	42,155,275	6,402,419	9,746,659	58,304,353
Mid Shore	11,012,585	1,650,889	2,932,381	15,595,855
Lower Eastern Shore	15,168,489	3,912,869	3,768,370	22,849,728
Counties				
Allegany	40,607,137	9,446,957	9,580,395	59,634,489
Anne Arundel	66,013,861	16,069,788	22,188,282	104,271,931
Baltimore	155,786,331	45,509,602	54,949,003	256,244,936
Baltimore City	160,011,155	57,817,863	29,726,719	247,555,736
Calvert	0	0	0	0
Caroline	7,154,194	1,150,857	1,374,841	9,679,892
Carroll	131,084,667	32,880,018	21,455,206	185,419,892
Cecil	38,937,787	5,701,600	10,339,685	54,979,073
Charles	62,749,910	12,600,981	15,086,366	90,437,257
Dorchester	3,460,194	315,997	978,122	4,754,313
Frederick	29,006,250	9,360,457	9,037,141	47,403,848
Garrett	129,376,169	31,714,484	31,068,013	192,158,666
Harford	28,495,636	8,428,625	6,773,277	43,697,538
Howard	2,377,710	361,563	912,868	3,652,140
Kent	3,217,489	299,899	886,478	4,403,866
Montgomery	112,100,508	24,155,564	34,999,970	171,256,043
Prince George's	60,512,225	16,217,862	18,388,471	95,118,557
Queen Anne's	0	0	0	0
Saint Mary's	62,702	20,682	6,292	89,676
Somerset	0	0	0	0
Talbot	398,198	46,363	126,451	571,012
Washington	98,112,729	34,912,429	22,928,082	155,953,240
Wicomico	13,909,215	4,255,691	4,394,545	22,559,451
Worcester	1,259,274	158,970	261,278	1,679,523

Table 11B Mining Economic Impact: Employment

**Resource Industry Economic Impacts:
Employment**

Industry Sector: Mining and Mineral Extraction

Geographic Entity	Sector Employment (jobs)			Total
	Direct	Indirect	Induced	
State of Maryland	4,353	2,188	2,730	9,271
Regions				
Western Maryland	1,539	919	931	3,389
Appalachian Maryland	1,092	536	645	2,273
Central Maryland	2,204	1,062	1,474	4,740
Southern Maryland	248	93	125	467
Eastern Shore of Maryland	361	114	200	675
Upper Eastern Shore	220	56	105	381
Mid Shore	70	14	30	113
Lower Eastern Shore	71	31	37	139
Counties				
Allegany	225	73	108	406
Anne Arundel	299	110	201	609
Baltimore	595	322	472	1,389
Baltimore City	400	346	234	980
Calvert	0	0	0	0
Caroline	47	9	13	70
Carroll	270	253	212	735
Cecil	201	45	101	347
Charles	247	91	141	479
Dorchester	21	3	10	33
Frederick	177	72	82	332
Garrett	620	288	377	1,286
Harford	119	65	67	251
Howard	7	3	8	17
Kent	19	3	10	32
Montgomery	491	149	267	907
Prince George's	293	115	161	569
Queen Anne's	0	0	0	0
Saint Mary's	1	0	0	2
Somerset	0	0	0	0
Talbot	3	0	1	4
Washington	247	207	222	676
Wicomico	64	33	41	138
Worcester	7	1	3	11

Table 11C Mining Economic Impact: Tax Revenue

**Resource Industry Economic Impacts:
State and Local Government Tax Impact**

Industry Sector: Mining and Mineral Extraction

Geographic Entity	Sources of Tax Revenue				Total (\$)
	Employee Compensation	Household Expenditures	Corporations	Indirect Business Taxes	
State of Maryland	619,647	22,499,875	12,902,511	51,261,852	87,283,884
Regions					
Western Maryland	223,191	7,387,589	5,052,774	23,846,697	36,510,251
Appalachian Maryland	160,861	4,319,222	2,909,882	18,810,676	26,200,640
Central Maryland	298,148	12,311,562	6,571,904	22,428,880	41,610,494
Southern Maryland	43,130	1,305,095	512,195	2,017,760	3,878,181
Eastern Shore of Maryland	55,177	1,495,629	765,638	2,968,514	5,284,958
Upper Eastern Shore	34,919	956,486	442,642	1,806,767	3,240,814
Mid Shore	6,575	223,806	117,124	451,374	798,879
Lower Eastern Shore	9,723	265,266	136,848	525,902	937,739
Counties					
Allegany	28,248	668,765	330,839	4,292,780	5,320,632
Anne Arundel	24,187	1,815,955	776,545	3,055,619	5,672,307
Baltimore	73,011	3,671,597	1,879,168	6,044,937	11,668,714
Baltimore City	97,397	1,681,782	1,749,673	4,668,728	8,197,579
Calvert	0	0	0	0	0
Caroline	4,801	137,950	94,572	255,443	492,765
Carroll	57,632	1,994,940	1,843,384	3,525,098	7,421,055
Cecil	29,405	993,361	457,896	1,721,272	3,201,933
Charles	51,086	1,490,046	547,618	2,188,936	4,277,686
Dorchester	3,562	84,131	44,366	165,286	297,346
Frederick	16,627	736,373	197,178	958,667	1,908,844
Garrett	85,386	2,286,306	1,171,370	11,961,420	15,504,482
Harford	15,412	637,998	207,598	916,548	1,777,557
Howard	483	75,234	28,594	105,615	209,926
Kent	1,537	72,504	26,086	172,730	272,858
Montgomery	34,787	2,705,925	1,325,714	4,789,705	8,856,130
Prince George's	45,725	1,559,614	597,081	2,378,093	4,580,512
Queen Anne's	0	0	0	0	0
Saint Mary's	9	632	183	1,012	1,834
Somerset	0	0	0	0	0
Talbot	42	8,440	3,942	23,824	36,248
Washington	42,560	1,576,836	1,481,614	3,489,139	6,590,149
Wicomico	7,339	280,172	125,401	496,372	909,283
Worcester	413	21,313	13,689	50,628	86,043

Natural Gas and Petroleum Extraction

The natural gas and petroleum extraction sector consists of oil and gas extraction, natural gas distribution, drilling oil and gas wells, support activities for oil and gas operations, petroleum refineries, and other basic organic chemical manufacturing.⁴ A complete list of the natural gas and petroleum extraction industries along with IMPLAN industry codes, and corresponding NAICS industries and codes are provided in Table 12.

Table 12 IMPLAN and NAICS Industries in Natural Gas and Petroleum Extraction Sector

Natural Gas and Petroleum Extraction			
NAICS Codes	NAICS Industries	IMPLAN Code	IMPLAN Industry
211	Oil and gas extraction	19	Oil and gas extraction
2212	Natural gas distribution	31	Natural gas distribution
213111	Drilling oil and gas wells	27	Drilling oil and gas wells
213112	Support activities for oil and gas operations	28	Support activities for oil and gas operations
32411	Petroleum refineries	142	Petroleum refineries
32519	Other basic organic chemical manufacturing	151	Other basic organic chemical manufacturing
325193	Ethanol, nonpotable, manufacturing		

These industries represent the natural gas and petroleum extraction commodity producers (e.g. oil and gas extraction) and the immediate “down-stream” processors and refiners (e.g. petroleum refineries).

The natural gas and petroleum extraction sector produced just under \$1.2 billion in “direct” output in 2004, which in-turn generated just under \$336 million in additional “indirect” and “induced” economic activity (see section II “Model Details” for a description of these terms). The natural gas and petroleum extraction sector also supported (both directly and indirectly) a total of 4,212 jobs and generated (both directly and indirectly) just under \$110 million in state and local tax revenue.

⁴ Ethanol production is included in the “other basic organic chemical manufacturing” industry.

Breaking the output figure down by region, Central Maryland was the largest (75.8% of the natural gas and petroleum extraction total), followed by the Eastern Shore (13.4% of the natural gas and petroleum extraction total), followed by Southern Maryland (5.8% of the natural gas and petroleum extraction total), and the smallest was Western Maryland (5% of the natural gas and petroleum extraction total). See Tables 13A to 13C for more details.

Table 13A Natural Gas and Petroleum Economic Impact: Output

**Resource Industry Economic Impacts:
Output**

Industry Sector: Natural Gas and Petroleum Extraction

Geographic Entity	Sector Output			Total
	Direct	Indirect	Induced	
State of Maryland	1,177,039,746	175,218,158	160,581,812	1,512,839,716
Regions				
Western Maryland	52,735,628	16,386,114	6,727,386	75,849,129
Appalachian Maryland	32,362,310	6,152,372	3,755,174	42,269,857
Central Maryland	910,721,260	105,814,157	130,672,866	1,147,208,283
Southern Maryland	78,291,892	5,216,475	3,986,152	87,494,519
Eastern Shore of Maryland	135,290,965	47,801,412	19,195,407	202,287,785
Upper Eastern Shore	80,907,165	25,693,320	8,535,783	115,136,268
Mid Shore	11,857,457	5,126,394	1,307,189	18,291,040
Lower Eastern Shore	42,526,339	10,489,608	6,177,386	59,193,332
Counties				
Allegany	3,281,518	843,311	386,100	4,510,929
Anne Arundel	289,975,736	113,425,969	29,174,197	432,575,902
Baltimore	31,647,076	2,674,788	5,928,167	40,250,030
Baltimore City	849,213	117,086	152,235	1,118,534
Calvert	28,925,350	470,549	3,394,339	32,790,237
Caroline	5,507,343	2,181,238	449,903	8,138,484
Carroll	6,456,404	1,401,522	742,618	8,600,544
Cecil	2,264,830	217,168	573,024	3,055,023
Charles	49,078,872	5,255,454	1,335,111	55,669,438
Dorchester	1,490,461	350,612	121,985	1,963,058
Frederick	13,916,914	4,308,695	1,938,036	20,163,645
Garrett	2,241,954	593,179	226,391	3,061,523
Harford	745,486	142,873	101,845	990,204
Howard	3,059,721	789,325	383,862	4,232,908
Kent	77,151,874	15,415,325	7,747,164	100,314,363
Montgomery	564,565,538	14,000,213	94,999,228	673,564,979
Prince George's	19,878,503	2,385,647	1,110,792	23,374,941
Queen Anne's	1,490,461	409,652	135,362	2,035,474
Saint Mary's	287,667	30,007	23,975	341,648
Somerset	0	0	0	0
Talbot	4,859,653	1,513,666	667,022	7,040,341
Washington	26,838,837	1,828,172	3,675,595	32,342,604
Wicomico	40,624,419	6,411,512	7,155,521	54,191,452
Worcester	1,901,917	452,197	159,342	2,513,456

Table 13B Natural Gas and Petroleum Economic Impact: Employment

**Resource Industry Economic Impacts:
Employment**

**Industry Sector: Natural Gas and Petroleum
Extraction**

Geographic Entity	Sector Employment (jobs)			Total
	Direct	Indirect	Induced	
State of Maryland	1,715	1,013	1,484	4,212
Regions				
Western Maryland	152	94	71	317
Appalachian Maryland	83	34	43	159
Central Maryland	1,234	612	1,168	3,013
Southern Maryland	68	31	43	143
Eastern Shore of Maryland	261	276	202	739
Upper Eastern Shore	113	168	96	377
Mid Shore	46	27	14	86
Lower Eastern Shore	103	52	63	218
Counties				
Allegany	13	6	5	23
Anne Arundel	418	574	291	1,284
Baltimore	149	23	56	228
Baltimore City	7	1	1	9
Calvert	53	5	37	95
Caroline	21	12	5	38
Carroll	21	13	8	42
Cecil	3	2	6	11
Charles	14	28	14	56
Dorchester	6	2	1	9
Frederick	49	28	20	96
Garrett	9	4	3	15
Harford	5	1	1	7
Howard	11	4	4	19
Kent	105	119	96	319
Montgomery	630	107	802	1,539
Prince George's	13	16	11	40
Queen Anne's	6	2	1	9
Saint Mary's	1	0	0	2
Somerset	0	0	0	0
Talbot	19	9	7	35
Washington	61	14	39	115
Wicomico	96	40	74	210
Worcester	7	2	2	11

Table 13C Natural Gas and Petroleum Economic Impact: Tax Revenue

**Resource Industry Economic Impacts:
State and Local Government Tax Impact**

Industry Sector: Natural Gas and Petroleum Extraction

Geographic Entity	Sources of Tax Revenue				Total (\$)
	Employee Compensation	Household Expenditures	Corporations	Indirect Business Taxes	
State of Maryland	234,776	12,227,231	6,526,398	90,738,361	109,726,766
Regions					
Western Maryland	14,600	559,007	353,216	2,008,522	2,935,344
Appalachian Maryland	10,410	284,524	136,544	1,128,841	1,560,319
Central Maryland	153,155	9,716,948	5,380,217	82,910,246	98,160,566
Southern Maryland	15,205	449,789	117,967	1,457,803	2,040,764
Eastern Shore of Maryland	51,817	1,501,488	674,997	4,361,790	6,590,092
Upper Eastern Shore	29,511	868,579	299,382	1,909,344	3,106,816
Mid Shore	1,313	104,012	69,334	408,992	583,651
Lower Eastern Shore	19,435	450,680	206,819	1,650,374	2,327,308
Counties					
Allegany	892	26,386	22,450	106,358	156,087
Anne Arundel	48,757	2,328,878	1,648,892	7,507,378	11,533,904
Baltimore	11,711	386,310	113,963	1,228,439	1,740,423
Baltimore City	864	8,393	12,359	32,328	53,943
Calvert	21,846	357,999	65,687	1093995.758	1,539,527
Caroline	575	44,239	41,156	191,850	277,820
Carroll	2,328	67,321	60,699	231,002	361,350
Cecil	787	53,705	6,713	53,286	114,490
Charles	6,121	128,575	57,076	379,283	571,055
Dorchester	194	10,270	9,656	45,454	65,573
Frederick	3,124	153,813	116,681	503,317	776,935
Garrett	276	16,325	15,121	68,747	100,468
Harford	253	9,351	7,217	34,096	50,917
Howard	557	30,920	24,452	104,622	160,551
Kent	30,369	617,490	141,757	1,413,663	2,203,279
Montgomery	70,787	7,131,991	3,854,684	74,825,846	85,883,309
Prince George's	3,609	91,861	45,722	266,935	408,126
Queen Anne's	261	13,719	10,987	54,604	79,571
Saint Mary's	27	2,346	1,374	8,025	11,772
Somerset	0	0	0	0	0
Talbot	457	43,434	20,176	162,470	226,537
Washington	10,438	246,497	77,427	876,257	1,210,619
Wicomico	20,260	444,729	159,844	1,496,302	2,121,135
Worcester	284	12,679	12,307	54,104	79,374

Seafood and Aquaculture Industries

The seafood and aquaculture sector consists of animal production (except cattle and poultry), fishing, seafood product preparation and packaging. A complete list of the seafood and aquaculture industries along with IMPLAN industry codes, and corresponding NAICS industries and codes are provided in Table 14.

Table 14 IMPLAN and NAICS Industries in Seafood Sector

Seafood and Misc. Animal Industries

NAICS Codes	NAICS Industries	IMPLAN Code	IMPLAN Industry
1122	Hog and pig farming		
1124	Sheep and goat farming	13	Animal production- except cattle and poultry
1125	Animal aquaculture		
1129	Other animal production		
11292	Horses and Other Equine Production		
1141	Fishing	16	Fishing
3117	Seafood product preparation and packaging	71	Seafood product preparation and packaging
1142	Hunting and trapping	17	Hunting and trapping

These industries represent the seafood and aquaculture commodity producers (e.g. fishing) and the immediate ðdown-streamö processors and refiners (e.g. seafood product preparation and packaging).

The seafood and aquaculture sector produced just over \$352 million in ðdirectö output in 2004, which in-turn generated just over \$199 million in additional ðindirectö and ðinducedö economic activity (see section II ðModel Detailsö for a description of these terms). The seafood and aquaculture sector also supported (both directly and indirectly) a total of 3,943 jobs and generated (both directly and indirectly) just over \$22 million in state and local tax revenue.

Breaking the output figure down by region, the Eastern Shore was the largest (74.5% of the seafood and misc. animal total), followed by Central Maryland (24.6% of the seafood and misc. animal total), followed by Southern Maryland (0.9% of the seafood and aquaculture

total), and the smallest was Western Maryland (0.0% of the seafood and aquaculture total).
See Tables 15A to 15C for more details.

Table 15A Seafood and Aquaculture Economic Impact: Output

**Resource Industry Economic Impacts:
Output**

Industry Sector: Seafood and Aquaculture

Geographic Entity	Sector Output			Total
	Direct	Indirect	Induced	
State of Maryland	352,391,482	127,316,463	72,894,663	552,602,608
Regions				
Western Maryland	0	0	0	0
Appalachian Maryland	0	0	0	0
Central Maryland	86,782,741	31,353,969	17,951,622	136,088,332
Southern Maryland	3,205,205	1,158,017	663,019	5,026,242
Eastern Shore of Maryland	262,403,536	94,804,477	54,280,022	411,488,035
Upper Eastern Shore	31,886,977	11,520,531	6,596,046	50,003,554
Mid Shore	164,484,946	59,427,207	34,024,871	257,937,023
Lower Eastern Shore	66,031,614	23,856,739	13,659,105	103,547,457
Counties				
Allegany	0	0	0	0
Anne Arundel	1,478,830	534,290	305,906	2,319,027
Baltimore	76,161,866	27,516,725	15,754,619	119,433,210
Baltimore City	0	0	0	0
Calvert	834,289	301,423	172,579	1,308,290
Caroline	0	0	0	0
Carroll	0	0	0	0
Cecil	813,206	293,805	168,217	1,275,229
Charles	323,829	116,997	66,986	507,813
Dorchester	152,735,767	55,182,315	31,594,471	239,512,553
Frederick	0	0	0	0
Garrett	0	0	0	0
Harford	3,261,860	1,178,486	674,739	5,115,084
Howard	5,880,185	2,124,468	1,216,358	9,221,011
Kent	5,969,534	2,156,749	1,234,840	9,361,124
Montgomery	0	0	0	0
Prince George's	0	0	0	0
Queen Anne's	25,104,237	9,069,977	5,192,988	39,367,202
Saint Mary's	2,047,087	739,598	423,454	3,210,139
Somerset	37,786,715	13,652,064	7,816,448	59,255,227
Talbot	11,749,178	4,244,892	2,430,400	18,424,471
Washington	0	0	0	0
Wicomico	15,601,507	5,636,710	3,227,282	24,465,499
Worcester	12,643,391	4,567,965	2,615,375	19,826,731

Table 15B Seafood and Aquaculture Economic Impact:
Employment

**Resource Industry Economic Impacts:
Employment**

Industry Sector: Seafood and Aquaculture

Geographic Entity	Sector Output			Total
	Direct	Indirect	Induced	
State of Maryland	2,491	974	479	3,943
Regions				
Western Maryland	0	0	0	0
Appalachian Maryland	0	0	0	0
Central Maryland	552	216	106	874
Southern Maryland	80	31	15	127
Eastern Shore of Maryland	1,859	727	357	2,942
Upper Eastern Shore	384	150	74	607
Mid Shore	872	341	168	1,380
Lower Eastern Shore	603	236	116	955
Counties				
Allegany	0	0	0	0
Anne Arundel	50	20	10	80
Baltimore	368	144	71	582
Baltimore City	0	0	0	0
Calvert	28	11	5	45
Caroline	0	0	0	0
Carroll	0	0	0	0
Cecil	28	11	5	44
Charles	1	1	0	2
Dorchester	658	257	126	1,041
Frederick	0	0	0	0
Garrett	0	0	0	0
Harford	111	43	21	176
Howard	23	9	4	36
Kent	203	79	39	322
Montgomery	0	0	0	0
Prince George's	0	0	0	0
Queen Anne's	153	60	29	242
Saint Mary's	51	20	10	80
Somerset	329	129	63	521
Talbot	214	84	41	339
Washington	0	0	0	0
Wicomico	184	72	35	292
Worcester	89	35	17	142

Table 15C Seafood and Aquaculture Economic Impact:
Tax Revenue

**Resource Industry Economic Impacts:
State and Local Government Tax Impact**

Industry Sector: Seafood and Aquaculture

Geographic Entity	Sources of Tax Revenue				Total (\$)
	Employee Compensation	Household Expenditures	Corporations	Indirect Business Taxes	
State of Maryland	183,312	6,792,429	1,328,107	13,789,089	22,092,937
Regions					
Western Maryland	0	0	0	0	0
Appalachian Maryland	0	0	0	0	0
Central Maryland	40,614	1,504,925	294,254	3,055,100	4,894,894
Southern Maryland	5,913	219,117	42,843	444,822	712,695
Eastern Shore of Maryland	136,784	5,068,387	991,009	10,289,168	16,485,348
Upper Eastern Shore	28,235	1,046,233	204,567	2,123,924	3,402,959
Mid Shore	64,165	2,377,556	464,878	4,826,598	7,733,196
Lower Eastern Shore	44,384	1,644,598	321,564	3,338,646	5,349,192
Counties					
Allegany	0	0	0	0	0
Anne Arundel	3,707	137,358	26,857	278,847	446,769
Baltimore	27,075	1,003,227	196,159	2,036,619	3,263,080
Baltimore City	0	0	0	0	0
Calvert	2,091	77,491	15,152	157,313	252,047
Caroline	0	0	0	0	0
Carroll	0	0	0	0	0
Cecil	2,038	75,533	14,769	153,337	245,677
Charles	98	3,620	708	7,350	11,776
Dorchester	48,407	1,793,653	350,709	3,641,236	5,834,004
Frederick	0	0	0	0	0
Garrett	0	0	0	0	0
Harford	8,177	302,971	59,239	615,053	985,440
Howard	1,656	61,368	11,999	124,581	199,605
Kent	14,964	554,469	108,414	1,125,608	1,803,455
Montgomery	0	0	0	0	0
Prince George's	0	0	0	0	0
Queen Anne's	11,233	416,231	81,385	844,978	1,353,827
Saint Mary's	3,724	138,005	26,984	280,159	448,873
Somerset	24,232	897,901	175,564	1,822,800	2,920,498
Talbot	15,758	583,903	114,169	1,185,362	1,899,192
Washington	0	0	0	0	0
Wicomico	13,568	502,761	98,304	1,020,639	1,635,271
Worcester	6,583	243,936	47,696	495,207	793,423

The IMPLAN Model

The IMPLAN model includes all effects when calculating total output/employment (i.e. this includes *direct plus indirect plus induced* (ripple effect) impacts). The IMPLAN model is based on Input-Output (IO) microeconomic theory. In IO models, the *jobs supported* estimates are the number of jobs that are needed to produce the current level of local output at the average productivity levels for workers in that industry. A simple example should help. Suppose that we estimate that restaurants will produce \$24,000 worth of output in a year. If the average foodservice worker produces \$6,000 worth of output per year, then we will need 4 average productivity workers ($\$24,000/\$6,000$) to supply this level of output. Notice that this is not the same as a *full time equivalent*. Average productivity numbers are influenced by the mix of full and part-time workers in an industry. If full-time food-service workers earn \$12,000 per year, then \$24,000 worth of restaurant output could be produced by only 2 full-time equivalent workers (ignoring other expenses such as materials, rent, etc. to make the exposition simpler).

The IMPLAN model is based on actual Maryland data (from 2005). The advantage of the IMPLAN model is in its use of state and county -specific data. The *direct* output, jobs, and tax revenue figures for individual counties or regions reconcile almost precisely to the state-wide aggregate estimates. However, the *indirect* and *induced* figures do not reconcile between state aggregates and county disaggregates. The underlying reason for this is that the state-wide figures are based on the aggregate Maryland dataset, from which IMPLAN constructs average *multipliers* for the entire state. Economic impact estimates at the county level are based on county-specific *multipliers*, also uniquely derived from the county-level data by IMPLAN. Thus, with differences in the underlying multipliers (and differences in trade-based leakage rates), the estimated ripple/spill-over effects are different at the county and state levels. It should be noted, however, that these differences are rather small and do not affect the underlying qualitative results of this research project.

Study Limitations and Recommendations for Future Research

Due to resource constraints, this study relies on publicly available data sets. In some cases, such as farm implements and recreational fishing, the lack or inadequacy of data sets, has forced their exclusion from this study. In addition, the tourism industry was not included due to the difficulty of separating resource-based components of the industry from conventions and other visitor segments. There is no doubt that these are important contributors to the impact of resource-based industries in the State of Maryland. Unfortunately, in the absence of a dedicated data collection methodology, statewide impact studies that cover different activity sectors over a large number of jurisdictions and sub-regions are subject to the following limitations:

- 1) Publicly available data sets reflect different data collection intervals, different units of measurement, and different jurisdictional boundaries than what is needed for this type of a study, requiring a number of assumptions to be made, and a number of conversions and/or calculations to be performed prior to analysis;
- 2) Certain activity sectors do not have publicly available data sets;
- 3) There is an ongoing debate as to what is commercial, what is industrial, and what is agricultural. Even the local, state, and federal bureaucracies divide the öturfö in such a way that a study that encompasses parts of all these different sectors requires some additional assumptions to be made before the data sets can be used in the impact estimation models;
- 4) There is not always an established consensus across all industry sectors studied as to which activity sets should be included in that industry sector's impact model;
- 5) When jurisdictional and regional impacts are being analyzed, a number of judgment calls need to be made to determine where exactly the economic activity is located and where the impacts will be. The inputs and outputs of economic activity do not

always respect jurisdictional or regional boundaries. Such determinations based on judgment calls are often subject to debate by the various parties involved.

While the effect of some of these limitations has been minimized through pre-analysis calculations and conversions, there are a few actions that can be taken to further minimize and even remove them altogether:

- 1) A Statewide, jurisdiction-by-jurisdiction dashboard of economic activity in resource-based industries can be developed to provide an ongoing feel for these industries' health and their contribution to the Gross State Product (GSP). The one-time cost of developing this statewide dashboard would be less than \$2,500 per jurisdiction. Annual operational costs should then average \$500 to \$1,000 per year per jurisdiction depending on the size of resource-based industries in each. Such a dashboard would eliminate the need for time-consuming and costly updates to this study;
- 2) For activity areas with inadequate or no publicly available data sets, data collection protocols can be developed with the help of local governments and trade organizations;
- 3) A Statewide technical summit of all local, state, and federal bureaucracies that are involved directly or indirectly with resource-based industries can be organized to discuss data collection methodology, data collection intervals, and data standardization issues across all relevant economic activity sectors and across all jurisdictions/regions;
- 4) Achieving a consensus on the economic activities that comprise each resource-based industry sector is a pre-requisite to the dashboard concept described above. Even if the dashboard idea is not immediately implemented, such a consensus will make it easier to collect data, to conduct future updates, and to conduct trend analyses;

- 5) A workshop of resource economists and other stakeholders representing all activity sectors and all jurisdictions/regions can be organized for the stakeholders to determine where the inputs and outputs of economic activities belong. This would help with the Dashboard proposed in recommendation #1 and with any future update of this study. In addition, this would form a foundation that would further facilitate trend analyses over time.

**Western Maryland
Economic Impact: Output**

	Sector Output			Total
	Direct	Indirect	Induced	
Mining	428,186,952	121,214,397	91,973,912	641,375,262
Natural Gas and Petroleum	52,735,628	16,386,114	6,727,386	75,849,129
Seafood and Aquaculture	0	0	0	0
Forestry	607,438,466	196,553,153	150,402,387	954,394,007
Poultry, Cattle, and Dairy	809,352,403	515,081,416	137,512,332	1,461,946,151
Other Agriculture	343,876,101	105,172,083	60,813,026	509,861,211
Total Agriculture	1,153,228,504	620,253,499	198,325,358	1,971,807,362
All Resource Based Industries	2,241,589,551	954,407,164	447,429,044	3,643,425,759

**Western Maryland
Economic Impact: Employment**

	Sector Employment			Total
	Direct	Indirect	Induced	
Mining	1,539	919	931	3,389
Natural Gas and Petroleum	152	94	71	317
Seafood and Aquaculture	0	0	0	0
Forestry and Wood Derivatives	3,385	1,418	1,405	6,209
Poultry, Cattle, and Dairy	3,462	4,221	1,305	8,988
Other Agriculture	2,978	1,076	650	4,704
Total Agriculture	6,440	5,297	1,955	13,692
All Resource Based Industries	11,517	7,728	4,362	23,607

**Western Maryland
Economic Impact: Tax Revenue**

	Sources of Tax Revenue				Total (\$)
	Employee Compensation	Household Expenditures	Corporations	Indirect Business Taxes	
Mining	223,191	7,387,589	5,052,774	23,846,697	36,510,251
Natural Gas and Petroleum	14,600	559,007	353,216	2,008,522	2,935,344
Seafood and Aquaculture	0	0	0	0	0
Forestry and Wood Derivatives	319,133	11,559,674	4,091,182	19,105,503	35,075,493
Poultry, Cattle, and Dairy	289,307	11,026,299	5,659,735	32,751,503	49,726,843
Other Agriculture	113,052	5,193,904	3,434,611	11,940,386	20,681,954
Total Agriculture	402,359	16,220,203	9,094,346	44,691,889	70,408,797
All Resource Based Industries	959,282	35,726,473	18,591,518	89,652,612	144,929,885

**Central Maryland
Economic Impact: Output**

	Sector Output			Total
	Direct	Indirect	Induced	
Mining	585,297,427	164,177,467	171,670,548	921,145,442
Natural Gas and Petroleum	910,721,260	105,814,157	130,672,866	1,147,208,283
Seafood and Aquaculture	86,782,741	31,353,969	17,951,622	136,088,332
Forestry	1,702,833,337	527,709,721	423,791,052	2,654,334,110
Poultry, Cattle, and Dairy	522,680,498	161,959,239	77,499,392	762,139,130
Other Agriculture	1,354,448,152	434,363,910	324,451,184	2,113,263,246
Total Agriculture	1,877,128,650	596,323,149	401,950,576	2,875,402,376
All Resource Based Industries	5,162,763,415	1,425,378,463	1,146,036,664	7,734,178,542

**Central Maryland
Economic Impact: Employment**

	Sector Employment			Total
	Direct	Indirect	Induced	
Mining	2,204	1,062	1,474	4,740
Natural Gas and Petroleum	1,234	612	1,168	3,013
Seafood and Aquaculture	552	216	106	874
Forestry and Wood Derivatives	8,434	3,293	3,869	15,596
Poultry, Cattle, and Dairy	1,428	1,109	624	3,160
Other Agriculture	5,989	2,388	2,718	11,096
Total Agriculture	7,417	3,497	3,342	14,256
All Resource Based Industries	19,841	8,680	9,958	38,479

**Central Maryland
Economic Impact: Tax Revenue**

	Sources of Tax Revenue				Total (\$)
	Employee Compensation	Household Expenditures	Corporations	Indirect Business Taxes	
Mining	298,148	12,311,562	6,571,904	22,428,880	41,610,494
Natural Gas and Petroleum	153,155	9,716,948	5,380,217	82,910,246	98,160,566
Seafood and Aquaculture	40,614	1,504,925	294,254	3,055,100	4,894,894
Forestry and Wood Derivatives	897,659	32,028,091	11,597,018	54,089,580	98,612,348
Poultry, Cattle, and Dairy	126,333	5,548,815	2,140,984	13,670,966	21,487,097
Other Agriculture	474,883	23,376,691	10,682,801	48,877,298	83,411,673
Total Agriculture	601,216	28,925,506	12,823,785	62,548,264	104,898,770
All Resource Based Industries	1,990,793	84,487,031	36,667,178	225,032,070	348,177,072

**Southern Maryland
Economic Impact: Output**

	Sector Output			Total
	Direct	Indirect	Induced	
Mining	62,812,611	11,782,476	11,994,272	86,589,359
Natural Gas and Petroleum	78,291,892	5,216,475	3,986,152	87,494,519
Seafood and Aquaculture	3,205,205	1,158,017	663,019	5,026,242
Forestry	100,625,520	36,785,584	20,382,696	157,793,801
Poultry, Cattle, and Dairy	5,204,826	2,179,147	550,031	7,934,004
Other Agriculture	33,807,003	1,983,892	6,889,140	42,680,035
 Total Agriculture	39,011,829	4,163,039	7,439,171	50,614,039
 All Resource Based Industries	283,947,058	59,105,591	44,465,311	387,517,960

**Southern Maryland
Economic Impact: Employment**

	Sector Employment			
	Direct	Indirect	Induced	Total
Mining	248	93	125	467
Natural Gas and Petroleum	68	31	43	143
Seafood and Aquaculture	80	31	15	127
Forestry and Wood Derivatives	529	228	194	950
Poultry, Cattle, and Dairy	146	38	5	190
Other Agriculture	1,216	30	60	1,304
Total Agriculture	1,362	68	65	1,494
All Resource Based Industries	2,288	452	443	3,182

**Southern Maryland
Economic Impact: Tax Revenue**

	Sources of Tax Revenue				Total (\$)
	Employee Compensation	Household Expenditures	Corporations	Indirect Business Taxes	
Mining	43,130	1,305,095	512,195	2,017,760	3,878,181
Natural Gas and Petroleum	15,205	449,789	117,967	1,457,803	2,040,764
Seafood and Aquaculture	5,913	219,117	42,843	444,822	712,695
Forestry and Wood Derivatives	45,359	1,781,517	734,629	2,919,474	5,480,979
Poultry, Cattle, and Dairy	1,426	59,698	37,073	240,557	338,754
Other Agriculture	5,132	632,791	402,531	871,631	1,912,086
Total Agriculture	6,558	692,489	439,604	1,112,188	2,250,840
All Resource Based Industries	116,167	4,448,006	1,847,239	7,952,047	14,363,459

**Eastern Shore of Maryland
Economic Impact: Output**

	Sector Output			Total
	Direct	Indirect	Induced	
Mining	68,336,350	14,251,911	19,822,753	102,411,015
Natural Gas and Petroleum	135,290,965	47,801,412	19,195,407	202,287,785
Seafood and Aquaculture	262,403,536	94,804,477	54,280,022	411,488,035
Forestry	558,538,013	214,024,990	142,873,318	915,436,321
Poultry, Cattle, and Dairy	1,295,474,867	581,695,376	252,539,517	2,129,709,760
Other Agriculture	596,968,071	183,076,516	152,366,261	932,410,848
Total Agriculture	1,892,442,938	764,771,892	404,905,778	3,062,120,608
All Resource Based Industries	2,917,011,802	1,135,654,682	641,077,279	4,693,743,763

**Eastern Shore of Maryland
Economic Impact: Employment**

	Sector Employment			Total
	Direct	Indirect	Induced	
Mining	361	114	200	675
Natural Gas and Petroleum	261	276	202	739
Seafood and Aquaculture	1,859	727	357	2,942
Forestry and Wood Derivatives	3,580	1,628	1,346	6,554
Poultry, Cattle, and Dairy	4,467	2,834	2,392	9,693
Other Agriculture	4,903	1,991	1,798	8,693
Total Agriculture	9,370	4,825	4,190	18,386
All Resource Based Industries	15,431	7,569	6,295	29,296

**Eastern Shore of Maryland
Economic Impact: Tax Revenue**

	Sources of Tax Revenue				Total (\$)
	Employee Compensation	Household Expenditures	Corporations	Indirect Business Taxes	
Mining	55,177	1,495,629	765,638	2,968,514	5,284,958
Natural Gas and Petroleum	51,817	1,501,488	674,997	4,361,790	6,590,092
Seafood and Aquaculture	136,784	5,068,387	991,009	10,289,168	16,485,348
Forestry and Wood Derivatives	318,589	10,784,423	3,916,002	18,355,773	33,374,787
Poultry, Cattle, and Dairy	507,931	19,011,095	16,729,128	31,465,095	67,713,250
Other Agriculture	327,771	11,018,814	8,231,693	23,767,885	43,346,162
Total Agriculture	835,702	30,029,909	24,960,821	55,232,980	111,059,412
All Resource Based Industries	1,398,070	48,879,836	31,308,467	91,208,225	172,794,597

**Allegany County
Economic Impact: Output**

	Sector Output			Total
	Direct	Indirect	Induced	
Mining	40,607,137	9,446,957	9,580,395	59,634,489
Natural Gas and Petroleum	3,281,518	843,311	386,100	4,510,929
Seafood and Aquaculture	0	0	0	0
Forestry	70,930,735	21,242,065	16,931,655	109,104,454
Poultry, Cattle, and Dairy	38,300,150	11,704,406	3,939,783	53,944,339
Other Agriculture	128,850,506	26,439,231	10,091,089	165,380,827
Total Agriculture	167,150,656	38,143,637	14,030,872	219,325,166
All Resource Based Industries	281,970,046	69,675,970	40,929,022	392,575,038

**Allegany County
Economic Impact: Employment**

	Sector Employment			Total
	Direct	Indirect	Induced	
Mining	225	73	108	406
Natural Gas and Petroleum	13	6	5	23
Seafood and Aquaculture	0	0	0	0
Forestry and Wood Derivatives	337	139	159	635
Poultry, Cattle, and Dairy	106	117	43	266
Other Agriculture	219	266	116	602
Total Agriculture	325	383	159	868
All Resource Based Industries	900	601	430	1,931

**Allegany County
Economic Impact: Tax Revenue**

	Sources of Tax Revenue				Total (\$)
	Employee Compensation	Household Expenditures	Corporations	Indirect Business Taxes	
Mining	28,248	668,765	330,839	4,292,780	5,320,632
Natural Gas and Petroleum	892	26,386	22,450	106,358	156,087
Seafood and Aquaculture	0	0	0	0	0
Forestry and Wood Derivatives	37,715	1,274,791	474,737	2,170,281	3,957,524
Poultry, Cattle, and Dairy	13,871	279,031	153,590	791,077	1,237,569
Other Agriculture	28,823	711,644	344,795	2,859,378	3,944,640
Total Agriculture	42,694	990,675	498,385	3,650,455	5,182,209
All Resource Based Industries	109,549	2,960,617	1,326,411	10,219,875	14,616,452

**Anne Arundel County
Economic Impact: Output**

	Sector Output			Total
	Direct	Indirect	Induced	
Mining	66,013,861	16,069,788	22,188,282	104,271,931
Natural Gas and Petroleum	289,975,736	113,425,969	29,174,197	432,575,902
Seafood and Aquaculture	1,478,830	534,290	305,906	2,319,027
Forestry	341,733,846	108,286,972	81,824,088	531,844,906
Poultry, Cattle, and Dairy	1,227,487	317,467	148,380	1,693,334
Other Agriculture	24,467,008	52,261,965	11,745,558	88,474,531
Total Agriculture	25,694,495	52,579,432	11,893,938	90,167,865
All Resource Based Industries	724,896,768	290,896,451	145,386,411	1,161,179,630

**Anne Arundel County
Economic Impact: Employment**

	Sector Employment			Total
	Direct	Indirect	Induced	
Mining	299	110	201	609
Natural Gas and Petroleum	418	574	291	1,284
Seafood and Aquaculture	50	20	10	80
Forestry and Wood Derivatives	1,698	668	748	3,114
Poultry, Cattle, and Dairy	9	3	1	13
Other Agriculture	383	142	82	607
Total Agriculture	392	145	83	620
All Resource Based Industries	2,857	1,517	1,332	5,707

**Anne Arundel County
Economic Impact: Tax Revenue**

	Sources of Tax Revenue				Total (\$)
	Employee Compensation	Household Expenditures	Corporations	Indirect Business Taxes	
Mining	24,187	1,815,955	776,545	3,055,619	5,672,307
Natural Gas and Petroleum	48,757	2,328,878	1,648,892	7,507,378	11,533,904
Seafood and Aquaculture	3,707	137,358	26,857	278,847	446,769
Forestry and Wood Derivatives	163,672	6,247,532	2,505,194	10,482,316	19,398,713
Poultry, Cattle, and Dairy	170	12,356	8,793	46,274	67,594
Other Agriculture	-12,898	997,278	500,070	1,617,154	3,101,604
Total Agriculture	-12,728	1,009,634	508,863	1,663,428	3,169,198
All Resource Based Industries	227,595	11,539,357	5,466,351	22,987,588	40,220,890

**Baltimore County
Economic Impact: Output**

	Sector Output			Total
	Direct	Indirect	Induced	
Mining	155,786,331	45,509,602	54,949,003	256,244,936
Natural Gas and Petroleum	31,647,076	2,674,788	5,928,167	40,250,030
Seafood and Aquaculture	76,161,866	27,516,725	15,754,619	119,433,210
Forestry	561,956,655	175,993,735	142,400,169	880,350,558
Poultry, Cattle, and Dairy	31,724,539	10,037,144	5,364,547	47,126,229
Other Agriculture	183,651,968	52,408,037	77,076,979	313,136,985
Total Agriculture	215,376,507	62,445,181	82,441,526	360,263,214
All Resource Based Industries	1,040,928,434	314,140,029	301,473,484	1,656,541,948

**Baltimore County
Economic Impact: Employment**

	Sector Employment			Total
	Direct	Indirect	Induced	
Mining	595	322	472	1,389
Natural Gas and Petroleum	149	23	56	228
Seafood and Aquaculture	368	144	71	582
Forestry and Wood Derivatives	2,643	1,112	1,300	5,055
Poultry, Cattle, and Dairy	143	120	45	308
Other Agriculture	1,400	464	737	2,601
Total Agriculture	1,543	584	782	2,909
All Resource Based Industries	5,298	2,184	2,680	10,163

**Baltimore County
Economic Impact: Tax Revenue**

	Sources of Tax Revenue				Total (\$)
	Employee Compensation	Household Expenditures	Corporations	Indirect Business Taxes	
Mining	73,011	3,671,597	1,879,168	6,044,937	11,668,714
Natural Gas and Petroleum	11,711	386,310	113,963	1,228,439	1,740,423
Seafood and Aquaculture	27,075	1,003,227	196,159	2,036,619	3,263,080
Forestry and Wood Derivatives	297,561	10,633,886	3,854,486	18,128,816	32,914,748
Poultry, Cattle, and Dairy	6,928	364,585	138,373	1,073,458	1,583,343
Other Agriculture	59,414	5,303,324	2,361,843	8,912,749	16,637,331
Total Agriculture	66,342	5,667,909	2,500,216	9,986,207	18,220,674
All Resource Based Industries	475,699	21,362,930	8,543,992	37,425,018	67,807,640

**Baltimore City
Economic Impact: Output**

	Sector Output			Total
	Direct	Indirect	Induced	
Mining	160,011,155	57,817,863	29,726,719	247,555,736
Natural Gas and Petroleum	849,213	117,086	152,235	1,118,534
Seafood and Aquaculture	0	0	0	0
Forestry	846,943	125,686	226,830	1,199,459
Poultry, Cattle, and Dairy	236,970,495	66,707,853	25,176,089	328,854,438
Other Agriculture	909,655,539	345,285,442	151,930,622	1,406,871,602
Total Agriculture	1,146,626,034	411,993,295	177,106,711	1,735,726,040
All Resource Based Industries	1,308,333,345	470,053,929	207,212,495	1,985,599,770

**Baltimore City
Economic Impact: Employment**

	Sector Employment			Total
	Direct	Indirect	Induced	
Mining	400	346	234	980
Natural Gas and Petroleum	7	1	1	9
Seafood and Aquaculture	0	0	0	0
Forestry and Wood Derivatives	8	1	2	11
Poultry, Cattle, and Dairy	486	368	193	1,046
Other Agriculture	1,458	2,068	1,211	4,738
Total Agriculture	1,944	2,436	1,404	5,784
All Resource Based Industries	2,360	2,783	1,641	6,784

**Baltimore City
Economic Impact: Tax Revenue**

	Sources of Tax Revenue				Total (\$)
	Employee Compensation	Household Expenditures	Corporations	Indirect Business Taxes	
Mining	97,397	1,681,782	1,749,673	4,668,728	8,197,579
Natural Gas and Petroleum	864	8,393	12,359	32,328	53,943
Seafood and Aquaculture	0	0	0	0	0
Forestry and Wood Derivatives	462	12,139	5,154	21,460	39,215
Poultry, Cattle, and Dairy	82,210	1,447,978	707,213	4,815,281	7,052,681
Other Agriculture	506,404	8,609,989	4,219,273	25,969,526	39,305,193
Total Agriculture	588,614	10,057,967	4,926,486	30,784,807	46,357,874
All Resource Based Industries	687,337	11,760,281	6,693,671	35,507,322	54,648,612

**Caroline County
Economic Impact: Output**

	Sector Output			Total
	Direct	Indirect	Induced	
Mining	7,154,194	1,150,857	1,374,841	9,679,892
Natural Gas and Petroleum	5,507,343	2,181,238	449,903	8,138,484
Seafood and Aquaculture	0	0	0	0
Forestry	34,736,221	11,113,036	8,380,326	54,229,583
Poultry, Cattle, and Dairy	121,512,345	16,909,358	12,913,201	151,334,904
Other Agriculture	54,743,800	8,854,780	10,268,244	73,866,824
Total Agriculture	176,256,145	25,764,138	23,181,445	225,201,728
All Resource Based Industries	223,653,902	40,209,269	33,386,515	297,249,686

**Caroline County
Economic Impact: Employment**

	Sector Employment			Total
	Direct	Indirect	Induced	
Mining	47	9	13	70
Natural Gas and Petroleum	21	12	5	38
Seafood and Aquaculture	0	0	0	0
Forestry and Wood Derivatives	210	78	78	365
Poultry, Cattle, and Dairy	320	136	124	580
Other Agriculture	538	111	105	754
Total Agriculture	858	247	229	1,334
All Resource Based Industries	1,136	345	325	1,806

**Caroline County
Economic Impact: Tax Revenue**

	Sources of Tax Revenue				Total (\$)
	Employee Compensation	Household Expenditures	Corporations	Indirect Business Taxes	
Mining	4,801	137,950	94,572	255,443	492,765
Natural Gas and Petroleum	575	44,239	41,156	191,850	277,820
Seafood and Aquaculture	0	0	0	0	0
Forestry and Wood Derivatives	18,811	667,961	229,554	1,098,998	2,015,323
Poultry, Cattle, and Dairy	24,288	1,321,247	2,013,109	1,943,292	5,301,937
Other Agriculture	14,365	1,031,647	1,022,684	1,755,273	3,823,967
Total Agriculture	38,653	2,352,894	3,035,793	3,698,565	9,125,904
All Resource Based Industries	62,840	3,203,043	3,401,074	5,244,855	11,911,813

**Carroll County
Economic Impact: Output**

	Sector Output			Total
	Direct	Indirect	Induced	
Mining	131,084,667	32,880,018	21,455,206	185,419,892
Natural Gas and Petroleum	6,456,404	1,401,522	742,618	8,600,544
Seafood and Aquaculture	0	0	0	0
Forestry	117,337,965	38,683,916	31,527,717	187,549,598
Poultry, Cattle, and Dairy	74,303,850	40,104,979	10,978,973	125,387,802
Other Agriculture	71,579,815	16,813,763	22,743,075	111,136,652
Total Agriculture	145,883,665	56,918,742	33,722,048	236,524,454
All Resource Based Industries	400,762,701	129,884,198	87,447,588	618,094,487

**Carroll County
Economic Impact: Employment**

	Sector Employment			
	Direct	Indirect	Induced	Total
Mining	270	253	212	735
Natural Gas and Petroleum	21	13	8	42
Seafood and Aquaculture	0	0	0	0
Forestry and Wood Derivatives	971	272	294	1,537
Poultry, Cattle, and Dairy	465	426	106	997
Other Agriculture	944	368	235	1,546
Total Agriculture	1,409	794	341	2,543
All Resource Based Industries	2,670	1,331	855	4,857

**Carroll County
Economic Impact: Tax Revenue**

	Sources of Tax Revenue				Total (\$)
	Employee Compensation	Household Expenditures	Corporations	Indirect Business Taxes	
Mining	57,632	1,994,940	1,843,384	3,525,098	7,421,055
Natural Gas and Petroleum	2,328	67,321	60,699	231,002	361,350
Seafood and Aquaculture	0	0	0	0	0
Forestry and Wood Derivatives	65,329	2,508,902	766,172	3,800,914	7,141,317
Poultry, Cattle, and Dairy	22,629	1,037,935	695,156	3,267,149	5,022,869
Other Agriculture	27,133	2,167,904	1,159,497	2,786,224	6,140,758
Total Agriculture	49,762	3,205,839	1,854,653	6,053,373	11,163,627
All Resource Based Industries	175,051	7,777,002	4,524,908	13,610,387	26,087,348

**Cecil County
Economic Impact: Output**

	Sector Output			Total
	Direct	Indirect	Induced	
Mining	38,937,787	5,701,600	10,339,685	54,979,073
Natural Gas and Petroleum	2,264,830	217,168	573,024	3,055,023
Seafood and Aquaculture	813,206	293,805	168,217	1,275,229
Forestry	100,722,825	34,233,293	26,566,427	161,522,545
Poultry, Cattle, and Dairy	19,477,014	7,522,324	3,242,368	30,241,706
Other Agriculture	43,591,509	9,648,223	14,772,838	68,012,569
Total Agriculture	63,068,523	17,170,547	18,015,206	98,254,275
All Resource Based Industries	205,807,171	57,616,413	55,662,560	319,086,144

**Cecil County
Economic Impact: Employment**

	Sector Employment			Total
	Direct	Indirect	Induced	
Mining	201	45	101	347
Natural Gas and Petroleum	3	2	6	11
Seafood and Aquaculture	28	11	5	44
Forestry and Wood Derivatives	686	243	246	1,175
Poultry, Cattle, and Dairy	113	76	31	219
Other Agriculture	660	120	145	926
Total Agriculture	773	196	176	1,145
All Resource Based Industries	1,691	497	534	2,722

**Cecil County
Economic Impact: Tax Revenue**

	Sources of Tax Revenue				Total (\$)
	Employee Compensation	Household Expenditures	Corporations	Indirect Business Taxes	
Mining	29,405	993,361	457,896	1,721,272	3,201,933
Natural Gas and Petroleum	787	53,705	6,713	53,286	114,490
Seafood and Aquaculture	2,038	75,533	14,769	153,337	245,677
Forestry and Wood Derivatives	59,420	2,123,258	659,437	3,293,484	6,135,599
Poultry, Cattle, and Dairy	6,831	316,822	195,317	809,574	1,328,544
Other Agriculture	23,703	1,405,459	413,760	1,726,942	3,569,865
Total Agriculture	30,534	1,722,281	609,077	2,536,516	4,898,409
All Resource Based Industries	122,185	4,968,137	1,747,892	7,757,895	14,596,109

**Charles County
Economic Impact: Output**

	Sector Output			Total
	Direct	Indirect	Induced	
Mining	62,749,910	12,600,981	15,086,366	90,437,257
Natural Gas and Petroleum	49,078,872	5,255,454	1,335,111	55,669,438
Seafood and Aquaculture	323,829	116,997	66,986	507,813
Forestry	50,450,168	21,042,367	10,736,876	82,229,411
Poultry, Cattle, and Dairy	1,441,390	685,976	157,532	2,284,898
Other Agriculture	13,392,629	2,455,093	3,549,446	19,397,168
Total Agriculture	14,834,019	3,141,069	3,706,978	21,682,066
All Resource Based Industries	177,436,798	42,156,869	30,932,318	250,525,985

**Charles County
Economic Impact: Employment**

	Sector Employment			Total
	Direct	Indirect	Induced	
Mining	247	91	141	479
Natural Gas and Petroleum	14	28	14	56
Seafood and Aquaculture	1	1	0	2
Forestry and Wood Derivatives	229	119	98	446
Poultry, Cattle, and Dairy	35	10	1	46
Other Agriculture	350	26	36	412
Total Agriculture	385	36	37	458
All Resource Based Industries	878	275	289	1,441

**Charles County
Economic Impact: Tax Revenue**

	Sources of Tax Revenue				Total (\$)
	Employee Compensation	Household Expenditures	Corporations	Indirect Business Taxes	
Mining	51,086	1,490,046	547,618	2,188,936	4,277,686
Natural Gas and Petroleum	6,121	128,575	57,076	379,283	571,055
Seafood and Aquaculture	98	3,620	708	7,350	11,776
Forestry and Wood Derivatives	26,246	892,054	410,411	1,520,156	2,848,867
Poultry, Cattle, and Dairy	393	15,816	12,927	77,555	106,691
Other Agriculture	515	388,935	202,932	542,190	1,134,572
Total Agriculture	30,534	1,722,281	609,077	2,536,516	4,898,409
All Resource Based Industries	908	404,751	215,859	619,745	1,241,263

**Dorchester County
Economic Impact: Output**

	Sector Output			Total
	Direct	Indirect	Induced	
Mining	3,460,194	315,997	978,122	4,754,313
Natural Gas and Petroleum	1,490,461	350,612	121,985	1,963,058
Seafood and Aquaculture	152,735,767	55,182,315	31,594,471	239,512,553
Forestry	66,131,843	22,715,077	15,412,832	104,259,753
Poultry, Cattle, and Dairy	218,464,747	141,316,041	36,305,849	396,086,637
Other Agriculture	167,510,719	22,286,334	15,813,406	205,610,459
Total Agriculture	385,975,466	163,602,375	52,119,255	601,697,096
All Resource Based Industries	609,793,731	242,166,376	100,226,666	952,186,773

**Dorchester County
Economic Impact: Employment**

	Sector Employment			Total
	Direct	Indirect	Induced	
Mining	21	3	10	33
Natural Gas and Petroleum	6	2	1	9
Seafood and Aquaculture	658	257	126	1,041
Forestry and Wood Derivatives	349	139	144	631
Poultry, Cattle, and Dairy	830	621	362	1,813
Other Agriculture	885	416	373	1,675
Total Agriculture	1,715	1,037	735	3,488
All Resource Based Industries	2,749	1,438	1,017	5,203

**Dorchester County
Economic Impact: Tax Revenue**

	Sources of Tax Revenue				Total (\$)
	Employee Compensation	Household Expenditures	Corporations	Indirect Business Taxes	
Mining	3,562	84,131	44,366	165,286	297,346
Natural Gas and Petroleum	194	10,270	9,656	45,454	65,573
Seafood and Aquaculture	48,407	1,793,653	350,709	3,641,236	5,834,004
Forestry and Wood Derivatives	34,252	1,184,858	456,311	1,994,219	3,669,640
Poultry, Cattle, and Dairy	106,894	3,177,885	2,806,750	4,868,812	10,960,340
Other Agriculture	98,866	2,270,438	1,989,699	6,870,211	11,229,214
Total Agriculture	205,760	5,448,323	4,796,449	11,739,023	22,189,554
All Resource Based Industries	292,174	8,521,235	5,657,491	17,585,218	32,056,117

**Frederick County
Economic Impact: Output**

	Sector Output			Total
	Direct	Indirect	Induced	
Mining	29,006,250	9,360,457	9,037,141	47,403,848
Natural Gas and Petroleum	13,916,914	4,308,695	1,938,036	20,163,645
Seafood and Aquaculture	0	0	0	0
Forestry	150,168,679	47,587,462	41,314,359	239,070,500
Poultry, Cattle, and Dairy	267,330,174	208,811,330	48,991,362	525,132,866
Other Agriculture	64,146,916	26,943,551	20,479,896	111,570,363
Total Agriculture	331,477,090	235,754,881	69,471,258	636,703,229
All Resource Based Industries	524,568,932	297,011,495	121,760,795	943,341,222

**Frederick County
Economic Impact: Employment**

	Sector Employment			Total
	Direct	Indirect	Induced	
Mining	177	72	82	332
Natural Gas and Petroleum	49	28	20	96
Seafood and Aquaculture	0	0	0	0
Forestry and Wood Derivatives	813	353	376	1,542
Poultry, Cattle, and Dairy	1,109	1,709	435	3,253
Other Agriculture	870	166	206	1,242
Total Agriculture	1,979	1,875	641	4,495
All Resource Based Industries	3,018	2,329	1,119	6,465

**Frederick County
Economic Impact: Tax Revenue**

	Sources of Tax Revenue				Total (\$)
	Employee Compensation	Household Expenditures	Corporations	Indirect Business Taxes	
Mining	16,627	736,373	197,178	958,667	1,908,844
Natural Gas and Petroleum	3,124	153,813	116,681	503,317	776,935
Seafood and Aquaculture	0	0	0	0	0
Forestry and Wood Derivatives	81,278	3,154,468	981,173	5,141,020	9,357,938
Poultry, Cattle, and Dairy	74,849	4,058,512	2,092,468	12,919,310	19,145,139
Other Agriculture	19,423	1,681,088	963,977	2,232,737	4,897,225
Total Agriculture	94,272	5,739,600	3,056,445	15,152,047	24,042,364
All Resource Based Industries	195,301	9,784,254	4,351,476	21,755,050	36,086,081

**Garrett County
Economic Impact: Output**

	Sector Output			Total
	Direct	Indirect	Induced	
Mining	129,376,169	31,714,484	31,068,013	192,158,666
Natural Gas and Petroleum	2,241,954	593,179	226,391	3,061,523
Seafood and Aquaculture	0	0	0	0
Forestry	90,260,922	42,727,727	17,200,552	150,189,202
Poultry, Cattle, and Dairy	20,879,233	13,898,982	2,415,131	37,193,347
Other Agriculture	37,393,119	2,251,989	6,879,917	46,525,024
Total Agriculture	58,272,352	16,150,971	9,295,048	83,718,371
All Resource Based Industries	280,151,397	91,186,361	57,790,004	429,127,762

**Garrett County
Economic Impact: Employment**

	Sector Employment			Total
	Direct	Indirect	Induced	
Mining	620	288	377	1,286
Natural Gas and Petroleum	9	4	3	15
Seafood and Aquaculture	0	0	0	0
Forestry and Wood Derivatives	441	276	190	906
Poultry, Cattle, and Dairy	246	148	29	423
Other Agriculture	449	101	94	643
Total Agriculture	695	249	123	1,066
All Resource Based Industries	1,764	817	693	3,273

**Garrett County
Economic Impact: Tax Revenue**

	Sources of Tax Revenue				Total (\$)
	Employee Compensation	Household Expenditures	Corporations	Indirect Business Taxes	
Mining	85,386	2,286,306	1,171,370	11,961,420	15,504,482
Natural Gas and Petroleum	276	16,325	15,121	68,747	100,468
Seafood and Aquaculture	0	0	0	0	0
Forestry and Wood Derivatives	40,606	1,226,234	746,771	2,296,595	4,310,206
Poultry, Cattle, and Dairy	4,564	181,065	226,591	1,140,931	1,553,151
Other Agriculture	3,492	571,077	413,272	1,163,905	2,151,745
Total Agriculture	8,056	752,142	639,863	2,304,836	3,704,896
All Resource Based Industries	134,323	4,281,007	2,573,124	16,631,598	23,620,052

**Hartford County
Economic Impact: Output**

	Sector Output			Total
	Direct	Indirect	Induced	
Mining	28,495,636	8,428,625	6,773,277	43,697,538
Natural Gas and Petroleum	745,486	142,873	101,845	990,204
Seafood and Aquaculture	3,261,860	1,178,486	674,739	5,115,084
Forestry	123,380,827	38,957,152	32,412,889	194,750,868
Poultry, Cattle, and Dairy	16,380,626	9,249,239	2,063,787	27,693,652
Other Agriculture	42,088,326	7,691,862	11,927,921	61,708,109
 Total Agriculture	58,468,952	16,941,101	13,991,708	89,401,761
 All Resource Based Industries	214,352,761	65,648,237	53,954,457	333,955,455

**Hartford County
Economic Impact: Employment**

	Sector Employment			Total
	Direct	Indirect	Induced	
Mining	620	288	377	1,286
Natural Gas and Petroleum	5	1	1	7
Seafood and Aquaculture	111	43	21	176
Forestry and Wood Derivatives	697	341	301	1,339
Poultry, Cattle, and Dairy	164	91	20	275
Other Agriculture	662	63	108	833
Total Agriculture	826	154	128	1,108
All Resource Based Industries	1,759	604	519	2,882

**Hartford County
Economic Impact: Tax Revenue**

	Sources of Tax Revenue				Total (\$)
	Employee Compensation	Household Expenditures	Corporations	Indirect Business Taxes	
Mining	15,412	637,998	207,598	916,548	1,777,557
Natural Gas and Petroleum	253	9,351	7,217	34,096	50,917
Seafood and Aquaculture	8,177	302,971	59,239	615,053	985,440
Forestry and Wood Derivatives	66,772	2,574,598	805,758	4,396,112	7,843,241
Poultry, Cattle, and Dairy	3,560	197,630	136,167	941,461	1,278,818
Other Agriculture	5,588	933,914	525,445	1,191,093	2,656,040
Total Agriculture	9,148	1,131,544	661,612	2,132,554	3,934,858
All Resource Based Industries	99,762	4,656,462	1,741,424	8,094,363	14,592,013

**Howard County
Economic Impact: Output**

	Sector Output			Total
	Direct	Indirect	Induced	
Mining	2,377,710	361,563	912,868	3,652,140
Natural Gas and Petroleum	3,059,721	789,325	383,862	4,232,908
Seafood and Aquaculture	5,880,185	2,124,468	1,216,358	9,221,011
Forestry	129,480,330	41,137,533	32,485,614	203,103,477
Poultry, Cattle, and Dairy	28,651,672	9,715,853	3,595,932	41,963,456
Other Agriculture	54,334,015	8,749,368	14,677,905	77,761,289
Total Agriculture	82,985,687	18,465,221	18,273,837	119,724,745
All Resource Based Industries	223,783,634	62,878,109	53,272,538	339,934,281

**Howard County
Economic Impact: Employment**

	Sector Employment			Total
	Direct	Indirect	Induced	
Mining	7	3	8	17
Natural Gas and Petroleum	11	4	4	19
Seafood and Aquaculture	23	9	4	36
Forestry and Wood Derivatives	667	259	298	1,224
Poultry, Cattle, and Dairy	80	69	29	178
Other Agriculture	608	129	132	869
Total Agriculture	688	198	161	1,047
All Resource Based Industries	1,395	473	474	2,343

**Howard County
Economic Impact: Tax Revenue**

	Sources of Tax Revenue				Total (\$)
	Employee Compensation	Household Expenditures	Corporations	Indirect Business Taxes	
Mining	483	75,234	28,594	105,615	209,926
Natural Gas and Petroleum	557	30,920	24,452	104,622	160,551
Seafood and Aquaculture	1,656	61,368	11,999	124,581	199,605
Forestry and Wood Derivatives	69,486	2,476,785	864,272	4,136,615	7,547,159
Poultry, Cattle, and Dairy	5,577	303,065	152,010	810,725	1,271,377
Other Agriculture	13,430	1,262,123	776,605	2,504,239	4,556,396
Total Agriculture	19,007	1,565,188	928,615	3,314,964	5,827,773
All Resource Based Industries	91,189	4,209,495	1,857,932	7,786,397	13,945,013

**Kent County
Economic Impact: Output**

	Sector Output			Total
	Direct	Indirect	Induced	
Mining	3,217,489	299,899	886,478	4,403,866
Natural Gas and Petroleum	77,151,874	15,415,325	7,747,164	100,314,363
Seafood and Aquaculture	5,969,534	2,156,749	1,234,840	9,361,124
Forestry	33,607,260	15,181,705	8,764,854	57,553,820
Poultry, Cattle, and Dairy	56,765,058	36,996,327	11,380,430	105,141,815
Other Agriculture	63,928,096	19,620,857	26,346,632	109,895,586
 Total Agriculture	120,693,154	56,617,184	37,727,062	215,037,401
 All Resource Based Industries	240,639,312	89,670,862	56,360,399	386,670,573

**Kent County
Economic Impact: Employment**

	Sector Employment			Total
	Direct	Indirect	Induced	
Mining	19	3	10	32
Natural Gas and Petroleum	105	119	96	319
Seafood and Aquaculture	203	79	39	322
Forestry and Wood Derivatives	203	79	39	322
Poultry, Cattle, and Dairy	292	250	125	667
Other Agriculture	711	168	271	1150
Total Agriculture	1,003	418	396	1,817
All Resource Based Industries	1,649	750	629	3,028

**Kent County
Economic Impact: Tax Revenue**

	Sources of Tax Revenue				Total (\$)
	Employee Compensation	Household Expenditures	Corporations	Indirect Business Taxes	
Mining	1,537	72,504	26,086	172,730	272,858
Natural Gas and Petroleum	30,369	617,490	141,757	1,413,663	2,203,279
Seafood and Aquaculture	14,964	554,469	108,414	1,125,608	1,803,455
Forestry and Wood Derivatives	15,465	672,674	184,750	1,034,476	1,907,365
Poultry, Cattle, and Dairy	24,159	946,170	322,364	1,901,872	3,194,566
Other Agriculture	15,896	1,738,547	391,922	1,704,765	3,851,129
Total Agriculture	40,055	2,684,717	714,286	3,606,637	7,045,695
All Resource Based Industries	102,390	4,601,853	1,175,294	7,353,114	13,232,651

**Montgomery County
Economic Impact: Output**

	Sector Output			Total
	Direct	Indirect	Induced	
Mining	112,100,508	24,155,564	34,999,970	171,256,043
Natural Gas and Petroleum	564,565,538	14,000,213	94,999,228	673,564,979
Seafood and Aquaculture	0	0	0	0
Forestry	319,326,177	100,390,701	82,091,798	501,808,676
Poultry, Cattle, and Dairy	6,871,845	1,548,792	517,748	8,938,385
Other Agriculture	96,068,353	15,048,477	37,488,388	148,605,218
Total Agriculture	102,940,198	16,597,269	38,006,136	157,543,603
All Resource Based Industries	1,098,932,422	155,143,747	250,097,131	1,504,173,300

**Montgomery County
Economic Impact: Employment**

	Sector Employment			Total
	Direct	Indirect	Induced	
Mining	491	149	267	907
Natural Gas and Petroleum	630	107	802	1,539
Seafood and Aquaculture	0	0	0	0
Forestry and Wood Derivatives	1,697	627	745	3,069
Poultry, Cattle, and Dairy	45	11	4	60
Other Agriculture	831	106	221	1,158
Total Agriculture	876	117	225	1,218
All Resource Based Industries	3,693	1,000	2,039	6,732

**Montgomery County
Economic Impact: Tax Revenue**

	Sources of Tax Revenue				Total (\$)
	Employee Compensation	Household Expenditures	Corporations	Indirect Business Taxes	
Mining	34,787	2,705,925	1,325,714	4,789,705	8,856,130
Natural Gas and Petroleum	70,787	7,131,991	3,854,684	74,825,846	85,883,309
Seafood and Aquaculture	0	0	0	0	0
Forestry and Wood Derivatives	15,465	672,674	184,750	1,034,476	1,907,365
Poultry, Cattle, and Dairy	445	40,686	50,383	308,567	400,081
Other Agriculture	-11,036	3,147,258	2,007,128	13,280,374	18,423,724
Total Agriculture	-10,591	3,187,944	2,057,511	13,588,941	18,823,805
All Resource Based Industries	266,552	19,253,857	9,354,893	103,478,591	132,353,893

**Prince George's County
Economic Impact: Output**

	Sector Output			
	Direct	Indirect	Induced	Total
Mining	60,512,225	16,217,862	18,388,471	95,118,557
Natural Gas and Petroleum	19,878,503	2,385,647	1,110,792	23,374,941
Seafood and Aquaculture	0	0	0	0
Forestry	226,108,553	71,562,709	56,340,584	354,011,847
Poultry, Cattle, and Dairy	200,853,840	80,173,823	30,996,880	312,024,543
Other Agriculture	44,182,960	9,531,440	15,586,816	69,301,216
Total Agriculture	245,036,800	89,705,263	46,583,696	381,325,759
All Resource Based Industries	551,536,081	179,871,481	122,423,543	853,831,105

**Prince George's County
Economic Impact: Employment**

	Sector Employment			Total
	Direct	Indirect	Induced	
Mining	293	115	161	569
Natural Gas and Petroleum	13	16	11	40
Seafood and Aquaculture	0	0	0	0
Forestry and Wood Derivatives	1,025	448	519	1,993
Poultry, Cattle, and Dairy	502	534	264	1,300
Other Agriculture	645	43	146	835
Total Agriculture	1,147	577	410	2,135
All Resource Based Industries	2,478	1,157	1,101	4,735

**Prince George's County
Economic Impact: Tax Revenue**

	Sources of Tax Revenue				
	Employee Compensation	Household Expenditures	Corporations	Indirect Business Taxes	Total (\$)
Mining	45,725	1,559,614	597,081	2,378,093	4,580,512
Natural Gas and Petroleum	3,609	91,861	45,722	266,935	408,126
Seafood and Aquaculture	0	0	0	0	0
Forestry and Wood Derivatives	171,569	6,227,996	2,116,985	10,274,099	18,790,648
Poultry, Cattle, and Dairy	71,784	2,673,706	852,813	6,143,932	9,742,235
Other Agriculture	15,560	1,307,664	761,067	1,462,304	3,546,595
Total Agriculture	87,344	3,981,370	1,613,880	7,606,236	13,288,830
All Resource Based Industries	260,992	9,929,636	3,772,912	17,480,918	31,444,458

**Queen Anne's County
Economic Impact: Output**

	Sector Output			
	Direct	Indirect	Induced	Total
Mining	0	0	0	0
Natural Gas and Petroleum	1,490,461	409,652	135,362	2,035,474
Seafood and Aquaculture	25,104,237	9,069,977	5,192,988	39,367,202
Forestry	23,339,941	7,493,148	6,282,134	37,115,223
Poultry, Cattle, and Dairy	33,203,168	7,497,255	3,787,521	44,487,944
Other Agriculture	138,280,067	29,961,426	27,962,015	196,203,509
Total Agriculture	171,483,235	37,458,681	31,749,536	240,691,453
All Resource Based Industries	221,417,873	54,431,458	43,360,020	319,209,352

**Queen Anne's County
Economic Impact: Employment**

	Sector Employment			Total
	Direct	Indirect	Induced	
Mining	0	0	0	0
Natural Gas and Petroleum	6	2	1	9
Seafood and Aquaculture	153	60	29	242
Forestry and Wood Derivatives	175	50	58	283
Poultry, Cattle, and Dairy	88	65	36	189
Other Agriculture	781	316	301	1398
Total Agriculture	869	381	337	1,587
All Resource Based Industries	1,202	493	426	2,121

**Queen Anne's County
Economic Impact: Tax Revenue**

	Sources of Tax Revenue				Total (\$)
	Employee Compensation	Household Expenditures	Corporations	Indirect Business Taxes	
Mining	0	0	0	0	0
Natural Gas and Petroleum	261	13,719	10,987	54,604	79,571
Seafood and Aquaculture	11,233	416,231	81,385	844,978	1,353,827
Forestry and Wood Derivatives	15,769	525,880	145,497	779,573	1,466,718
Poultry, Cattle, and Dairy	8,639	400,728	427,560	898,905	1,735,832
Other Agriculture	70,278	3,054,571	1,706,575	5,135,947	9,967,371
Total Agriculture	78,917	3,455,299	2,134,135	6,034,852	11,703,203
All Resource Based Industries	106,180	4,411,130	2,372,003	7,714,007	14,603,320

**Saint Mary's County
Economic Impact: Output**

	Sector Output			Total
	Direct	Indirect	Induced	
Mining	62,702	20,682	6,292	89,676
Natural Gas and Petroleum	287,667	30,007	23,975	341,648
Seafood and Aquaculture	2,047,087	739,598	423,454	3,210,139
Forestry	31,998,710	12,020,551	7,183,807	51,203,068
Poultry, Cattle, and Dairy	2,694,895	1,329,795	383,694	4,408,384
Other Agriculture	15,229,154	1,467,892	4,841,415	21,538,461
Total Agriculture	17,924,049	2,797,687	5,225,109	25,946,845
All Resource Based Industries	52,320,216	15,608,524	12,862,637	80,791,377

**Saint Mary's County
Economic Impact: Employment**

	Sector Employment			
	Direct	Indirect	Induced	Total
Mining	1	0	0	2
Natural Gas and Petroleum	1	0	0	2
Seafood and Aquaculture	51	20	10	80
Forestry and Wood Derivatives	203	105	72	381
Poultry, Cattle, and Dairy	72	26	4	102
Other Agriculture	575	19	51	645
Total Agriculture	647	45	55	747
All Resource Based Industries	903	171	138	1,211

**Saint Mary's County
Economic Impact: Tax Revenue**

	Sources of Tax Revenue				Total (\$)
	Employee Compensation	Household Expenditures	Corporations	Indirect Business Taxes	
Mining	9	632	183	1,012	1,834
Natural Gas and Petroleum	27	2,346	1,374	8,025	11,772
Seafood and Aquaculture	3,724	138,005	26,984	280,159	448,873
Forestry and Wood Derivatives	10,599	628,090	213,090	989,259	1,841,038
Poultry, Cattle, and Dairy	576	39,164	16,109	143,991	199,841
Other Agriculture	1,418	417,707	160,304	367,803	947,230
Total Agriculture	1,994	456,871	176,413	511,794	1,147,071
All Resource Based Industries	16,353	1,225,943	418,043	1,790,248	3,450,587

**Somerset County
Economic Impact: Output**

	Sector Output			
	Direct	Indirect	Induced	Total
Mining	0	0	0	0
Natural Gas and Petroleum	0	0	0	0
Seafood and Aquaculture	37,786,715	13,652,064	7,816,448	59,255,227
Forestry	31,073,946	11,306,159	7,303,320	49,683,425
Poultry, Cattle, and Dairy	132,697,319	15,910,343	10,692,348	159,300,009
Other Agriculture	16,179,458	3,206,291	-348,570	19,037,180
Total Agriculture	148,876,777	19,116,634	10,343,778	178,337,189
All Resource Based Industries	217,737,438	44,074,856	25,463,547	287,275,841

**Somerset County
Economic Impact: Employment**

	Sector Employment			Total
	Direct	Indirect	Induced	
Mining	0	0	0	0
Natural Gas and Petroleum	0	0	0	0
Seafood and Aquaculture	329	129	63	521
Forestry and Wood Derivatives	440	118	68	626
Poultry, Cattle, and Dairy	72	26	4	102
Other Agriculture	204	123	101	427
Total Agriculture	316	169	116	600
All Resource Based Industries	1,085	416	246	1,748

**Somerset County
Economic Impact: Tax Revenue**

	Sources of Tax Revenue				
	Employee Compensation	Household Expenditures	Corporations	Indirect Business Taxes	Total (\$)
Mining	0	0	0	0	0
Natural Gas and Petroleum	0	0	0	0	0
Seafood and Aquaculture	24,232	897,901	175,564	1,822,800	2,920,498
Forestry and Wood Derivatives	48,653	674,427	172,558	884,111	1,779,750
Poultry, Cattle, and Dairy	44,301	1,124,330	2,383,013	1,767,916	5,319,561
Other Agriculture	19,340	-104,413	257,443	-279,221	-106,852
Total Agriculture	63,641	1,019,917	2,640,456	1,488,695	5,212,709
All Resource Based Industries	136,527	2,592,245	2,988,578	4,195,606	9,912,957

**Talbot County
Economic Impact: Output**

	Sector Output			Total
	Direct	Indirect	Induced	
Mining	398,198	46,363	126,451	571,012
Natural Gas and Petroleum	4,859,653	1,513,666	667,022	7,040,341
Seafood and Aquaculture	11,749,178	4,244,892	2,430,400	18,424,471
Forestry	58,542,387	19,155,108	13,867,795	91,565,290
Poultry, Cattle, and Dairy	127,781,675	68,080,039	31,591,672	227,453,386
Other Agriculture	27,854,946	11,022,897	9,910,640	48,788,483
Total Agriculture	155,636,621	79,102,936	41,502,312	276,241,869
All Resource Based Industries	231,186,037	104,062,965	58,593,981	393,842,983

**Talbot County
Economic Impact: Employment**

	Sector Employment			Total
	Direct	Indirect	Induced	
Mining	3	0	1	4
Natural Gas and Petroleum	19	9	7	35
Seafood and Aquaculture	214	84	41	339
Forestry and Wood Derivatives	342	130	127	599
Poultry, Cattle, and Dairy	542	319	288	1,150
Other Agriculture	282	61	87	430
Total Agriculture	824	380	375	1,580
All Resource Based Industries	1,402	604	551	2,556

**Talbot County
Economic Impact: Tax Revenue**

	Sources of Tax Revenue				Total (\$)
	Employee Compensation	Household Expenditures	Corporations	Indirect Business Taxes	
Mining	42	8,440	3,942	23,824	36,248
Natural Gas and Petroleum	457	43,434	20,176	162,470	226,537
Seafood and Aquaculture	15,758	583,903	114,169	1,185,362	1,899,192
Forestry and Wood Derivatives	23,148	977,604	336,721	1,610,007	2,947,479
Poultry, Cattle, and Dairy	32,218	2,149,268	648,105	3,268,983	6,098,574
Other Agriculture	-8,818	240,505	200,509	274,433	706,630
Total Agriculture	23,400	2,389,773	848,614	3,543,416	6,805,204
All Resource Based Industries	62,805	4,003,153	1,323,622	6,525,079	11,914,660

**Washington County
Economic Impact: Output**

	Sector Output			Total
	Direct	Indirect	Induced	
Mining	98,112,729	34,912,429	22,928,082	155,953,240
Natural Gas and Petroleum	26,838,837	1,828,172	3,675,595	32,342,604
Seafood and Aquaculture	0	0	0	0
Forestry	178,740,166	56,891,530	44,292,050	279,923,747
Poultry, Cattle, and Dairy	408,539,004	218,132,375	83,375,369	710,046,748
Other Agriculture	41,905,724	19,884,754	13,675,965	75,466,442
 Total Agriculture	450,444,728	238,017,129	97,051,334	785,513,190
 All Resource Based Industries	754,136,460	331,649,260	167,947,061	1,253,732,780

**Washington County
Economic Impact: Employment**

	Sector Employment			
	Direct	Indirect	Induced	Total
Mining	247	207	222	676
Natural Gas and Petroleum	61	14	39	115
Seafood and Aquaculture	0	0	0	0
Forestry and Wood Derivatives	824	358	409	1,591
Poultry, Cattle, and Dairy	1,537	1,563	787	3,887
Other Agriculture	496	119	158	773
Total Agriculture	2,033	1,682	945	4,660
All Resource Based Industries	3,165	2,261	1,616	7,042

**Washington County
Economic Impact: Tax Revenue**

	Sources of Tax Revenue				
	Employee Compensation	Household Expenditures	Corporations	Indirect Business Taxes	Total (\$)
Mining	42,560	1,576,836	1,481,614	3,489,139	6,590,149
Natural Gas and Petroleum	10,438	246,497	77,427	876,257	1,210,619
Seafood and Aquaculture	0	0	0	0	0
Forestry and Wood Derivatives	96,085	3,359,530	1,203,291	5,696,426	10,355,332
Poultry, Cattle, and Dairy	148,095	5,830,587	2,225,260	15,864,866	24,068,808
Other Agriculture	8,578	886,546	717,580	1,124,346	2,737,051
 Total Agriculture	156,673	6,717,133	2,942,840	16,989,212	26,805,859
 All Resource Based Industries	305,756	11,899,995	5,705,173	27,051,035	44,961,958

**Wicomico County
Economic Impact: Output**

	Sector Output			Total
	Direct	Indirect	Induced	
Mining	13,909,215	4,255,691	4,394,545	22,559,451
Natural Gas and Petroleum	40,624,419	6,411,512	7,155,521	54,191,452
Seafood and Aquaculture	15,601,507	5,636,710	3,227,282	24,465,499
Forestry	175,304,836	58,528,719	39,919,757	273,753,313
Poultry, Cattle, and Dairy	362,100,531	206,303,284	104,627,815	673,031,630
Other Agriculture	53,101,970	23,094,195	28,108,851	104,305,016
Total Agriculture	415,202,501	229,397,479	132,736,666	777,336,646
All Resource Based Industries	660,642,480	304,230,111	187,433,770	1,152,306,361

**Wicomico County
Economic Impact: Employment**

	Sector Employment			Total
	Direct	Indirect	Induced	
Mining	64	33	41	138
Natural Gas and Petroleum	96	40	74	210
Seafood and Aquaculture	184	72	35	292
Forestry and Wood Derivatives	779	479	363	1,622
Poultry, Cattle, and Dairy	1,306	993	951	3,250
Other Agriculture	517	101	292	910
Total Agriculture	1,823	1,094	1,243	4,160
All Resource Based Industries	2,946	1,718	1,757	6,421

**Wicomico County
Economic Impact: Tax Revenue**

	Sources of Tax Revenue				Total (\$)
	Employee Compensation	Household Expenditures	Corporations	Indirect Business Taxes	
Mining	7,339	280,172	125,401	496,372	909,283
Natural Gas and Petroleum	20,260	444,729	159,844	1,496,302	2,121,135
Seafood and Aquaculture	13,568	502,761	98,304	1,020,639	1,635,271
Forestry and Wood Derivatives	79,775	2,729,363	1,348,616	5,852,715	10,010,469
Poultry, Cattle, and Dairy	163,227	6,783,658	5,237,106	10,371,645	22,555,636
Other Agriculture	16,190	1,502,005	964,542	1,250,570	3,733,307
Total Agriculture	179,417	8,285,663	6,201,648	11,622,215	26,288,943
All Resource Based Industries	300,360	12,242,689	7,933,812	20,488,241	40,965,102

**Worcester County
Economic Impact: Output**

	Sector Output			Total
	Direct	Indirect	Induced	
Mining	1,259,274	158,970	261,278	1,679,523
Natural Gas and Petroleum	1,901,917	452,197	159,342	2,513,456
Seafood and Aquaculture	12,643,391	4,567,965	2,615,375	19,826,731
Forestry	35,078,757	12,676,684	9,554,594	57,310,034
Poultry, Cattle, and Dairy	223,472,997	87,444,154	35,310,894	346,228,044
Other Agriculture	31,777,510	8,907,882	6,983,495	47,668,887
Total Agriculture	255,250,507	96,352,036	42,294,389	393,896,931
All Resource Based Industries	306,133,846	114,207,852	54,884,977	475,226,675

**Worcester County
Economic Impact: Employment**

	Sector Employment			
	Direct	Indirect	Induced	Total
Mining	7	1	3	11
Natural Gas and Petroleum	7	2	2	11
Seafood and Aquaculture	89	35	17	142
Forestry and Wood Derivatives	280	83	90	453
Poultry, Cattle, and Dairy	772	413	345	1,530
Other Agriculture	417	64	92	573
Total Agriculture	1,189	477	437	2,103
All Resource Based Industries	1,572	599	549	2,720

**Worcester County
Economic Impact: Tax Revenue**

	Sources of Tax Revenue				Total (\$)
	Employee Compensation	Household Expenditures	Corporations	Indirect Business Taxes	
Mining	413	21,313	13,689	50,628	86,043
Natural Gas and Petroleum	284	12,679	12,307	54,104	79,374
Seafood and Aquaculture	6,583	243,936	47,696	495,207	793,423
Forestry and Wood Derivatives	23,907	730,984	219,372	1,072,038	2,046,302
Poultry, Cattle, and Dairy	78,321	2,927,860	3,057,957	3,897,016	9,961,154
Other Agriculture	10,086	524,123	628,284	787,654	1,950,147
Total Agriculture	88,407	3,451,983	3,686,241	4,684,670	11,911,301
All Resource Based Industries	119,595	4,460,895	3,979,305	6,356,648	14,916,443