International Agricultural Trade and Policy Center

REGIONAL ECONOMIC IMPACTS OF FLORIDA'S AGRICULTURAL AND NATURAL RESOURCE INDUSTRIES

By

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- Facilitate dissemination of agricultural trade related research results and publications
- Encourage interaction between researchers, business and industry groups, state and federal agencies, and policymakers in the examination and discussion of agricultural trade policy questions
- Provide support to initiatives that enable a better understanding of trade and policy issues that impact the competitiveness of Florida and southeastern agriculture specialty crops and livestock in the U.S. and international markets

Abstract

The state of Florida has large industries producing fruits and vegetables, sugar, livestock, dairy and meat products, seafood, ornamental plants, forest products, phosphate rock, and an array of associated industries that provide supporting inputs and services, and conduct processing and manufacturing. There are distinct differences in the regional distribution of Florida's agricultural and natural resource industries. Economic characteristics and impacts were evaluated for the state of Florida and for eight separate regions of Florida. Each region is comprised of a core metropolitan area and a number of surrounding counties, as defined by the US Commerce Department, Bureau of Economic Analysis, based on employee commuting patterns and other factors. The *Implan* input-output analysis and social accounting software and associated databases for Florida counties were used to create economic models for each region and to estimate the total economic impacts of over 100 industry sectors in agriculture, natural resource and associated value-added manufacturing. Statewide economic impacts in the year 2000, expressed in year 2002 dollars, included industry output (sales) of $35.2 billion (Bn), with sales to markets outside the state (export shipments) of $19.4Bn, personal and business net income (value added) of $14.8Bn, and employment of 338,253 persons. The value added represented 3.1 percent of Florida's gross regional product. When the multiplier effects of export final demand on interindustry purchases and employee household spending are considered, the total economic impacts were estimated at $62.0Bn in output, $31.0Bn in value added, and 648,550 jobs. Regionally, total value added impacts of the agriculture and natural resource industries were greatest in the Orlando area ($4.31Bn), followed by Miami-Ft. Lauderdale ($3.61Bn), Tampa-St. Petersburg-Clearwater ($2.20Bn), Jacksonville ($1.47Bn), Sarasota-Bradenton ($1.10Bn), Tallahassee ($782 million), Ft. Myers-Cape Coral ($701 million), and Pensacola ($597 million). The largest industry groups in terms of total value added impacts were fruits and vegetables ($2.9Bn), environmental horticulture ($2.8Bn), forest products ($2.0Bn), agricultural inputs and services ($1.4Bn), and other food and fiber manufacturing ($1.7Bn), with lesser impacts for dairy products, field crops, livestock and meat products, mining, seafood products, sugar and confectionary products, and tobacco products. The total value added impact was $1,929 per capita, and the total employment impact was 40 jobs per 1000 residents. Economic impacts per capita and share of gross regional product indicated that the agriculture and natural resource industries were relatively more important in the Sarasota-Bradenton, Orlando, Jacksonville, and Tallahassee regions than for the state as a whole.

Keywords: Florida, agriculture and natural resource industries, economic impact, functional economic region, output, value added, employment, input-output models, multiplier, *Implan*.

Regional Economic Impacts of Florida's Agricultural and Natural Resource Industries

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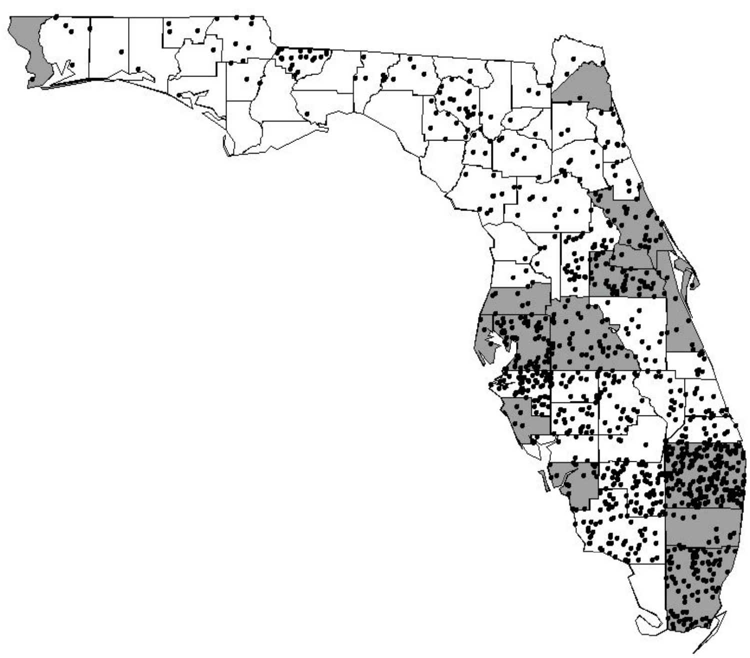
Introduction

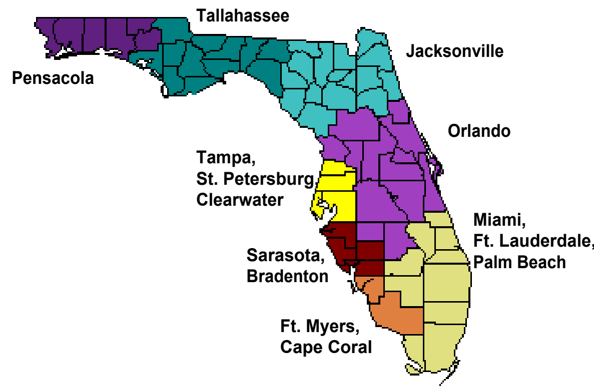
The agricultural and natural resource industries are important to the economy of Florida. These industries are comprised of a set of interlinked enterprises associated with production, processing and service activities for food, fiber, and mineral products. The state has over 16,000 square miles in agricultural or forestry land use, which represents approximately 70 percent of the land area. Florida's subtropical climate and abundant water resources provide a comparative advantage for production of high-valued products such as citrus, sugar, vegetables, and ornamental plants, and the state also is a leading producer of forest products, seafood, livestock and animal products, and phosphatic fertilizers. The distribution of agricultural production across the state and its proximity to the human population is indicated in Figure 1, where each dot represents $1.5 million in net agricultural sales in 1997 and the shaded areas represent counties with population exceeding 250,000 persons. These 14 largest counties contain 67 percent of the state's population and account for a majority of agricultural production (Florida Statistical Abstract, 1998). The composition and extent of the agricultural and natural resource industries differs quite dramatically across the state. The fruit, vegetable, and ornamental plant industries are concentrated in the southern half of peninsular Florida, where mostly frost-free winters provide a comparative advantage for production of cold-sensitive crops. The northern part of the state is dominated by industrial forestry plantations and traditional agronomic crops that can provide a reasonable return for lands that have very low native fertility. The interior portion of the peninsula has

1. Distribution of agricultural sales and the most populous counties of Florida.



extensive beef and dairy cattle herds, and large phosphate mining operations. The coastal areas have important natural fisheries and aquaculture businesses.

2. Economic regions of Florida.



In any regional economic analysis, a crucial question is what constitutes a meaningful area? Functional economic regions are a preferred regional definition for economic analysis because they represent a cohesive socio-economic entity. In contrast, counties are artificially designated political regions that may not necessarily represent a unified economic entity. This paper examines the economic impacts of the agricultural and natural resource industries with respect to regions that are functionally integrated through social associations, transportation, and communication patterns. The US Department of Commerce, Bureau of Economic Analysis (BEA) has defined 172 economic areas for the United States (Johnson, 1995). Each region is comprised of a core metropolitan area and a number of surrounding counties. The procedure used to define these economic regions is based on commuting-to-work patterns established from the 1990 US Census, readership of newspapers, and other indicators. Florida's functional economic regions, as defined by the BEA, are shown in Figure 2, and table 1 lists the counties comprising each of the eight regions. Note that the Pensacola region was modified by excluding several Alabama counties and by incorporating the adjacent Florida counties of Holmes and Washington from the Dothan, Alabama BEA region, in order to restrict the analysis to the state of Florida.

Table 1. Counties comprising the economic regions of Florida.

BEA Region	Region Name, Central Place	Counties Included
31	Miami, Ft. Lauderdale	Indian River, St. Lucie, Okeechobee, Glades, Hendry, Palm Beach, Broward, Dade, Monroe, Martin
32	Ft. Meyers, Cape Coral	Lee, Collier
34	Tampa, St. Petersburg, Clearwater	Hernando, Pasco, Pinellas, Hillsborough,
33	Sarasota, Bradenton	Sarasota, Manatee, Charlotte, Desoto
30	Orlando	Flagler, Marion, Citrus, Sumter, Lake, Polk, Hardee, Highlands, Osceola, Orange, Seminole, Brevard, Volusia
29	Jacksonville	Hamilton, Suwannee, Lafayette, Dixie, Levy, Gilchrist, Columbia, Alachua, Baker, Union, Bradford, Nassau, Duval, Clay, Putnam, St. Johns
35	Tallahassee	Bay, Jackson, Calhoun, Gulf, Liberty, Franklin, Gadsden, Leon, Wakulla, Jefferson, Madison, Taylor
81	Pensacola	Escambia, Santa Rosa, Okaloosa, Walton, Holmes*, Washington*

* Counties from adjacent Dothan, Alabama economic region
Source: US Department of Commerce, Bureau of Economic Analysis

Economic Impact Analysis Methods

Industrial activity stimulates a regional economy both directly and through purchases of inputs supplied from other industries (indirect effects), and personal consumption expenditures made by industry employees (induced effects). Exports of goods and services outside the region have a secondary impact by introducing new money into the local economy, which is then recirculated and is subject to the multiplier effect of the indirect and induced activities. Also, inputs that are obtained from local firms rather than imported from outside the region are associated with greater economic impact because the money is retained within the region for additional rounds of spending.

An input-output (I-O) framework was utilized to estimate the direct, indirect and induced economic impacts of the agricultural and natural resource industries in the functional economic regions of Florida. Input-output analysis is a technique that captures the regional economic interdependence between different industries, households and government institutions (Miller and Blair, 1985). The premise of input-output analysis is that the structure of the economy is technologically fixed, such that for a given level or change in final demand, output or employment for a particular industry or region there will be predictable changes in other linked sectors of the economy. These changes are measured by estimating the regional economic multipliers associated with the particular industry using a matrix inversion procedure applied to the matrix of inter-industry transactions.

In this study the input-output analysis was conducted with the *Implan Pro*™ software package, which was originally developed by the USDA Forest Service in 1979 and was subsequently privatized in 1993 by the Minnesota Implan Group (MIG, Inc.). The *Implan* system consists of database and software components. The database portion offers economic and sociodemographic profiles for all United States counties across 528 economic sectors. The categorization of sectors relies on the US Standard Industrial Classification (SIC) system at the four-digit level of detail. The software component of the *Implan* modeling system performs calculations for a pre-defined study area to assess economic impacts to the region. U.S. national level data is used in *Implan* together with region-specific data to develop the complete inter-industry structural tables and coefficients. Regional models were constructed for each of the eight functional economic regions, as well as the state of Florida. Multipliers are available from *Implan* for the economic measures of output, total value added, employment, employee compensation, personal income, other proprietary income, and indirect business taxes. The multipliers are provided for direct, indirect and induced impact effects. Data from the *Implan* database for years 1995 and 2000 were used in this study, to enable consistent comparison of results for industry groups across regions and across time. Monetary values were converted to year 2002 dollars using the U.S. Gross Domestic Product (GDP) Implicit Price Deflator (U.S. Department of Commerce).

The total economic impacts of Florida's agricultural and natural resource industries were derived by multiplying the value of output against the direct effects multiplier and multiplying export values against the indirect and induced effects multipliers, as follows:

$$T_i = Y_i * D_i + E_i * INDI_i + E_i * INDU_i$$

where T_i is total impact of the ith sector, Y_i is output of the ith sector, E_i is sales outside the region (exports), D_i is the direct effects multiplier of the ith sector, $INDI_i$ is the indirect effects multiplier, and $INDU_i$ is the induced effects multiplier.

Results

Results are reported for the socioeconomic and economic indicators of Florida's functional economic regions, including population, output, employment, value added, exports, and total output, employment, and value added economic impacts. Also, economic impacts are given on a per capita basis, and gross regional product of the agricultural and natural resource sector are compared to all economic sectors in the state of Florida. These results are given for eleven major industry groups of the agricultural and natural resource sector: fruits and vegetables, field crops, ornamental horticulture and landscape services, forest products, seafood products, agricultural inputs and services, dairy products, livestock and meat products, sugar and confectionary products, mining, and other food and tobacco products. A listing of the individual sectors included within these groups is given in the Appendix.

Population, Households, Area and Per Capita-Income

In 2000, the population of Florida was 16.0 million persons. The population of each economic region of Florida is given in Table 2. Regions with population over one million were Miami-Ft. Lauderdale with 5.6 million, Orlando, 3.6 million, Tampa-St. Petersburg-Clearwater, 2.4 million, and Jacksonville, 1.6 million. There were a total of 6.3 million households in Florida. The area of Florida is nearly 54 thousand square miles. The Orlando region was the largest in terms of area at 12,349 square miles. Average per-capita income in the state of Florida was $27,889 in 2000. The southern portions of the state had above-average per capita incomes (Sarasota-Bradenton, Ft. Myers-Cape Coral, Miami-Ft. Lauderdale, and Tampa-St. Petersburg-Clearwater), while regions in the central, northern and Panhandle of Florida had below-average incomes (Orlando, Tallahassee, Jacksonville, and Pensacola). The highest and lowest per capita incomes were in Sarasota-Bradenton ($32,195) and Pensacola ($23,288), respectively.

Table 2. Regional population, households, area and per-capita income in Florida, 2000

Region	Population	Households	Area (sq.mi.)	Per-Capita Income ($)
Jacksonville	1,625,078	624,985	10,064	25,988
Orlando	3,624,540	1,442,688	12,349	24,736
Miami, Ft. Lauderdale	5,602,222	2,150,388	10,456	30,292
Ft. Myers, Cape Coral	692,265	291,881	2,830	31,824
Sarasota, Bradenton	763,795	337,324	2,644	32,195
Tampa, St. Petersburg, Clearwater	2,395,997	1,009,792	2,554	28,307
Tallahassee	597,692	231,378	8,304	23,125
Pensacola	662,789	252,685	4,736	23,288
Total or Average	15,982,378	6,341,121	53,937	27,889

Source: Census Bureau, Regional Economic Information System, MIG, Inc.

Industry Output, Employment and Value Added

Output, employment and value added are three principal measures of economic activity. These indicators are summarized in Table 3 for the regional agricultural and natural resource industry groups in Florida in year 2000, with monetary values expressed in year 2002 dollars.

Industry output represents total income or sales plus inventory change. Output of the agricultural and natural resource industries in Florida totaled $35.0 billion. The largest industry groups were Fruits and Vegetables ($6.5Bn), Forest Products ($5.2Bn), Other Manufactured Food and Fiber Products ($4.9Bn), and Environmental Horticulture ($4.2Bn). Among other industry groups output was $3.6Bn for Agricultural Inputs and Services, $2.5Bn for Mining, $2.4Bn for Livestock and Meat Products, $1.9Bn for Sugar & Confectionary Products, $1.7Bn for Tobacco Products, $1.2Bn for Dairy Products, $645 million (Mn) for Seafood Products, and $330Mn for Field Crops. Across economic regions, the Orlando area had the largest output ($9.6Bn), followed closely by Miami-Fort Lauderdale ($9.2Bn). A second tier of regional industries was in Tampa-St. Petersburg-Clearwater and Jacksonville areas, with output of $5.3Bn and $4.4Bn, respectively. The third tier of regions was Sarasota-Bradenton ($2.2Bn), Tallahassee ($1.6Bn), Pensacola ($1.4Bn), and Ft. Myers-Cape Coral ($1.3Bn). Within regions, certain industry groups stand out prominently. In the Orlando area, five of the industry groups had output between one and two billion dollars, including agricultural inputs and services, environmental horticulture, fruits and vegetables, mining, and other food and fiber manufacturing. In the Miami area, there was a similar set of large industries: environmental horticulture, fruits and vegetables, sugar and confectionary products, and other food and fiber manufacturing. In the Jacksonville region, only forest products exceeded one billion dollars in value, and this was also the largest group in the Tallahassee and Pensacola regions. In the Sarasota-Bradenton area, fruits and vegetables were the largest industry group ($1.4Bn). In the Tampa-St. Petersburg-Clearwater area, tobacco products were the largest group ($1.1Bn), but several other sectors were also important.

Employment in the agricultural and natural resource industries of Florida in 2000 represented a total of 336,296 jobs, including both fulltime and part-time or seasonal positions (Table 3). The largest industry groups in terms of employment were Environmental Horticulture (98,312 jobs), Agricultural Inputs and Services (70,773 jobs), and Fruits and Vegetables (49,829). There were also at least 20,000 jobs in forest products and livestock and meat products. The majority of jobs were concentrated in the southern and central portions of the state, in the Miami-Ft. Lauderdale region (97,587 jobs), Orlando (86,352 jobs), and Tampa-St. Petersburg-Clearwater (41,340). In the Miami-Ft. Lauderdale region, there were 33,682 jobs in environmental horticulture, 25,326 in agricultural inputs and services, and 11,884 in fruits and vegetables. In the Orlando region, there were about 23,000 jobs in both environmental horticulture and agricultural inputs and services. Also, the Tampa-St. Petersburg-Clearwater area had 12,688 jobs in environmental horticulture.

Value added represents the value of output less the value of purchased inputs used in the production of goods or services for final consumption. It is a measure of personal and business net income, and includes the value of employee labor, management and owner's compensation (proprietor's income), and indirect business taxes paid. Value added avoids the double counting of expenditures on intermediate and final demand inherent in output, and as such represents the net contribution to the regional economy. Value added in Florida's agricultural and natural resource industries in 2000 totaled $14.7 billion (Table 3). Among industry groups, value added was highest for Fruits and Vegetables ($2.9Bn), closely followed by Environmental Horticulture ($2.8Bn), then Forest Products ($2.0Bn), Other Food and Fiber Manufacturing ($1.6Bn), Agricultural Inputs and Services ($1.4Bn), and Mining ($1.2Bn). Value added was highest in the Orlando and Miami-Ft. Lauderdale regions, at $4.3Bn and $3.6Bn, respectively. In the second tier of regions, value added was $2.2Bn in Tampa-St. Petersburg-Clearwater, $1.5Bn in Jacksonville, and $1.1Bn in Sarasota-Bradenton. The Tallahassee and Ft. Meyers-Cape Coral regions each had approximately $700 Mn in value added. Within the Miami-Ft. Lauderdale region, environmental horticulture, fruits and vegetables, sugar and confectionary products, and other food and fiber manufacturing all contributed in excess of $500Mn in value added. In the Orlando region, these same industries, with the exception of sugar, and the addition of mining, had over $500Mn in value added.

Table 3. Industry output of Florida agricultural and natural resource industry groups, by economic region 2000

Ag. & Natural Resource Industry Group	Miami, Ft. Lauderdale	Ft. Meyers, Cape Coral	Sarasota-Bradenton	Tampa. St. Petersburg, Clearwater	Orlando	Jacksonville	Tallahassee	Pensacola	State of Florida
	Output (Million $)*								
Agricultural Inputs and Services	579.6	90.1	161.3	710.1	1,944.1	67.7	38.1	11.0	3,602.0
Dairy Products	460.6	8.1	21.0	125.1	267.9	328.2	21.3	13.2	1,245.4
Environmental Horticulture	1,472.7	289.0	215.0	481.9	1,134.9	335.4	132.4	91.8	4,153.2
Field Crops	54.2	1.4	3.0	24.2	35.2	88.4	54.1	69.2	329.7
Forest Products	620.7	62.1	143.3	538.8	788.5	1,699.4	919.1	398.4	5,170.3
Fruits & Vegetables	1,691.2	248.7	1,405.6	727.2	1,985.5	238.7	127.3	35.5	6,459.5
Livestock and Meat Products	353.5	11.4	56.0	470.3	458.6	664.9	74.3	268.8	2,357.8
Mining	334.9	384.5	91.3	158.0	1,030.3	229.9	111.6	135.2	2,475.6
Other Food & Fiber Manufacturing	1,479.5	212.0	54.6	733.4	1,624.5	672.5	69.8	102.3	4,948.8
Seafood Products	139.7	23.1	9.1	229.9	141.4	48.9	44.6	8.4	645.1
Sugar & Confectionary Products	1,666.5	0.0	1.6	20.5	147.5	5.0	16.3	9.2	1,866.7
Tobacco Products	330.1	0.0	0.6	1,081.4	0.1	26.3	3.7	282.8	1,725.0
Total All Groups	9,183.1	1,330.4	2,162.5	5,300.9	9,558.4	4,405.3	1,612.5	1,425.8	34,979.0
	Employment (jobs)								
Agricultural Inputs and Services	25,326	3,929	7,646	6,306	23,497	2,092	1,604	375	70,773
Dairy Products	1,540	43	168	633	838	1,457	138	119	4,936
Environmental Horticulture	33,682	7,712	6,566	12,688	23,252	8,531	3,211	2,670	98,312
Field Crops	575	39	102	676	1,219	2,062	1,360	1,380	7,414
Forest Products	4,385	459	1,170	2,658	4,989	7,630	5,032	1,750	28,073
Fruits & Vegetables	11,884	4,400	8,983	6,063	14,329	2,413	1,336	419	49,829
Livestock and Meat Products	2,643	385	924	5,851	6,456	5,879	1,089	1,783	25,009
Mining	2,338	2,312	614	1,390	3,802	1,083	762	947	13,249
Other Food & Fiber Manufacturing	4,438	963	364	1,885	4,462	3,579	284	543	16,518
Seafood Products	3,165	625	423	1,841	2,983	780	1,316	396	11,529
Sugar & Confectionary Products	7,121	0	8	79	522	15	55	168	7,968
Tobacco Products	490	0	1	1,271	2	481	107	332	2,685
Total All Groups	97,587	20,866	26,970	41,340	86,352	36,002	16,294	10,884	336,296
	Value Added (Million $)*								
Agricultural Inputs and Services	314.7	45.8	85.5	191.3	701.3	30.1	16.6	6.0	1,391.4
Dairy Products	114.7	2.6	16.0	58.0	94.1	102.4	13.5	11.9	413.2
Environmental Horticulture	897.5	203.1	147.4	353.6	773.5	227.8	104.8	61.1	2,768.8
Field Crops	17.5	0.8	2.1	15.2	25.0	44.2	45.2	46.1	196.2
Forest Products	206.8	22.9	108.5	179.1	346.1	582.6	386.9	155.5	1,988.3
Fruits & Vegetables	625.9	194.6	641.7	385.0	774.6	143.4	86.2	27.3	2,878.7
Livestock and Meat Products	71.6	7.5	24.3	140.9	177.1	154.7	28.3	70.3	674.6
Mining	99.7	142.9	46.2	32.6	644.5	122.0	49.7	33.9	1,171.6
Other Food & Fiber Manufacturing	504.4	67.1	14.3	293.1	655.5	38.3	23.4	45.4	1,641.5
Seafood Products	75.8	12.8	8.6	79.2	70.5	10.2	23.5	7.9	288.4
Sugar & Confectionary Products	507.2	0.0	0.2	5.3	44.5	0.7	2.3	9.1	569.3
Tobacco Products	117.2	0.0	0.2	467.7	0.0	10.8	2.0	122.3	720.2
Total All Groups	3,553.0	700.1	1,095.0	2,201.0	4,306.7	1,467.1	782.4	596.8	14,702.2

Source: Implan data for Florida, MIG, Inc., Stillwater MN

* Expressed in year 2002 values using US GDP Implicit Price Deflator

Industry Growth and Change

It is important to understand not only the overall value of industries to a regional economy, but also how the economy is changing over time. Table 4 summarizes the change in output of the agricultural and natural resource industries in Florida between 1995 and 2000, expressed in common year 2002 dollars, and as a percentage change. Total output of these industries grew by $1.61billion (Bn), which represented a 5 percent increase. The greatest growth occurred in the Tobacco products sector, which increased output by $1.46Bn (544%), There was also significant growth in environmental horticulture ($1.44Bn or 53%), which was distributed across all regions, and in the mining industry ($689Mn, 39%). Industry output declined in real economic terms for agricultural inputs and services (-25%), field crops (-21%), forest products (-18%), seafood products (-12%), and other food and fiber manufacturing (-5%). The remaining industry groups, including dairy products, fruits and vegetables, livestock and meat products, and sugar and confectionary products, had moderate growth (6-9%). Regionally, growth was highest in the Ft. Myers-Cape Coral area (58%), due to a large increase in mining, environmental horticulture, and other food and fiber manufacturing. Growth was also strong in the Sarasota-Bradenton area (33%) due to an increase in fruits and vegetables, and in the Tampa-St. Petersburg-Clearwater area, due to increased output of tobacco products, environmental horticulture, and forest products. Total output declined by 26 to 30 percent in the Jacksonville and Tallahassee regions, respectively. In the Miami, Orlando, and Pensacola regions, overall growth was moderate, 8 to 13 percent, with large increases in environmental horticulture and certain other sectors such as tobacco and other food and fiber manufacturing, but was offset by decreases in mining or agricultural inputs and services.

Table 4. Change in Output of Florida's Agricultural and Natural Resource Industries, 1995 to 2000, by Region and Industry Group

Industry Group	Miami, Ft. Lauderdale	Ft. Meyers, Cape Coral	Sarasota, Bradenton	Tampa, St. Petersburg, Clearwater	Orlando	Jackson-ville	Talla-hassee	Pensacola	State of Florida
	Change (Million $)								
Agricultural Inputs and Services	-163.3	-57.8	4.7	-169.6	-63.4	-794.6	16.4	0.7	-1227.0
Dairy Products	55.0	4.0	4.9	-64.0	39.2	43.2	0.7	-2.5	82.1
Environmental Horticulture	458.7	123.5	68.2	196.5	369.4	93.3	42.1	37.2	1437.9
Field Crops	-36.4	-13.2	0.2	-14.4	3.8	0.8	-22.3	-14.9	-89.3
Forest Products	70.3	8.5	65.7	139.5	-56.2	-155.5	-710.4	-482.5	-1121.1
Fruits & Vegetables	-30.8	-11.4	294.4	88.2	12.7	5.2	18.3	12.5	418.2
Livestock and Meat Products	-3.6	-4.4	19.4	-36.6	153.7	21.4	-133.8	113.2	128.8
Mining	60.1	322.5	51.2	61.7	-155.4	172.9	57.3	119.1	689.3
Other Food & Fiber Manufacturing	-83.2	138.2	21.8	-53.6	441.2	-853.8	61.5	90.8	-237.1
Seafood Products	36.9	-23.9	3.1	-74.1	36.7	-19.1	-45.5	-4.5	-90.4
Sugar & Confectionary Products	44.3	0.0	1.6	-13.4	97.5	5.0	14.3	9.2	158.6
Tobacco Products	288.0	0.0	0.6	979.2	0.1	-92.7	-1.1	282.8	1457.0
Total All Groups	696.2	485.9	535.9	1039.4	879.3	-1573.9	-702.6	161.2	1607.1
	Percent Change								
Agricultural Inputs and Services	-22	-39	3	-19	-3	-92	75	7	-25
Dairy Products	14	99	30	-34	17	15	3	-16	7
Environmental Horticulture	45	75	46	69	48	39	47	68	53
Field Crops	-40	-90	7	-37	12	1	-29	-18	-21
Forest Products	13	16	85	35	-7	-8	-44	-55	-18
Fruits & Vegetables	-2	-4	26	14	1	2	17	54	7
Livestock and Meat Products	-1	-28	53	-7	50	3	-64	73	6
Mining	22	520	127	64	-13	303	105	741	39
Other Food & Fiber Manufacturing	-5	187	67	-7	37	-56	734	788	-5
Seafood Products	36	-51	52	-24	35	-28	-51	-35	-12
Sugar & Confectionary Products	3	na	na	-39	195	na	695	na	9
Tobacco Products	684	na	na	958	na	-78	-23	na	544
Total All Groups	8	58	33	24	10	-26	-30	13	5

Source: Implan data for Florida counties, MIG, Inc., Stillwater, MN.
Note: All values adjusted to year 2002 using US GDP Implicit Price Deflator (U.S. Commerce Dept).

Industry Exports or Sales Outside the Region

Exports, or shipments of goods and services to customers outside the state or region, are a primary driver of local economic development because these revenues and earnings stimulate an increase in overall economic activity in associated businesses and employee household spending. Exports by the agricultural and natural resource industries of Florida are summarized in Table 5. Total exports from Florida were $20.7 billion (Bn). The largest exporting industry sectors were fruits and vegetables ($4.9Bn), other manufactured food and fiber products ($2.9Bn), forest products ($2.8Bn), and agricultural inputs and services ($2.7Bn). Industries with export values exceeding one billion dollars included environmental horticulture, mining, sugar and confectionary products, and tobacco products. Exports were highest for the Orlando and Miami-Fort Lauderdale economic regions, at $6.7 and $5.5Bn, respectively, followed by Tampa-St. Petersburg-Clearwater ($3.3Bn) and Jacksonville ($2.8Bn). Exports also exceeded one billion dollars for the Sarasota-Bradenton ($2.8Bn) and Tallahassee areas. Note that the value of exports for the state of Florida may differ from the sum of exports for all regions because the balance of trade is computed independently for each region, and there is extensive trade among the regions of Florida that does not appear in the trade for the state as a whole.

Table 5. Exports by agricultural and natural resource industries in Florida, by industry group and region, 2000*

Ag. & Natural Resource Industry Group	Miami, Ft. Lauderdale	Ft. Meyers, Cape Coral	Sarasota-Bradenton	Tampa. St. Petersburg, Clearwater	Orlando	Jacksonville	Tallahassee	Pensacola	State of Florida
	Million Dollars								
Agricultural Inputs and Services	320.1	74.0	100.3	638.8	1,557.3	38.0	32.3	11.4	2,679.9
Dairy Products	89.5	1.4	18.7	58.5	64.0	176.4	14.9	12.8	266.9
Environmental Horticulture	678.0	141.8	82.9	219.4	634.1	148.0	47.2	31.3	1,959.5
Field Crops	78.7	1.7	2.8	36.4	80.0	75.9	53.0	69.4	366.9
Forest Products	244.6	17.1	125.0	135.9	366.1	1,141.5	737.9	319.4	2,830.7
Fruits & Vegetables	1,321.4	194.9	1,252.4	584.3	1,613.4	179.4	83.2	22.4	4,926.7
Livestock and Meat Products	72.6	7.4	34.5	76.9	245.9	206.1	28.4	30.3	457.1
Mining	277.6	303.1	76.5	72.8	607.7	193.8	63.1	88.0	1,549.2
Other Food & Fiber Manufacturing	899.3	129.2	35.3	527.8	1,230.8	550.0	35.5	28.5	2,889.7
Seafood Products	130.3	21.5	8.3	224.8	131.8	46.0	41.1	7.4	592.4
Sugar & Confectionary Products	1,269.3	0.3	3.3	20.7	132.7	5.8	16.5	9.5	1,153.7
Tobacco Products	121.8	0.0	0.0	736.7	0.1	21.6	3.7	193.1	1,025.9
Total All Groups	5,503.1	892.3	1,740.1	3,332.9	6,663.9	2,782.5	1,156.8	823.4	20,698.7

Source: Implan data for Florida, MIG, Inc., Stillwater MN

* Expressed in 2002 year dollars based on US GDP Implicit Price Deflator

Total Economic Impacts

The total economic impacts of the agricultural and natural resource industries in Florida were estimated by using the previously presented data on output, value added, employment and exports, together with input-output multipliers from regional models constructed with *Implan*. These results are summarized in Table 6. The total impacts reflect the indirect effect of increased purchases from other industries to meet export demand, and the induced effects of employee household spending. Total output impacts for the state of Florida in 2000 were $61.57 billion (Bn), expressed in year 2002 dollars. The largest industry group, by far, was fruits and vegetables, with a total output impact of $13.01Bn. A second tier of industry groups in terms of total output impacts were forest products at $8.61Bn, other manufactured food and fiber products at $8.25Bn, agricultural inputs and services at $7.00Bn, and environmental horticulture at $6.90Bn. The third tier of industries included mining ($4.25Bn), sugar and confectionary products ($3.68Bn), tobacco products ($3.44Bn), and livestock and meat products ($2.86Bn). The fourth tier of industries was seafood products ($1.20Bn), dairy products ($1.56Bn), and field crops ($814Mn).

Total output impacts were largest in the Orlando region at $16.92Bn and Miami-Fort Lauderdale at $15.82Bn, followed by Tampa-St. Petersburg-Clearwater area ($9.46Bn), and Jacksonville ($7.60Bn). The remaining regions had total output impacts of $3.69Bn in the Sarasota-Bradenton area, $2.64Bn in Tallahassee, and $2.38Bn in the Pensacola area. Again, note that these results for the state of Florida and for each region were derived independently, so the sum of total economic impact estimates across regions may not equal the value for the state.

Employment impacts of Florida's agricultural and natural resource industries, including both direct employment in these industries, plus jobs in other related businesses that provide inputs and serve industry employees, totaled 644,673 jobs (Table 6). The largest industry groups in terms of employment impacts were fruits and vegetables (133,189), environmental horticulture (131,748), and agricultural inputs and services (107,595). Other sectors with total employment impacts exceeding 20,000 jobs were forest products (67,153), other food and fiber manufacturing (52,730), mining (32,739), livestock and meat products (31,383), and sugar and confectionary products (27,581). Regionally, the largest employment impacts were in Miami-Ft. Lauderdale (173,914), Orlando (170,686), followed by Tampa-St. Petersburg-Clearwater (88,709), Jacksonville (78,111), and Sarasota-Bradenton (48,470).

As noted previously, value added is a preferred measure of the net contribution to a local economy, because it represents in increase in value generated at each stage of complex market supply chains. Total value added impacts for the agriculture and natural resource industries of Florida in 2000 were $30.83 Bn (Table 6). Again, the fruits and vegetables sector was the largest, accounting for $6.90Bn in value added impacts, followed by environmental horticulture

($4.50Bn), forest products ($4.07Bn), other food and fiber manufactured products (3.64Bn), agricultural inputs and services ($3.37Bn), and mining ($2.25Bn). The Orlando, and Miami-Ft. Lauderdale regions had total value added impacts of $8.75Bn and $7.61Bn, respectively, while Tampa-St. Petersburg-Clearwater and Jacksonville had value added impacts of $4.64Bn and $3.32Bn. The remaining regions had value added impacts ranging from $2.03Bn in Sarasota-Bradenton, to $1.22Bn in Pensacola.

Labor income is the portion of value added that represents employee wages and salaries and business owners or "proprietors" net income. Estimates of labor income impacts are also provided in Table 6 for the agricultural and natural resource industries of Florida. Total labor income impacts in Florida in year 2000 were $19.28Bn, including $4.50Bn in fruits and vegetables, $2.88Bn in environmental horticulture, $2.58Bn in forest products, $2.27Bn in agricultural inputs and services, and $2.09Bn in other food and fiber manufacturing. Regionally, labor income impacts included $5.37Bn in Orlando, $4.84Bn in Miami-Ft. Lauderdale, $2.79Bn in Tampa-St. Petersburg-Clearwater, and $2.18Bn in Jacksonville.

Another important measure of economic impacts is the taxes paid by businesses and households, which support local, state, and federal governments. *Implan* provides estimates of indirect business taxes paid, such as property, sales, income, excise, and motor fuels taxes, based on state and county fiscal account data, and also indirect business tax multipliers. Total indirect business tax impacts of agricultural and natural resource industries of Florida in year 2000 were an estimated $2.76Bn, including $725 million (Mn) by tobacco products, $458Mn by fruits and vegetables, $409Mn by other food and fiber products manufacturing, $276Mn by forest products, $217Mn by agricultural inputs and services, and $214Mn by environmental horticulture (Table 6). Total indirect business tax impacts were $680Mn in the Orlando area, and $615Mn in Miami-Ft. Lauderdale.

Table 6. Total economic impacts of Florida agricultural and natural resource industry groups, by region 2000

Ag. & Natural Resource Industry Group	Miami, Ft. Lauderdale	Ft. Meyers, Cape Coral	Sarasota-Bradenton	Tampa. St. Petersburg, Clearwater	Orlando	Jacksonville	Tallahassee	Pensacola	State of Florida
	Output Impacts (Million $)*								
Agricultural Inputs and Services	939.6	145.8	251.4	1,445.1	3,688.8	108.2	66.4	22.9	6,990.7
Dairy Products	555.9	9.3	38.5	197.5	337.9	502.5	35.2	28.5	1,558.3
Environmental Horticulture	2,355.4	442.5	302.3	770.2	1,945.5	527.6	176.9	127.2	6,902.1
Field Crops	147.8	2.6	5.4	67.3	131.9	175.9	106.3	148.5	814.1
Forest Products	875.8	76.3	268.2	673.4	1,179.6	3,054.4	1,584.9	726.8	8,612.7
Fruits & Vegetables	3,292.5	444.3	2,507.3	1,461.9	3,933.2	459.5	201.0	58.0	13,013.1
Livestock and Meat Products	418.8	18.4	86.5	538.5	704.2	958.3	97.8	297.5	2,859.2
Mining	628.7	661.5	155.3	232.9	1,565.8	397.6	158.6	240.2	4,254.8
Other Food & Fiber Manufacturing	2,370.2	308.5	57.9	1,328.0	2,892.6	1,280.0	98.4	128.2	8,251.3
Seafood Products	256.9	38.9	17.3	417.0	258.8	80.1	75.6	17.5	1,203.1
Sugar & Confectionary Products	3,458.1	0.0	3.3	41.2	277.0	9.4	27.2	20.3	3,675.9
Tobacco Products	523.6	0.0	0.6	2,283.4	0.1	49.5	6.7	569.2	3,436.9
Total All Groups	15,823.3	2,148.1	3,694.0	9,456.3	16,915.4	7,603.0	2,635.0	2,384.8	61,572.1
	Employment Impacts (jobs)								
Agricultural Inputs and Services	29,398	4,647	8,889	14,489	41,517	2,626	1,971	513	107,595
Dairy Products	2,599	59	411	1,507	1,681	3,829	324	302	8,791
Environmental Horticulture	43,972	9,614	7,752	16,245	33,099	11,238	3,818	3,083	131,748
Field Crops	1,663	61	141	1,207	2,415	3,227	2,092	2,307	13,297
Forest Products	7,138	636	3,022	4,277	9,553	25,128	12,976	5,302	67,153
Fruits & Vegetables	34,271	7,129	24,498	14,674	38,527	5,643	2,355	683	133,189
Livestock and Meat Products	3,414	479	1,367	6,786	9,529	9,418	1,449	2,120	31,383
Mining	5,255	5,201	1,422	2,226	9,552	3,406	1,340	1,957	32,739
Other Food & Fiber Manufacturing	13,730	2,059	408	8,656	18,453	11,445	662	836	52,730
Seafood Products	4,548	840	531	4,702	4,469	1,277	1,820	503	18,868
Sugar & Confectionary Products	25,797	0	28	315	1,888	74	186	299	27,581
Tobacco Products	2,130	0	1	13,625	3	800	150	3,285	19,599
Total All Groups	173,914	30,723	48,470	88,709	170,686	78,111	29,144	21,191	644,673
	Value Added Impacts (Million $)*								
Agricultural Inputs and Services	538.0	80.6	140.0	595.7	1,708.0	53.5	34.7	14.0	3,365.0
Dairy Products	173.1	3.4	26.9	101.6	138.0	208.5	23.0	22.4	610.8
Environmental Horticulture	1,451.2	300.4	202.2	529.8	1,275.9	348.2	135.6	85.6	4,495.8
Field Crops	75.7	1.6	3.6	40.6	84.9	96.3	81.2	100.7	497.4
Forest Products	363.1	31.5	184.4	259.2	584.9	1,370.8	801.1	368.7	4,074.3
Fruits & Vegetables	1,618.5	315.2	1,309.4	823.1	1,960.8	277.2	136.3	42.7	6,897.5
Livestock and Meat Products	111.2	11.9	42.9	183.0	328.2	300.6	44.0	87.7	982.4
Mining	276.5	297.9	84.7	75.7	967.5	227.4	80.3	97.7	2,252.0
Other Food & Fiber Manufacturing	1,052.2	124.7	16.3	638.0	1,435.1	379.0	42.8	62.6	3,641.9
Seafood Products	149.9	22.6	13.5	196.3	143.5	28.8	44.9	14.1	639.1
Sugar & Confectionary Products	1,572.0	0.0	1.2	17.3	122.6	3.2	9.1	16.8	1,624.9
Tobacco Products	220.2	0.0	0.2	1,182.9	0.1	25.0	4.1	311.0	1,751.2
Total All Groups	7,601.7	1,189.8	2,025.4	4,643.2	8,749.4	3,318.4	1,437.0	1,224.1	30,832.3
	Labor Income Impacts (Million $)*								
Agricultural Inputs and Services	388.5	57.4	101.2	392.1	1,129.1	38.5	24.6	9.8	2,274.6
Dairy Products	128.8	2.5	21.4	75.7	104.9	160.2	18.3	17.6	472.1
Environmental Horticulture	929.0	191.0	128.2	338.9	816.4	223.7	86.6	54.6	2,881.9
Field Crops	50.2	1.1	2.4	27.2	56.3	63.6	54.2	67.7	332.0
Forest Products	246.0	21.1	94.6	181.4	390.0	843.7	505.4	228.8	2,583.3
Fruits & Vegetables	1,072.9	215.9	810.5	536.9	1,266.2	191.7	89.5	28.7	4,498.5

Table 6. Total economic impacts of Florida agricultural and natural resource industry groups, by region 2000									
Ag. & Natural Resource Industry Group	Miami, Ft. Lauderdale	Ft. Meyers, Cape Coral	Sarasota-Bradenton	Tampa. St. Petersburg, Clearwater	Orlando	Jacksonville	Tallahassee	Pensacola	State of Florida
Livestock and Meat Products	85.1	9.2	32.8	143.8	246.9	228.3	33.9	69.3	762.8
Mining	160.1	161.0	51.0	40.8	400.0	153.6	41.0	51.4	1,161.0
Other Food & Fiber Manufacturing	606.9	78.3	9.8	376.4	794.3	242.0	21.7	39.6	2,089.7
Seafood Products	101.1	15.0	8.6	139.0	96.6	19.3	29.5	9.1	435.2
Sugar & Confectionary Products	984.7	0.0	0.7	10.2	71.4	2.2	6.0	9.5	1,009.5
Tobacco Products	84.8	0.0	0.0	530.8	0.0	14.3	2.4	139.9	775.6
Total All Groups	4,838.1	752.6	1,261.3	2,793.2	5,372.2	2,181.2	913.1	726.0	19,276.4
	Indirect Business Tax Impacts (Million $)*								
Agricultural Inputs and Services	32.4	4.9	8.3	41.6	110.9	3.0	2.1	0.8	216.5
Dairy Products	8.3	0.1	1.1	4.7	6.0	9.1	0.8	0.8	24.5
Environmental Horticulture	72.9	14.0	8.8	24.0	59.9	15.2	4.5	3.6	214.4
Field Crops	6.1	0.1	0.3	3.0	6.6	6.6	6.1	7.1	38.1
Forest Products	23.0	2.0	20.4	14.5	39.7	89.5	46.0	19.0	276.8
Fruits & Vegetables	115.6	19.3	79.7	53.9	138.2	14.8	6.4	1.9	458.0
Livestock and Meat Products	6.8	0.8	2.9	9.6	19.9	14.3	2.4	3.7	52.0
Mining	24.0	25.5	6.8	6.5	71.6	26.0	5.5	8.0	184.8
Other Food & Fiber Manufacturing	94.6	6.6	0.8	54.0	210.9	42.5	8.7	1.9	409.1
Seafood Products	8.9	1.3	0.7	12.9	8.7	1.8	2.3	0.6	39.2
Sugar & Confectionary Products	119.6	0.0	0.1	1.2	7.9	0.2	0.7	1.1	118.7
Tobacco Products	102.6	0.0	0.2	492.2	0.0	3.5	0.4	126.1	724.9
Total All Groups	614.9	74.6	130.0	718.0	680.3	226.5	85.9	174.5	2,757.1

Source: Implan data for Florida, MIG, Inc., Stillwater MN

* Values expressed in year 2002 dollars (millions) based on US GDP Implicit Price Deflator.
Total impacts represent direct impacts plus indirect and induced multiplier effects of export sales (shipments outside region)

Per-Capita Impacts

Due to differences in overall area and varying populations across regions, it is meaningful to analyze economic impacts of the agricultural and natural resource industries in Florida on a per-capita basis. Average per-capita total output impacts for the state of Florida in 2000 were $3,853, expressed in year 2002 dollars (Table 7). Regionally, per-capita output impacts were above average for the Jacksonville area ($4,679), Tallahassee ($4,409), Sarasota-Bradenton ($4,836), Orlando ($4,667) and Tampa-St. Petersburg-Clearwater ($3,947), while per capita output impacts were below average for Miami-Ft. Lauderdale ($2,824), Fort Meyers-Cape Coral ($3,103), and Pensacola ($3,598).

Total employment impacts of the agricultural and natural resource industries were expressed on the basis of jobs per 1000 population (Table 7). The overall statewide average was 40 jobs per 1000 population. Again, employment impacts were above average for the regions of Jacksonville (48), Sarasota-Bradenton (63), Tallahassee (49), Orlando (47), and Ft. Myers-Cape Coral (44), while they were below average for Miami-Ft. Lauderdale (31), Tampa-St. Petersburg-Clearwater (33), and Pensacola (32).

Value added impacts per-capita averaged $1,929 statewide in 2000 (Table 7). Sarasota-Bradenton had the highest per capita value added impact at $2,652. Other regions with above-average value added impacts were Jacksonville ($2,042), Tallahassee ($2,404), and Orlando ($2,414). The Miami-Ft. Lauderdale region exhibited the lowest per-capita value added impacts with at $1,357, and other regions with below-state-average impacts were Ft. Myers-Cape Coral ($1,719), and Pensacola ($1,847), while the Tampa-St. Petersburg-Clearwater region had per capital value added impacts close to the statewide average ($1,938). It is interesting to note that more than a two-fold difference in per-capita value added impacts exists between the regions with the highest (Sarasota-Bradenton) and lowest (Miami-Ft. Lauderdale) values. In general, the agricultural and natural resource industries are much larger in the urbanized areas of central and south Florida, however, their relative importance is greater in the regions of north Florida.

Table 7. Per-capita impacts of agricultural and natural resource industry groups in Florida, by region, 2000

Region	Output Impacts Per Capita ($*)	Employment Impacts Per 1000 Population (jobs)	Value Added Impacts Per Capita ($*)
Miami, Ft. Lauderdale	2,824	31	1,357
Ft. Myers, Cape Coral	3,103	44	1,719
Sarasota, Bradenton	4,836	63	2,652
Tampa, St. Petersburg, Clearwater	3,947	37	1,938
Orlando	4,667	47	2,414
Jacksonville	4,679	48	2,042
Tallahassee	4,409	49	2,404
Pensacola	3,598	32	1,847
Florida	3,853	40	1,929

* Values expressed in year 2002 dollars based on US GDP Implicit Price Deflator.

Share of Gross Regional Product

Another useful indicator of the importance of the agricultural and natural resource industries in Florida is their share of the Gross Regional Product (GRP), or sum of direct value added for all industries in the region. For the state of Florida in 2000, gross regional product was $484 billion (year 2002 dollars), and the $14.7 in value added by agriculture and natural resources represents 3.0 percent of this (Table 8). The GRP was $181Bn in the Miami-Ft. Lauderdale region, $107Bn in Orlando, $72Bn in Tampa-St. Petersburg-Clearwater, $44Bn in Jacksonville, and $19Bn to $20Bn in the remaining regions. The regions with the highest share of GRP in agriculture and nature resources were Sarasota-Bradenton (5.4%), Tallahassee (4.2%), Orlando (4.0%), and Ft. Meyers-Cape Coral (3.5%), while the major urbanized region of Miami-Ft. Lauderdale had a significantly lower share of GRP (2.0%), and the remaining regions were close to the overall state average (Tampa-St. Petersburg-Clearwater, Jacksonville, Pensacola).

Table 8. Gross Regional Product of Florida Agricultural & Natural Resource Industries and All Industries, by Economic Region, 2000			
Region	Gross Regional Product (Bill. $*)	Agricultural & Natural Resource Industry Value Added (Mill. $*)	Share of Gross Regional Product
Miami, Ft. Lauderdale	180.6	3,553.0	2.0%
Ft. Myers, Cape Coral	20.0	700.1	3.5%
Sarasota, Bradenton	20.1	1,095.0	5.4%
Tampa, St. Petersburg, Clearwater	72.4	2,201.0	3.0%
Orlando	107.2	4,306.7	4.0%
Jacksonville	44.2	1,467.1	3.3%
Tallahassee	18.6	782.4	4.2%
Pensacola	21.2	596.8	2.8%
Florida	484.2	14,702.2	3.0%

Source: Implan data for Florida, MIG, Inc., Stillwater MN
* Year 2002 dollars, US GDP Implicit Price Deflator.
Gross regional product represents sum of value added for all industries.

Conclusions

This study examined the regional impacts of Florida's agricultural and natural resource industries across eight functional economic regions as defined by the Bureau of Economic Analysis. Florida's agricultural and natural resource industries had total output of $35.0 billion (Bn), employment of over 336,000 persons, value added of $14.7 billion in value added, and exports of $20.7 Bn in 2000. Output grew by 5 percent between 1995 and 2000, in inflation-adjusted terms. Economic activity generated due to the indirect and induced multiplier effects of export earnings brought about total impacts of $61.6Bn in output, 645,000 jobs, $30.8Bn in total value added, $19.3Bn in labor income, and $2.8Bn in indirect business taxes paid to governments. Statewide, the agricultural and natural resource industries accounted for 3.0 percent of state Gross Regional Product in 2000. The state's largest region for agriculture and natural resources was Orlando, with $8.7Bn in value added impacts, followed by Miami-Fort Lauderdale ($7.6Bn), Tampa-St. Petersburg-Clearwater ($4.6Bn) Jacksonville ($3.3Bn), Sarasota-Bradenton ($2.0Bn), Tallahassee ($1.4Bn), Ft. Myers-Cape Coral ($1.2Bn), and Pensacola ($1.2Bn). The Jacksonville, Tallahassee, Sarasota-Bradenton, and Orlando regions had greater economic impacts per-capita than the state as a whole, with a two-fold difference existing between the regions with highest and lowest per-capita value added impacts.

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Appendix Table Output of Agricultural and Natural Resource Industries in Florida, by Sector and Region, 2000									
Industry	Miami, Ft. Lauderdale	Ft. Meyers, Cape Coral	Sarasota, Bradenton	Tampa. St. Petersburg, Clearwater	Orlando	Jacksonville	Talla-hassee	Pensacola	State of Florida
Agricultural Inputs and Services									
Agricultural, Forestry, Fishery Services	494.8	70.4	142.0	76.5	375.1	42.7	27.1	8.4	1,236.9
Nitrogenous and Phosphatic Fertilizers	12.0	0.0	4.5	553.5	1,209.1	10.6	5.4	1.6	1,796.7
Fertilizers, Mixing Only	46.7	13.9	8.4	47.2	215.2	10.4	4.2	0.5	346.5
Agricultural Chemicals, N.E.C	5.4	2.6	0.7	7.7	75.6	1.6	0.1	0.1	94.0
Dairy Products									
Dairy Farm Products	87.5	1.2	18.5	37.2	70.0	141.5	14.9	12.7	383.6
Creamery Butter	47.4	0.0	0.0	0.0	3.4	9.2	2.0	0.0	62.0
Cheese, Natural and Processed	13.2	0.0	0.0	0.0	6.8	0.0	0.0	0.0	19.9
Condensed and Evaporated Milk	0.0	0.0	1.5	6.3	0.0	0.0	0.0	0.0	7.8
Ice Cream and Frozen Desserts	6.6	6.5	0.2	59.8	0.7	0.2	0.3	0.0	74.3
Fluid Milk	289.6	0.0	0.0	17.3	177.5	165.7	3.4	0.0	653.5
Environmental Horticulture									
Greenhouse and Nursery Products	548.8	76.3	64.1	183.3	628.6	93.9	73.9	15.9	1,684.6
Landscape and Horticultural Services	871.6	202.5	143.4	281.5	466.1	229.6	53.8	72.7	2,321.1
Field Crops									
Cotton	0.0	0.0	0.0	0.0	0.0	2.1	10.3	15.5	27.9
Food Grains	0.6	0.0	0.0	0.0	0.0	0.0	0.2	0.1	1.0
Feed Grains	0.1	0.0	0.3	0.0	0.3	6.7	8.3	4.4	20.2
Hay and Pasture	3.1	0.1	1.2	6.8	13.3	19.0	6.8	7.5	57.8
Grass Seeds	0.0	0.0	0.0	1.8	6.4	3.3	0.1	0.0	11.5
Miscellaneous Crops	10.3	1.3	1.4	4.5	6.7	2.7	0.8	1.1	28.7
Oil Bearing Crops	0.1	0.0	0.0	0.0	1.9	9.5	25.0	19.1	55.5
Flour and Other Grain Mill Products	12.1	0.0	0.0	4.6	2.2	9.5	0.4	17.6	46.4
Cereal Preparations	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rice Milling	4.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.4
Blended and Prepared Flour	10.8	0.0	0.0	0.0	1.8	0.0	0.0	1.4	14.0
Animal and Marine Fats and Oils	5.8	0.0	0.0	5.7	1.0	32.4	0.2	0.0	45.1
Shortening and Cooking Oils	5.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	5.3
Forest Products									
Forest Products	2.5	0.1	1.3	2.6	11.4	18.5	17.9	11.5	65.7
Forestry Products	34.6	4.9	93.7	11.4	76.0	119.9	43.5	5.8	389.8
Logging Camps and Logging Contractors	32.4	6.7	0.3	2.6	26.6	159.8	124.0	28.5	380.9
Sawmills and Planing Mills, General	33.6	1.5	0.0	6.3	29.8	218.4	73.6	12.4	375.5
Hardwood Dimension and Flooring Mills	16.8	0.8	0.1	0.0	0.2	0.7	0.5	0.0	19.2
Special Product Sawmills, N.E.C	13.1	0.0	0.0	0.0	0.3	2.1	0.0	0.0	15.5
Veneer and Plywood	7.1	0.0	0.0	0.0	6.0	25.4	110.2	0.0	148.8
Structural Wood Members, N.E.C	177.5	31.1	10.0	51.4	185.5	90.5	85.4	18.8	650.3
Wood Containers	3.6	0.0	0.2	4.3	14.0	13.1	0.8	0.0	35.9
Wood Pallets and Skids	8.4	0.2	0.2	6.3	39.2	6.8	0.2	3.0	64.4

Appendix Table
Output of Agricultural and Natural Resource Industries in Florida, by Sector and Region, 2000

Industry	Miami, Ft. Lauderdale	Ft. Meyers, Cape Coral	Sarasota, Bradenton	Tampa. St. Petersburg, Clearwater	Orlando	Jacksonville	Talla-hassee	Pensacola	State of Florida
Wood Preserving	12.9	12.5	0.0	65.4	39.2	58.6	4.6	0.4	193.6
Reconstituted Wood Products	17.9	0.0	3.2	10.7	0.0	3.4	0.0	0.0	35.2
Wood Products, N.E.C	29.7	1.8	10.8	13.1	18.4	5.9	1.7	0.5	81.8
Pulp Mills	0.2	0.0	0.0	0.0	2.1	2.0	158.2	0.6	163.2
Paper Mills, Except Building Paper	23.4	0.0	1.8	3.6	22.9	44.4	258.7	230.9	585.8
Paperboard Mills	5.9	0.0	0.4	0.0	16.0	583.5	3.9	0.5	610.2
Paperboard Containers and Boxes	150.4	0.4	10.2	294.7	226.6	233.9	2.3	4.0	922.6
Paper Coated & Laminated Packaging	1.0	0.0	0.0	35.5	32.1	4.2	0.4	4.6	77.7
Paper Coated & Laminated N.E.C.	8.0	0.0	5.8	0.9	0.8	4.0	0.0	0.0	19.4
Bags, Paper	1.1	0.0	0.1	9.8	2.9	42.4	0.3	27.5	84.1
Die-cut Paper and Board	16.8	0.0	0.0	1.1	10.6	1.7	0.2	0.1	30.6
Gum and Wood Chemicals	1.5	0.0	0.0	0.0	0.0	0.0	0.0	35.1	36.6
Fruits & Vegetables									
Fruits	729.7	92.8	259.5	115.2	646.6	9.3	3.6	2.1	1,858.9
Tree Nuts	2.6	0.0	0.0	0.5	2.2	23.8	19.4	8.9	57.5
Vegetables	587.6	145.7	172.1	92.4	203.5	186.2	53.7	14.1	1,455.2
Canned Specialties	4.6	0.0	0.4	0.3	5.2	0.0	0.0	0.0	10.5
Canned Fruits and Vegetables	91.0	0.0	880.7	80.6	169.9	3.0	3.8	0.0	1,229.0
Dehydrated Food Products	1.4	0.0	0.0	29.9	0.0	0.1	0.1	0.0	31.5
Pickles, Sauces, and Salad Dressings	79.4	0.0	0.0	0.6	61.6	2.4	10.7	8.7	163.4
Frozen Fruits, Juices and Vegetables	111.8	1.3	43.0	314.6	625.0	3.1	4.7	0.0	1,103.6
Frozen Specialties	20.8	0.0	0.0	52.1	8.6	0.1	0.4	0.0	82.0
Potato Chips & Similar Snacks	2.2	0.0	0.0	15.3	192.2	2.0	26.4	0.5	238.6
Livestock and Meat Products									
Poultry and Eggs	4.3	0.9	9.3	39.1	55.5	166.3	19.8	41.3	336.5
Ranch Fed Cattle	38.8	4.2	22.2	23.5	80.6	49.9	17.6	12.7	249.5
Range Fed Cattle	35.3	3.3	12.2	5.1	42.4	5.4	1.1	0.6	105.3
Cattle Feedlots	0.3	0.0	0.5	0.7	1.5	1.1	0.3	0.6	5.0
Sheep, Lambs and Goats	(0.0)	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1
Hogs, Pigs and Swine	0.1	0.0	0.4	1.1	1.0	1.5	2.8	0.4	7.2
Other Meat Animal Products	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Miscellaneous Livestock	24.9	2.6	7.0	53.9	155.1	21.6	6.4	2.2	273.6
Meat Packing Plants	108.0	0.0	2.4	295.7	43.7	41.3	15.1	70.0	576.2
Sausages and Other Prepared Meats	114.6	0.0	0.0	34.3	62.4	26.0	6.5	65.9	309.9
Poultry Processing	14.8	0.0	0.0	0.3	0.1	328.1	2.0	65.5	410.8
Mining									
Metal Mining Services	0.0	0.0	0.0	0.4	0.1	0.0	0.0	0.0	0.5
Metal Ores, Not Elsewhere Classified	1.5	0.0	0.0	0.0	16.9	52.9	0.0	0.1	71.4
Coal Mining	9.8	5.4	7.3	0.2	15.2	68.0	0.2	0.4	106.5
Natural Gas & Crude Petroleum	237.2	253.1	22.4	128.0	47.7	39.0	47.8	123.8	899.1

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Industry	Miami, Ft. Lauderdale	Ft. Meyers, Cape Coral	Sarasota, Bradenton	Tampa. St. Petersburg, Clearwater	Orlando	Jacksonville	Talla-hassee	Pensacola	State of Florida
Natural Gas Liquids	0.0	0.0	0.0	0.0	51.1	0.0	0.0	0.0	51.1
Dimension Stone	39.1	110.2	53.6	8.5	26.4	39.2	4.9	0.1	281.9
Sand and Gravel	30.6	0.8	4.5	8.9	24.2	2.3	4.5	5.3	81.0
Clay, Ceramic, Refractory Minerals	1.6	0.0	0.0	0.0	0.1	12.6	33.2	0.0	47.6
Potash, Soda, and Borate Minerals	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.4
Phosphate Rock	0.2	0.0	0.3	4.9	772.7	1.3	15.3	0.6	795.2
Chemical, Fertilizer Mineral Mining	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.5
Nonmetallic Minerals (Exc. Fuels) Service	0.0	0.2	0.0	0.0	0.2	0.9	0.2	0.0	1.4
Misc. Nonmetallic Minerals, N.E.C.	3.0	1.2	0.0	1.5	38.7	5.0	1.7	0.0	51.1
Other Food & Fiber Manufacturing									
Dog, Cat, and Other Pet Food	10.6	0.0	0.0	0.0	8.1	0.0	0.0	0.0	18.7
Prepared Feeds, N.E.C	24.5	0.0	0.0	9.4	155.1	26.0	1.7	8.0	224.6
Bread, Cake, and Related Products	268.9	115.5	46.7	66.1	208.0	55.1	3.2	63.6	827.1
Cookies and Crackers	27.4	0.0	0.0	41.4	66.9	0.4	0.5	0.0	136.6
Malt Beverages	59.0	0.0	0.0	84.8	275.4	62.4	3.3	0.0	484.9
Wines, Brandy, and Brandy Spirits	0.9	0.0	1.8	0.0	2.8	0.0	0.0	0.0	5.5
Distilled Liquor, Except Brandy	41.3	0.0	0.0	0.0	146.9	15.1	11.6	0.0	214.9
Bottled and Canned Soft Drinks & Water	703.4	85.7	0.0	422.0	514.0	261.0	10.7	0.0	1,996.7
Flavoring Extracts and Syrups, N.E.C.	5.0	0.0	0.0	6.5	145.2	0.2	4.6	0.0	161.5
Roasted Coffee	206.0	0.0	0.0	43.3	2.5	198.6	2.5	0.0	453.0
Manufactured Ice	1.3	0.8	0.0	3.3	5.2	0.8	0.2	13.7	25.4
Macaroni and Spaghetti	8.1	0.0	0.0	0.6	0.0	0.0	0.1	0.0	8.7
Food Preparations, N.E.C	70.8	2.5	4.1	29.9	36.9	29.0	29.0	13.3	215.7
Seafood Products									
Commercial Fishing	50.2	10.6	8.8	17.0	50.3	8.4	22.0	8.1	175.3
Canned and Cured Sea Foods	40.6	0.0	0.0	0.9	5.0	0.9	0.2	0.0	47.6
Prepared Fresh Or Frozen Fish Or Seafood	44.0	11.8	0.0	203.8	81.1	38.0	20.8	0.0	399.4
Sugar & Confectionary Products									
Sugar Crops	430.5	0.0	0.0	0.0	0.0	0.1	0.3	8.9	439.9
Sugar	1,171.7	0.0	0.0	0.0	0.5	4.3	10.5	0.0	1,186.9
Confectionery Products	5.2	0.0	1.6	19.8	126.9	0.4	0.3	0.0	154.0
Chocolate and Cocoa Products	0.0	0.0	0.0	0.0	14.9	0.0	4.7	0.0	19.6
Tobacco Products									
Tobacco	0.0	0.0	0.0	0.0	0.1	21.2	3.5	0.0	24.8
Cigarettes	85.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	85.7
Cigars	225.8	0.0	0.6	1,043.0	0.0	4.2	0.0	272.7	1,546.3
Chewing and Smoking Tobacco	7.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.0

Source: Implan data for Florida Counties, MIG, Inc., Stillwater MN