Agriculture and Natural Resources Policy Committee

Action Packet

March 17, 2010
2:15 pm - 5:00 pm
102 Reed Hall

Larry Cretul **Speaker**	**Trudi Williams** **Chair**

Committee Meeting Notice

HOUSE OF REPRESENTATIVES

Agriculture & Natural Resources Policy Committee

Start Date and Time: Wednesday, March 17, 2010 02:15 pm

End Date and Time: Wednesday, March 17, 2010 05:00 pm

Location: Reed Hall (102 HOB)
Duration: 2.75 hrs

Consideration of the following bill(s):

HB 1047 City of Clearwater, Pinellas County by Frishe
HB 1221 Animal Control or Cruelty Ordinances by Randolph
HB 1225 Sewage Disposal Facilities by Gibbons
HB 1385 Petroleum Contamination Site Cleanup by Poppell
HB 1445 Department of Agriculture and Consumer Services by Nelson

Consideration of the following proposed committee bill(s):

PCB ANR 10-09 -- Consumptive Use Permits
PCB ANR 10-10 -- Water Conservation
PCB ANR 10-11 -- Stormwater

Presentation on Florida agriculture:
John Hoblick, President, Florida Farm Bureau Federation
Larry Arrington, Interim Senior Vice President for Agriculture and Natural Resources, University of Florida

NOTICE FINALIZED on 03/15/2010 16:17 by Cunningham.Reid

PCB WORKSHOP PARTICIPANT LIST

Eric Draper: **Audubon of Florida**

Suzanne Goss: **JEA**

Steve Minnis: **Suwannee River Water Management District**

Colleen Thayer: **Southwest Florida Water Management District**

Chris Klena: **CH2M Hill, Inc**

Laura Donaldson: **Peace River/Manasota Regional Water Supply Authority**

Chip Merriam: **Orlando Utilities Commission (OUC)**

Ed de la Porta: **Southeast Florida Utility Council**

Ernie Barnett: **South Florida Water Management District**

Janet Bowman: **The Nature Conservancy**

David Childs: **Florida Section American Water Works Assoc. Utility Council**

Doug Mann: **Florida Section American Water Works Assoc. Utility Council**

Hal Wilkening: **St. Johns River Water Management District**

Kathryn Mennella: **St. Johns River Water Management District**

Mike Slayton: **St. Johns River Water Management District**

Scott Dudley: **Florida League of Cities**

Stephen James: **City of Tampa and Polk County**

Diane Salz: **Peace River/Manasota Regional Water Supply Authority**

Chuck Aller: **Florida Department of Agriculture and Consumer Services**

Grace Lovett: **Department of Environmental Protection**

Josh Aubuchon: **Tampa Bay Water**

Ken Kuhl: **Executive Office of the Governor**

Frank Matthews: **Florida Water Environment Association Utility Council**

COMMITTEE MEETING REPORT

Agriculture & Natural Resources Policy Committee

3/17/2010 2:15:00PM

Location: Reed Hall (102 HOB)

Summary:

Agriculture & Natural Resources Policy Committee

Wednesday March 17, 2010 02:15 pm

HB 1047	Favorable	Yeas: 10 Nays: 0
HB 1221	Favorable	Yeas: 11 Nays: 0
HB 1225	Favorable With Committee Substitute	Yeas: 10 Nays: 0
HB 1385	Favorable	Yeas: 10 Nays: 0
HB 1445	Favorable With Committee Substitute	Yeas: 11 Nays: 0
PCB ANR 10-09	Favorable With Amendments	Yeas: 11 Nays: 0
PCB ANR 10-10	Favorable With Amendments	Yeas: 11 Nays: 0
PCB ANR 10-11	Favorable With Amendments	Yeas: 7 Nays: 0

Committee meeting was reported out: Wednesday, March 17, 2010 5:02:28PM

COMMITTEE MEETING REPORT

Agriculture & Natural Resources Policy Committee

3/17/2010 2:15:00PM

Location: Reed Hall (102 HOB)

Attendance:

	Present	*Absent*	*Excused*
Trudi Williams (Chair)	X		
Leonard Bembry	X		
Debbie Boyd	X		
Mary Brandenburg	X		
Dwight Bullard	X		
Rachel V. Burgin	X		
Steve Crisafulli	X		
Greg Evers		X	
Richard Glorioso	X		
Bill Heller	X		
Paige Kreegel	X		
Debbie Mayfield	X		
Jimmy Patronis	X		
Totals:	**12**	**1**	**0**

Committee meeting was reported out: Wednesday, March 17, 2010 5:02:28PM

COMMITTEE MEETING REPORT

Agriculture & Natural Resources Policy Committee

3/17/2010 2:15:00PM

Location: Reed Hall (102 HOB)

HB 1047 : City of Clearwater, Pinellas County

X *Favorable*

	Yea	*Nay*	*No Vote*	*Absentee Yea*	*Absentee Nay*
Leonard Bembry	X				
Debbie Boyd	X				
Mary Brandenburg	X				
Dwight Bullard	X				
Rachel V. Burgin	X				
Steve Crisafulli	X				
Greg Evers			X		
Richard Glorioso			X		
Bill Heller	X				
Paige Kreegel				X	
Debbie Mayfield	X				
Jimmy Patronis	X				
Trudi Williams (Chair)	X				
	Total Yeas: 10	**Total Nays: 0**			

Committee meeting was reported out: Wednesday, March 17, 2010 5:02:28PM

COMMITTEE MEETING REPORT

Agriculture & Natural Resources Policy Committee

3/17/2010 2:15:00PM

Location: Reed Hall (102 HOB)

HB 1221 : Animal Control or Cruelty Ordinances

X *Favorable*

	Yea	*Nay*	*No Vote*	*Absentee Yea*	*Absentee Nay*
Leonard Bembry	X				
Debbie Boyd	X				
Mary Brandenburg	X				
Dwight Bullard	X				
Rachel V. Burgin	X				
Steve Crisafulli	X				
Greg Evers			X		
Richard Glorioso	X				
Bill Heller	X				
Paige Kreegel				X	
Debbie Mayfield	X				
Jimmy Patronis	X				
Trudi Williams (Chair)	X				
	Total Yeas: 11	**Total Nays: 0**			

Committee meeting was reported out: Wednesday, March 17, 2010 5:02:28PM

COMMITTEE MEETING REPORT

Agriculture & Natural Resources Policy Committee

3/17/2010 2:15:00PM

Location: Reed Hall (102 HOB)

HB 1225 : Sewage Disposal Facilities

X *Favorable With Committee Substitute*

	Yea	*Nay*	*No Vote*	*Absentee Yea*	*Absentee Nay*
Leonard Bembry	X				
Debbie Boyd	X				
Mary Brandenburg	X				
Dwight Bullard			X		
Rachel V. Burgin	X				
Steve Crisafulli	X				
Greg Evers			X		
Richard Glorioso	X				
Bill Heller	X				
Paige Kreegel				X	
Debbie Mayfield	X				
Jimmy Patronis	X				
Trudi Williams (Chair)	X				
	Total Yeas: 10	**Total Nays: 0**			

Committee meeting was reported out: Wednesday, March 17, 2010 5:02:28PM

COMMITTEE MEETING REPORT

Agriculture & Natural Resources Policy Committee

3/17/2010 2:15:00PM

Location: Reed Hall (102 HOB)

HB 1385 : Petroleum Contamination Site Cleanup

[X] *Favorable*

	Yea	*Nay*	*No Vote*	*Absentee Yea*	*Absentee Nay*
Leonard Bembry	X				
Debbie Boyd	X				
Mary Brandenburg	X				
Dwight Bullard			X		
Rachel V. Burgin	X				
Steve Crisafulli	X				
Greg Evers			X		
Richard Glorioso	X				
Bill Heller	X				
Paige Kreegel				X	
Debbie Mayfield	X				
Jimmy Patronis	X				
Trudi Williams (Chair)	X				
	Total Yeas: 10	**Total Nays: 0**			

Committee meeting was reported out: Wednesday, March 17, 2010 5:02:28PM

COMMITTEE MEETING REPORT

Agriculture & Natural Resources Policy Committee

3/17/2010 2:15:00PM

Location: Reed Hall (102 HOB)

HB 1445 : Department of Agriculture and Consumer Services

X *Favorable With Committee Substitute*

	Yea	*Nay*	*No Vote*	*Absentee Yea*	*Absentee Nay*
Leonard Bembry	X				
Debbie Boyd	X				
Mary Brandenburg	X				
Dwight Bullard	X				
Rachel V. Burgin	X				
Steve Crisafulli	X				
Greg Evers			X		
Richard Glorioso	X				
Bill Heller	X				
Paige Kreegel				X	
Debbie Mayfield	X				
Jimmy Patronis	X				
Trudi Williams (Chair)	X				
	Total Yeas: 11	**Total Nays: 0**			

Appearances:

HB 1445
David Cullen (Lobbyist) - Opponent
1674 University Pkwy #296
Sarasota FL 34243
Phone: 941-323-2404

HB 1445
John Buss - Information Only
FL Stormwater Assn
4437 West Shannon Lakes
Tallahassee FL 32305

HB 1445
Diana Ferguson - Opponent
Legislative Staff Attorney, FL Assn of Counties
100 S Monroe St
Tallahassee FL 32308
Phone: 922-4300

COMMITTEE MEETING REPORT

Agriculture & Natural Resources Policy Committee

3/17/2010 2:15:00PM

Location: Reed Hall (102 HOB)

PCB ANR 10-09 : Consumptive Use Permits

X *Favorable With Amendments*

	Yea	*Nay*	*No Vote*	*Absentee Yea*	*Absentee Nay*
Leonard Bembry	X				
Debbie Boyd	X				
Mary Brandenburg	X				
Dwight Bullard	X				
Rachel V. Burgin	X				
Steve Crisafulli	X				
Greg Evers			X		
Richard Glorioso	X				
Bill Heller	X				
Paige Kreegel				X	
Debbie Mayfield	X				
Jimmy Patronis	X				
Trudi Williams (Chair)	X				
	Total Yeas: 11	**Total Nays: 0**			

Appearances:

PCB ANR 10-09
Mike Slayton (Lobbyist) - Proponent
SJRWMD
525 Community College Pkwy
Palm Bay FL 32909
Phone: 321-508-0801

PCB ANR 10-09
Eric Draper (Lobbyist) - Opponent
Audubon
2507 Callaway
Tallahassee FL 32303
Phone: 224-7546

COMMITTEE MEETING REPORT

Agriculture & Natural Resources Policy Committee

3/17/2010 2:15:00PM

Location: Reed Hall (102 HOB)

PCB ANR 10-10 : Water Conservation

X *Favorable With Amendments*

	Yea	*Nay*	*No Vote*	*Absentee Yea*	*Absentee Nay*
Leonard Bembry	X				
Debbie Boyd	X				
Mary Brandenburg	X				
Dwight Bullard	X				
Rachel V. Burgin	X				
Steve Crisafulli	X				
Greg Evers			X		
Richard Glorioso			X		
Bill Heller	X				
Paige Kreegel	X				
Debbie Mayfield	X				
Jimmy Patronis	X				
Trudi Williams (Chair)	X				
	Total Yeas: 11	**Total Nays: 0**			

Committee meeting was reported out: Wednesday, March 17, 2010 5:02:28PM

COMMITTEE MEETING REPORT

Agriculture & Natural Resources Policy Committee

3/17/2010 2:15:00PM

Location: Reed Hall (102 HOB)

PCB ANR 10-11 : Stormwater

X *Favorable With Amendments*

	Yea	*Nay*	*No Vote*	*Absentee Yea*	*Absentee Nay*
Leonard Bembry				X	
Debbie Boyd	X				
Mary Brandenburg	X				
Dwight Bullard	X				
Rachel V. Burgin			X		
Steve Crisafulli			X		
Greg Evers			X		
Richard Glorioso			X		
Bill Heller	X				
Paige Kreegel				X	
Debbie Mayfield	X				
Jimmy Patronis	X				
Trudi Williams (Chair)	X				
	Total Yeas: 7	**Total Nays: 0**			

Appearances:

PCB ANR 10-11
Eric Draper (Lobbyist) - Proponent
Audubon
2507 Callaway
Tallahassee FL 32303

PCB ANR 10-11
Cameron Cooper (Lobbyist) (State Employee) - Proponent
DEP
3900 Commonwealth Blvd
Tallahassee FL 32399
Phone: 251-3848

PCB ANR 10-11
Keith Hetrick (Lobbyist) - Information Only
FL Home Builders Assn
201 E Park Ave
Tallahassee FL 32302
Phone: 224-4316 ext. 104

PCB ANR 10-11
Frank Mathews (Lobbyist) - Opponent
Assn of FL Community Developers
PO Box 6526
Tallahassee FL 32301
Phone: 22-7500

Committee meeting was reported out: Wednesday, March 17, 2010 5:02:28PM

COMMITTEE MEETING REPORT

Agriculture & Natural Resources Policy Committee

3/17/2010 2:15:00PM

Location: Reed Hall (102 HOB)

PCB ANR 10-11

John Buss - Information Only
FL Stormwater Assn
4437 W Shannon Lakes
Tallahassee FL 32309
Phone: 545-4064

Committee meeting was reported out: Wednesday, March 17, 2010 5:02:28PM

COUNCIL/COMMITTEE AMENDMENT

Bill No. HB 1225 (2010)

Amendment No. 1

COUNCIL/COMMITTEE ACTION

ADOPTED	___	(Y/N)
ADOPTED AS AMENDED	___	(Y/N)
ADOPTED W/O OBJECTION	✓	(Y/N)
FAILED TO ADOPT	___	(Y/N)
WITHDRAWN	___	(Y/N)
OTHER	______	

Council/Committee hearing bill: Agriculture & Natural Resources Policy Committee

Representative(s) Mayfield and Gibbons offered the following:

Amendment

Remove lines 28-33 and insert:

(i)An entity that diverts wastewater flow from a receiving facility that discharges domestic wastewater through an ocean outfall is required to meet the 60-percent reuse requirement of paragraph (c). Reuse by the diverting entity of any such diverted flows shall be credited to the diverting entity, the diverted flow shall also be correspondingly deducted from the receiving facility's actual flow on an annual basis from which the required reuse is calculated pursuant to paragraph (c) and the receiving facility's reuse requirement shall be recalculated accordingly.

Amendment No.

COUNCIL/COMMITTEE ACTION

ADOPTED ___ (Y/N)

ADOPTED AS AMENDED ___ (Y/N)

ADOPTED W/O OBJECTION ✓ (Y/N)

FAILED TO ADOPT ___ (Y/N)

WITHDRAWN ___ (Y/N)

OTHER ______

Council/Committee hearing bill: Agriculture & Natural Resources Policy Committee

Representative Nelson offered the following:

Amendment (with title amendment)

Remove lines 1762-1877 and insert:

Section 49. Subsections (18) and (19) of section 616.242, Florida Statutes, are renumbered as subsections (19) and (20), respectively, and a new subsection (18) is added to that section to read:

616.242 Safety standards for amusement rides.—

(18) STOP-OPERATION ORDERS.—If an owner or amusement ride fails to comply with this chapter or any rule adopted under this chapter, the department may issue a stop-operation order.

T I T L E A M E N D M E N T

Remove lines 152-157 and insert:

Amendment No.

applications; amending s. 616.242, F.S.; authorizing the issuance of stop-operation orders for amusement rides under certain circumstances;

Amendment No.

COUNCIL/COMMITTEE ACTION

ADOPTED	___	(Y/N)
ADOPTED AS AMENDED	___	(Y/N)
ADOPTED W/O OBJECTION	✓	(Y/N)
FAILED TO ADOPT	___	(Y/N)
WITHDRAWN	___	(Y/N)
OTHER	______	

Council/Committee hearing PCB: Agriculture & Natural Resources Policy Committee

Representative(s) Williams offered the following:

Amendment (with title amendment)

Remove everything after the enacting clause and insert:

Section 1. Subsection (4) of section 373.236, Florida Statutes, is amended to read:

373.236 Duration of permits; compliance reports.—

(4) Where necessary to maintain reasonable assurance that the conditions for issuance of a 20-year permit can continue to be met, the governing board or department, in addition to any conditions required pursuant to s. 373.219, may require a compliance report by the permittee every ~~5~~ 10 years during the term of a permit. This report shall contain sufficient data to maintain reasonable assurance that the initial conditions for permit issuance are met. Following review of this report, the governing board or the department may modify the permit to ensure that the use meets the conditions for issuance. Decreases

in a permittee's demand for the permitted allocation due to conservation activities shall not result in a modification that decreases the maximum allocation during the term of the permit. An agricultural water use permit that requires implementation of the most efficient irrigation system that is economically feasible and available at the time of permit issuance shall not be modified to decrease the maximum allocation during the term of the permit if the permittee has implemented the required irrigation system. Permit modifications pursuant to this subsection shall not be subject to competing applications, provided there is no increase in the permitted allocation or permit duration, and no change in source, except for changes in source requested by the district. This subsection shall not be construed to limit the existing authority of the department or the governing board to modify or revoke a consumptive use permit.

Section 2: This act shall take effect July 1, 2010.

T I T L E A M E N D M E N T

Remove lines 3-14 and insert:

373.236, F.S., revising the duration for a permitee's compliance report; providing that decreases in a permittee's need for a permitted allocation due to conservation activities shall not result in a modification that decreases the maximum allocation during the term of the permit; providing for a similar effect for an agricultural water use permit; requiring district approval of a plan that meets the requirements of the section; providing an effective

Amendment No.

COUNCIL/COMMITTEE ACTION

ADOPTED	___ (Y/N)
ADOPTED AS AMENDED	___ (Y/N)
ADOPTED W/O OBJECTION	✓ (Y/N)
FAILED TO ADOPT	___ (Y/N)
WITHDRAWN	___ (Y/N)
OTHER	_____

Council/Committee hearing PCB: Agriculture & Natural Resources Policy Committee

Representative(s) Williams offered the following:

Amendment to Amendment (1) by Representative Williams (with title amendment)

Between lines 36 and 37, insert:

Section 2. Subsection (4) of section 373.243, Florida Statutes, is amended to read:

373.243 Revocation of permits.—The governing board or the department may revoke a permit as follows:

(4) For nonuse of the water supply allowed by the permit for a period of 2 years or more, the governing board or the department may revoke the permit permanently and in whole unless the user can prove that his or her nonuse was due to extreme hardship caused by factors beyond the user's control <u>or due to reductions in water use caused by the implementation of conservation measures</u>. For a permit issued pursuant to s. 373.236(7), the governing board or the department may revoke the

permit only if the nonuse of the water supply allowed by the permit is for a period of 4 years or more.

T I T L E A M E N D M E N T

Remove line 50 and insert:

approval of a plan that meets the requirements of the section; amending s. 373.243, F.S.; providing for an exception to certain revocation of consumptive use permits for conservation measures; providing an effective

Amendment No.

COUNCIL/COMMITTEE ACTION

ADOPTED ___ (Y/N)

ADOPTED AS AMENDED ___ (Y/N)

ADOPTED W/O OBJECTION ✓ (Y/N)

FAILED TO ADOPT ___ (Y/N)

WITHDRAWN ___ (Y/N)

OTHER ______

Council/Committee hearing PCB: Agriculture & Natural Resources Policy Committee

Representative(s) Williams offered the following:

Amendment 1 (with title amendment)

Remove lines 115-149 and insert:

(5) ~~(4)~~ As part of an application for a consumptive use permit, a public water supply utility may propose a goal-based water conservation plan that is tailored to its individual circumstances as a partial or entire alternative to the water conservation requirements adopted by the appropriate water management district. The public water supply utility is encouraged, but not required, to use the Conserve Florida Clearinghouse Guide in developing its goal-based water conservation plan. The plan shall include a schedule for implementing the water conservation goal or goals. The plan must include a means for measuring progress towards the water conservation goal or goals ~~must be measurable~~.

(6) If a public water supply utility elects to develop a goal-based water conservation plan, the utility shall submit the plan to the appropriate water management district. The plan must be designed to achieve the water conservation goal or goals in a cost effective manner, considering the utility's customers, service area, and other individual circumstances of the utility. ~~If the utility provides reasonable assurance that the plan will achieve effective water conservation at least as well as the water conservation requirements adopted by the appropriate water management district and is otherwise consistent with s. 373.223, the district must approve the plan which shall satisfy water conservation requirements imposed as a condition of obtaining a consumptive use permit. The conservation measures included in an approved goal-based water conservation plan may be reviewed periodically and updated as needed to ensure efficient water use for the duration of the permit.~~ If the plan fails to meet the water conservation goal or goals by the timeframes specified in the permit, the public water supply utility shall revise the plan to address the deficiency or employ the water conservation requirements that would otherwise apply in the absence of an approved goal-based plan.

T I T L E A M E N D M E N T

Remove lines 14-16 and insert:

consumptive use permit applications; deleting an obsolete provision requiring the

COUNCIL/COMMITTEE AMENDMENT

PCB Name: PCB ANR 10-11 (2010)

Amendment No.

COUNCIL/COMMITTEE ACTION

ADOPTED	__	(Y/N)
ADOPTED AS AMENDED	__	(Y/N)
ADOPTED W/O OBJECTION	✓	(Y/N)
FAILED TO ADOPT	__	(Y/N)
WITHDRAWN	__	(Y/N)
OTHER	____	

Council/Committee hearing PCB: Agriculture & Natural Resources Policy Committee

Representative(s) Williams offered the following:

Amendment (with title amendment)

Remove everything after the enacting clause and insert:

Section 1. Section 373.4131, Florida Statutes is created to read:

373.4131 Stormwater quality treatment requirements.—

(1) The Legislature finds and declares that nutrients in stormwater contribute to nutrient impairment of the state's waters. The Legislature further finds and declares that a uniform statewide rule, which is consistent with the state's strategy to reduce the adverse effects of nutrients on water quality as outlined in Chapter 403, will provide a scientifically and technically sound method to assist permittees

in their efforts to meet state water quality standards.

(2) As used in this section, the term:

(a) "Nutrient" means total nitrogen and total phosphorus.

(b) "Redevelopment" means construction of a surface water management system on sites with existing commercial, industrial, or multifamily land uses where the existing impervious surface will be removed as part of the proposed activity.

(c) "Stormwater quality treatment requirements" means the minimum level of stormwater treatment and design criteria for the construction, operation, and maintenance of stormwater management systems.

(3) The department, in coordination with the water management districts, shall develop a uniform statewide stormwater quality treatment rule for stormwater management systems. The rule must provide for geographic differences in physical and natural characteristics, such as rainfall patterns, topography, soil type, and vegetation. The department shall adopt the rule no later than July 1, 2011. The water management districts and any delegated local program under this part shall implement the rule without having to adopt it pursuant to s. 120.54. However, the department and water management districts

may adopt, amend, or retain rules designed to implement a basin management action plan for a total maximum daily load, and rules established pursuant to s. 373.4592, s. 373.4595, s. 373.461, or s. 403.067.

(a) Except as otherwise provided in this section, variations from the rule adopted under this section are prohibited.

(b) Existing stormwater quality treatment rules that are superseded by the rule adopted under this section may be repealed without further rulemaking pursuant to s. 120.54 by publication of a notice of repeal in the Florida Administrative Weekly and subsequent filing of a list of the rules repealed with the Department of State.

(c) Until the rule adopted pursuant to this section becomes effective, existing stormwater quality treatment rules adopted under this part are deemed authorized under this part and remain in full force and effect.

(4) The rule adopted pursuant to this section shall establish the stormwater quality treatment requirements necessary to meet the applicable state water quality standards, including nutrient standards. Compliance with the stormwater

quality treatment requirements creates a presumption that stormwater discharged from the system will meet the applicable state water quality standards, whether expressed in narrative or numeric form, in the receiving waters.

(5) Notwithstanding subsection (4), the rule shall establish alternative stormwater quality treatment requirements for the redevelopment of sites totaling 10 acres or less, and the retrofitting of existing stormwater management systems where such treatment results in a net reduction in the discharge of nutrients and other pollutants to the receiving waters. The alternative treatment requirements for redevelopment must be based upon a feasibility assessment of stormwater best management practices that considers factors such as site size, availability of regional stormwater treatment systems, and physical site characteristics. The rule may also establish alternative stormwater quality treatment requirements for the development of sites with legacy pollutants from past activities.

(6) Subsequent to the adoption of the rule under this section, the following shall continue to be governed by the stormwater quality treatment rules adopted by the department,

water management districts, and any delegated local program under this part in effect before the effective date of the rule adopted pursuant to this section, unless the applicant elects to have an application reviewed under the rule adopted under this section:

(a) The operation and maintenance of stormwater management systems legally in existence before the effective date of the rule adopted under this section if the terms and conditions of the permit, exemption, or other authorization for such systems continue to be met; or

(b) The activities approved in a permit issued under this part and the review of activities proposed in applications received and completed before the effective date of the rule adopted under this section. This also applies to any modification of the plans, terms, and conditions of the permit, including new activities, within the geographical area to which the permit applies. However, this shall not apply to a modification that would extend the permitted time limit for construction beyond 4 additional years or to any modification reasonably expected to lead to additional or substantially different stormwater quality impacts. This shall also apply to any modification which lessens or does not increase stormwater quality impacts.

(9) The provisions of this section do not apply to stormwater management systems serving agriculture.

Section 2. This act shall take effect upon becoming a law.

T I T L E A M E N D M E N T

Remove the entire title and insert:

A bill to be entitled

An act relating to water quality; creating s. 373.4131, F.S.; providing for uniform statewide stormwater quality treatment requirements; amending s. 403.031, F.S.; providing definitions; amending s. 403.061, relating to the department's power and duties; providing an effective date.

FE829

UF UNIVERSITY of FLORIDA
IFAS Extension

Economic Contributions of Florida's Agricultural, Natural Resource, Food and Kindred Product Manufacturing and Distribution, and Service Industries in 2008[1]

Alan W. Hodges and Mohammad Rahmani[2]

Introduction

The state of Florida has nearly 24 million acres (36,000 square miles) in forests, croplands, and ranches—two-thirds of Florida's total land area. The agricultural and natural resource industries produce food, fiber, and mineral commodities, and are linked to a broad range of other economic sectors for food and kindred product manufacturing, wholesale and retail distribution, input supplies, support services, and nature-based recreation/eco-tourism. In addition to farming, forestry, fisheries, and mining, other diverse activities are included such as fertilizer manufacturing, sawmills, fruit and vegetable processing, landscaping, wholesale food distributors, retail food stores, restaurants, retail lawn-and-garden centers, pest-control services, golf courses, and recreational fishing.

This report provides estimates of these industries' economic contributions to Florida in 2008, updating a previous study for 2007 (Hodges and Rahmani 2009).

Methods

Data for this analysis were obtained from the *IMPLAN Professional* database for Florida counties for 2001–2008 (Minnesota IMPLAN Group/MIG, Inc.) and other special studies conducted by the authors. These data were derived from the National Income and Product Accounts for the United States (United States Department of Commerce). Over 90 individual industry sectors in Florida were identified as related to agriculture and natural resource commodity production, input supply and supporting services, food and kindred product manufacturing and distribution, and nature-based recreation. A list of industry groups and individual sectors included in the analysis is shown in Table 1. Note that some industry sectors in this analysis were reclassified from their original major industry group designation under the North American Industry Classification System (NAICS) to be included as part of the broadly defined agriculture and related industries. Economic contributions were evaluated for several recognizable commodity groups that have linkages between production and processing/manufacturing sectors,

1. This is EDIS document FE829, a publication of the Food and Resource Economics Department, Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida, Gainesville, FL. Published February 2010. Please visit the EDIS website at http://edis.ifas.ufl.edu.
2. Alan W. Hodges, extension scientist, and Mohammad Rahmani, coordinator of economic analysis, Food and Resource Economics Department, Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida, Gainesville, FL.

including environmental horticulture (nursery and greenhouse production, landscape services, and retail lawn-and-garden centers); fruit and vegetable farming and processing; forestry, logging, and forest product manufacturing; sugarcane and refined sugar manufacturing; livestock and animal products manufacturing; and fishing and seafood products.

The total regional economic impacts for each sector were estimated using models developed with the *IMPLAN Professional* software for social accounting and impact analysis (MIG, Inc.). This system enables construction of input-output models and social accounting matrices that represent the structure of a regional economy in terms of transactions among industry sectors, households, and governments. The *IMPLAN* model accounts for industrial commodity production; employment; labor and property income; household and institutional consumption; domestic and international trade (imports, exports); government taxes; transfer payments such as welfare and retirement; and capital investment. Economic multipliers for each industry capture the secondary effects of new money flowing into the region that generates further economic activity as it is re-spent in the local economy (Miller and Blair 2009). Indirect effects multipliers represent the economic activity generated in the supply chain through the purchase of intermediate inputs from vendor firms, while induced effects multipliers represent the impacts of spending by industry employee households and governments. The indirect and induced multipliers were applied only to foreign and domestic exports, or sales outside the state of Florida. The total economic impacts are calculated as the sum of direct effects, plus indirect and induced effects. Therefore, while the estimates of this analysis are referred to as "economic impacts," these values may be better understood as "economic contributions" because they represent the ongoing economic activity of existing industries, rather than a net change in activity resulting from external influences (Watson et al. 2007).

Measures of economic impacts reported here include output or revenue, value added, employment (including full-time, part-time, and seasonal positions), labor income, property income, and indirect business taxes paid to local, state, and federal governments. Value added is a broad measure of net economic activity that is comparable to the Gross Domestic Product (GDP), and represents the sum of labor and property income, indirect business taxes, and capital consumption (depreciation). Value added also is equivalent to the difference between industry revenues and intermediate inputs purchased from other sectors. A glossary of economic impact analysis terminology is provided in the Appendix.

Regional economic models were developed for the state of Florida and for all sixty-seven counties in the state using the *IMPLAN Pro* software and Florida state/county data package for 2008 (MIG, Inc.). All model parameters were kept at default settings, with econometrically estimated regional purchase coefficients (RPCs) representing the share of commodities purchased from local sources. Social/institutional accounts for households; local, state, and federal governments; and capital investment were incorporated endogenously within the model.

Summary information was developed for the state, all counties, and for nine regions (Figure 6). These functional economic regions each represent a core urban area, surrounded by closely linked nonmetropolitan counties. The regions were defined by the United States Department of Commerce, Bureau of Economic Analysis (USDOC/BEA) based on metropolitan areas, employee commuting patterns, and other economic data from the 2000 U.S. Census (Johnson and Kort 2004). It should be noted that some Georgia counties included in the north Florida regions were not evaluated in this analysis. Due to differences in trade flows and accounting adjustments at the state and county levels, slight discrepancies in regional results were reconciled by forcing county and regional estimates to match with state totals.

For some activities that were not specifically identified in the *IMPLAN* model, values were estimated as a share of their parent sector based on previous studies and other economic data: landscape services and pest-control services were 49 percent and 15 percent, respectively, of services to buildings (sector 388); wholesale food distribution was 20 percent of wholesale trade (sector 319); retail lawn-and-garden centers were 19 percent of building materials and garden stores (sector 323); and golf courses and recreational fishing were 48 percent and 10 percent, respectively, of amusement and recreation services (sector 410).

Values for 2001–2008 were expressed in 2008 U.S. dollars using the mid-year (July) indices for the Gross Domestic Product (GDP) Implicit Price Deflator, which is a broad measure that accounts for the effects of price changes in the measurement of GDP (USDOC 2001–2008). *IMPLAN* data were unavailable for 2005. Note that results for prior years were revised in light of new information, so findings presented here do not necessarily match those previously reported for 2001–2007 (Hodges and Rahmani 2009).

Results

Economic Contributions by Industry Groups and Sectors

Economic contributions by major industry groups and specific industry sectors in Florida in 2008 are shown in Table 1 and summarized in Figures 1–3. The industries are categorized in seven major groups: Crop, Livestock, Forestry, and Fisheries Production; Mining; Agricultural Inputs and Services; Food and Kindred Products Manufacturing; Forest Products Manufacturing; Food and Kindred Products Distribution; and Nature-based Recreation. Results are reported below for each major group; for all groups combined; and for all groups excluding Food and Kindred Products Distribution.

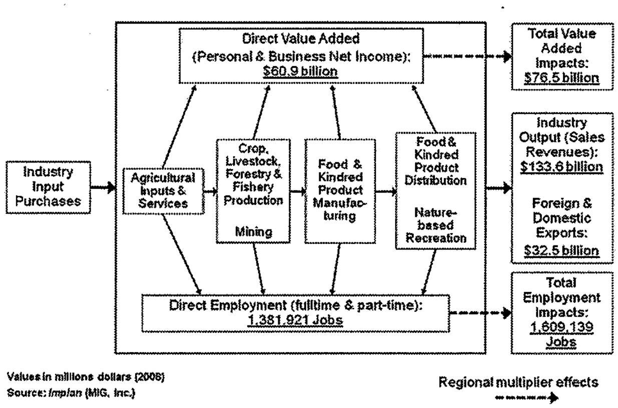

Figure 1. Structure of economic activity in agriculture, natural resources, food and kindred product manufacturing and distribution, and service industries in Florida in 2008 [Source: *IMPLAN Professional* data for Florida (MIG, Inc.)]

Direct industry output or sales in 2008 were about $133.65 billion, including foreign and domestic exports of goods and services to customers outside of Florida, which totaled $32.52 billion. As a result of the indirect and induced multiplier effects arising from export sales, an additional $29.05 billion in output was generated in the economy, mostly in other economic sectors. The total output impacts, including direct, indirect, and induced effects, were estimated at $162.70 billion. Direct employment in the industry was 1.38 million full-time and part-time jobs, while total employment impacts (including multiplier effects) were estimated at 1.61 million jobs. The direct value added contribution of these industries was $60.89 billion, and total value added impacts were $76.53 billion. The total labor (earned) income impact of employee wages and benefits and business proprietor income was $47.04 billion. Total property income impacts, such as rents and dividends, amounted to $20.21 billion. Total indirect business tax impacts paid to local, state, and federal governments were $9.28 billion.

Excluding the sectors for Food and Kindred Products Distribution, such as restaurants, food stores, and food wholesalers, total economic values showed output of $66.04 billion; exports of $23.25 billion, output impacts of $86.34 billion; direct employment of 422,127 jobs; employment impacts of 581,820 jobs; direct value added of $21.93 billion; value added impacts of $32.54 billion; labor income impacts of $18.86 billion; property income impacts of $11.06 billion; and indirect business tax impacts of $2.62 billion.

Crop, Livestock, Forestry, and Fisheries Production includes sectors for the production of basic unrefined food and fiber commodities. In 2008, total output of these sectors was $11.57 billion; exports were $6.09 billion; output impacts were $16.24 billion; direct value added was $6.59 billion; value added impacts were $9.22 billion; direct employment was 178,838 jobs; and total employment impacts were 230,946 jobs (Table 1, Figures 2 and 3). Among individual industry sectors in this group, the highest value added and employment impacts were for Greenhouse, Nursery, and Floriculture Production ($2.04 billion | 26,046 jobs), Fruit Farming ($1.78 billion | 36,672 jobs), Support Activities for

Agriculture and Forestry ($1.68 billion | 84,057 jobs), and Vegetable and Melon Farming ($1.74 billion | 18,827 jobs). Large value added and employment impacts were also realized for the sectors of Forestry and Timber Tracts ($512 million | 12,758 jobs), Sugarcane Farming ($310 million | 18,995 jobs), and Commercial Logging ($288 million | 5,007 jobs). Value added impacts of $100–$200 million were obtained for Dairy Farming, Poultry and Egg Production, Commercial Fishing, and All Other Crop Farming.

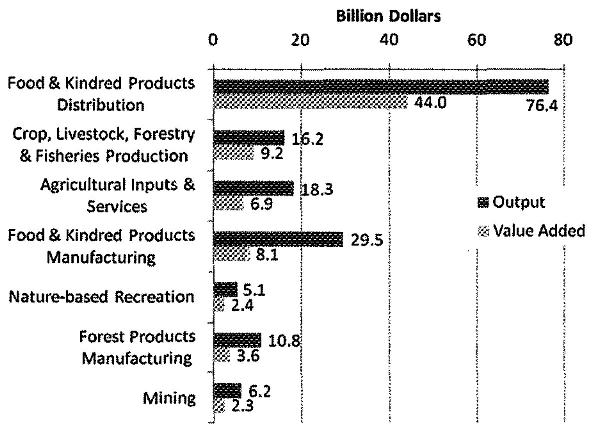

Figure 2. Output and value added impacts of agriculture, natural resources, food and kindred product manufacturing and distribution, and service industries in Florida in 2008 [Source: *IMPLAN Professional* data for Florida (MIG, Inc.)]

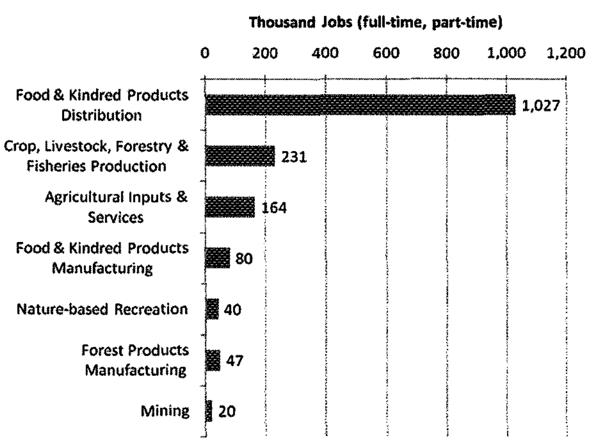

Figure 3. Employment impacts of agriculture, natural resources, food and kindred product manufacturing and distribution, and service industries in Florida in 2008 [Source: *IMPLAN Professional* data for Florida (MIG,Inc.)]

Agricultural Inputs and Services includes a variety of sectors providing inputs or supporting services for agricultural operations or landscape management. Output impacts in 2008 by this group totaled $18.35 billion; value added impacts were $6.90 billion; direct employment was 135,496 jobs; and employment impacts were 164,408 jobs (Table 1, Figures 2 and 3). Among leading sectors in this group, Landscape Services had value added impacts of $2.62 billion and employment impacts of 84,728 jobs, followed by Fertilizer Manufacturing ($2.34 billion | 24,962 jobs), Veterinary Services ($988 million | 27,379 jobs), Pest-Control Services ($802 million | 25,937 jobs), and Pesticide and Other Agricultural Chemical Manufacturing ($64 million | 322 jobs). Other minor sectors in this group included Farm Machinery and Equipment Manufacturing, and Lawn and Garden Equipment Manufacturing.

Mining is a natural resource-based activity for the extraction of basic mineral commodities such as oil, natural gas, stone, sand, gravel, clay, phosphate, and a variety of metals. In 2008, the Mining industries in Florida collectively had direct output of $5.02 billion; exports of $1.23 billion; output impacts of $6.23 billion; value added impacts of $2.29 billion; direct employment of 12,746 jobs; and employment impacts of 20,327 jobs (Table 1, Figures 2 and 3). The largest individual sector was Extraction of Oil and Natural Gas, which had value added impacts of $1.12 billion and generated employment impacts of 13,340 jobs. Other individual sectors with significant value added impacts included Mining and Quarrying of Other Nonmetallic Minerals ($496 million); Mining and Quarrying of Stone ($249 million); Mining and Quarrying of Sand, Gravel, and Clay ($163 million); and Drilling of Oil and Gas Wells ($73 million).

Food and Kindred Products Manufacturing industries convert unrefined agricultural commodities to food products for final consumption or use. In 2008, this group of industries in Florida had direct output of $24.04 billion, including exports of $5.83 billion, with output impacts of $29.53 billion; value added impacts of $8.15 billion; direct employment of 41,924 jobs; and total employment impacts of 79,797 jobs (Table 1, Figures 2 and 3). This large industry group included thirty-four individual sectors, of which the highest value added and employment impacts were Tobacco Product Manufacturing ($2.26 billion | 4,940 jobs); Fruit and Vegetable Canning, Pickling, and Drying ($811 million | 8,110 jobs); Soft Drink and Ice Manufacturing ($810 million | 10,158 jobs); Sugar Manufacturing ($708 million | 12,719 jobs); Breweries ($616 million | 2,114 jobs); Bread and Bakery Products Manufacturing ($425 million | 8,375 jobs); and Frozen Food Manufacturing ($348 million | 4,435 jobs). Other sectors with significant value added impacts included Coffee and Tea Manufacturing ($246 million), Animal Slaughtering ($207 million), Fluid Milk and Butter Manufacturing ($193 million), and Snack Food Manufacturing ($156 million).

Forest Products Manufacturing is a group of industries for the processing of raw timber or wood into finished wood and paper products. In 2008, this industry group had direct output valued at $7.86 billion, with export sales of $3.14 billion; output impacts of $10.85 billion; direct employment of 25,405 jobs; employment impacts of 46,675 jobs; and value added impacts of $3.62 billion, including labor income impacts of $2.43 billion, other property income impacts of $976 million, and indirect business tax impacts of $209 million (Table 1, Figures 2 and 3). Leading sectors within this group in terms of value added and employment impacts were Paper Mills ($665 million | 6,929 jobs), Sanitary Paper Products Manufacturing ($426 million | 2,618 jobs), Wood Window and Door Manufacturing ($380 million | 6,701 jobs), Paperboard Container Manufacturing ($297 million | 3,681 jobs), Engineered Wood Member and Truss Manufacturing ($296 million | 6,083 jobs), Pulp Mills ($392 million | 4,626 jobs), and Paperboard Mills ($388 million | 4,109 jobs). Other sectors with significant value added impacts included Sawmills and Wood Preservation ($199 million), Stationary Products Manufacturing ($141 million), and Veneer and Plywood Manufacturing ($132 million).

Nature-based Recreation includes recreational activities generally tied to natural resources or managed landscapes, such as golf, recreational fishing, and hunting and trapping. In 2008, this industry group in Florida had total output of $3.64 billion; exports or sales to Florida visitors of $1.39 billion; output impacts of $5.14 billion; direct employment of 27,699 jobs; employment impacts of 39,667 jobs; and value added impacts of $2.36 billion (Table 1 and Figures 2 and 3). Among individual sectors, Golf Courses had value added impacts of $1.89 billion and employment impacts of 31,462 jobs, followed by Recreational Fishing ($394 million | 6,555 jobs), and Commercial Hunting and Trapping ($69 million | 1,650 jobs).

Food and Kindred Products Distribution includes activities for wholesale and retail trade in agricultural and related products. This large group of industry sectors is only indirectly related to agriculture and natural resources because it serves to deliver products to final consumers, but it is included here for a perspective on the scope of the entire market chain for food and kindred products. In 2008, this industry group in Florida had total output of $67.61 billion; exports of $9.27 billion; output impacts of $76.36 billion; direct employment of 959,814 jobs; employment impacts of 1,027,319 jobs; and value added impacts of $43.99 billion, including labor income impacts of $28.17 billion, other property income impacts of $9.15 billion, and indirect business tax impacts of $6.67 billion (Table 1 and Figures 2 and 3). Collectively, this group represented about 57 percent of total value added impacts and 63 percent of employment impacts for the entire set of industries defined in this report. Among individual sectors within this group, Food Service Establishments and Drinking Places (restaurants and bars) had by far the greatest value added impacts ($24.22 billion) and employment impacts (709,141 jobs), followed by Wholesale Trade in Food and Kindred Products ($10.49 billion | 97,613 jobs), Food and Beverage Stores ($8.35 billion | 204,147 jobs), and Retail Lawn-and-Garden Centers ($942 million | 18,618 jobs).

Economic Contributions by Commodity Groups

In addition to the industry groups noted above, economic contributions were also evaluated for groups of food, fiber, and mineral commodities having identifiable market chain linkages between producers, manufacturers, and service sectors. In this section, some sectors are regrouped to reflect these linkages, with results summarized in Figures 4 and 5. Environmental Horticulture, which includes the sectors Nursery and Greenhouse Production, Landscape Services, and Retail Lawn-and-Garden Centers, had value added impacts of $5.60 billion and employment impacts of 127,192 jobs. Forestry and Forest Products, which includes the sectors for Forestry and Timber Tracts, Logging, and sixteen forest product manufacturing sectors, had value added impacts of $4.42 billion and employment impacts of 64,440 jobs. Fruit and Vegetable Farming and Processing, including sectors for Frozen Food Manufacturing; Fruit and Vegetable Canning, Pickling, and Drying; and Fruit Farming and Vegetable and Melon Farming, had value added impacts of $4.68 billion and employment impacts of 68,184 jobs. Sugarcane Farming and Refined Sugar Manufacturing had value added impacts of $1.02 billion and employment impacts of 31,714 jobs. Livestock and Dairy Farming and Animal Products Manufacturing, including the processing sectors Animal Slaughtering, Poultry Processing, Cheese Manufacturing, and Ice Cream Manufacturing, had total value added impacts of $1.07 billion and employment impacts of 25,007 jobs. Fishing and Seafood Products had value added impacts of $297 million and employment impacts of 10,341 jobs. The commodity group Grain and Oilseed Farming and Processing had value added and employment impacts of $176 million and 1,380 jobs, respectively.

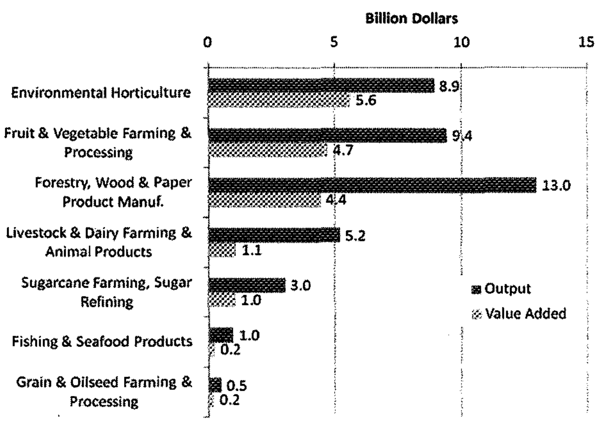

Figure 4. Output and value added impacts of food and fiber commodity groups in Florida in 2008 [Source: *IMPLAN Professional* data for Florida (MIG, Inc.)]

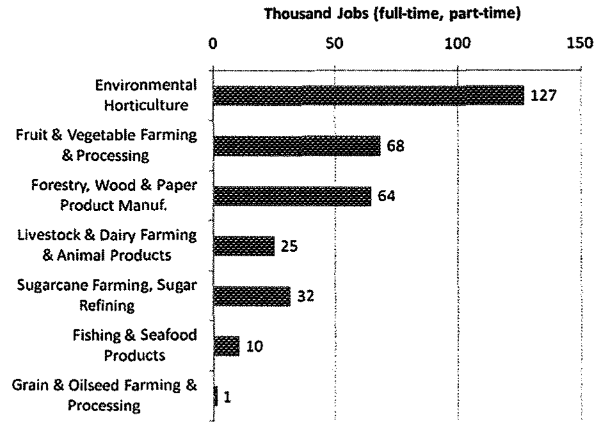

Figure 5. Employment impacts of food and fiber commodity groups in Florida in 2008 [Source: *IMPLAN Professional* data for Florida (MIG, Inc.)]

Economic Contributions in Florida Regions and Counties

Regional impacts of agriculture and natural resources, and their related manufacturing, distribution, and service industries in 2008 were evaluated for nine economic regions of Florida, as illustrated in Figure 6, with results summarized in Table 2 and Figures 7–8. The region with the highest value added and employment impacts was Miami-Ft. Lauderdale ($25.48 billion | 526,556 jobs), followed by Orlando ($18.30 billion | 400,497 jobs), Tampa-St. Petersburg ($12.31 billion | 249,764 jobs), Jacksonville ($7.64 billion | 122,265 jobs), Sarasota-Bradenton ($6.98 billion | 161,897 jobs), Gainesville ($2.01 billion | 53,419 jobs), Pensacola ($1.96 billion | 49,148 jobs), Tallahassee ($1.51 billion | 36,753 jobs), and Panama City ($358 million | 8,839 jobs).

Economic impacts were also evaluated for all sixty-seven counties in Florida as shown in Table 2. The eight largest counties in terms of value added impacts and employment impacts in 2008 were Miami-Dade ($9.37 billion | 176,557 jobs), followed by Hillsborough ($7.09 billion | 138,598 jobs), Orange ($6.52 billion | 130,733 jobs), Broward ($6.23 billion | 127,661 jobs), Palm Beach ($6.00 billion | 130,314 jobs), Duval ($5.75 billion | 82,336 jobs), Pinellas ($4.15 billion | 80,907 jobs), and Polk ($3.67 billion | 66,048 jobs). Eight other counties with value added impacts exceeding $1 billion were Lee ($2.04 billion), Collier ($1.73 billion), Manatee

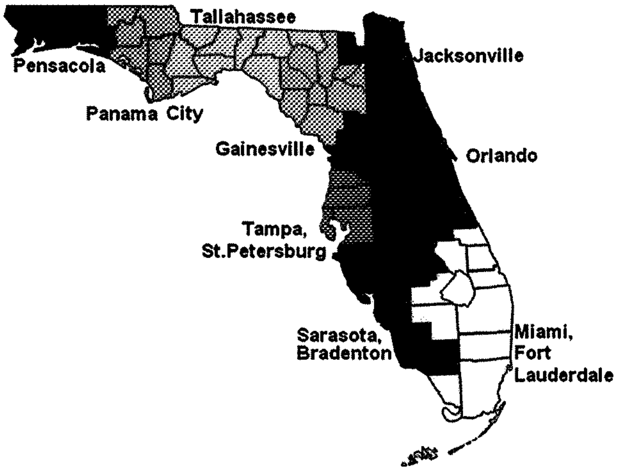

Figure 6. Economic regions of Florida [Source: United States Department of Commerce, Bureau of Economic Analysis]

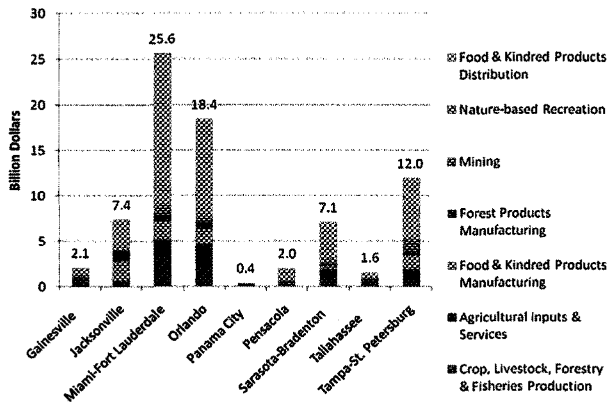

Figure 7. Value added impacts in Florida regions by agriculture, natural resources, food and kindred product manufacturing and distribution, and service industries in 2008 [Source: *IMPLAN Professional* data for Florida (MIG, Inc.)]

($1.73 billion), Seminole ($1.47 billion), Volusia ($1.29 billion), Brevard ($1.15 billion), Sarasota ($1.11 billion), and Marion ($1.04 billion).

Share of Gross State Product and Employment

The relative importance of the agriculture and natural resources, and their related manufacturing, distribution, and service industries in Florida can be gauged by their share of overall economic activity in the state. The Gross State Product (GSP) of Florida in 2008 was $722 billion (equivalent to the sum of value added for all industries), and total employment in the state was 10.1 million jobs. The direct value added

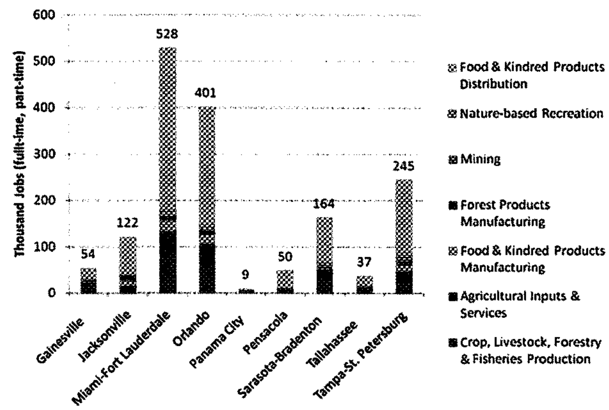

Figure 8. Employment impacts in Florida regions by agriculture, natural resources, food and kindred product manufacturing and distribution, and service industries in 2008 [Source: *IMPLAN Professional* data for Florida (MIG, Inc.)]

contributed by agricultural, natural-resources, and related industries ($60.89 billion) represented 8.2 percent of Florida's Gross State Product, and ranked fourth among major industry groups (Figure 9). Direct employment in these industries represented 13.4 percent of all jobs in the state, ranking second among major industry groups behind Professional and Technical Services (Figure 10). Excluding Food and Kindred Products Distribution, agriculture, natural resources, and their related industries represented 3.0 percent of Gross State Product and 4.1 percent of total state employment.

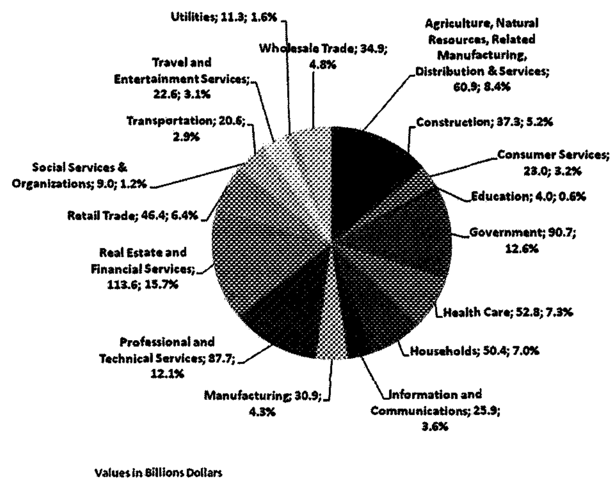

Figure 9. Contribution to Gross State Product (direct value added) of Florida by major industry groups in 2008 [Source: *IMPLAN Professional* data for Florida (MIG, Inc.)]

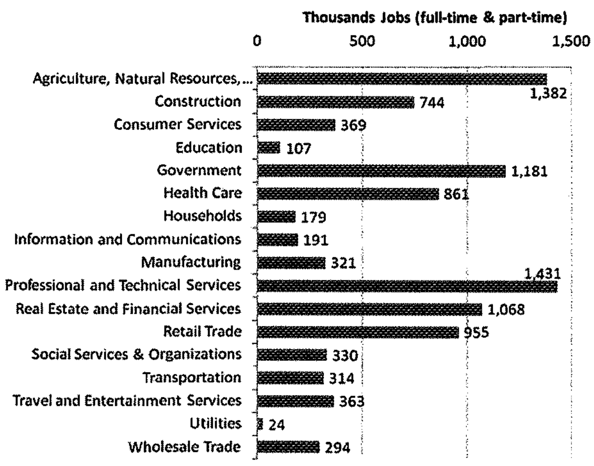

Figure 10. Direct employment by major industry groups in Florida in 2008 [Source: *IMPLAN Professional* data for Florida (MIG, Inc.)]

Trends in Economic Contributions

In addition to the economic contributions in 2008, it is important to understand how these values have changed over time. Of particular interest are the changes occurring for the most recent period, from 2007 to 2008, which partly indicates the effect of the global recession. The recession in the United States started in December 2007. Trends in the economic impacts of agriculture, natural resources, and their related industries between 2001 and 2008 are shown in Figures 11–13. Annual average growth rates were estimated for 2001–2007 and for 2007–2008, with all monetary values adjusted for inflation and expressed in constant 2008 U.S. dollars. Total output impacts grew by an average of 5.3 percent annually from 2001 to 2007, but declined by more than 13 percent from 2007 to 2008. Total employment impacts increased by 1.7 percent annually from 2001 to 2007, but declined nearly 14 percent from 2007 to 2008 (Figure 11). Overall value added impacts grew from \$76.67 billion in 2001 to \$93.39 billion in 2007, representing an average real annual growth rate of 3.6 percent, but then declined to \$76.53 billion in 2008, or by more than 18 percent (Figure 12). Although direct output, value added, and employment (excluding multiplier effects) actually increased modestly from 2007 to 2008, the severe decline in export activity for virtually all sectors in 2008 led to the sharp decrease in estimated total impacts (including multiplier effects). Note that these trends may reflect changes in the structure of the Florida economy and with other changes in industry activity and commodity prices, as well as the effect of recession.

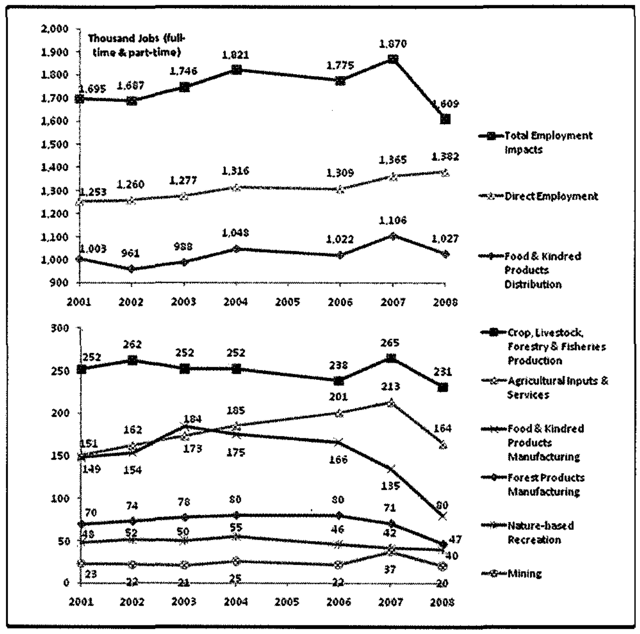

Figure 11. Trends in employment impacts for agriculture, natural resources, food and kindred product manufacturing and distribution, and service industries in Florida during 2001–2008 [Source: *IMPLAN Professional* data for Florida (MIG, Inc.) Impact estimates include regional multiplier effects. Note that data were unavailable for 2005.

Among industry groups, average annual growth in value added impacts from 2001 to 2007 was highest for Mining (↑19.1%) and Crop, Livestock, Forestry, and Fishery Production (↑10.2%), followed by Food and Kindred Products Distribution (↑4.9%) and Forest Product Manufacturing (↑3.0%). From 2007 to 2008, Forest Product Manufacturing and Agricultural Input and Services suffered the largest setback, with value added impacts declining by 35 percent, followed by Agricultural Inputs and Services (↓34%); Mining (↓33%); Food and Kindred Products Manufacturing (↓27%); and Crop, Livestock, Forestry, and Fishery Production (↓23%). The only industry group that increased was Nature-based Recreation (↑1.5%). Employment impacts declined the most in 2008 for Mining (↓45%), Forest Products Manufacturing (↓34%), and Agriculture and Input Services (↓23%). Output impacts declined the most in 2008 for Forest Products Manufacturing (↓22%) and Food and Kindred

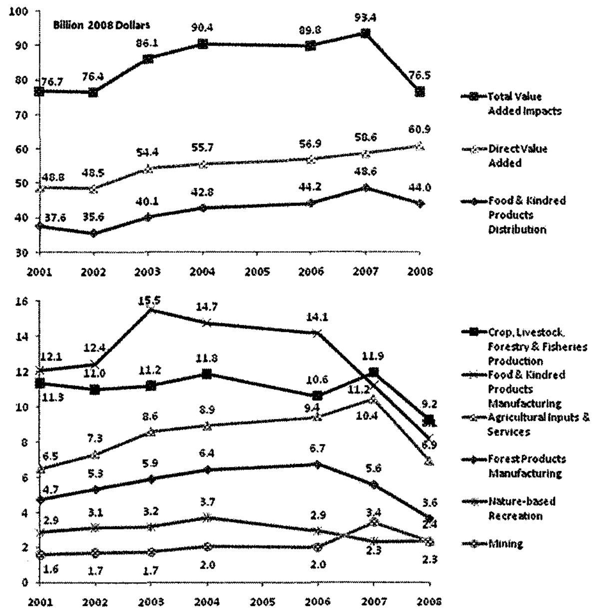

Figure 12. Trends in value added impacts for agriculture, natural resources, food and kindred product manufacturing and distribution, and service industries in Florida during 2001-2008 [Source: *IMPLAN Professional* data for Florida (MIG, Inc.)] Values expressed in 2008 U.S. dollars using USDOC GDP Implicit Price Deflator. Impact estimates include regional multiplier effects. Note that data were unavailable for 2005

Products Manufacturing (↓22%), but increased for Nature-based Recreation (↑40%).

Trends over time in employment impacts of food and fiber commodity groups in Florida are shown in Figure 13. All groups experienced substantial decline in employment impacts in 2008, with the biggest declines for Fruit and Vegetable Farming and Processing (↓35%); Grain and Oilseed Farming and Processing (↓29%); and Forestry, Wood, and Paper Manufacturing (↓28%), followed by Environmental Horticulture (↓20%), Sugarcane Farming and Manufacturing (↓14%), Livestock and Dairy Farming and Animal Products Manufacturing (↓11%), and Fishing and Seafood Products (↓6%).

Among individual industry sectors, the effect of the recession from 2007 to 2008 varied widely. While most sectors experienced a significant decline in 2008, some sectors grew. Sectors with noticeable growth in value added impacts included Lawn-and-Garden Equipment Manufacturing (↑498%), Tree Nut Farming (↑234%), Oilseed Farming

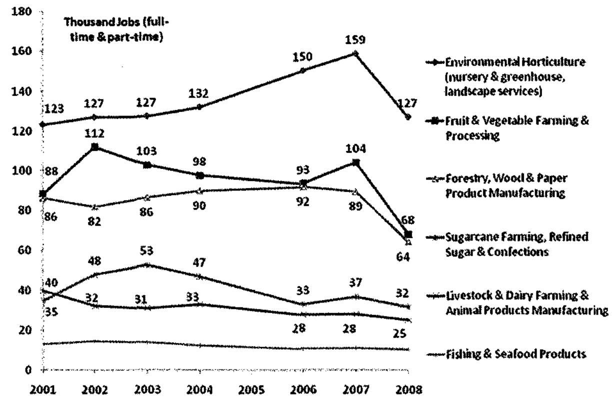

Figure 13. Trends in employment impacts for food and fiber commodity groups in Florida during 2001-2008 [Source: *IMPLAN Professional* data for Florida (MIG, Inc.)] Impact estimates include regional multiplier effects. Note that data were unavailable for 2005

(↑169%), Coffee and Tea Manufacturing (↑156%), and Cheese Manufacturing (↑79%). Industry sectors with the highest declines in value added impacts were Seasoning and Dressing Manufacturing (↓122%);Distillers (↓90%); Coal Mining (↓82%); Commercial Hunting and Trapping (↓80%); Soft Drink and Ice Manufacturing (↓66%); Fruit and Vegetable Canning, Pickling, and Drying (↓54%); Forestry, Forest Products, and Timber Tracts (↓48%); and Sugar Manufacturing (↓38%).

Changes for major industry groups in growth rates in direct value added (excluding multiplier effects) for 2001–2007 and 2007–2008 are shown in Figure 14. The average annual growth rate for agriculture, natural resources, and their related industries for 2001–2007 was 4.1 percent, but then fell slightly to 3.9 percent for 2007–2008. In comparison, the growth in value added in 2008 was higher for Education (↑22.7%), Households (↑19.5%), Consumer Services (↑11.7%), Utilities (↑11.1%), Transportation (↑9.3%), Health Care (↑6.9%), Manufacturing (↑6.2%), and Travel and Entertainment Services (↑5.2%). Growth rates in direct value added were lower for Real Estate and Financial Services (↑2.3%) and for Wholesale Trade (↑0.4%). Negative growth was observed for Retail Trade (–1.8%), Information and Communications (–2.6%), Social Services and Non-profit Organizations (–5.5%), Professional and Technical Services (–8.9%), Government (–16.5%), and Construction (–18.8%).

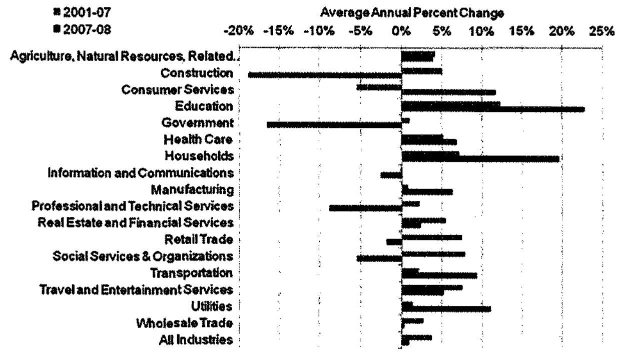

Figure 14. Change in value added impacts for industry groups in Florida, 2001–2007 versus 2007–2008 [Source: *IMPLAN Professional* data for Florida (MIG, Inc.)]

Conclusions

This analysis indicated that agriculture and natural resources are linked to a broad array of economic sectors for commodity production, food and kindred product manufacturing and distribution, and related service activities. These industries collectively have a significant economic impact on the Florida economy, accounting for about 13.7 percent of total employment and 8.4 percent of Gross State Product, representing the second and fourth highest, respectively, among major industry groups. Food and Kindred Products Distribution is by far the largest segment of the industry, representing 64 percent of value added and employment impacts. These industries are present throughout the state, with a major activity in urbanized metro areas as well as rural areas, where it may be relatively more important as a share of total economic activity, although less in absolute magnitude. These industries have grown substantially since 2001, with direct activity actually increasing in 2008 in spite of the global recession. Even while total regional economic impacts in Florida declined dramatically due to reduced exports, Agriculture, Natural Resources, and their Related Industries still fared better than about half of the other major industry groups in terms of change between 2007 and 2008, thus entailing their integral contributions towards the sustainability of Florida's economy.

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Appendix: Glossary of Economic Impact Terms

Region defines the geographic area for which impacts are estimated. Regions are generally an aggregation of one or more counties. Economic regions identified in this paper were defined based on worker commuting patterns.

Sector is a grouping of industries that produce similar products or services, or production processes. Most economic reporting and models in the United States are based on the Standard Industrial Classification system (SIC code) or the North American Industrial Classification System (NAICS).

Impact analysis estimates the impact of a change in output or employment resulting from a change in final demand to households, governments, or exports.

Input-output (I-O) model is a representation of the flows of economic activity between industry sectors within a region. I-O models capture what each business or sector must purchase from every other sector in order to produce its output of goods or services. Using such a model, flows of economic activity associated with any change in spending may be traced backwards (e.g., purchases of plants that leads growers to purchase additional inputs such as fertilizers and containers. Multipliers for a region may be derived from an I-O model of the region's economy.

IMPLAN is a micro-computer-based input output modeling system and Social Accounting Matrix (SAM). With IMPLAN, one can estimate I-O models of up to 440 sectors for any region consisting of one or more counties. IMPLAN includes procedures for generating multipliers and estimating impacts by applying final demand changes to the model. The current version of the software is *IMPLAN Pro*, version 3.

Direct effects are the changes in economic activity during the first round of spending. **Secondary effects** are the changes in economic activity from subsequent rounds of re-spending (there are two types of secondary effects: indirect and induced). **Indirect effects** are the changes in sales, income, or employment within the region in backward-linked industries supplying goods and services to businesses (e.g., increased sales in input supply firms resulting from more nursery industry sales). **Induced effects** are the increased sales within the region from household spending of the income earned in the direct and supporting industries (i.e., employees in the direct and supporting industries spend the income they earn on housing, utilities, groceries, and other consumer goods and services, which generates sales, income and employment throughout the region's economy). **Total effects** are the sum of direct, indirect, and induced effects.

Multipliers capture the total effects, both direct and secondary, in a given region, generally as a ratio of the total change in economic activity in the region relative to the direct change. Multipliers may be expressed as ratios of sales, income, or employment, or as ratios of total income or employment changes relative to direct sales. Multipliers express the degree of interdependency between sectors in a region's economy and therefore vary considerably across regions and sectors. **Type I** multipliers include only direct and indirect effects. **Type II** multipliers also include induced effects. **Type SAM** multipliers used by IMPLAN additionally account for capital investments and transfer payments such as welfare and retirement income. A **sector-specific multiplier** gives the total changes to the economy associated with a unit change in output or employment in a given sector.

Purchaser prices are the prices paid by the final consumer of a good or service. **Producer prices** are the prices of goods at the factory or production point. For manufactured goods the purchaser price equals the producer price plus a retail margin, a wholesale margin, and a transportation margin. For services, the producer and purchaser prices are equivalent.

Margins (retail, wholesale, and transportation) are the portions of the purchaser price accruing to the retailer, wholesaler, and grower, respectively. Only the retail margins of many goods purchased by consumers accrue to the local region, as the wholesaler, shipper, and manufacturer often lie outside the local area.

Sales or output is the dollar volume of a good or service produced or sold. **Final Demand** is sales to final consumers, including households, governments, and exports. **Intermediate sales** are sales to other industrial sectors. **Income** is the money earned within the region from production and sales. Total income includes personal income (wage and salary income, including sole proprietor profits and rents). **Jobs** or employment is a measure of the number of jobs required to produce a given volume of sales/production, usually expressed as full-time equivalents, or as the total number including part-time and seasonal positions. **Value Added** is the sum of total income and indirect business taxes. Value added is the most commonly used measure of the contribution of a region to the national economy, as it avoids double counting of intermediate sales and captures only the "value added" by the region to final products.

Table 1. Economic contributions of agriculture, natural resources, food and kindred product manufacturing and distribution, and service industry groups and sectors in Florida in 2008

Industry Group/Sector	Employment		Output (Revenue)		Exports	Value Added	
	Direct Impact	Total Impact	Direct Impact	Total Impact		Direct Impact	Total Impact
	Full-time/Part-time Jobs		Million Dollars				
Crop, Livestock, Forestry & Fisheries Production	178,838	230,946	11,566.2	16,241.6	6,090.2	6,595.7	9,221.9
Support activities for agriculture and forestry	75,771	84,057	1,564.6	2,654.4	844.4	1,077.1	1,678.9
Fruit farming	24,830	36,672	1,972.0	2,884.9	1,302.5	1,248.3	1,775.9
Greenhouse, nursery, and floriculture production	19,702	26,046	1,930.2	2,613.8	1,353.5	1,632.3	2,037.2
Sugar cane and sugar beet farming	16,740	18,995	442.2	642.4	264.4	194.9	310.1
Vegetable and melon farming	12,654	18,827	2,164.3	2,689.6	999.3	1,434.7	1,739.2
Commercial fishing	7,754	8,485	259.5	351.2	167.0	50.2	101.4
Animal (except cattle, poultry and eggs) production	4,745	4,851	174.8	186.2	21.5	93.6	99.5
Cattle ranching and farming	4,204	4,542	404.0	442.9	44.4	69.5	87.1
Dairy cattle and milk production	4,202	4,284	463.8	475.2	17.7	175.9	181.1
Commercial logging	3,516	5,007	724.3	876.6	102.3	216.5	288.4
All other crop farming	1,669	2,986	322.6	440.3	167.6	120.6	188.3
Forestry, forest products, and timber tract production	1,364	12,758	658.5	1,233.8	437.8	170.4	512.0
Poultry and egg production	887	2,125	403.0	621.8	295.8	71.1	155.7
Grain farming	287	345	20.1	25.8	11.3	10.7	13.9
Cotton farming	284	602	42.1	71.3	42.1	19.7	36.4
Oilseed farming	83	117	7.5	10.8	7.5	4.2	6.1
Tree nut farming	74	140	8.6	13.3	7.1	5.0	7.7
Tobacco farming	73	106	4.0	7.1	4.0	1.0	2.8

Table 1. Economic contributions of agriculture, natural resources, food and kindred product manufacturing and distribution, and service industry groups and sectors in Florida in 2008

Industry Group/Sector	Employment		Output (Revenue)		Exports	Value Added	
	Direct Impact	Total Impact	Direct Impact	Total Impact		Direct Impact	Total Impact
	Full-time/Part-time Jobs		Million Dollars				
Agricultural Inputs and Services	135,496	164,408	13,548.0	18,346.5	5,574.7	4,598.6	6,902.6
Landscape services	79,598	84,728	4,201.8	4,837.6	737.0	2,256.4	2,619.3
Veterinary services	26,006	27,379	1,936.0	2,116.0	184.9	886.2	988.4
Pest control services	24,367	25,937	1,286.3	1,480.9	225.6	690.7	801.8
Fertilizer manufacturing	5,017	24,962	5,696.8	9,349.0	4,234.0	685.9	2,342.0
Farm machinery and equipment manufacturing	277	897	142.6	234.6	128.0	25.3	74.3
Pesticide and other agricultural chemical manufacturing	161	322	258.1	284.3	39.0	50.4	64.0
Lawn and garden equipment manufacturing	71	183	26.4	43.5	26.2	3.7	12.7
Mining	12,746	20,327	5,019.3	6,225.6	1,232.8	1,620.5	2,789.3
Extraction of oil and natural gas	7,914	13,340	3,302.7	4,199.4	786.8	622.0	1,117.1
Mining and quarrying other nonmetallic minerals	1,491	2,718	674.7	847.7	243.0	399.0	495.9
Mining and quarrying stone	1,362	1,562	374.0	401.4	33.3	233.0	248.6
Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	1,189	1,453	250.6	287.2	40.6	142.9	163.4
Drilling oil and gas wells	315	386	116.6	126.9	18.8	67.3	72.9
Support activities for oil and gas operations	207	207	51.0	51.0	0.0	19.0	19.0
Mining gold, silver, and other metal ore	83	281	124.1	156.2	61.2	77.6	95.8
Support activities for other mining	82	85	32.8	33.2	0.4	9..2	9.4
Mining iron ore	63	222	61.2	86.7	41.2	30.9	45.0
Mining coal	25	31	13.5	14.4	1.2	7.9	8.4
Mining copper, nickel, lead, and zinc	16	41	17.9	21.6	6.4	11.7	13.9

Table 1. Economic contributions of agriculture, natural resources, food and kindred product manufacturing and distribution, and service industry groups and sectors in Florida in 2008

Industry Group/Sector	Employment		Output (Revenue)		Exports	Value Added	
	Direct Impact	Total Impact	Direct Impact	Total Impact		Direct Impact	Total Impact
	Full-time/Part-time Jobs		Million Dollars				
Food and Kindred Products Manufacturing	41,924	79,797	24,400.6	29,534.9	5,832.3	5,538.7	8,140.0
Soft drink and ice manufacturing	7,267	10,158	4,787.1	5,268.0	663.0	574.5	810.3
Bread and bakery product manufacturing	6,770	8,375	1,046.2	1,263,9	205.6	303.6	424.8
Fruit and vegetable canning, pickling, and drying	3,402	8,110	1,878.6	2,588.9	769.1	439.0	810.7
Frozen food manufacturing	3,136	4,435	1,036.8	1,222.3	198.4	246.2	348.4
Tobacco product manufacturing	2,342	4,940	4,668.2	5,192.0	986.6	1,993.0	2,356.7
All other food manufacturing	2,312	4,795	678.2	1,014.5	321.8	131.9	318.7
Animal (except poultry) slaughtering, rendering, and processing	2,267	4,369	1,049.1	1,286.6	223.3	105.2	207.2
Fluid milk and butter manufacturing	1,947	2,188	1,366.1	1,399.1	29.1	177.8	193.1
Seafood product preparation and packaging	1,689	1,856	582.8	602.1	22.0	86.9	97.3
Sugar cane mills and refining	1,614	12,719	1,263.6	2,380.4	887.2	180.8	708.2
Poultry processing	1,302	1,552	286.0	324.0	54.2	50.9	70.0
Seasoning and dressing manufacturing	1,255	2,589	599.2	803.2	247.7	83.7	188.7
Cookie, cracker, and pasta manufacturing	968	1,496	380.2	463.6	91.7	74.5	118.9
Breweries	906	2,114	1,638.2	1,846.5	292.7	513.0	616.3
Coffe and tea manufacturing	717	3,077	502.0	791.7	267.7	81.9	245.6
Snack food manufacturing	665	1,446	442.9	557.9	158.8	93.5	156.0

Table 1. Economic contributions of agriculture, natural resources, food and kindred product manufacturing and distribution, and service industry groups and sectors in Florida in 2008

Industry Group/Sector	Employment		Output (Revenue)		Exports	Value Added	
	Direct Impact	Total Impact	Direct Impact	Total Impact		Direct Impact	Total Impact
	Full-time/Part-time Jobs		Million Dollars				
Ice cream and frozen dessert manufacturing	651	828	320.9	348.8	27.7	48.0	61.6
Confectionery manufacturing from purchased chocolate	616	1,005	163.6	224.1	68.0	23.3	54.0
Other animal food manufacturing	560	693	528.0	551.0	40.6	44.2	55.3
Wineries	371	437	186.8	195.7	9.4	36.7	41.8
Non-chocolate confectionery manufacturing	360	637	101.4	143.9	51.5	15.6	37.7
Flour milling and malt manufacturing	200	866	301.4	400.9	119.1	95.4	151.9
Distilleries	125	190	106.9	116.5	18.9	59.3	64.8
Dog and cat food manufacturing	124	163	123.8	129.9	10.5	20.4	23.5
Flavoring syrup and concentrate manufacturing	113	161	209.4	216.3	10.7	43.4	46.7
Tortilla manufacturing	90	90	15.8	15.9	0.0	4.1	4.2
Chocolate and confectionery manufacturing from cacao beans	71	189	40.1	57.4	20.2	2.6	11.4
Cheese manufacturing	49	128	45.1	55.6	11.3	5.5	10.5
Dry, condensed, and evaporated dairy product manufacturing	24	141	25.7	42.1	16.8	2.2	10.1
Fats and oils reining and blending	9	11	14.5	14.8	1.0	0.8	0.9
Wet corn milling	4	37	8.0	12.7	6.8	0.9	3.6
Soybean and other oilseed processing	1	3	4.2	4.5	0.8	0.1	0.3
Breakfast cereal manufacturing	0	0	0.0	0.0	0.0	0.0	0.0
Beet sugar manufacturing	0	0	0.0	0.0	0.0	0.0	0.0

Table 1. Economic contributions of agriculture, natural resources, food and kindred product manufacturing and distribution, and service industry groups and sectors in Florida in 2008

Industry Group/Sector	Employment		Output (Revenue)		Exports	Value Added	
	Direct Impact	Total Impact	Direct Impact	Total Impact		Direct Impact	Total Impact
	Full-time/Part-time Jobs		Million Dollars				
Forest Products Manufacturing	25,405	46,675	7,858.6	10,848.5	3,137.0	2,087.8	2,435.3
Wood windows and doors and millwork manufacturing	25,405	46,675	7,858.6	10,848.5	3,137.0	2,087.8	3,620.4
Engineered wood member and truss manufacturing	4,532	6,083	525.1	734.3	199.3	185.7	296.0
Paperboard container manufacturing	3,375	3,681	1,208.1	1,253.3	53.3	272.5	297.1
Sawmills and wood preservation	2,750	3,842	636.8	769.4	84.1	137.9	198.9
Sanitary paper product manufacturing	1,597	2,618	1,294.2	1,455.4	270.4	342.8	426.4
Wood container and pallet manufacturing	1,413	1,465	176.3	183.5	8.1	68.0	71.8
Paper mills	1,288	6,929	947.3	1,769.7	934.9	240.2	665.3
Sationery product manufacturing	1,061	1,810	332.8	443.4	122.9	80.1	140.6
Veneer and plywood manufacturing	1,043	1,930	213.4	323.3	90.8	79.4	132.5
Paperboard mills	891	4,109	665.0	1,122.2	466.0	153.9	388.2
Pulp mills	652	4,626	499.2	1,051.7	499.2	118.0	391.8
All other miscellaneous wood product manufacturing	556	646	92.9	104.9	11.3	37.3	43.7
All other converted paper product manufacturing	496	696	141.2	169.8	32.3	33.3	49.3
Coated and laminated paper, packaging paper, and pasltics film manufacturing	470	647	208.7	235.8	36.7	50.4	64.7
All other paper bag and coated and treated paper manufacturing	429	636	125.7	156.4	39.7	30.3	46.8
Reconstituted wood product manufacturing	163	255	39.7	52.7	16.2	11.1	17.5

Table 1. Economic contributions of agriculture, natural resources, food and kindred product manufacturing and distribution, and service industry groups and sectors in Florida in 2008

Industry Group/Sector	Employment		Output (Revenue)		Exports	Value Added	
	Direct Impact	Total Impact	Direct Impact	Total Impact		Direct Impact	Total Impact
	Full-time/Part-time Jobs		Million Dollars				
Nature-based Recreation	27,699	39,667	3,643.8	5,141.6	1,388.4	1,487.0	2,357.0
Golf courses	21,689	31,462	2,885.8	4,109.6	1,127.1	1,181.6	1,893.1
Recreational fishing	4,518	6,555	601.2	856.2	234.8	246.2	394.4
Commercial hunting and trapping	1,492	1,650	156.8	175.8	26.5	59.2	69.5
Food and Kindred Products Distribution	959,814	1,027,319	67,611.9	76,365.3	9,268.7	38,957.6	43,991.7
Food services and drinking places	670,117	709,141	40,266.7	45,477.4	5,478.2	21,267.0	24,218.7
Retail stores (food and beverages)	200,088	204,147	12,504.0	13,013.7	518.4	8,044.2	8,345.8
Wholesale trade (food & kindred products)	73,500	97,613	13,438.2	16,432.3	3,231.1	8,727.3	10,485.1
Retail lawn and garden centers	16,109	16,418	1,403.0	1,441.9	40.9	919.1	942.1
Grand Total	1,381,921	1,609,139	133,648.3	162,704.0	32,524.2	60,885.9	76,531.9

Source: *IMPLAN Professional* data for Florida (MIG, Inc.)
Total impact estimates include regional multiplier effects.

Table 2. Employment impacts (jobs) in Florida regions and counties by agriculture, natural resources, food and kindred product manufacturing and distribution, and service industries in 2008

Region / County	Crop, Livestock, Forestry & Fisheries Production	Agricultural Inputs & Services	Mining	Food & Kindred Products Manufacturing	Forest Products Manufacturing	Nature-based Recreation	Food & Kindred Products Distribution	Total / All
Gainesville	19,193	2,950	275	3,062	2,663	270	25,007	53,419
Alachua	1,975	1,761	102	445	565	66	17,280	22,195
Bradford	421	102	82	103	216	24	844	1,791
Columbia	760	194	2	180	606	49	3,003	4,795
DeSoto	7,810	141	0	451	0	66	634	9,102
Dixie	1,192	27	1	0	803	6	408	2,438
Gilchrist	779	60	2	124	168	3	270	1,406
Lafayette	621	290	12	0	27	29	181	1,161
Levy	1,714	101	28	27	52	11	1,190	3,123
Suwannee	3,671	163	39	1,725	25	3	1,095	6,722
Union	250	110	6	7	200	13	101	687
Jacksonville	5,179	9,835	447	13,322	11,004	2,100	80,379	122,265
Baker	237	172	0	0	0	0	697	1,106
Clay	470	1,147	204	9	452	103	7,435	9,820
Duval	1,071	6,470	180	13,019	5,292	914	55,390	82,336
Nassau	1,250	565	1	75	1,981	199	3,256	7,327
Putnam	1,100	268	46	0	2,963	51	2,025	6,453
St. Johns	1,051	1,213	16	219	315	833	11,576	15,223
Miami-Fort Lauderdale	77,457	50,266	2,606	29,344	7,727	13,251	345,904	526,556
Broward	2,151	13,293	586	5,694	1,165	3,057	101,715	127,661
Glades	921	32	10	41	0	41	129	1,174
Hendry	12,453	188	66	3,428	0	16	1,490	17,641
Indian River	7,646	1,842	42	133	90	885	6,498	17,136
Martin	3,737	2,395	17	693	130	1,456	8,082	16,509
Miami-Dade	12,228	13,965	1,048	8,961	4,552	1,404	134,398	176,557
Monroe	1,798	695	98	83	7	476	9,391	12,548
Okeechobee	3,021	287	20	374	0	24	1,377	5,102
Palm Beach	23,902	15,645	630	9,078	1,432	5,398	74,229	130,314
St. Lucie	9,601	1,924	88	859	350	495	8,596	21,914

Table 2. Employment impacts (jobs) in Florida regions and counties by agriculture, natural resources, food and kindred product manufacturing and distribution, and service industries in 2008

Region / County	Crop, Livestock, Forestry & Fisheries Production	Agricultural Inputs & Services	Mining	Food & Kindred Products Manufacturing	Forest Products Manufacturing	Nature-based Recreation	Food & Kindred Products Distribution	Total / All
Orlando	57,571	44,136	3,005	24,896	8,348	7,347	255,195	400,497
Brevard	691	2,883	89	297	428	1,174	25,408	30,969
Citrus	562	691	82	76	61	392	4,825	6,689
Flagler	671	592	54	33	71	42	2,739	4,203
Hardee	7,145	132	94	154	94	49	595	8,263
Highlands	12,489	467	47	78	127	292	3,528	17,028
Lake	3,922	2,638	213	1,372	480	299	11,697	20,621
Marion	6,653	2,822	236	1,340	729	512	12,427	24,720
Orange	5,600	10,981	164	6,254	1,341	1,659	104,734	130,733
Osceola	1,644	1,835	137	360	129	395	14,667	19,168
Polk	13,671	11,588	1,708	13,224	3,593	907	21,356	66,048
Seminole	629	6,130	46	575	941	383	24,291	32,995
Sumter	885	375	105	307	192	529	3,056	5,449
Volusia	3,009	3,003	30	826	162	712	25,872	33,615
Panama City	2,673	517	123	129	872	262	4,263	8,839
Bay	237	172	0	0	0	0	697	1,106
Calhoun	492	16	11	0	139	39	445	1,143
Gulf	289	20	2	13	120	9	498	951
Holmes	429	52	1	67	36	86	392	1,063
Jackson	881	77	87	29	562	77	1,665	3,379
Washington	344	181	21	20	15	52	565	1,198
Pensacola	2,645	4,257	578	717	2,099	743	38,109	49,148
Escambia	1,089	1,314	296	198	1,850	325	16,143	21,215
Okaloosa	487	1,393	104	245	31	295	13,431	15,988
Santa Rosa	691	847	172	62	89	78	4,412	6,352
Walton	377	703	6	211	129	45	4,123	5,593

Table 2. Employment impacts (jobs) in Florida regions and counties by agriculture, natural resources, food and kindred product manufacturing and distribution, and service industries in 2008

Region / County	Crop, Livestock, Forestry & Fisheries Production	Agricultural Inputs & Services	Mining	Food & Kindred Products Manufacturing	Forest Products Manufacturing	Nature-based Recreation	Food & Kindred Products Distribution	Total / All
Sarasota-Bradenton	29,000	20,219	1,117	5,795	1,582	9,345	94,839	161,897
Charlotte	1,241	1,496	82	14	148	486	6,735	10,202
Collier	11,313	4,324	338	223	145	3,700	18,926	38,970
Lee	2,430	6,269	341	636	362	2,740	33,600	46,377
Manatee	13,316	3,385	162	4,811	691	1,230	15,296	38,891
Sarasota	700	4,746	194	111	235	1,188	20,282	27,456
Tallahassee	5,877	4,088	454	1,208	2,917	555	21,655	36,753
Franklin	53	31	32	28	0	25	724	894
Gadsden	2,252	244	226	56	669	67	931	4,445
Hamilton	362	1,060	0	0	0	38	263	1,722
Jefferson	593	89	15	18	0	36	277	1,027
Leon	682	2,403	91	221	32	172	17,332	20,933
Liberty	340	20	18	0	597	141	172	1,287
Madison	733	9	0	603	83	36	506	1,971
Taylor	715	60	71	181	1,536	13	772	3,348
Wakulla	145	174	1	100	0	27	677	1,126
Tampa-St. Petersburg	23,463	22,299	18,624	18,825	5,167	3,075	158,309	249,764
Hernando	577	885	155	29	31	299	6,153	8,130
Hillsborough	19,255	12,152	678	15,573	3,224	1,418	86,299	138,598
Pasco	2,759	3,050	127	677	277	477	14,761	22,128
Pinellas	872	6,212	17,664	2,546	1,636	881	51,097	80,907
Total	223,058	158,568	27,228	97,298	42,379	36,949	1,023,660	1,609,139

Source: IMPLAN Professional data for Florida (MIG, Inc. 2009)
Impact estimates include multiplier effects. Employment includes full-time and part-time positions.