



**BIOMEDICAL/BIOTECHNOLOGY  
IN  
FLORIDA**

Presented to the High Skills/High Wages Council  
February 20, 2003

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## Executive Summary

The biotechnology industry is considered a “clean industry” associated with improving the health of people as well as the economy. This industry is a stable force in the economy and is less affected by the economic cycles that impact other businesses.

Economists and biomedical technology experts, including those at *The Wall Street Journal*, The Federal Reserve, Ernst and Young and the New Economy Strategies, Inc., indicate the biomedical technology industry has become a major force in national and international economies.

### National – International

Biomanufacturing jobs have increased by 7 to 10% a year in the last decade and the growth is continuing even in the current economic downturn.

In the next 25 years:

- » The global population aged 65 and older will grow by 88%.
- » Global markets will be interconnected
- » Gene expression studies will increase
- » Information technology and biotechnology will change health care delivery

It is expected that the future in the broader biomedical technology sector will represent 15–18 percent of the nation’s gross domestic product.

### Florida

Florida ranks second in the nation in biomedical employment with more than 2,000 firms with 50,000 workers manufacturing medical devices, ophthalmic goods, developing biomedical technologies, and discovering and producing new pharmaceuticals, vaccines and diagnostic tests. These companies pay an average wage of \$50,909, which is 40% higher than Florida’s average annual wage.

Florida's biomedical industry also:

- Generates nearly 74,000 direct and indirect jobs, and \$2.8 billion in direct and indirect payroll annually (2000 data)
- Generates nearly \$43 million in direct state and local taxes, and \$83 million in direct and indirect state and local taxes annually

The Biomedical Technology industry is diverse and includes businesses involved in the production of pharmaceuticals and drugs, including vitamins and natural preventative medicines for human and animal benefit; medical devices; and firms engaged in biomedical research that will benefit humans and animals, including medical, agricultural, marine, and environmental research.

Biomedical technology recently received "high impact" designation in Florida. Qualified companies are eligible for the state's "Capital Investment Tax Credit" and "High Impact Performance Incentive." (See press release)

## **Florida Challenges**

Many states and countries are aggressively courting Biomedical Technology for its high-tech jobs and high wages it brings to their state and local economies investing in infrastructure to attract these high-tech investments. Florida is in direct competition with national and international locations considered "hotbeds" including: California, Massachusetts, New York, Carolinas, New Jersey, Puerto Rico and Europe. Unlike its competitors, Florida does not invest in high tech or biomedical technology incubators.

Florida does not offer Technology or Science Technology Scholarships to prepare its workforce to succeed in a technology-based economy and to stem the migration of Florida's young people to other states.

## **Workforce Development Challenges**

Florida faces many challenges in implementing workforce strategies. It is crucial that the state continue to encourage the growth of its spawning biomedical technology sector. Florida must continue to implement policies, programs, and strategies to address the key drivers that fuel the biomedical technology growth. These key drivers include:

- a highly-skilled and educated workforce to improve Florida's competitiveness in recruiting and retaining biotech companies.
- a short-term technician training program.
- adequate and sustainable funding for program development and training.
- support of biotechnology research, development, and commercialization statewide to provide for long-term economic benefits by moving technology from the labs to the production lines.
- technology and educational infrastructure to support technology-based workforce development necessary to bring biotech jobs to Florida as well as retain existing employees.
- access to investment capital

### **Council Strategies**

- Coordinate the formation of a Biotech Industry Advisory Council to identify common workforce issues of the various biotechnology sectors.
- Through the Advisory Council and coordination with Department of Education, including local educational institutions, develop core, short-term, customized training curricula that will cross industry lines for entry level jobs, high school graduates, traditional manufacturing workers who have lost their jobs or anyone interested in a new line of work. This training curriculum should also include the assistance of the National Skill Standards Board, and should result in a competency-based, industry-validated training program which would also include skill upgrade training for existing biotechnology employees.
- Develop a biotechnology-training program that provides concentrated short-term training for new high-tech process technicians. Job type areas to include: research and development, production and quality control, management, sales and marketing, regulatory affairs, legal affairs, public relations, communications and training.

- Extend the local biotechnology industry from its base in research to activities further down the value chain, such as development and manufacturing.
- Leverage the resources and networks of the broader life–sciences economic cluster of which biotechnology is an integral part.
- Aggressively pursue, through the USDOL Business Relations Group and other grant sources, funding for entrepreneurial development and training through the Florida National Entrepreneur Center. This activity helps support the Governor’s goal to help diversify Florida’s economy as well as business innovation (growing business from within).

As a result of this research, staff noted samples of cross–training among the biotechnology industry include:

- » Research analysis
- » Written and oral communications
- » Safety
- » Computer modeling and simulation tasks
- » Management.

In addition, Council Strategies above tie in with the already approved High Skills/High Wages Strategic Plan:

- C.1.b. Endorse *non-traditional training modalities* that decrease average cost per trainee and respond to rapid changes in business workforce needs and technology.
- C.1.c. Develop and *promote training programs that leverage state funds with private sector investments.*
- C.1.e. Identify and replicate business/ *industry-led training consortiums* that result in the most cost–effective method of delivery.

- C.2.a. Advocate the use of *business consortiums to identify, prioritize and address common training needs*.
- C.2.b. Promote programs that provide “just-in-time” *training and flexible delivery methods* to increase the number of individuals with industry-recognized certifications in targeted industries.

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## **BIOMEDICAL TECHNOLOGY INDUSTRY RECEIVES “HIGH-IMPACT” DESIGNATION IN FLORIDA**

### **-- Medical device manufacturers, and biotechnology and pharmaceutical companies now eligible for specialized incentives and tax credits --**

**FT. LAUDERDALE, Fla.** (October 21, 2002) – Adding an extra boost to its already burgeoning biomedical technology industry, Florida today made available specialized incentives and tax credits to medical device manufacturers, and biotechnology and pharmaceutical companies. The announcement came during an annual conference of industry association BioFlorida in Ft. Lauderdale.

“The biomedical technology industry is one of the most viable, rapidly growing industry sectors in the world and Florida already has a place at the table,” said Florida Governor Jeb Bush. “This new designation will elevate our ability to attract, retain and grow this industry and continue to create high-wage, high-value jobs for Floridians.

”The biomedical technology industry is now classified as “high-impact,” meaning qualified companies are eligible for the state’s:

- **Capital Investment Tax Credit** – an annual credit against Florida state corporate income tax liability. The amount of the annual credit is equal to five percent of the eligible capital costs and can be taken for 20 consecutive years. Eligible costs include all expenses incurred in the acquisition, construction, installation and equipping of a project from the beginning of construction to the commencement of operations. For example, if a company invests \$50 million into a new facility, it would be eligible for an annual credit of \$2.5 million or 75 percent of the Florida corporate income tax liability generated by the project, whichever is lower, for up to 20 years. To qualify, a company must create at least 100 new jobs and invest a minimum of \$25 million in the project.
  
- **High Impact Performance Incentive** – a negotiated incentive used to attract and grow major high-impact facilities. To qualify, a company must create at least 100 new full-time jobs in Florida in a three-year period and make a cumulative investment of at

least \$100 million. If the facility is a research facility, the qualifications are 75 full-time jobs and a cumulative investment of \$75 million.

Enterprise Florida (EFI), the state's economic development organization, has been targeting the biomedical technology industry for several years, as these companies typically employ skilled workers for higher-than-average wages. Florida currently ranks second in the nation in biomedical employment, boasting more than 2,000 firms with 50,000 workers manufacturing medical devices and ophthalmic goods, developing biomedical technologies, and discovering and producing new pharmaceuticals, vaccines and diagnostic tests. These companies are paying employees an average of \$50,909, 40 percent higher than Florida's average annual wage.

Yet despite its qualified workforce and other attractive assets, Florida was at a disadvantage when it came to financial incentives. For example, when Schott Pharmaceutical wanted to build a 173,000-square-foot manufacturing facility and employ 120 high-wage workers, Pennsylvania won the deal by offering a \$4.7 million incentives package. If Florida had been in the running before today's designation, it could only have offered up to \$480,000 through the Qualified Target Industry tax refund program. With the new designation, this project would now qualify for the CITC program and a potential HIPI incentive as well.

"This puts Florida on a much more level playing field," said Steve Mayberry, EFI's senior vice president of business retention and recruitment.

- efi -

Enterprise Florida, Inc. (EFI) is a partnership between Florida's business and government leaders and is the principal economic development organization for the state of Florida. Headquartered in Orlando, EFI's mission is to create and retain quality jobs and increase economic opportunities for Floridians by supporting strong and growing businesses and positioning Florida as a globally competitive business location.

In pursuit of its mission, EFI works closely with a statewide network of economic development partners and is funded both by the State of Florida and by private-sector businesses.

Analysis of Florida Biomedical Industries by  
North American Industry Classification System (NAICS)

334 – Electro medical/Electrotherapeutic Apparatus Manufacturing is primarily engaged in manufacturing electromedical and electrotherapeutic apparatus, such as resonance imaging equipment and medical ultrasound.

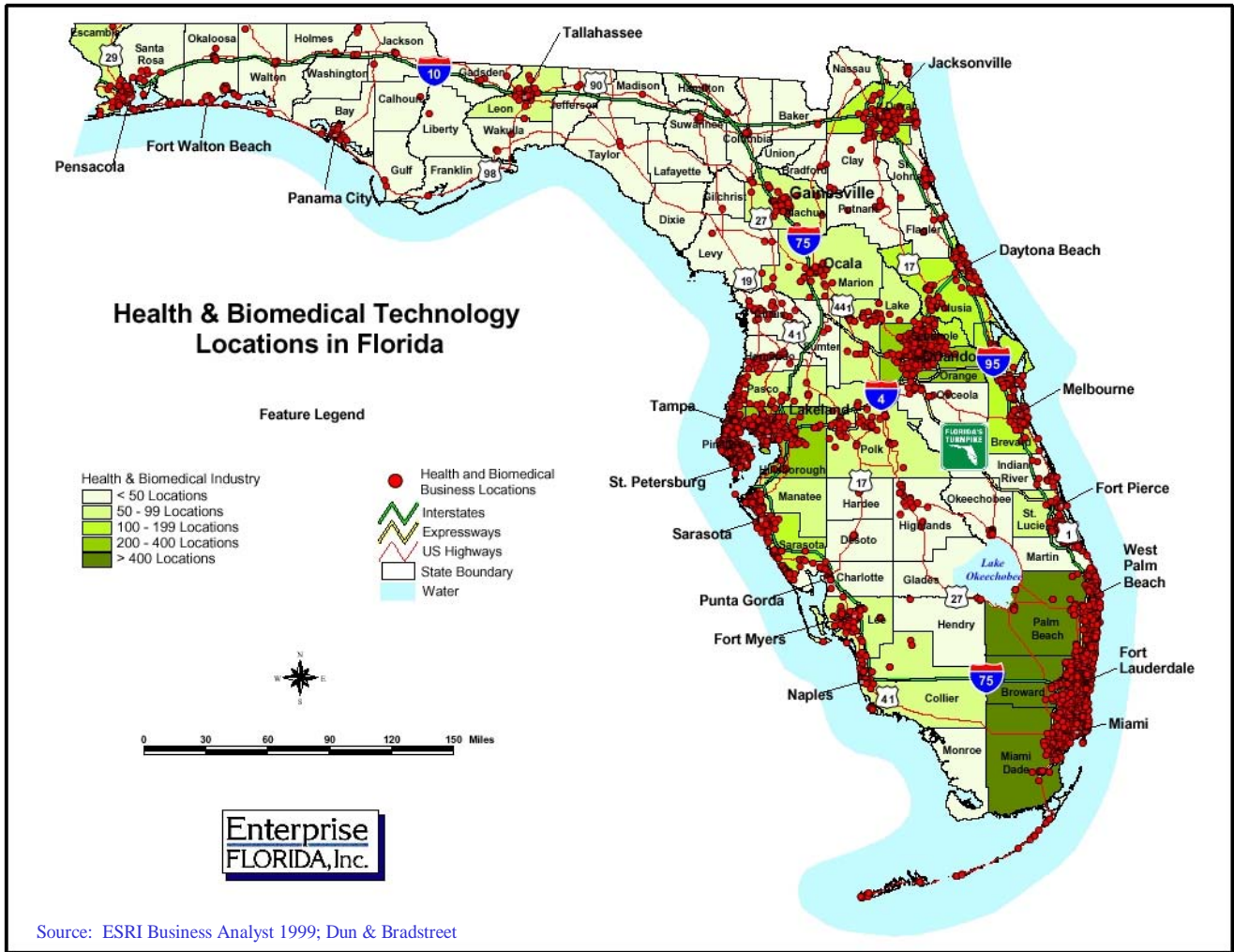
DIRECT JOBS	TOTAL COMPANIES	AVERAGE ANNUAL WAGE	INDIRECT JOBS
3721	62	\$48,024	18,233

339 – Surgical/Medical Instrument Manufacturing comprises establishments primarily engaged in manufacturing medical, surgical, ophthalmic, and veterinary instruments and apparatus such as syringes, hypodermic needles, anesthesia apparatus, blood transfusion equipment, catheters, surgical clamps and medical thermometers.

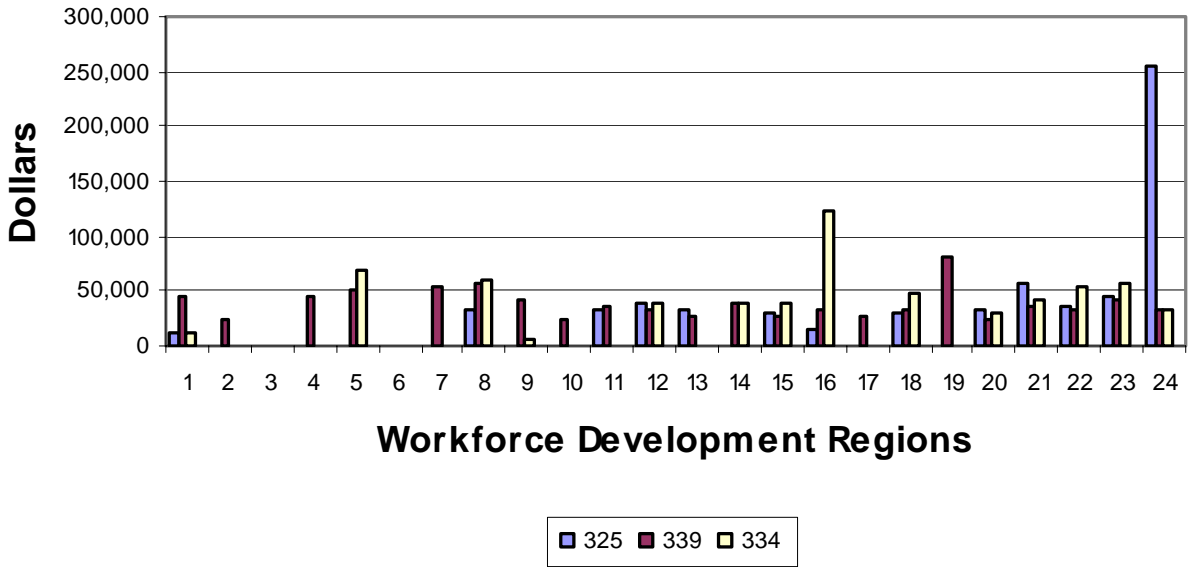
DIRECT JOBS	TOTAL COMPANIES	AVERAGE ANNUAL WAGE	INDIRECT JOBS
16,493	309	\$37,921	80,813

325 – Pharmaceutical Preparation Manufacturing companies engage in manufacturing in-vivo diagnostic substances and pharmaceutical preparations intended for internal and external consumption in dose forms, such as ampoules, tablets, capsules, vials, ointments, powders, solutions and suspensions.

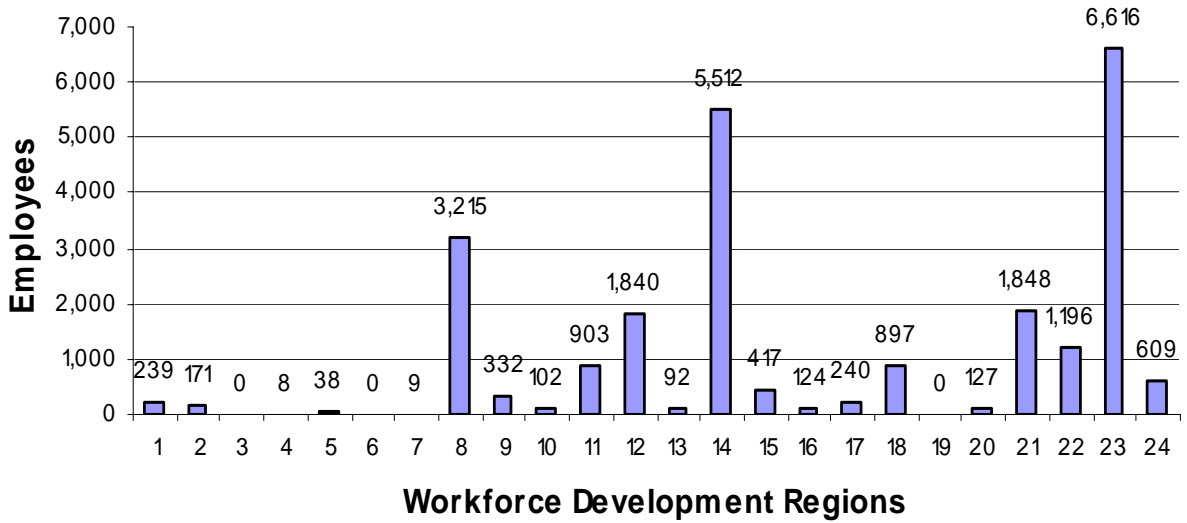
DIRECT JOBS	TOTAL COMPANIES	AVERAGE ANNUAL WAGE	INDIRECT JOBS
4,239	325	\$43,442	20,771



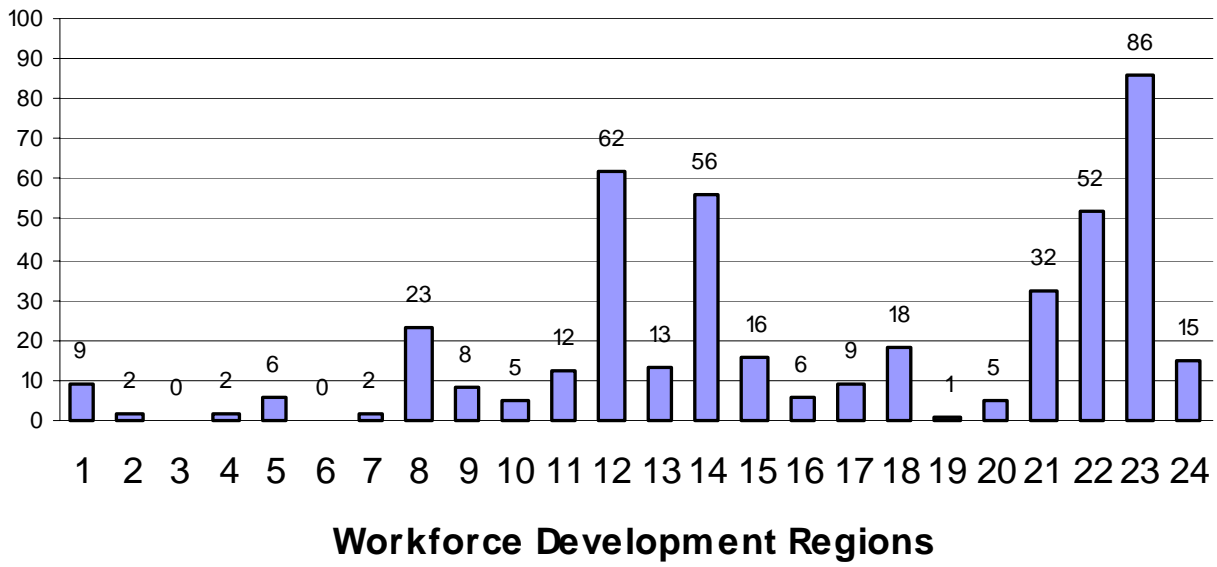
## Average Annual Wage for Biotech Related Companies by Region



## # of Workers Employed By Biotech Related Companies



## # of Biotech Related Companies by Region



County	# OF COMPANIES BY NAICS CODE AND COUNTY			Total # Comp.	# OF EMPLOYEES BY NAICS CODE AND COUNTY			Total # Emp
	325	339	334		325	339	334	
<b>Region 1 Escambia &amp; Santa Rosa</b>								
ESCAMBIA	1	6	1	8	47	171	18	236
SANTA ROSA			1	1			3	3
<b>Total Region 1</b>	<b>1</b>	<b>6</b>	<b>2</b>	<b>9</b>	<b>47</b>	<b>171</b>	<b>21</b>	<b>239</b>

<b>Region 2 Okaloosa &amp; Walton</b>								
OKALOOSA		1		1		11		11
WALTON		1		1		160		160
<b>Total Region 2</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>171</b>	<b>0</b>	<b>171</b>

<b>Region 3 Calhoun, Holmes, Jackson, Liberty, Washington</b>								
JACKSON				0				0
<b>Total Region 3</b>								<b>0</b>

<b>Region 4 Bay, Franklin &amp; Gulf</b>								
BAY		2		2		8		8
<b>Total Region 4</b>		<b>2</b>		<b>2</b>		<b>8</b>		<b>8</b>

<b>Region 5 Gadsden, Leon, Wakulla</b>								
LEON		5	1	6		28	10	38
WAKULLA								0
<b>Total Region 5</b>	<b>0</b>	<b>5</b>	<b>1</b>	<b>6</b>	<b>0</b>	<b>28</b>	<b>10</b>	<b>38</b>

<b>Region 6 Hamilton, Jefferson, Lafayette, Madison, Suwannee, Taylor</b>								

<b>Region 7 Columbia, Dixie, Gilchrist, Union</b>								
COLUMBIA		2		2		9		9
<b>Total Region 7</b>		<b>2</b>		<b>2</b>		<b>9</b>		<b>9</b>

<b>Region 8 Baker, Clay, Duval, Nassau, Putnam &amp; St. Johns</b>								
CLAY		2	2	4		10	6	16
DUVAL	2	14	2	18	124	3,042	31	3,197
PUTNAM				0				0
ST. JOHNS		1		1		2		2
<b>Total Region 8</b>	<b>2</b>	<b>17</b>	<b>4</b>	<b>23</b>	<b>124</b>	<b>3,054</b>	<b>37</b>	<b>3,215</b>

<b>Region 9 Alachua, Bradford</b>								
ALACHUA		6	2	8		313	19	332
BRADFORD				0				0
<b>Total Region 9</b>	<b>0</b>	<b>6</b>	<b>2</b>	<b>8</b>	<b>0</b>	<b>313</b>	<b>19</b>	<b>332</b>

<b>Region 10 Citrus, Levy, Marion</b>								
CITRUS				0				0
MARION		5		5		102		102
<b>Total Region 10</b>		<b>5</b>		<b>5</b>	<b>0</b>	<b>102</b>	<b>0</b>	<b>102</b>

<b>Region 11 Flagler, Volusia</b>								
VOLUSIA	1	11		12	3	900		903
<b>Total Region 11</b>	<b>1</b>	<b>11</b>	<b>0</b>	<b>12</b>	<b>3</b>	<b>900</b>	<b>0</b>	<b>903</b>

<b>Region 12 Orange, Osceola, Seminole, Lake, Sumter</b>								
ORANGE		23	11	34		381	597	978
OSCEOLA	1	2		3	1	1		2
LAKE	1	4	1	6	22	89	11	122
SEMINOLE		12	7	19		476	262	738
<b>Total Region 12</b>	<b>2</b>	<b>41</b>	<b>19</b>	<b>62</b>	<b>23</b>	<b>947</b>	<b>870</b>	<b>1,840</b>

<b>Region 13 Brevard</b>								
BREVARD	3	10		13	44	48		92
<b>Total Region 13</b>	<b>3</b>	<b>10</b>	<b>0</b>	<b>13</b>	<b>44</b>	<b>48</b>	<b>0</b>	<b>92</b>

<b>Region 14 Pinellas</b>								
PINELLAS	9	40	7	56	1,227	3,322	963	5,512
<b>Total Reg. 14</b>	<b>9</b>	<b>40</b>	<b>7</b>	<b>56</b>	<b>1,227</b>	<b>3,322</b>	<b>963</b>	<b>5,512</b>

<b>Region 15 Hillsborough</b>								
HILLSBOROUGH	4	10	2	16	38	358	21	417
<b>Total Region 15</b>	<b>4</b>	<b>10</b>	<b>2</b>	<b>16</b>	<b>38</b>	<b>358</b>	<b>21</b>	<b>417</b>

<b>Region 16 Hernando, Pasco</b>								
HERNANDO	1	2	1	4	28	26	1	55
PASCO		2		2		8		8
<b>Total Reg. 16</b>	<b>1</b>	<b>4</b>	<b>1</b>	<b>6</b>	<b>28</b>	<b>34</b>	<b>1</b>	<b>63</b>

<b>Region 17 Polk</b>								
POLK		9		9		219		219
<b>Total Region 17</b>	<b>0</b>	<b>9</b>	<b>0</b>	<b>9</b>	<b>0</b>	<b>219</b>	<b>0</b>	<b>219</b>

<b>Region 18 Manatee, Sarasota</b>								
MANATEE		7		7		551		551
SARASOTA	2	8	1	11	11	263	72	346
<b>Total Region 18</b>	<b>2</b>	<b>15</b>	<b>1</b>	<b>18</b>	<b>11</b>	<b>814</b>	<b>72</b>	<b>897</b>

<b>Region 19 DeSoto, Hardee, Highlands</b>								
HIGHLANDS		1		1		1		1
<b>Total Region 19</b>		<b>1</b>	<b>0</b>	<b>1</b>		<b>1</b>		<b>1</b>

<b>Region 20 Indian River, Martin, Okeechobee, St. Lucie</b>								
INDIAN RIVER	1			1	1			1
MARTIN			1	1			66	66
OKEECHOBEE		1		1		2		2
ST. LUCIE		2		2		58		58
<b>Total Region 20</b>	<b>1</b>	<b>3</b>	<b>1</b>	<b>5</b>	<b>1</b>	<b>60</b>	<b>66</b>	<b>127</b>

<b>Region 21 Palm Beach</b>								
PALM BEACH	8	22	2	32	1,240	531	77	1,848
<b>Total Region 21</b>	<b>8</b>	<b>22</b>	<b>2</b>	<b>32</b>	<b>1,240</b>	<b>531</b>	<b>77</b>	<b>1,848</b>

<b>Region 22 Broward</b>								
BROWARD	8	39	5	52	253	879	64	1,196
<b>Total Region 22</b>	<b>8</b>	<b>39</b>	<b>5</b>	<b>52</b>	<b>253</b>	<b>879</b>	<b>64</b>	<b>1,196</b>

<b>Region 23 Dade, Monroe</b>								
MIAMI-DADE	26	48	12	86	1,170	3,985	1,461	6,616
MONROE				0				0
<b>Total Reg. 23</b>	<b>26</b>	<b>48</b>	<b>12</b>	<b>86</b>	<b>1,170</b>	<b>3,985</b>	<b>1,461</b>	<b>6,616</b>

<b>Region 24 Charlotte, Collier, Glades, Hendry, Lee</b>								
CHARLOTTE	1			1	2			2
COLLIER		5	1	6		85	1	86
HENDRY				0				0
LEE		6	2	8		429	38	467
<b>Total Region 24</b>	<b>1</b>	<b>11</b>	<b>3</b>	<b>15</b>	<b>2</b>	<b>514</b>	<b>39</b>	<b>555</b>
<b>TOTAL</b>	<b>69</b>	<b>309</b>	<b>62</b>	<b>440</b>	<b>4,211</b>	<b>16,468</b>	<b>3,721</b>	<b>24,400</b>