

# Gap Analysis Application to Personal Value Estimate

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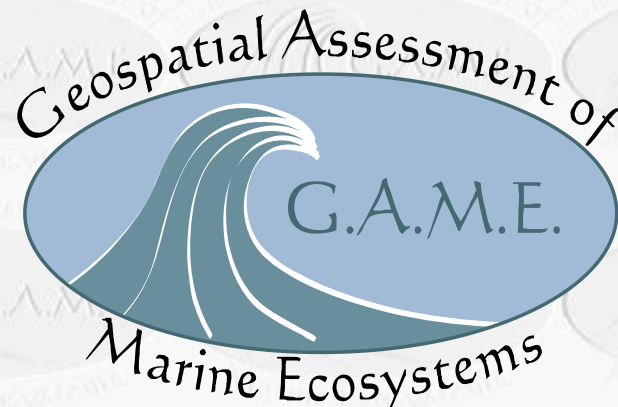
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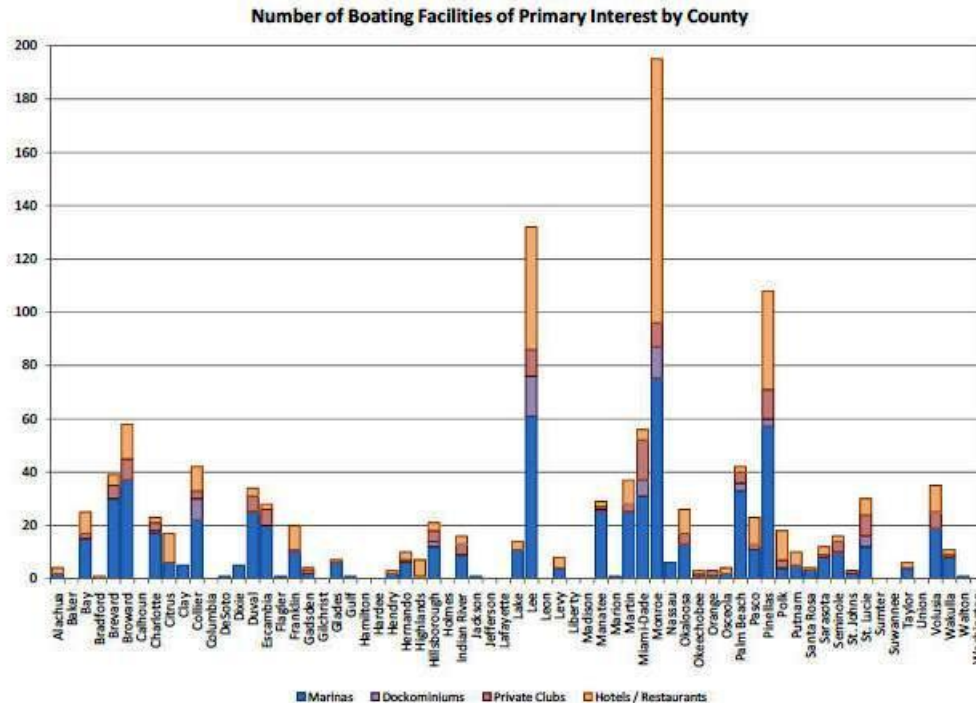


CNREP 2010

Challenges of Natural Resource Economic & Policy

# Florida Boating Access Facilities Inventory and Economic Study including a pilot study for Lee County

Florida Fish and Wildlife Conservation Commission



Facility Type	In Database	
	n	%
Marina	669	24.3
Dockminium	56	2.0
Private Club	129	4.7
Hotel / Restaurant	352	12.8
Condominium	783	28.4
Other Residential	128	4.6
Boat Sales / Service	121	4.4
Commercial Business	33	1.2
Mobile Home Park / Campground	183	6.6
Docks only	26	0.9
Government only	10	0.4
Vacant	54	2.0
Unknown	211	7.7
Other Residential	1	0.0
<b>TOTAL</b>	<b>2756</b>	

Number of Government- and Privately-managed Ramps that are Open to the Public

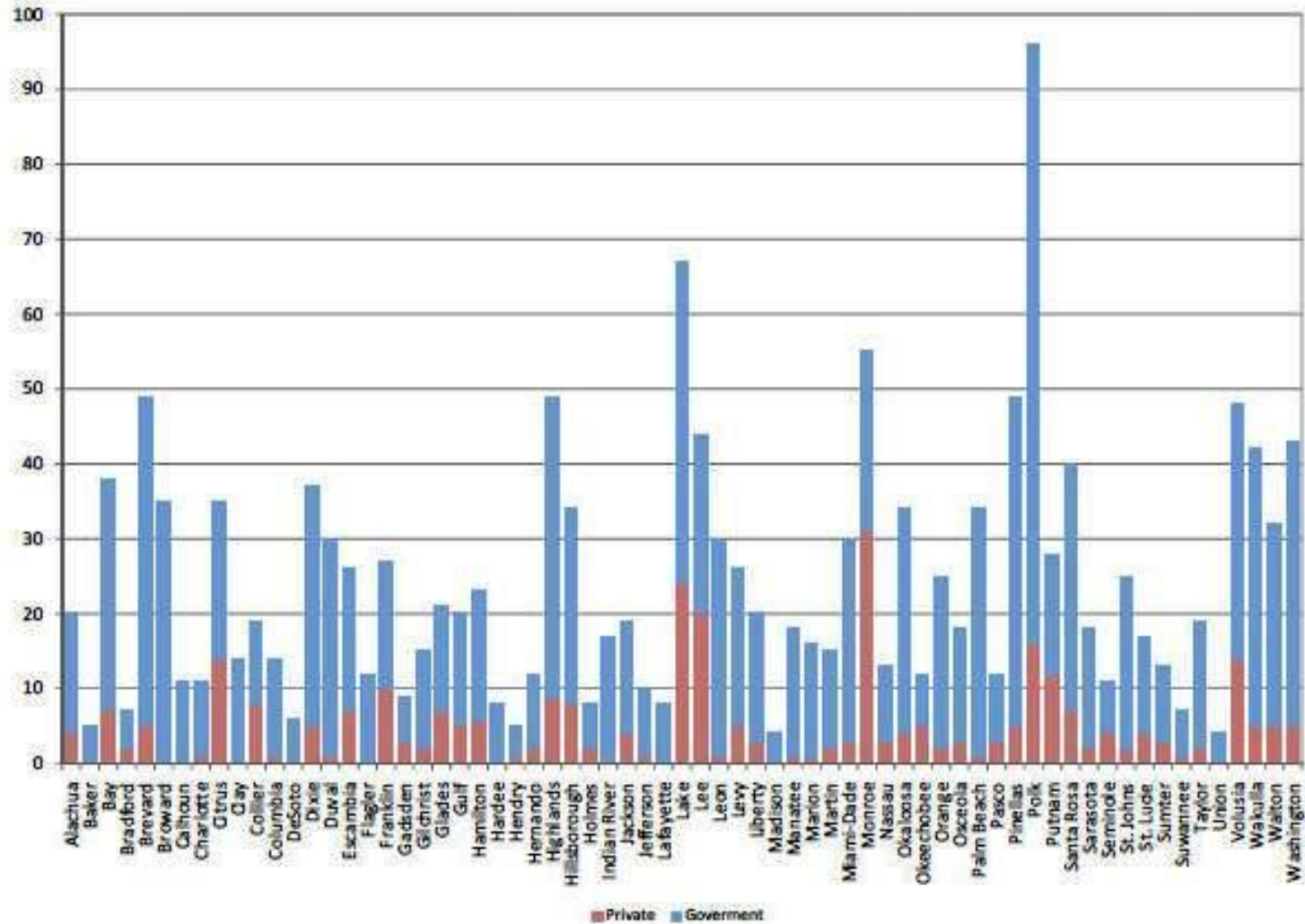
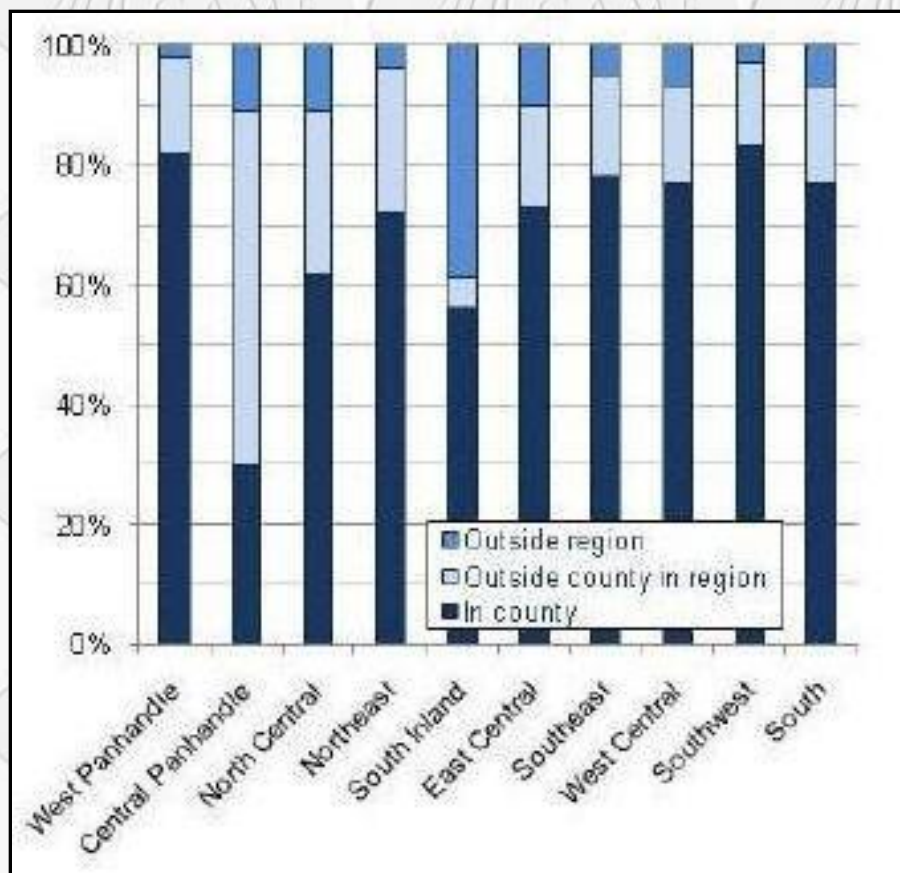


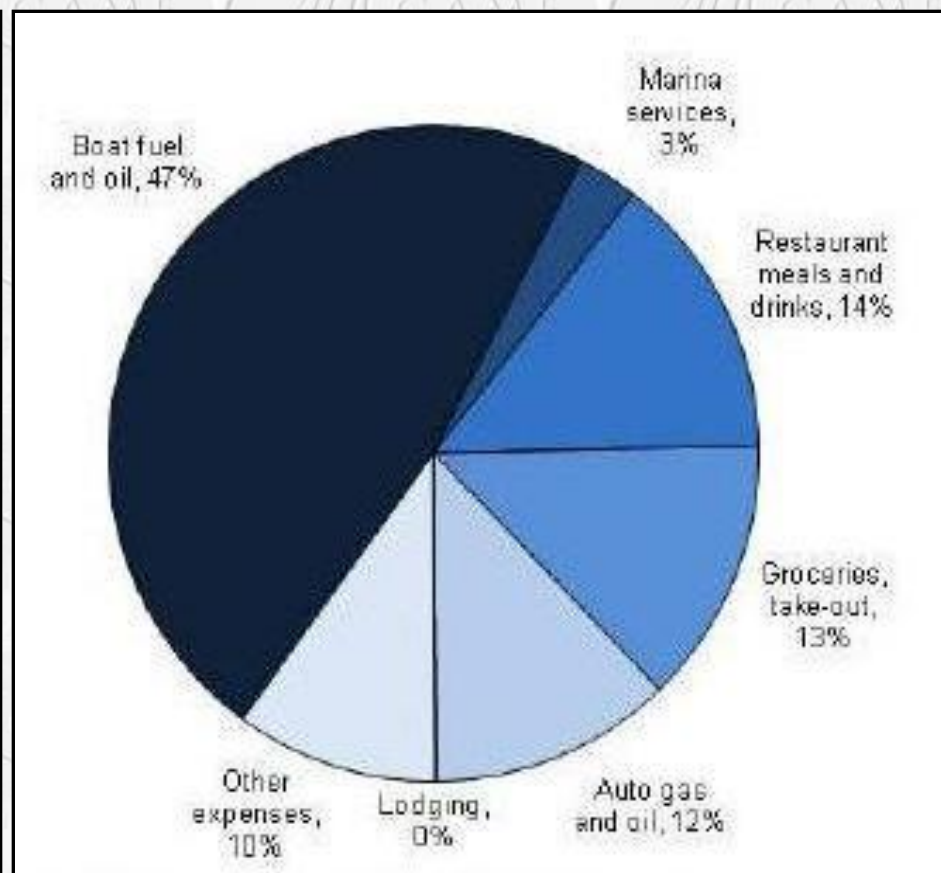


Table 3.26: Contribution of boater trip spending to Florida state economy, 2007.

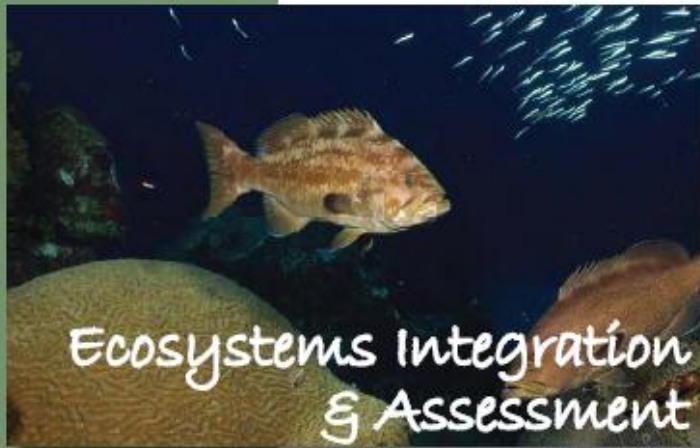
Sector/Spending category	Sales (\$millions)	Jobs	Labor income (\$millions)	Indirect business taxes (\$millions)	Value added (\$millions)
Direct effects					
Lodging	410	4,642	150	39	264
Marina services	152	1,641	53	12	94
Restaurant	479	8,758	170	25	242
Recreation/entertainment	99	1,064	34	8	61
Grocery stores <sup>a</sup>	109	1,974	47	12	67
Gas service stations <sup>a</sup>	345	4,130	107	50	236
Sporting goods/equipment <sup>a</sup>	78	1,607	33	11	49
Other retail trade <sup>a</sup>	27	475	11	4	16
Wholesale trade <sup>a</sup>	201	1,170	76	33	136
Local manufacturers	129	398	14	0	18
<b>Total direct effects</b>	<b>2,028</b>	<b>25,861</b>	<b>697</b>	<b>194</b>	<b>1,184</b>
Secondary effects	1,479	12,394	381	89	857
<b>Total effects</b>	<b>3,507</b>	<b>38,255</b>	<b>1,077</b>	<b>284</b>	<b>2,041</b>
Multiplier	1.73	1.48	1.55	1.46	1.72



**Day trips by distance category of trip and by region.**



**Distribution of day trip by spending category.**



Gulf red grouper  
(*Epinephelus morio*)  
© Schmidt, NOAA

#### LONG-TERM GOALS

- ✦ Develop regional data systems that contain environmental and economic data
- ✦ Establish strategic partnerships to fill environmental and ecological data gaps
- ✦ Provide ecosystem decision-support tools to address priority issues within the Gulf

#### PRIORITIES FOR MANAGING ECOSYSTEM DATA

Coastal ecosystems in the Gulf of Mexico are essential to sustaining local economies and offer protection from coastal storms. Natural disasters such as tropical storms cause significant, measurable economic losses in the infrastructure that supports coastal communities; however, economic losses of natural resources are significant and more difficult to assess. Coastal managers are faced with a complex environment in which to make difficult decisions regarding protection, restoration, conservation, and management of these crucial resources.

Although much information has been gathered and scientific research conducted on coastal environments, currently there is no information system that allows easy access to information and data for scientists conducting region-wide comparative studies; nor is there a convenient way for managers and policy makers to tap into the knowledge gained from this research. A solution to this problem is a natural resource data portal and information system that will enable resource managers to develop sound recommendations for managing valued coastal resources. The Alliance provides an effective partnership structure to improve accessibility and awareness of the extensive data available throughout the Gulf region.

#### ECOSYSTEMS INTEGRATION & ASSESSMENT FOCUS AREAS:

*Gulf of Mexico Master Mapping Plan (GMMMP)*  
*Data Access and Acquisition*  
*Living Marine Resources*  
*Emergent Wetlands Status and Trends Report*  
*Ecological Services Valuation*

## Gulf of Mexico Alliance

*Call for increased integration of resources, knowledge and expertise*

*Serve as a forum for bi-national regional collaboration with the Mexican Gulf States*

*An ecosystem data portal has been established that will be used by resource managers to evaluate habitat extent and changes over time*

*The GAME Project is working with state and federal partners towards this goal*

[http://www.gulfofmexicoalliance.org/pdfs/ap2\\_final2.pdf](http://www.gulfofmexicoalliance.org/pdfs/ap2_final2.pdf)

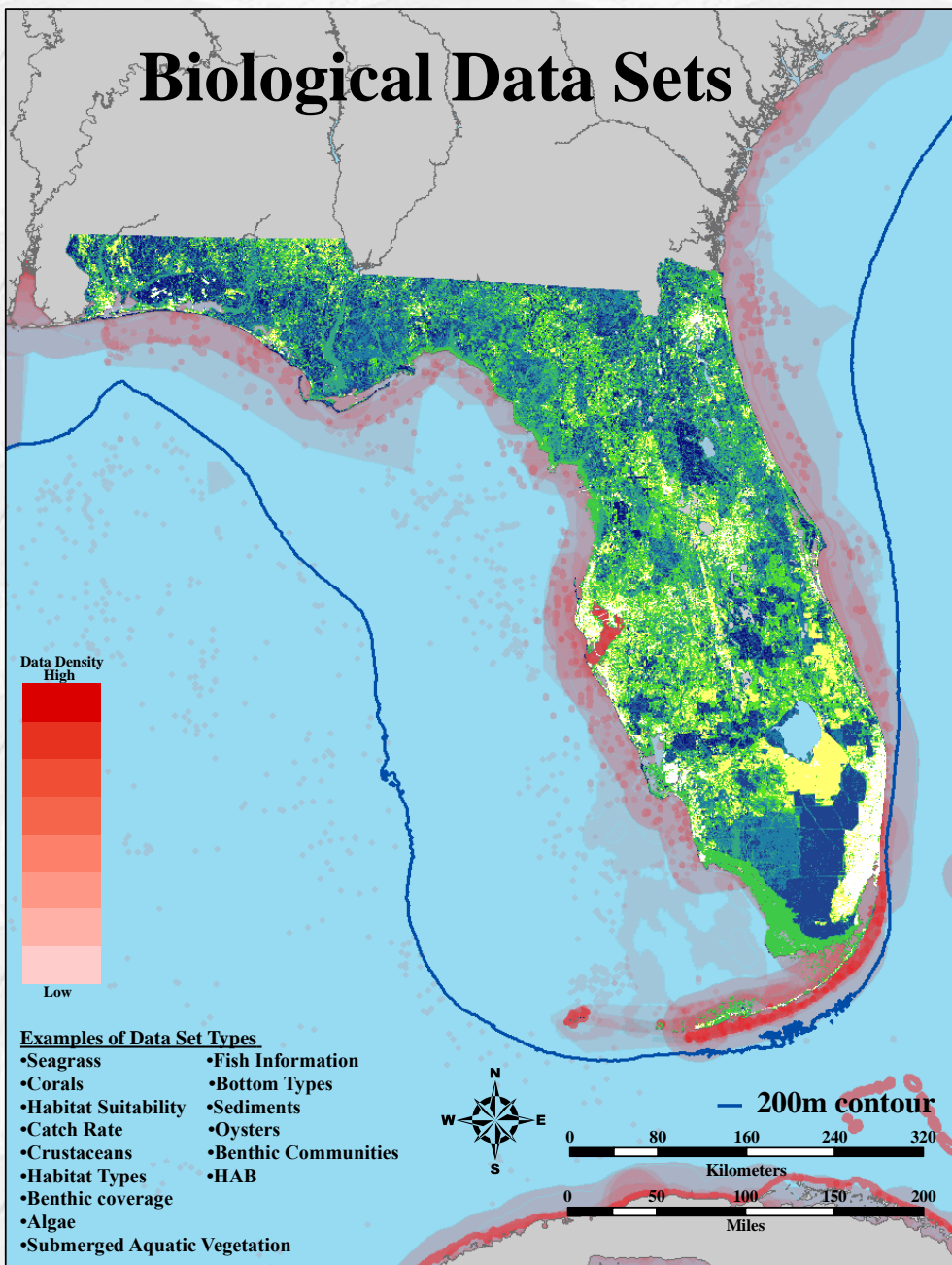


# Goals

*Aims of the project are:*

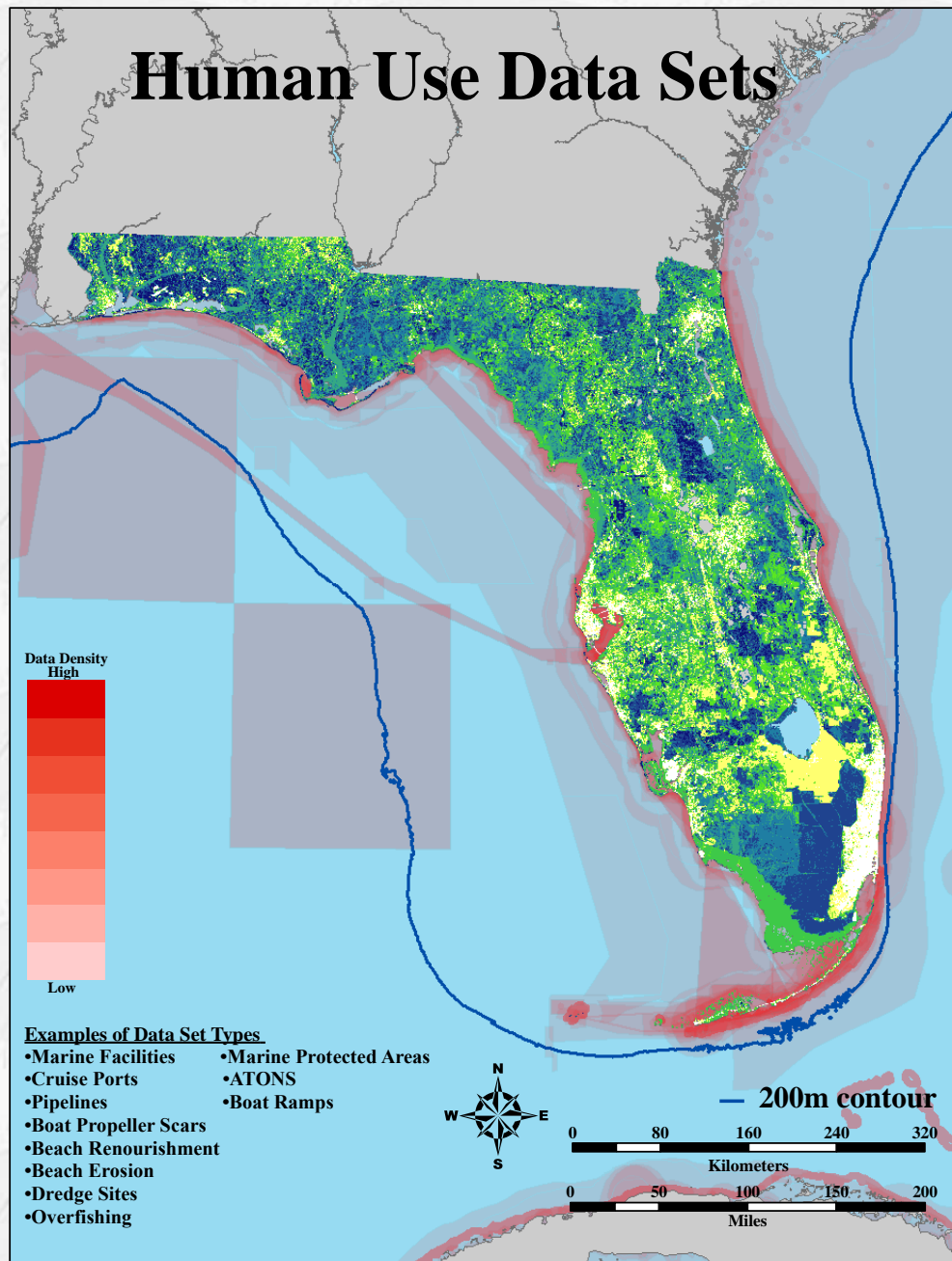
- to develop an inventory of coastal and marine information within the Gulf of Mexico. This will serve as a foundation to develop a spatial framework for Ecosystem-Based Management associated with regulatory and planning programs and areas of government coordination;*
- to conduct a qualitative gap analysis of geospatial data compiled from all the Gulf states and produce presence/absence maps.*

# Biological Data Sets






# Human Use Data Sets



# GAME Catalog

- *A relational database describing key features (metadata-lite) for each data set*
- *Highly compatible database for multiple applications*
- *Broad definition of each class; detailed information can be found in associated metadata*
- *Federal Geographic Data Committee (FGDC) concurrent*
- *The utility of the catalog is that it will point to data sets of interest*

# GAME Survey



FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION  
**FISH AND WILDLIFE RESEARCH INSTITUTE**

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Home : Dataset Catalog : GAME Survey

## GAME Survey

Welcome!

Information Survey – seeks to locate, catalog, and acquire existing data on marine habitats. This includes near-shore, coastal and shelf areas as well as the human uses of our waters. The project will assemble the many sources of physical, geomorphological, biological, chemical, and ecological data in a Geographic Information Systems (GIS) format.

Please complete our short survey. All data are important – we may help digitize your data at no cost. Your data are critical to our efforts.

An \* (asterisk) indicates a required field.

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**\*Data set name:**

**\*Data set description:**

**Keywords: (Please select all that apply)**

To select make multiple selections hold down the CTRL button while making a selection

Aerial photography

Air-sea fluxes

Algae

Aquatic preserves

Artificial Reefs

Attenuation

Bathymetry

Beach renourishment

Beaches

Benthic communities

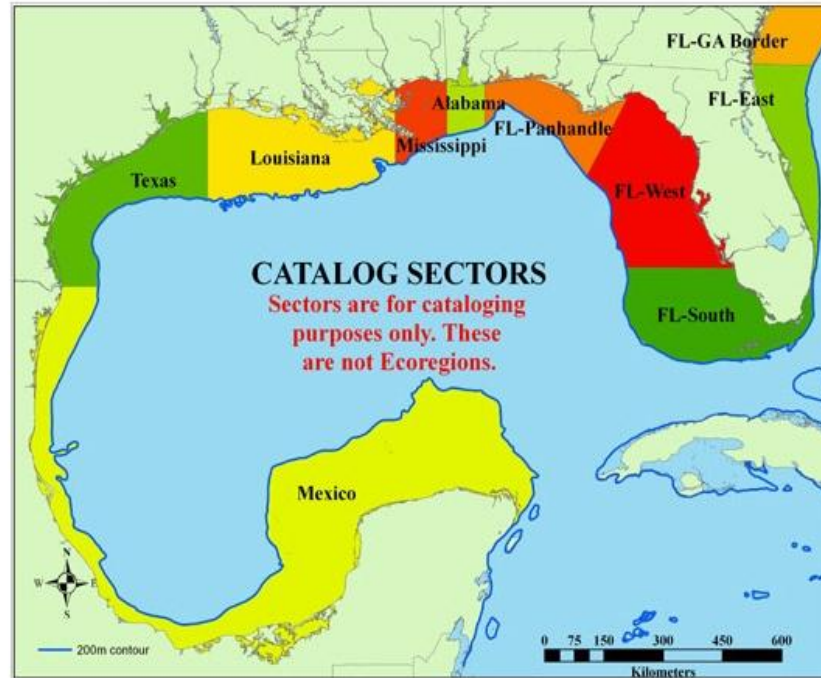
<http://research.myfwc.com/game/survey.asp>



# GAME Survey

\*Sectors: (Please select all that apply)

- ☐ Alabama
- ☐ FL East
- ☐ FL East (Georgia border)
- ☐ FL Panhandle
- ☐ FL South
- ☐ FL Statewide
- ☐ FL West
- ☐ Gulfwide
- ☐ Louisiana
- ☐ Mexico
- ☐ Mississippi
- ☐ Texas



\*Place keyword:  
(Study area)

# Economic Significance of Boating in Pinellas County

**Table 1. Number of Registered Boats and Estimated Boat Days in Pinellas County**

Category	Boat Type and Size										Total
	Power <16'	Power 16' - 19'	Power 20' - 22'	Power 23' - 28'	Power 29' - 40'	Power 41'+	Sail <23'	Sail 23'+	PWC	Canoe/ Kayak	
Number of Boats	10,131	7,754	6,492	6,030	2,430	541	510	1,421	706	6,437	42,452
Average Boat Days	23	31	33	33	38	45	25	37	31	28	30
Total Boat Days	230,987	237,272	216,184	200,799	93,069	24,291	12,750	52,009	21,957	177,018	1,266,334

**Table 2. Total Spending on Boat Trips by Boat Owners Registered in Pinellas County**

Category	Total (\$ Thousands)	Percentage
Lodging	\$19,160.7	10%
Marina Services	\$8,791.2	5%
Restaurant	\$26,694.0	14%
Groceries	\$24,193.2	13%
Boat Fuel	\$68,729.2	37%
Auto Fuel	\$19,560.3	10%
Marine Supplies	\$11,136.9	6%
Recreation & Entertainment	\$5,447.2	3%
Shopping	\$4,109.1	2%
<b>Total</b>	<b>\$187,821.6</b>	<b>100%</b>

**Table 3. Total Annual Craft Spending (not including purchases of boats) by Boat Owners Registered in Pinellas County**

Category	Total (\$ Thousands)	Percentage
Slip	\$29,845.3	10%
Loan Payments	\$48,599.1	16%
Replacement Motors	\$13,860.1	4%
Replacement Trailers	\$3,738.2	1%
Insurance	\$25,387.7	8%
Repairs	\$64,807.3	21%
Accessories	\$119,286.3	38%
Taxes	\$5,505.9	2%
<b>Total</b>	<b>\$311,029.8</b>	<b>100%</b>

**Table 4. Economic Significance of Trip Spending and Annual Craft Spending by Boats Registered in Pinellas County**

	Trip Spending	Annual Craft Spending	Total
<b>Direct Effects</b>			
Sales (\$ Thousands)	\$112,050.9	\$194,515.3	\$306,566.3
Jobs	1,456.1	2,403.5	3,859.6
Labor Income (\$ Thousands)	\$36,916.5	\$74,493.1	\$111,409.5
Value Added (\$ Thousands)	\$62,911.3	\$115,394.7	\$178,306.0
<b>Total Effects</b>			
Sales (\$ Thousands)	\$174,784.4	\$321,084.4	\$495,868.8
Jobs	2,042.9	3,509.5	5,552.4
Labor Income (\$ Thousands)	\$54,124.0	\$117,435.0	\$171,559.0
Value Added (\$ Thousands)	\$103,153.6	\$190,690.8	\$293,844.4

**Table 5. Economic Significance of Boats Registered in Pinellas County**

Sector/Spending Category	Sales (\$ Thousands)	Jobs	Labor Income (\$ Thousands)	Value Added (\$ Thousands)
<b>Direct Effects</b>				
Lodging	\$19,160.7	244.5	\$6,916.5	\$12,210.1
Marina Services	\$38,636.5	480.6	\$13,108.7	\$23,350.4
Restaurant	\$26,694.0	499.5	\$9,362.2	\$13,284.6
Recreation & Entertainment	\$5,447.2	67.8	\$1,848.1	\$3,292.1
Repair & Maintenance	\$64,807.3	853.8	\$22,381.0	\$29,248.0
Insurance & Credit	\$28,546.6	189.6	\$12,324.2	\$23,684.5
Gas Service	\$19,688.6	217.0	\$6,117.5	\$13,472.5
Other Retail Trade	\$64,277.3	1,118.5	\$27,614.8	\$39,106.3
Wholesale Trade	\$29,870.8	172.5	\$11,319.2	\$20,146.7
Other Local Production of Goods	\$9,437.3	15.9	\$417.3	\$510.8
<b>Total Direct Effects</b>	<b>\$306,566.3</b>	<b>3,859.6</b>	<b>\$111,409.5</b>	<b>\$178,306.0</b>
<b>Secondary Effects</b>	<b>\$189,302.5</b>	<b>1,692.8</b>	<b>\$60,149.5</b>	<b>\$115,538.4</b>
<b>Total Effects</b>	<b>\$495,868.8</b>	<b>5,552.4</b>	<b>\$171,559.0</b>	<b>\$293,844.4</b>



# Economic Significance of Boating in Brevard County

Table 1. Number of Registered Boats and Estimated Boat Days in Brevard County

Category	Boat Type and Size										Total
	Power <16'	Power 16' - 19'	Power 20' - 22'	Power 23' - 28'	Power 29' - 40'	Power 41'+	Sail <23'	Sail 23'+	PWC	Canoe/ Kayak	
Number of Boats	10,291	6,422	4,236	3,039	896	213	355	838	600	3,448	30,338
Average Boat Days	23	31	33	33	38	45	25	37	31	28	30
Total Boat Days	234,635	196,513	141,059	101,199	34,317	9,564	8,875	30,671	18,660	94,820	870,312

Table 2. Total Spending on Boat Trips by Boat Owners Registered in Brevard County

Category	Total (\$ Thousands)	Percentage
Lodging	\$11,757.9	10%
Marina Services	\$5,198.3	4%
Restaurant	\$17,130.9	14%
Groceries	\$15,982.2	13%
Boat Fuel	\$43,101.0	36%
Auto Fuel	\$14,248.1	12%
Marine Supplies	\$7,403.9	6%
Recreation & Entertainment	\$3,445.4	3%
Shopping	\$2,522.6	2%
Total	\$120,790.2	100%

Table 3. Total Annual Craft Spending (not including purchases of boats) by Boat Owners Registered in Brevard County

Category	Total (\$ Thousands)	Percentage
Slip	\$16,815.1	9%
Loan Payments	\$26,880.3	15%
Replacement Motors	\$9,655.5	5%
Replacement Trailers	\$2,521.2	1%
Insurance	\$14,281.2	8%
Repairs	\$37,959.5	20%
Accessories	\$73,935.3	40%
Taxes	\$3,191.4	2%
Total	\$185,239.3	100%

**Table 4. Economic Significance of Trip Spending and Annual Craft Spending by Boats Registered in Brevard County**

	Trip Spending	Annual Craft Spending	Total
<b>Direct Effects</b>			
Sales (\$ Thousands)	\$61,578.0	\$109,101.8	\$170,679.8
Jobs	946.8	1,509.3	2,456.1
Labor Income (\$ Thousands)	\$21,405.5	\$41,202.4	\$62,607.9
Value Added (\$ Thousands)	\$36,548.0	\$63,464.9	\$100,012.9
<b>Total Effects</b>			
Sales (\$ Thousands)	\$88,760.3	\$159,240.0	\$248,000.2
Jobs	1,227.5	2,029.6	3,257.1
Labor Income (\$ Thousands)	\$28,785.0	\$57,716.6	\$86,501.6
Value Added (\$ Thousands)	\$52,424.9	\$93,095.1	\$145,520.0

**Table 5. Economic Significance of Boats Registered in Brevard County**

Sector/Spending Category	Sales (\$ Thousands)	Jobs	Labor Income (\$ Thousands)	Value Added (\$ Thousands)
<b>Direct Effects</b>				
Lodging	\$11,757.9	164.9	\$4,196.7	\$7,408.8
Marina Services	\$22,013.4	256.2	\$7,559.0	\$13,463.8
Restaurant	\$17,130.9	342.7	\$5,727.0	\$8,125.4
Recreation & Entertainment	\$3,445.4	40.1	\$1,183.1	\$2,107.3
Repair & Maintenance	\$37,959.5	505.1	\$12,989.7	\$16,983.0
Insurance & Credit	\$16,028.4	191.1	\$6,664.4	\$13,260.5
Gas Service	\$12,788.9	153.9	\$3,968.3	\$8,751.2
Other Retail Trade	\$40,607.0	749.4	\$17,091.3	\$24,208.9
Wholesale Trade	\$8,342.4	50.7	\$3,159.0	\$5,621.4
Other Local Production of Goods	\$606.2	1.9	\$69.3	\$82.7
<b>Total Direct Effects</b>	<b>\$170,679.8</b>	<b>2,456.1</b>	<b>\$62,607.9</b>	<b>\$100,012.9</b>
<b>Secondary Effects</b>	<b>\$77,320.4</b>	<b>800.9</b>	<b>\$23,893.8</b>	<b>\$45,507.1</b>
<b>Total Effects</b>	<b>\$248,000.2</b>	<b>3,257.1</b>	<b>\$86,501.6</b>	<b>\$145,520.0</b>

# Economic Significance of Boating in Levy County

**Table 1. Number of Registered Boats and Estimated Boat Days in Levy County**

Category	Boat Type and Size										Total
	Power <16'	Power 16' - 19'	Power 20' - 22'	Power 23' - 28'	Power 29' - 40'	Power 41'+	Sail <23'	Sail 23'+	PWC	Canoe/ Kayak	
Number of Boats	1,647	901	500	317	55	10	13	18	59	161	3,681
Average Boat Days	23	31	33	33	38	45	25	37	31	28	30
Total Boat Days	37,552	27,571	16,650	10,556	2,107	449	325	659	1,835	4,428	102,130

**Table 2. Total Spending on Boat Trips by Boat Owners Registered in Levy County**

Category	Total (\$ Thousands)	Percentage
Lodging	\$4,070.5	14%
Marina Services	\$1,584.2	5%
Restaurant	\$4,424.6	15%
Groceries	\$3,529.1	12%
Boat Fuel	\$9,400.2	32%
Auto Fuel	\$3,406.6	12%
Marine Supplies	\$1,611.6	5%
Recreation & Entertainment	\$851.2	3%
Shopping	\$678.4	2%
<b>Total</b>	<b>\$29,556.3</b>	<b>100%</b>

**Table 3. Total Annual Craft Spending (not including purchases of boats) by Boat Owners Registered in Levy County**

Category	Total (\$ Thousands)	Percentage
Slip	\$1,527.1	8%
Loan Payments	\$2,596.8	14%
Replacement Motors	\$1,235.7	7%
Replacement Trailers	\$294.2	2%
Insurance	\$1,351.3	7%
Repairs	\$3,804.0	20%
Accessories	\$7,806.1	41%
Taxes	\$335.0	2%
<b>Total</b>	<b>\$18,950.2</b>	<b>100%</b>

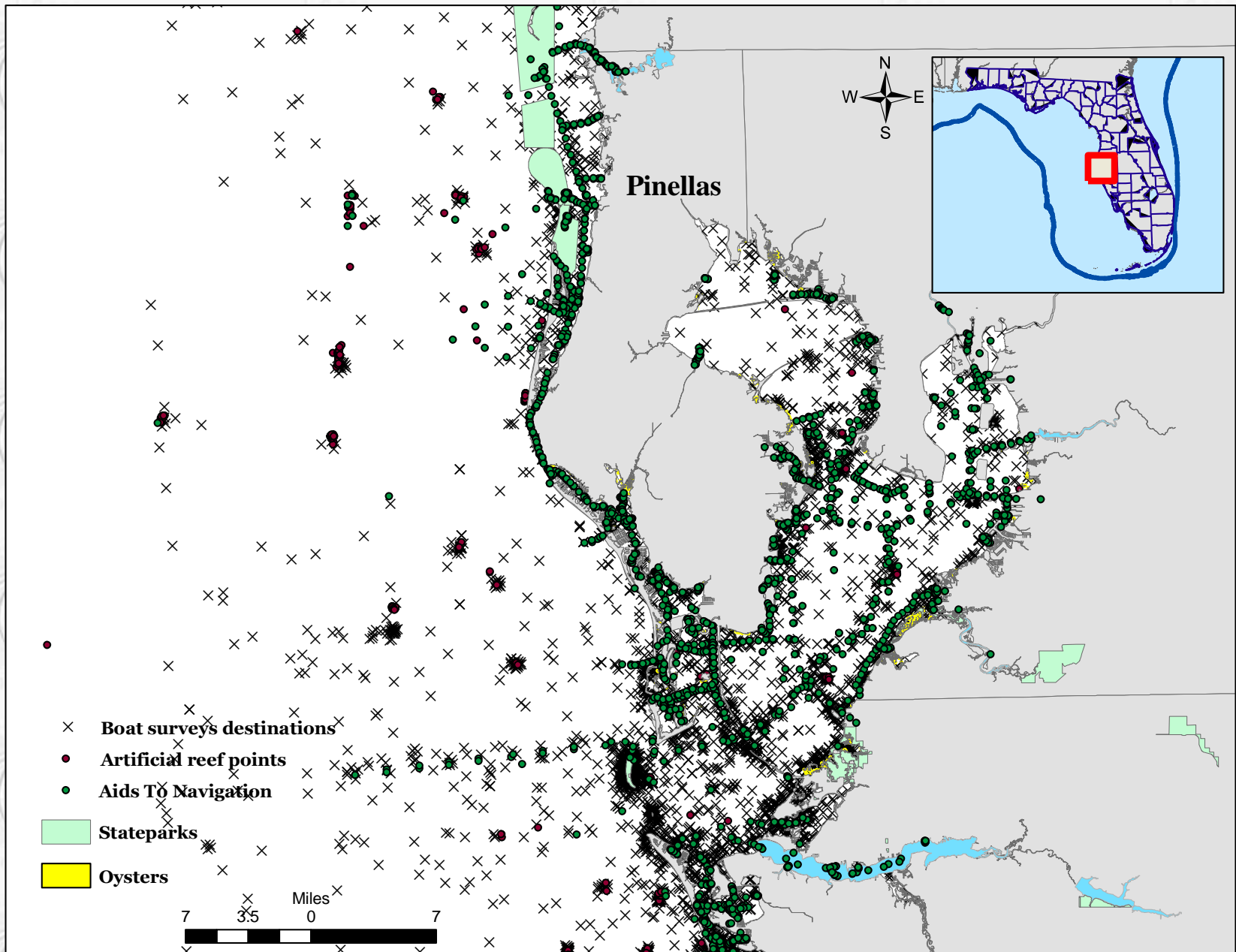


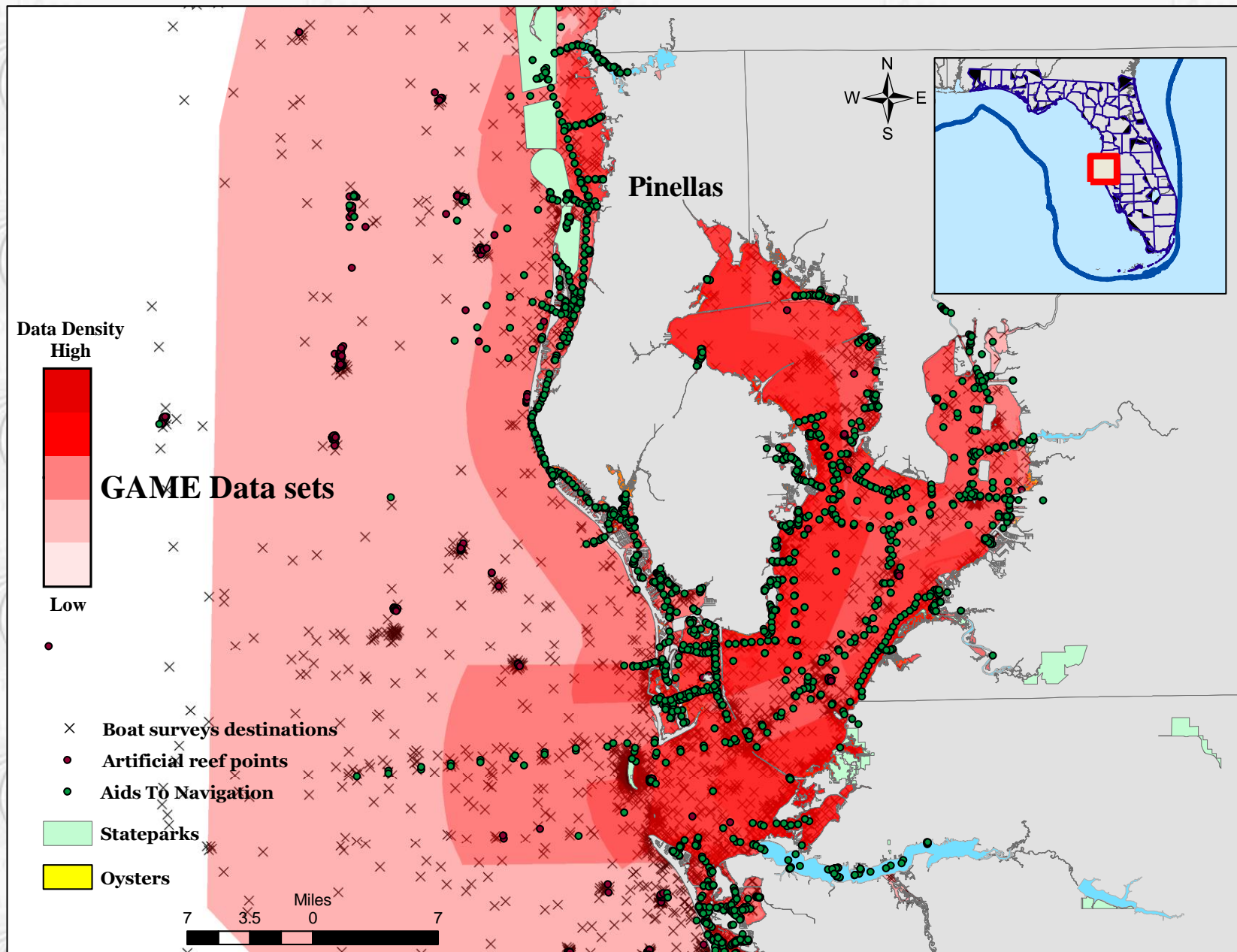
**Table 4. Economic Significance of Trip Spending and Annual Craft Spending by Boats Registered in Levy County**

	Trip Spending	Annual Craft Spending	Total
<b>Direct Effects</b>			
Sales (\$ Thousands)	\$16,208.5	\$10,888.7	\$27,097.2
Jobs	299.5	169.2	468.7
Labor Income (\$ Thousands)	\$5,296.6	\$3,816.0	\$9,112.6
Value Added (\$ Thousands)	\$9,083.0	\$5,862.2	\$14,945.3
<b>Total Effects</b>			
Sales (\$ Thousands)	\$20,806.6	\$13,803.0	\$34,609.6
Jobs	350.4	203.0	553.5
Labor Income (\$ Thousands)	\$6,352.1	\$4,675.7	\$11,027.7
Value Added (\$ Thousands)	\$11,705.5	\$7,601.4	\$19,306.9

**Table 5. Economic Significance of Boats Registered in Levy County**

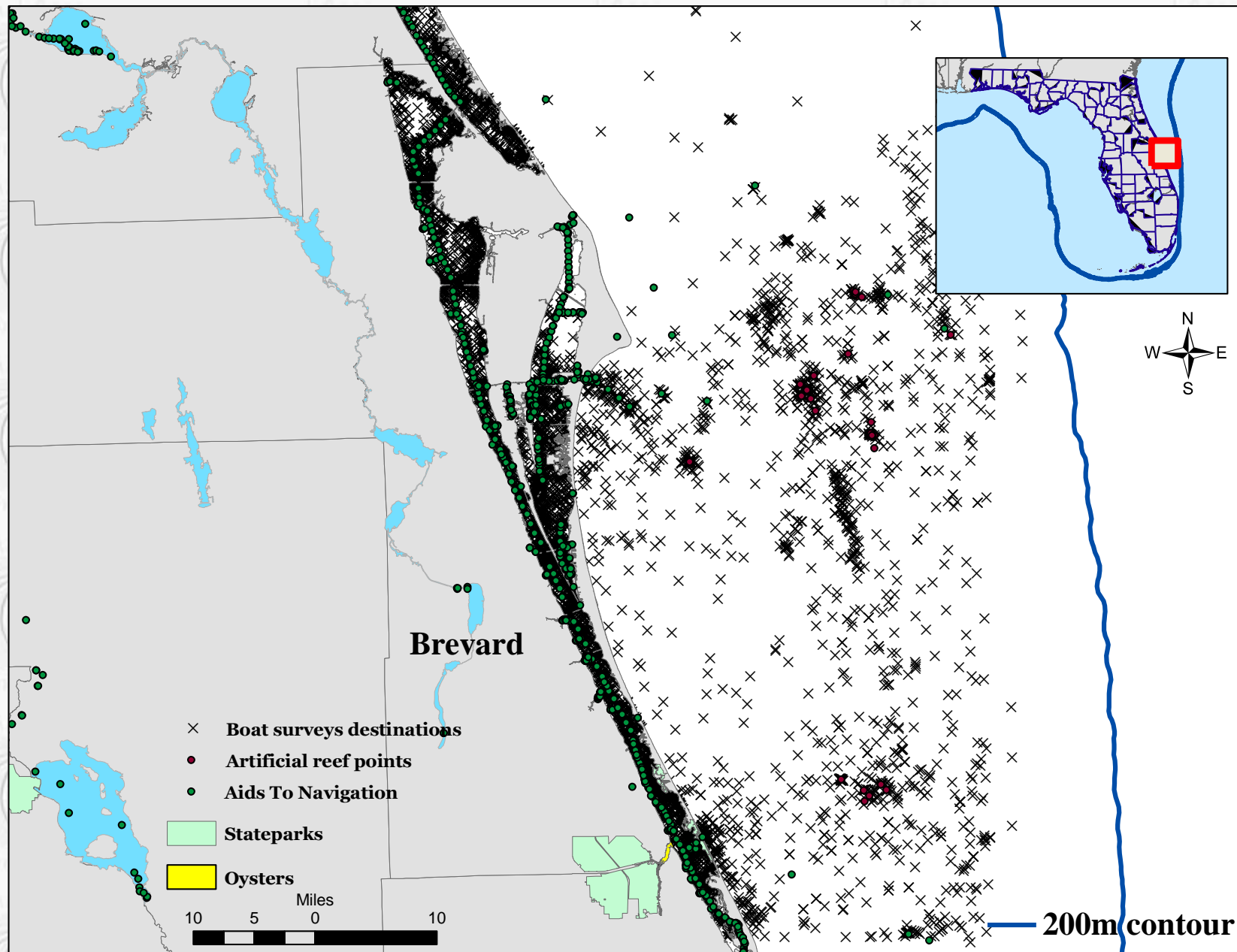
Sector/Spending Category	Sales (\$ Thousands)	Jobs	Labor Income (\$ Thousands)	Value Added (\$ Thousands)
<b>Direct Effects</b>				
Lodging	\$4,070.5	84.3	\$1,365.1	\$2,410.7
Marina Services	\$3,111.3	47.8	\$1,010.5	\$1,798.3
Restaurant	\$4,424.6	103.8	\$1,285.1	\$1,823.4
Recreation & Entertainment	\$851.2	13.1	\$276.5	\$492.0
Repair & Maintenance	\$3,804.0	63.2	\$1,014.6	\$1,332.1
Insurance & Credit	\$1,520.1	14.7	\$638.7	\$1,230.8
Gas Service	\$2,855.9	28.0	\$881.6	\$1,954.2
Other Retail Trade	\$5,300.9	100.2	\$2,225.3	\$3,164.0
Wholesale Trade	\$1,118.7	13.6	\$415.1	\$739.7
Other Local Production of Goods	\$40.1	-	-	-
<b>Total Direct Effects</b>	<b>\$27,097.2</b>	<b>468.7</b>	<b>\$9,112.6</b>	<b>\$14,945.3</b>
<b>Secondary Effects</b>	<b>\$7,512.4</b>	<b>84.8</b>	<b>\$1,915.1</b>	<b>\$4,361.7</b>
<b>Total Effects</b>	<b>\$34,609.6</b>	<b>553.5</b>	<b>\$11,027.7</b>	<b>\$19,306.9</b>

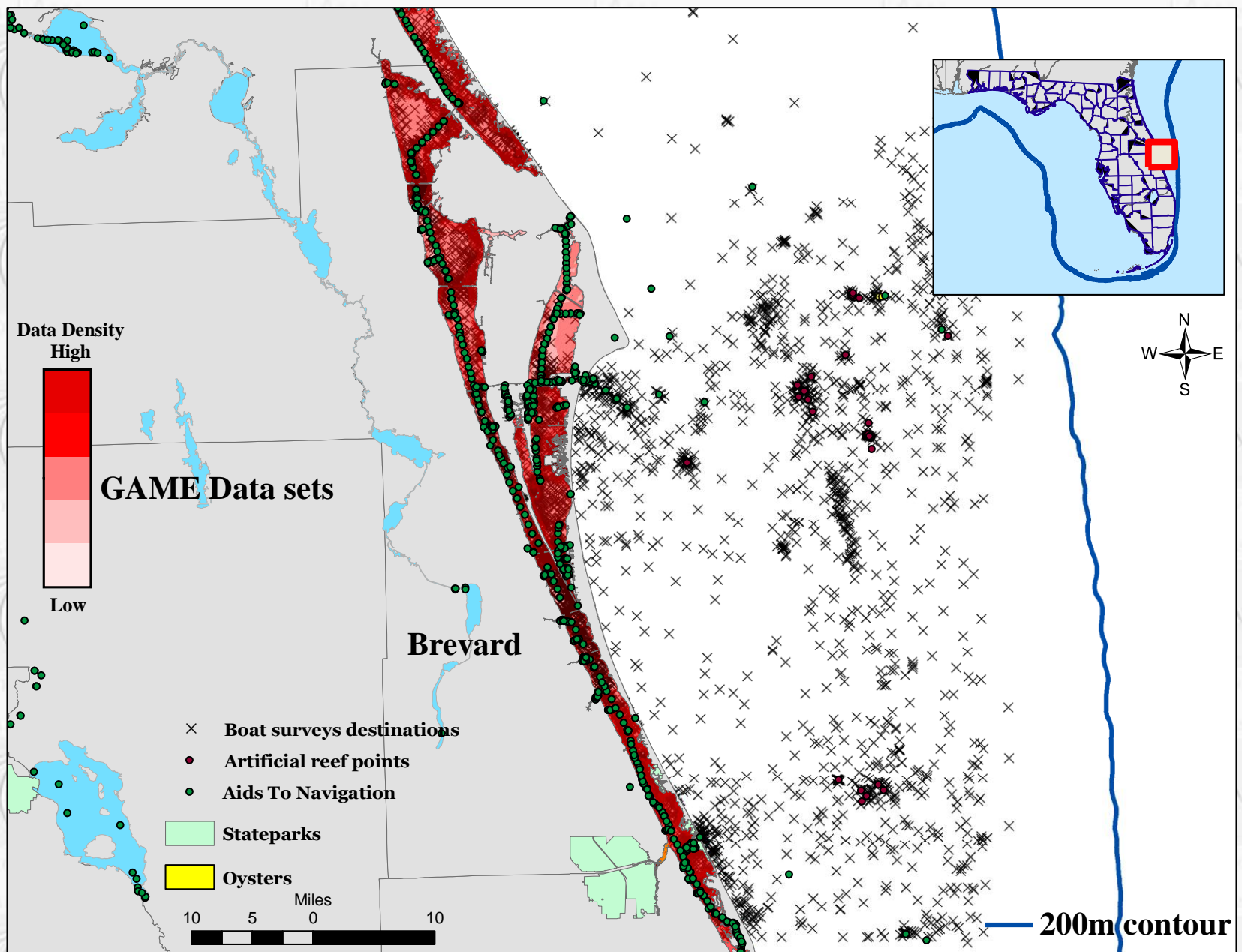




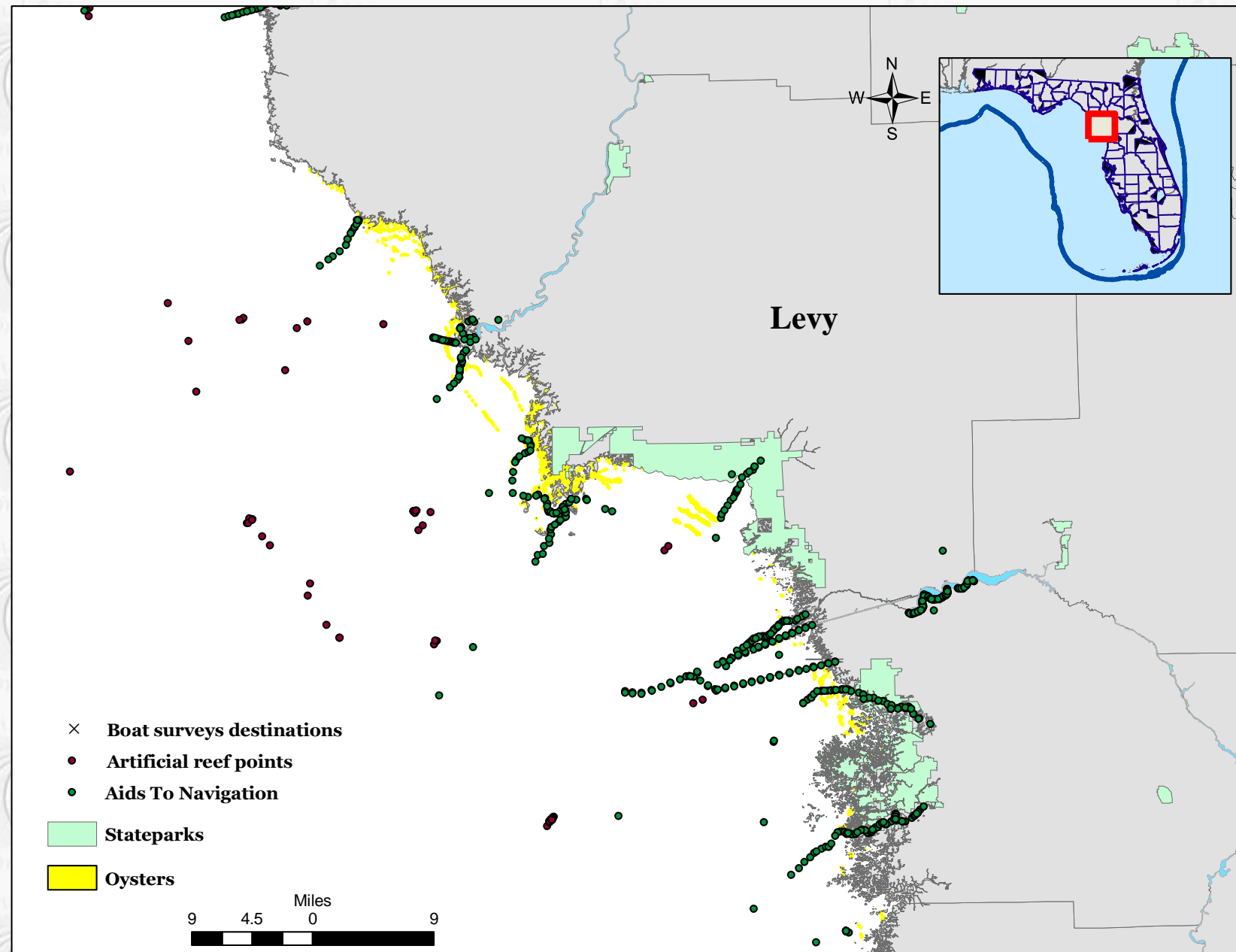
\$495,868.80 in economic significance for Pinellas County.



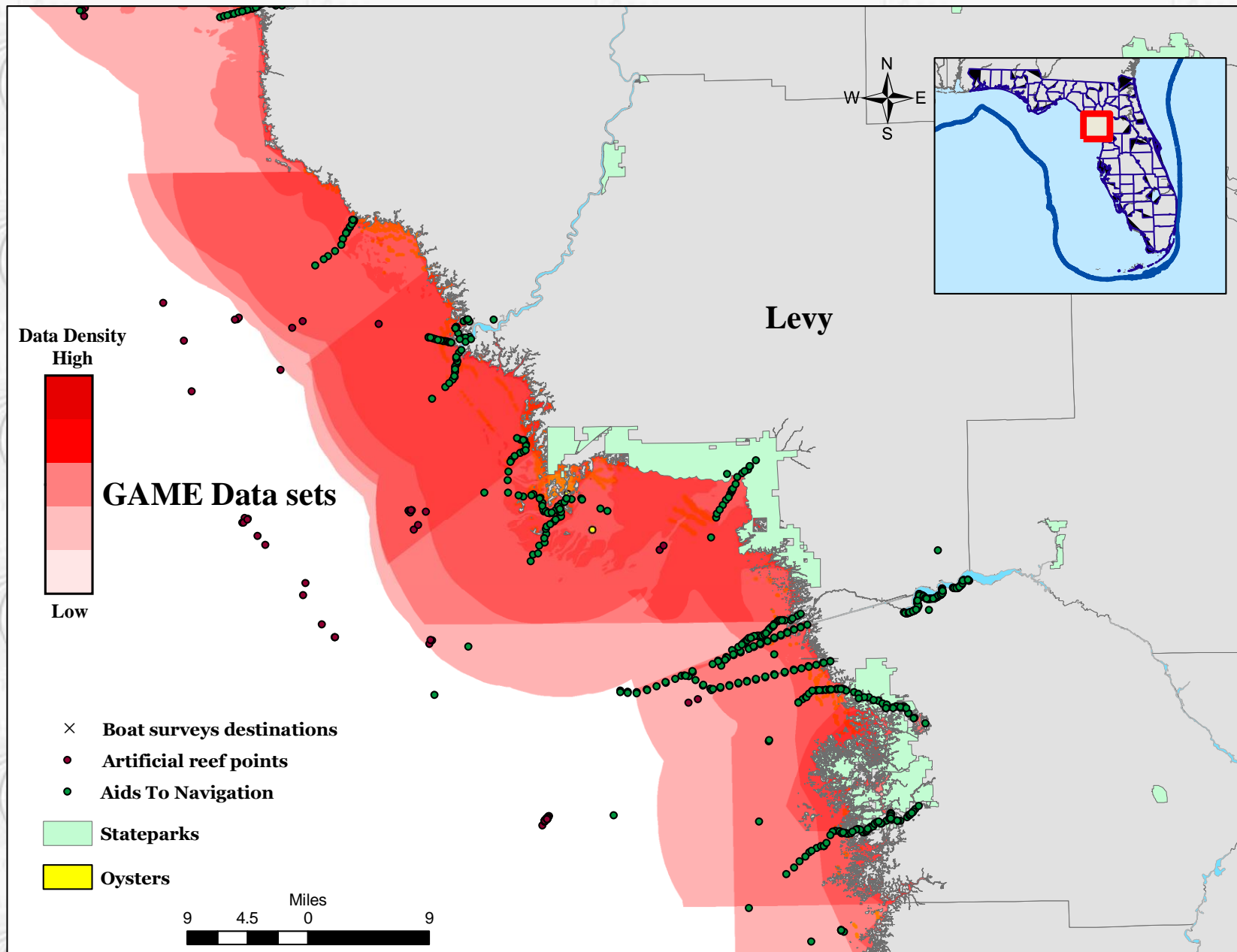




\$248,000.00 in economic significance for Brevard County.







\$34,609.00 in economic significance for Levy County

# In Conclusion

- Available boating destinations and environmental information overlap
- Pinellas county: the economic significance of recreational boating is correlated with environmental parameters
- Brevard county: Inter-coastal GAME Catalog information is associated with boating destinations
- Levy county: no recreational boating destinations, abundant biological information in the GAME Catalog
- Environmental parameters can contribute to the economic significance if incorporated in economic models/analysis

***Thank you***

***Questions and Comments ?***

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