

**Executive Summary:
Economic Significance of Recreational Boating in Florida**

September 2009

Edward Mahoney, Daniel Stynes, Yue Cui, Teresa Herbowicz and Tanya Stock
Recreational Marine Research Center, Michigan State University



The purpose of the economic impact analysis is to identify expenditure, revenue, and employment flows, along with employment in a particular region and the state attributed to recreational boating. The economic impact analysis illustrates the economic contributions made to regional, local or state economies by expenditures related to recreational boating.

In this study, the economic impact analysis estimated the expenditures made by recreational boaters who engaged in boating trips. As people go on boating trips or prepare for these trips they typically spend money (e.g. gasoline, food, and safety equipment), these expenditures then become part of a revenue stream of the relevant businesses and industries in that community and eventually become part of the incomes and employment realized by the community.

ECONOMIC SIGNIFICANCE

Statewide Economic Significance

The contribution of registered boater spending to the Florida economy was estimated by applying the total trip and craft-related spending to an input-output model of the Florida economy. Multipliers for the key tourism and boating-related sectors of the Florida state economy were extracted from a 2006 I-O model estimated with the IMPLAN system and applied to estimates of total spending in each sector. Estimates of direct and secondary effects in terms of sales, jobs, labor income, indirect business taxes, and value added are made. Indirect business taxes are reported at the state level.

The \$3.38 billion in trip spending had a direct effect of \$697 million labor income, \$194 million in indirect business taxes, \$1.18 billion value added and approximately 26,000 jobs. Including secondary effects the total contribution was over 38,000 jobs, \$1.08 billion labor income, \$284 million in indirect business taxes and \$2.04 billion value added. Sectors benefiting directly from trip-related spending were restaurants, lodging establishments, gas service, grocery and other retail businesses.

The \$5.15 billion in craft-related boater expenses in 2007 directly supported over 39,000 jobs and \$1.9 billion value added. Including secondary effects, the total economic contribution from craft-related spending was almost 59,000 jobs, \$2.0 billion labor income, \$442 million indirect business taxes and \$3.3 billion value added. Craft-related expenses directly support jobs in marine trades including marinas, repair shops, and retail establishments selling boating-related products and accessories. The combined contribution of trip and craft-related spending to the Florida economy is over 97,000 jobs, \$3.1 billion labor income, \$726 million indirect business taxes and \$5.3 billion value added.

Recreational boating-related spending in Florida and resultant economic contribution

Economic impact of boat trips	
Estimated number of trips	21,686,000
Number of registered boats (2008)	932,153
Spending on boating trips	\$3,380,000,000
Jobs supported by trip spending	38,300
Indirect business taxes ^a generated by trip spending	\$284,000,000
Income produced by trip spending	\$1,080,000,000
Value-added ^b associated with trip spending	\$2,040,000,000
Economic impact of craft spending	
Craft spending	\$5,150,000,000
Jobs supported by craft spending	58,900
Indirect business taxes generated by craft spending	\$442,000,000
Income produced by craft spending	\$2,020,000,000
Value-added associated with craft spending	\$3,280,000,000
Economic impact of trips and craft spending	
Total trip and craft spending	\$8,530,000,000
Total number of jobs supported by trip and craft spending	97,200
Total amount of indirect business taxes generated by trip and craft spending	\$726,000,000
Total income produced by trip and craft spending	\$3,100,000,000
Total value-added associated with trip and craft spending	\$5,320,000,000

a) Indirect business taxes include property taxes, excise taxes, severance taxes, fees, fines, licenses, and sales taxes paid by businesses to government.

b) Value added is the sum of labor income, profits and rents, and indirect business taxes.

Regional Economic Significance

Multipliers for twenty economic sectors directly impacted by boater spending were estimated for the ten regions using the IMPLAN system with 2006 economic data. Sector-specific multipliers were applied to the regional spending totals to estimate direct and secondary impacts in terms of sales, income, jobs, and value added.

Since much of the boating activity and spending occurs within the boater's region of residence, results should be interpreted as economic significance rather than impacts in a with-versus-without sense. That is, much of the spending does not constitute export activity or "new dollars" to the region, so a large proportion of the

Funded by:



Conducted for:



Project Manager:



Overall contribution of boater 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	616	6,642	214	50	381
Restaurant	479	8,758	170	25	242
Recreation/entertainment.	99	1,064	34	8	61
Repair/maintenance	1,062	13,765	372	80	486
Insurance and credit	460	3,383	198	5	382
Gas service ^a	345	4,130	107	50	236
Other retail trade ^a	1,100	19,025	473	156	670
Wholesale trade ^a	534	3,104	202	82	360
Local manufacturers	150	466	19	0	24
Total direct effects	5,254	64,980	1,940	494	3,106
Secondary effects	3,758	32,132	1,157	232	2,215
Total effects	9,012	97,112	3,097	726	5,321

a) Margins on goods purchased by boaters.

Note: Direct sales are less than total trip spending as the cost of goods sold to retail establishments are not included unless the good is locally made. That is, only retail and wholesale margins are captured if the good is not made in Florida. IMPLAN RPC's were used to estimate the percentage of goods that were manufactured in Florida.

spending would likely stay in the region in the absence of boating, but would shift to other sectors of the economy. The economic results demonstrate the contribution of boater spending to economic activity in the region and identify those sectors that benefit from it.

The South Florida region receives the greatest direct and total economic impacts from boater trip spending and craft spending. The second greatest impact is Southwest Florida. The combined impact of trip and craft spending supports over 12,000 jobs in South Florida and over 18,000 jobs, when secondary effects are included.

BOATING ACTIVITY

Days of Use by Segment

Sixty-one percent of the boat owners responding each month had taken the boat out on the water at least once in the previous month. The sampled boat was used about 4 days per month with larger boats used slightly longer than smaller boats. The overall patterns of use did not vary significantly from month to month. On an annual basis, the average registered boat was used about 30 days. Days of use per year varied from 45 days for power boats 41 feet or longer to 23 days for power boats under 16 feet.

Day Versus Overnight Trips

The average number of trips per year was estimated based on the average days on the water for each boat segment, along with the percentage of day versus overnight trips, and the average number of days boats were taken out on the water on overnight trips.

The overall average of 30 days on the water per boat in 2007 breaks down into almost 21 days on day trips and about 9 days on overnight trips. Larger power and sail boats were more likely to take overnight trips (49% of all their trips). Overall, 10% of the boat trips on the water were overnight trips. Boats were used an average of 3.7 days on a typical overnight trip.

Origin-Destination Patterns

To estimate flows of spending around the state, day and overnight boating trips were divided into three categories: (1) trips within the county of registration, (2) trips within the region of registration, but outside of the county of registration, and (3) trips outside of the region of registration.

Statewide, 92% of day trips stayed within the region of origin (registration), 73% stayed within the origin county, and 8% involved travel outside the home region.

Overnight trips were more likely to be destined for a place outside the home county and region. Fifty-four percent of overnight trips stayed in the home region, 29% stayed within the home county and 46% went outside the home region.

Monthly and annual average boat days and trips by segment

Segment	Monthly average		Annual average	
	Boat taken out	Days on water ^a	Days on water ^b	Trips on water
Power boats < 16'	50%	3.8	22.8	18.8
Power boats 16-19'	65%	3.9	30.6	25.8
Power boats 20-22'	66%	4.2	33.3	26.7
Power boats 23-28'	69%	4.1	33.3	25.4
Power boats 29-40'	70%	4.6	38.3	19.3
Power boats ≥ 41'	69%	5.5	44.9	14.1
Sailboats < 23'	51%	4.1	25.0	20.2
Sailboats ≥ 23'	60%	5.0	36.6	14.3
PWCs	54%	4.8	31.1	25.2
Canoes/Kayaks	58%	3.9	27.5	20.6
Total	61%	4.1	29.9	23.0

a) Average days for boats that were taken out at least once. Trips outside the US are excluded.

b) Estimated as 12 * Pct taken out each month * average days on the water per month.

Total Boating Trips

Florida-registered boats logged an estimated 21.7 million boating trips in 2007 in which the boat was taken out on the water. Ten percent of these trips were overnight trips.

The greatest number of trips were generated in the East Central region (Brevard, Flagler, Lake, Orange, Seminole, Volusia counties). This region also has the greatest number of registered boats.

Annual average day and overnight trips by boat segment

Segment	Trips in 2007	Percent overnight trips	Average annual boat days		
			On day trips	On overnight trips	Total
Power boats < 16'	18.8	8%	17.3	5.5	22.8
Power boats 16-19'	25.8	6%	24.2	6.4	30.6
Power boats 20-22'	26.7	8%	24.7	8.6	33.3
Power boats 23-28'	25.4	10%	22.8	10.5	33.3
Power boats 29-40'	19.3	28%	13.9	24.4	38.3
Power boats ≥ 41'	14.1	49%	7.2	37.7	44.9
Sailboats < 23'	20.2	8%	18.7	6.3	25.0
Sailboats ≥ 23'	14.3	39%	8.8	27.9	36.6
PWCs	25.2	6%	23.6	7.5	31.1
Canoes/Kayaks	20.6	11%	18.2	9.3	27.5
Total	23.0	10%	20.7	9.2	29.9

Note: Trips do not include trips to visit the boat when the boat was not taken out on the water or trips outside the US.

BOATER SPENDING

Trip Spending Averages

The monthly trip surveys asked the respondents to report spending on their most recent trip in the previous month. Expenditures were divided between spending within 20 miles of home and spending en route or near the boating destination. For trips of less than 20 miles, all of the spending was reported as within 20 miles of home. Spending was reported within 10 spending categories.

The average spending was reported separately for day trips and overnight trips within the 10 boat size/type segments. Within a given boat segment, the spending averages did not vary significantly across regions, but the averages did vary considerably between boat segments, by trip types (day or overnight), and the length of the trip.

Spending on the average boating trip was \$156. Thirty-five percent of trip spending was for boat fuel, 14% for restaurant meals, 13% groceries, 12% lodging on overnight trips, and 10% auto fuel. Spending per trip varied across the ten segments from a high of \$936 for the largest power boats to \$46 for smaller sail boats and \$95 for canoes. However, since most canoes are not registered, the sample of canoe trips was small and the spending average may be unreliable.

The average spending on day trips was \$90, with almost half of this spending going to boat fuel. Day trip spending varied from \$42 per

trip for the smallest power boats to \$381 for the largest power boats.

Spending on overnight trips averaged \$841 across all registered boats. With an average overnight trip lasting about 4 days, per-day spending on overnight trips is about double that of day trips, primarily due to extra lodging expenses and additional fuel associated with longer trips. Lodging accounted for 26% of overnight trip expenses with the largest lodging expenses associated with smaller boats.

Averages were also estimated for three categories of trips based on distance traveled: (1) trips within the home county, (2) trips outside the home county but within the region, and (3) trips outside the home region. The statewide averages for day and overnight trips by segment and trip types were applied to all regions.

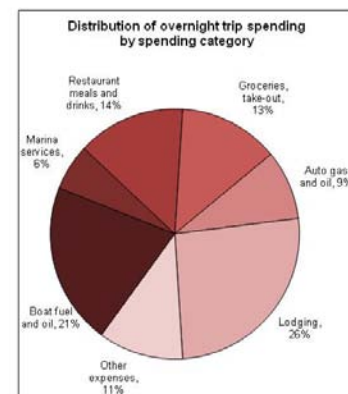
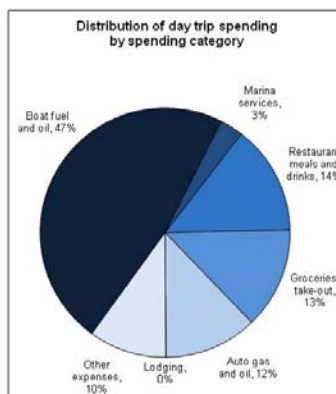
Trip spending increases with distance from home. The average trip spending on day trips varied from \$79 per trip for within county trips to \$114 for trips within the region but outside the county to \$131 for trips outside the home region.

Spending on overnight trips varied from \$498 per trip for trips within the county to \$698 for trips within the region to \$1,161 for trips outside the region. Two-thirds of the spending on overnight trips outside the region of origin occurred near the destination or en route.

Craft Spending Averages

The trip surveys captured expenses only on boating trips. Boat owners also incur other expenses during the year: on maintenance, repairs, insurance, equipment, accessories, and other items. These expenses are not associated with any particular trip.

All but 4% of registered boat owners spent something on their boat in 2007. Over 80% of the owners spent money for insurance, fuel, and maintenance, while less than 5% reported purchases of new motors or trailers.



On average, boaters spent \$5,530 on their boats in 2007. Spending varied from a high of almost \$48,000 for power boats 41 feet or longer to \$700 for owners of canoes, \$1,771 for smaller sailboats, and \$2,231 for power boats less than 16 feet long. PWC owners reported expenses of \$2,571 to operate and maintain their boat.

The majority of owners' craft-related expenses were for equipment and repairs. Spending figures excluded purchases of

boats, but included purchases of new outboard motors, trailers, accessories, and safety and other equipment. Combined, these items accounted for 45% of craft-related spending. Maintenance, repairs and installations accounted for 21% of the spending. Other expenses included boat loan payments (15%), insurance (8%), storage (9%) and taxes (2%).

Trip and Craft Spending by Boat Storage Segments

There are some significant differences in boater trip patterns and spending across distinct boat storage types. Marinas and waterfront homes provide boating access for larger boats while launch ramps serve smaller, trailerable boats. Boats kept in the water tend to be used more frequently than boats that must be trailered to access sites. Boats kept at marinas and dry stack facilities incur additional storage costs.

Boats stored at marinas spent \$267 per trip in 2007, split about evenly between spending within 20 miles of home and spending en route or near the destination. Boat fuel accounted for \$110 of this spending.

Annual craft spending for boats stored at marinas averaged almost \$14,000 in 2007 including \$3,255 on storage, \$3,086 on accessories, and \$2,028 on boat loan payments. Boats in other storage categories spent between \$3,000 and \$7,000 in annual craft expenses.

Although almost half of all registered boats were stored at non-waterfront homes, these boats account for 37% of all trip spending and only 30% of annual craft spending. The nine percent of registered boats stored at marinas accounted for 16% of all trip spending and 28% of annual craft spending.



Expanding Results to All Registered Boats

Total spending statewide and for individual regions and counties was estimated by applying statewide averages of boating activity and spending from the survey to the 2007 Florida boat registrations. Since the majority of boating trips occur near home, the registration statistics captured where most boating activity occurred.

The ten boat segments were used to capture differences in the number and types of trips and spending across boat type and size categories. The number of boat days generated in each county was estimated by multiplying the numbers of boats of each type registered in a given county or region by the statewide average of boat days for that segment. Summing across segments yielded the county and regional total boat days.

Total Spending

In total, Florida registered boat owners spent \$3.38 billion on trips in 2007. Thirty-five percent of the trip spending was for boat fuel and oil. Restaurant meals and drinks accounted for 14%, groceries 13%, and lodging and auto fuel each accounted for about 11% of the total. Total spending on day trips was \$1.8 billion compared to \$1.6 billion on overnight trips. The South region received the most spending (18% of the total) followed by Southwest Florida, East Central Florida and West Central Florida.

Registered boat owners spent a total of \$5.15 billion on craft-related expenses in 2007. The largest total expenditures were for boating accessories and products (25%) and boat loan payments (15%). The regions with the greatest total craft-related spending were South Florida and Southwest Florida.

Total boater expenditures including trip and craft-related spending in 2007 was \$8.5 billion. Forty percent of the spending was for trip-related expenses, 60% for craft-related ones.

FLORIDA ONLINE ECONOMIC IMPACT MODEL

This study also produced a system of three web-based models which allows users to estimate boater spending and the associated economic impacts in terms of jobs, sales, income, and value added resulting from the ownership (e.g., craft spending) and use (e.g., trip spending) of recreational boats of different sizes and types in Florida. The models can be accessed at www.floridaboatingeconomics.com. The economic impact models use distinct spending profiles for boats of different types and sizes that are registered in counties/regions, kept at marinas, and trailered to launch sites. The annual craft-related spending is analyzed in eight categories, and trip spending in ten categories. Employment and income effects are reported for a dozen economic sectors. Economic impacts are estimated by applying estimates of annual craft and trip spending to county or regional multipliers representing the structure of the county/region where registered boat owners reside and where marinas or boat access/launch sites are located.

One of the online models allow users to estimate the economic impacts of power and sail boats registered in different counties and regions of Florida.

Another online model can be used to estimate the economic impacts of existing and proposed marinas in Florida. The model can be used to estimate the spending and direct and indirect economic impacts of an entirely new marina, the loss of a marina or changes in the storage capacity (e.g., number and sizes of slips) of marinas. For example, if dredging of a recreational harbor is not maintained and a marina becomes inaccessible to larger sail and power boats or inaccessible completely, the model can be used to estimate the loss in boater spending and associated direct and secondary effects on the local economy.

The third online economic model enables users to estimate the economic impacts of boating trips on which boats are trailered to launch sites. The model produces information including, the average spending per launch, total annual trip spending by boaters who launch at a site, and the economic impacts of this annual trip spending. This model can estimate the economic effects of

developing a new launch site, increasing the capacity (e.g., parking area, number of launch ramps, size of the ramps) of an existing launch site, or the loss or decreasing the capacity of an existing launch site.

SURVEY METHODS

Data for the economic impact analyses were obtained from a web-based survey system that was used to both recruit registered Florida boaters to a panel and conduct monthly survey of the panelists. About 8,300 boat owners joined the panel and agreed to complete surveys concerning their boating activity and last boating trip each month.

The monthly survey employed state-of-the-art survey technology including a sequence of HTML maps connected via hyperlinks that collected geographic information about boating trips. At the beginning of each month, panel member were sent an email inviting them to complete their monthly (“last trip”) boating survey on the web. The monthly survey asked whether panel members took their primary boat out on the water, and if so, how many days, and whether they visited/used the boat without taking it out on the water. If they did not take the primary boat out on the water, they exited the survey. Those who did take it out on the water were queried about their last boating trip including: (1) the date it began, (2) whether it was a day or overnight trip, (3) number of persons aboard, (4) boating activities including saltwater fishing, (5) spending on the trip, (6) origin of the trip and (7) whether the boat was trailered, and if so, what types of launch

sites were utilized. To minimize panel member fatigue, the panel was divided into two groups, and each group was alternately surveyed each month between April and September.

The monthly “last trip” surveys produced 26,770 completed surveys over the course of ten months. Two-thirds of the boat owners reported taking their boat out on the water during the last month yielding comprehensive data on about 17,313 boating trips where 84% of them were day trips and 16%, involved an overnight stay.

While the sample is reasonably representative of the regional distribution of registered boats, it intentionally over-represented larger craft in order to obtain adequate sample sizes for the larger boat size classes. Weights were developed to adjust the sample to the fleet of registered boats based on the region of registration and boat segment. Monthly trip weights were developed to adjust the sample to the same number of boats each month (using March data as the baseline).

The project was conducted by a team of researchers led by the Urban Harbors Institute of the University of Massachusetts Boston, and included the Recreational Marine Research Center at Michigan State University, Bordner Research, Inc., Resource Economics Research, LLC, Environmental Economics, Inc., the Catanese Center for Urban and Environmental Solutions at Florida Atlantic University, and the Planning and Zoning Center of the Land Policy Institute at Michigan State University.

Marina: Input

1. Name of the marina for which the analysis is being conducted:

2. Type of marina:

- Privately-owned/Commercial Marina
- Private Club
- Dockominium Marina
- Condominium Housing Marina
- Public-owned Marina

3. Type(s) of slips provided in the marina: **(Required)**

- Seasonal, annual, or condominium slips
- Transient rental-only slips
- Seasonal, annual, or condominium slips and transient slip rentals

4. County in which the marina is located: **(Required)**
(Click [here](#) for a county map)

- County -