

The Economic Impact of the 2011 Florida BASS Federation Tournament to Osceola County and the Event's Economic Value to Participants¹

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Introduction

The Florida BASS Federation Nation (FBFN) is a chapter of the Bass Anglers Sportsman Society (B.A.S.S.), a national organization whose goal is to stimulate public awareness of bass fishing as a major participant sport. Each year the FBFN holds a State Championship tournament that attracts both professional and amateur anglers to a competitive event in which participants seek to catch the largest cumulative weight of bass over two days. There are two ways to qualify for the state championship tournament: (1) finish in the top 70 percent of the field in any one of four tournaments in the angler's region with at least one legal catch, or (2) participate in any Regional Qualifying or Last Chance Tournament with a catch equal to or greater than the weight of the last qualifier in the division (B.A.S.S. 2012).

The 2011 FBFN State Championship in Florida was held on November 5th and 6th at Lake Tohopekaliga (aka Lake Toho) in Osceola County. Lake Toho is a 22,700-acre, shallow lake located southeast of the city of Kissimmee in Central Florida and is known for producing more bass over 10 pounds than any other lake in the world (AJ's Freelancer Bass Guide Service, Inc. 2012). In addition, the women's world record bass, weighing 14 pounds 5 ounces, was caught in Lake Toho. According to the Florida Fish and Wildlife Conservation Commission (FFWCC), Lake Toho

is among the top bass fishing sites in Florida. Lake Toho angler surveys conducted by FFWCC from August through November 2011 found that the bass catch rate was 0.82 fish per hour, which is well above the average for many other lakes within the state.

The economic impact associated with the FBFN fishing tournament on Lake Toho is assumed positive for Osceola County since participants' expenses include lodging and meals (among other expenses) that are incurred in the county. This article describes an assessment of the economic impact in Osceola County associated with the FBFN's State Championship tournament. The non-market value of the tournament to the participants (i.e., the intangible value of benefits to participating anglers) is also estimated. Findings from this analysis should help planners and other stakeholders of similar tournaments better estimate the economic benefits associated with such community activities.

Methods

A questionnaire was developed for distribution by the FFWCC to all tournament participants at the mandatory meeting held by the tournament organizers on the evening of November 4, 2011. Attendees were told that information collected would be very useful to the FFWCC and, as such,

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they were asked to complete the questionnaire that evening but were not required to participate in the survey.

The questionnaire solicited information from participants concerning county of residence, tournament-related expenditures, days spent away from home, number of individuals in the travel party, and participants' assessment of the quality of the fishing site and facilities. With respect to the expenditure information, respondents were asked about expenses in 10 distinct categories (e.g., vehicle fuel, lodging, food and beverages) and the approximate share spent in the local region (e.g., county) for each. Lastly, to allow for the estimation of the non-market economic value that accrued to participants, respondents were asked whether they would have taken the trip if travel expenses were higher than what was actually incurred.

Evaluating the impact an activity such as a fishing tournament has on a county's economy requires distinguishing between expenditures incurred by county (local) residents and non-county (non-local) residents. Expenditures by local residents represent only transfers within that county's economy, which creates no new money for the county. Expenditures associated with non-local residents will generate "new revenue," which in turn generates additional economic activity through indirect and induced impacts known as "multiplier effects." Indirect impacts occur as local businesses purchase the necessary goods and services to meet the additional demands of non-local tournament participants. Induced impacts occur as households of employees, managers, and business owners spend their additional income (generated by non-local fishing tournament participants) at other local businesses in the area for the everyday necessities of life.

The tournament expenditure estimates provided by local and non-local adult tournament participants were entered into a regional economic modeling software package, *IMPLAN* (Minnesota *IMPLAN* Group 2012). The *IMPLAN* (impact planning) software includes a detailed county-level database of the US economy, which makes it possible to construct detailed input-output models for regional and county economies. Such models mathematically describe and quantify the economic relationships and interactions within a defined economic region such as a county. Once constructed, these models describe how new revenue (non-local expenditures) for similar events would be expected to affect all types of businesses and institutions in a local economy. This study will use the local expenditures of non-local residents to estimate the economic impacts of

the FBFN State Championship tournament with regard to the Osceola County, Florida economy.

While estimating the change in overall economic activity associated with new revenue to Osceola County from the FBFN State Championship is useful, such a study does not capture the economic benefit to individual participants and other visitors who accompany them to the tournament. The economic value to participants, however, can be estimated by measuring each participant's "willingness-to-pay" with regard to transportation and lodging costs. Because travel expenses (defined here to include just the costs of getting to and from the tournament plus lodging) are assumed to reflect the minimum value that the activity has to participants, the value to participants has to at least be as high as the out-of-pocket travel expenses actually incurred. For some anglers, these expenses approximate the non-market or intangible value they receive; but for others, the value may be much greater, tantamount to purchasing a coveted good at a great discount (i.e., they would have been willing to pay more, but they did not have to do so). This value, known as "consumer surplus" to economists, is often measured in recreational applications by asking participants whether they still would have taken the trip had it been more expensive. By summing individual willingness to pay, the recreational benefit of the tournament can be quantified (Letson and Milon 2012).

Results

Survey Findings

RESPONSE RATE

Of the 165 surveys distributed to the fishing tournament participants, 157 were completed and returned for a 95.2 percent response rate.

RESIDENCE

Participants in the State Championship Tournament travelled to Lake Toho from places within and outside of Osceola County (**Figure 1**). Only 2.6 percent of respondents were residents of Osceola County (**Table 1**, question 3). The top two counties with the majority of the participants were Polk and Orange Counties. Palm Beach and Putnam Counties also boasted a relatively high number of residents who participated in the tournament. The average one-way distance traveled was 101.2 miles (**Table 1**, question 4), with one participant logging the most at 839 miles, having come from Arcadia, Missouri.

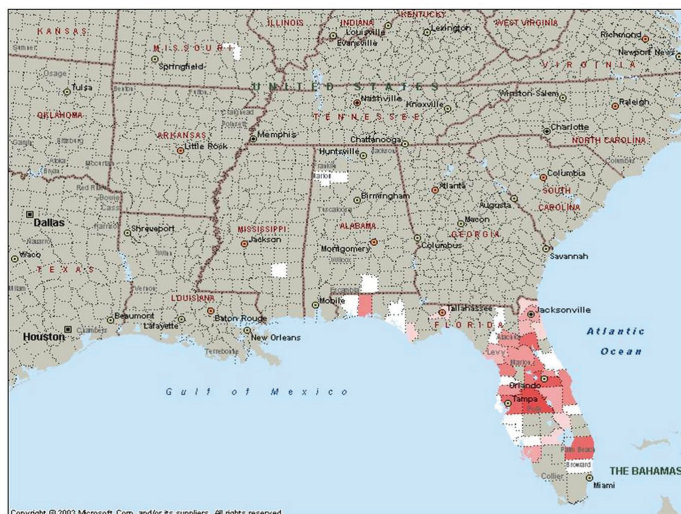


Figure 1. Map indicating the home county of participants where lighter and darker shading indicates fewer and more participants, respectively.

AGE OF PARTICIPANTS

Registered participants ranged in age from 19 to 78 years old (Table 1, question 8). The average age of all participants was 48.

SITE CHARACTERISTICS

Following a habitat enhancement project in 2004, Lake Toho has provided anglers with a wide range of habitat types well suited for bass (Cimbaro 2012). At the time of the survey, which was immediately before the tournament, registered participants were asked to rate the quality of the fishing site and its facilities individually as *poor*, *fair*, *good*, *very good*, or *excellent* (Figure 2). No participants rated either the fishing site or its facilities as *poor*. Over 70 percent of tournament participants rated the quality of fishing at Lake Toho as *very good* (36.3%) or *excellent* (34.4%) (Table 1, question 1; Figure 2, left panel). In terms of facilities, Lake Toho has two fish camps, a marina, a county park, five public boat ramps, two fishing piers, and numerous access points for shore anglers (Cimbaro 2012). Most tournament participants rated the quality of Lake Toho’s facilities as *good* (48.1%), but a nearly equal number (44.3% overall)

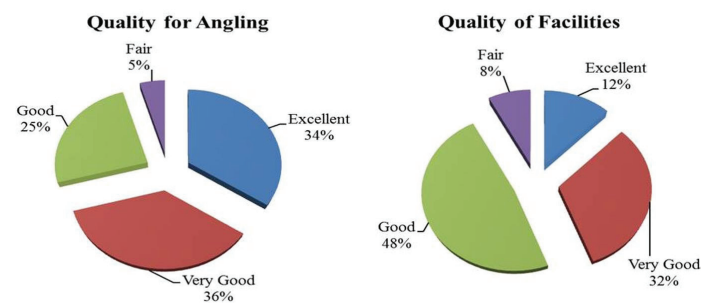


Figure 2. Distribution of responses on quality of site for angling and facilities

rated the facilities as either *very good* (32.1%) or *excellent* (12.2%) (Table 1, question 2; Figure 2, right panel).

PARTY SIZE

Respondents reported that, on average, there were 1.9 people on their trip, including themselves (Table 1, question 6). Party size ranged from one to 20, with the larger number associated with a fish camp (excluding the 20-person fish camp, the maximum reported number of people traveling together was 7).

EXPENDITURES

For the purpose of estimating the tournament’s economic impact in Osceola County, it is necessary to consider only those expenses reported by out-of-county residents (97.4% of responding participants). It is also important to estimate the share of total expenses that were incurred in Osceola County because this represents new money entering the county. To obtain this information, the reported expenses in each of 10 distinct categories (e.g., vehicle fuel, lodging, and food and beverages) were multiplied by the approximate share spent in the region for each category. Where the expense for truck fuel was unreported or missing, midpoint mileage between the zip code of the respondent’s residence and the marina was used with the standard IRS deductible rate on personal vehicles (i.e., \$0.51 per mile; IRS 2010) to calculate this expense. If any of the other expenses were missing (Table 2, question 9a), the expense was assumed zero. If the reported share of an expense in Osceola County was missing, the share was assumed to be equal to the average (for simplicity, the shares were reported by category: 0% [none], 1–49% [some], 50–75% [most], or 75–100% [nearly all]). The midpoints of the ranges were used for each respondent, which produces a conservative measure of in-county expenditures since the largest share is 88 percent.

Non-resident participants (97.4% of total respondents) spent an average of \$703.68 on trip and tournament expenses. The majority of the total trip expenses for non-residents, comprising 63.5 percent of total expenses, were for truck fuel, boat fuel and oil, and lodging (Table 2, question 9a). Truck fuel accounted for 19.6 percent of the total, or \$138.24. Boat fuel and oil accounted for 22.9 percent of the total, or \$161.06. Lodging accounted for 21.0 percent of the total, or \$147.77. The vast majority (83.7%) of participants reported staying in a hotel or motel, but over 10 percent reported using relatively low-cost accommodations (e.g., 3.9% stayed with family or friends; 4.7% stayed at a campground; and 2.1% stayed at a fish camp) (Table 1, question 7). Average expenditures for the remaining categories were as follows in descending order by share:

- \$87.21 in sport equipment purchases, such as for tackle (12.4% of the total)
- \$74.96 for food from restaurants (10.6% of the total)
- \$55.97 for food and beverage from stores (8.0% of the total)
- \$17.30 on clothing (2.5% of the total)
- \$16.83 toward miscellaneous expenses, such as for sunscreen, towels, or souvenirs (2.4% of the total)
- \$3.40 on other entertainment, such as to see a movie (0.5% of the total)
- \$1.21 in ramp, mooring, and parking fees (0.2% of the total)

Money spent by the non-resident (non-local) tournament participants in Osceola County averaged 37.1 percent of total expenditures across the 10 itemized expenditure categories; however, shares ranged from a low of 4.2 percent for other entertainment to highs of 66.6 and 66.8 percent for food and beverages at stores and restaurants, respectively, and 65.5 percent for lodging (**Table 2**, question 9b). The relative magnitude of these shares is reasonable (e.g., higher shares for food items), but estimates are likely conservative since shares were reported by category and the calculations used the midpoint of the range.

To more accurately determine total expenditures in Osceola County, the average in-county expenditure for each item was calculated for non-residents. The sum of these averages represents the estimated total expenditures in Osceola County by non-residents. With the majority having come from lodging, the 2011 FBFN State Championship tournament brought an estimated \$77,941 in new money into Osceola County's economy (**Table 3**).

WILLINGNESS TO PAY

As a way to measure the recreational value of the event, participants were asked whether they would have attended the tournament if their travel and lodging expenses had been \$25 higher (we know what respondents actually paid, but we do not know their "consumer surplus"—the economic value they received over and above their costs). Nearly 87 percent of participants would and, of those, 87.3 percent were at least *somewhat sure* that they would actually be willing to pay the higher costs. Considering information on how sure respondents were of their willingness to pay is important since it reminds respondents that we are asking

about out-of-pocket costs (Loomis 2011). When factoring in the surety of response, the overall rate at which respondents confirmed their willingness to pay the proposed additional \$25 falls to 75.6 percent.

Economic Impact Analysis

Expenditures by non-resident bass tournament participants were analyzed in a regional economic model of Osceola County constructed using the *IMPLAN* software and 2010 region data (MIG 2002). Expenditures (**Table 3**) were assigned to correlating industry sectors as shown in **Table 4**. Total new expenditures amounted to \$77,941. The *IMPLAN* software applied retail margins to spending at retail establishments (e.g., gasoline stations, sporting goods stores, foods and beverage stores, and clothing stores) to reflect the share of spending that remains in the local economy. Otherwise, all spending was assumed local to Osceola County, and thus representative of new final demand to the local economy.

Economic impact results of the bass tournament are summarized in **Table 5**. The total output or revenue impact of the tournament was estimated at \$73,995. This includes the direct effect of actual spending, the indirect or supply chain effect of input purchases by local vendors, and the induced effect of income re-spending by affected local business owners and employees. As mentioned above, the total revenue impact is less than the spending amount due to the retail margins applied. The tournament's total value added contribution to the Gross Domestic Product (GDP) of Osceola County was estimated at \$45,651; the total labor (earned) income generated was \$26,300; and the total employment impact was 0.9 jobs.

Value added impacts (i.e., contribution to the GDP of Osceola County) by major industry group (as defined by the North American Industry Classification System [NAICS]) are summarized in **Table 6**. The largest impacts occurred in the *Accommodation and Food Services* (\$18,417), followed by *Retail Trade* (\$9,054) and *Real Estate/Rental* (\$5,631).

Economic Value to Participants

The 2011 FBFN's State Championship Tournament in Lake Toho attracted a total of 165 anglers to Central Florida. These anglers were asked whether they would have been willing to pay an additional \$25 in travel and lodging expenses in order to estimate the economic value they enjoyed as a direct result of participating in the tournament.

On average, 75.6 percent of respondents were at least *somewhat sure* they would be willing to pay the additional \$25. As a result, the estimated economic value to anglers from participation in the tournament was \$3,118 (total participants \times 0.756 \times \$25).

This economic value is the value accruing to participants only; however, value was also likely generated by all those in the party (recall that the average party size was 1.9 people), which could double the estimate. In addition, some of those unwilling to pay \$25 may have been willing to pay less and some of those willing to pay \$25 may have willing to pay more. As a result, the \$3,118 estimated economic value to participants is a conservative estimate of the total economic value generated by the tournament, but it serves to emphasize that the value of the tournament exceeds that generated solely by in-county expenditures of non-residents.

Summary

The economic impacts of the 2011 FBFN State Championship tournament to Osceola County, Florida, were estimated using information obtained from registered participants at the mandatory pre-tournament meeting. Participants were asked to report their trip expenses in 10 distinct categories and to report the share of each expense that was incurred in Osceola County. This information was first used to calculate the average in-county expense of non-residents by category; it was then extrapolated to the population using the observed share of participants that were non-residents. Total expenditures that represented new money into Osceola County because of the tournament were estimated at \$77,941. The majority of expenses were due to lodging, boat fuel and oil, and truck fuel.

The total expenditures in Osceola County by category were then used with the *IMPLAN* software to estimate four distinct economic impacts: output impact of \$73,995 in revenue; value-added impact of a \$45,651 contribution to GDP; labor income impact of \$26,300; and employment impact of 0.9 jobs. The Accommodation & Food Services and the Retail Trade industry groups (NAICS sectors 72 and 44–45, respectively) earned the majority of the value-added impact.

The total non-market or intangible benefit of the tournament to participants was estimated at \$3,118. The method used to measure the economic value of the recreational fishing experience of anglers underestimated the total intangible value by excluding non-angler travelers in the same party and by measuring respondent value with just one level of proposed fee increase. Future studies could

include all members of the party or vary the proposed additional cost if there are a sufficient number of travel companions and participants in attendance. In addition, the relatively high rate of willingness-to-pay found in this study indicates that the proposed fee (economic benefit) could be set higher since it was too low for most participants. The fee could have been too high for others but potentially not zero as assumed in this study.

In summary, this basic study was an initial attempt to capture and begin documenting the tangible and intangible benefits that are generated by recreational bass fishing in Florida. It is important to remember that these impacts were generated from just 160 participants at one tournament in a county that is not dominated by fishing-related businesses (i.e., the multiplier effects are likely low). There are several possible extensions that are possible for future work. For example, implementing similar studies at other tournaments would allow for an estimate of the economic impacts over time and space, and allow for an examination of how site characteristics (such as quality of the site for fishing and/or quality of the facilities) are correlated with the economic impacts. It also would be possible to estimate the economic value of higher bag limits and/or the probability of catching larger fish if data were collected on the fish caught and retained by each angler. Lastly, alternate multipliers for some of the industry sectors could be used to evaluate sensitivity of the economic valuation estimates.

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Table 1. Response to questions about the quality of the site and travel to the tournament

Question	Responses (of 157 total)	Average
Q1. Overall, how would you rate the quality of this site for bass fishing?		
Excellent	54	34.4%
Very Good	57	36.3%
Good	39	24.8%
Fair	7	4.5%
Poor	0	0.0%
Q2. Overall, how would you rate the quality of the facilities at this site?		
Excellent	19	12.2%
Very Good	50	32.1%
Good	75	48.1%
Fair	12	7.7%
Poor	0	0.0%
Q3. Are you a resident of Osceola County?		
Yes	4	2.6%
No	150	97.4%
Q4. About how many driving miles do you live from this site?		
Distance	154	101.2 miles
Q5. How many total nights will you spend away from home on this visit? [Includes nights spent traveling even if they were in other states/regions]		
Nights spent away from home	127	3.6 nights
Q6. How many people, including yourself, are on this trip?		
Number of people in party	153	1.9 people
Q7. What type of lodging or accommodation did you use?		
Hotel or Motel	108	83.7%
Bed & Breakfast or Timeshare	2	1.6%
Campground	6	4.7%
Family or Friends	5	3.9%
Other [4 fish camps, 4 not specified]	8	4.2%
Q8. What is your age?		
Age of participant in years	156	48.2 years
Notes: Sums of percentage responses may not add to 100 due to rounding. Osceola County residency (question 3) was based on the respondents' home zip code. Question 8 asked about the respondent's year of birth; responses were converted to age by subtracting from 2011.		

Table 2. Responses to questions about expenditures

Question	Responses (of 157 total)	Average
Q9a. About how much did you spend for the following items during this trip? [non-residents only]		
Truck fuel	150	\$138.23
Boat fuel and oil	150	\$161.06
Lodging	150	\$147.77
Ramp, mooring, parking fees	150	\$1.21
Sport equipment purchases (tackle, etc.)	150	\$87.21
Misc. (sunscreen, towels, souvenirs, etc.)	150	\$16.83
Food and beverage from stores	150	\$55.97
Food and beverage from restaurants	150	\$74.69
Clothing	150	\$17.30
Other entertainment (movies, museums, etc.)	150	\$3.40
Q9b. About how much of that was spent in this county? [non-residents only]		
Truck fuel	150	50.5%
Boat fuel and oil	150	51.1%
Lodging	150	65.5%
Ramp, mooring, parking fees	150	5.4%
Sport equipment purchases (tackle, etc.)	150	44.9%
Misc. (sunscreen, towels, souvenirs, etc.)	150	20.7%
Food and beverage from stores	150	66.6%
Food and beverage from restaurants	150	66.8%
Clothing	150	8.9%
Other entertainment (movies, museums, etc.)	150	4.2%
Q10. Trip costs such as travel and lodging expenses change over time. For example, gas prices fell during the 1990s and rose during 2004 and 2008. They have also been rising during 2011. Would you have come to this tournament if your <i>travel and lodging expenses</i> were \$ 25 higher?		
Yes	136	86.6%
No	16	10.2%
Q11. How sure are you that you would actually be willing to pay that much more?		
Very sure	88	59.4%
Somewhat sure	45	30.4%
Neither sure nor unsure	7	4.7%
Somewhat unsure	4	2.7%
Very unsure	4	2.7%
Notes: Sums of percentage responses may not add to 100 due to rounding. Missing values for expenditures in Q9a were assumed to be zero in order to obtain a conservative and, therefore, more credible estimate with the exception of truck fuel which was estimated based on mileage. Missing values for Q9b were assumed to be the average.		

Table 3. Estimated average in-county expenditures and total new money into Osceola County, Florida

Expense Item	Average In-County Spending	Total In-County Spending
Truck fuel	\$71.69	\$11,520.58
Boat fuel and oil	\$109.11	\$17,533.98
Lodging	\$122.57	\$19,697.00
Ramp, mooring, parking fees	\$0.41	\$65.89
Sport equipment purchases (tackle, etc.)	\$52.59	\$8,451.21
Misc. (sunscreen, towels, souvenirs, etc.)	\$10.19	\$1,637.53
Food and beverage from stores	\$43.48	\$6,987.24
Food and beverage from restaurants	\$61.57	\$9,894.30
Clothing	\$10.96	\$1,761.27
Other entertainment (movies, museums, etc.)	\$2.44	\$392.11
Total	\$485.01	\$77,941.11

Notes: The average in-county spending by category does not equal the product of the average spending and in-county shares from Table 2 because the figures in this table are the average of the in-county expenses reported by each participant. The extrapolation from average in-county expenditures per respondent to total expenditures assumes a total of 160.7 non-resident participants (i.e., $165 \times 97.4\%$).

Table 4. Impact activities entered in IMPLAN model for Osceola County, Florida

Sector	Industry Sales	Output Deflator
326 Retail Stores – Gasoline stations [truck fuel]	\$11,521	1.017
326 Retail Stores – Gasoline stations [boat fuel and oil]	\$17,534	1.017
411 Hotels and motels, including casino hotels	\$19,697	1.061
334 Transport by water	\$66	1.060
328 Retail Stores – Sporting goods, hobby, book and music	\$8,451	1.017
330 Retail Stores – Miscellaneous	\$1,638	1.017
324 Retail Stores – Food and beverage	\$6,987	1.017
413 Food services and drinking places	\$9,894	1.047
327 Retail Stores – Clothing and clothing accessories	\$1,761	1.017
410 Other amusement and recreation industries	\$392	1.065

Notes: The model assumes that the event happened in 2011, all purchases were made locally by non-residents (Table 3), and a 1.041 GDP deflator.

Table 5. Summary of total economic impacts to Osceola County, Florida

Impact Type	Employment (Jobs)	Labor Income	Value Added (Contribution to GDP)	Output (Revenue)
Direct Effect	0.6	\$14,344	\$25,103	\$42,055
Indirect Effect	0.1	\$2,923	\$5,392	\$8,794
Induced Effect	0.2	\$9,033	\$15,156	\$23,146
Total Effect	0.9	\$26,300	\$45,651	\$73,995

Notes: Values stated in 2012 dollars. Employment represents full-time and part-time jobs.

Table 6. Value added impacts of bass fishing tournament in Osceola County, Florida, by major industry group

Code	NAICS Industry Title	Impact
11	Agriculture, Forestry, Fish & Hunting	\$16
21	Mining	\$143
22	Utilities	\$22
23	Construction	\$940
31-33	Manufacturing	\$89
42	Wholesale Trade	\$241
44-45	Retail Trade	\$9,054
48-49	Transportation & Warehousing	\$448
51	Information	\$465
52	Finance & insurance	\$936
53	Real estate & rental	\$5,631
54	Professional – Scientific & Technical Services	\$982
55	Management of Companies	\$10
56	Administrative & Waste Services	\$1,050
61	Educational Services	\$99
62	Health & Social Services	\$2,286
71	Arts – Entertainment & Recreation	\$543
72	Accommodation & Food Services	\$18,417
81	Other Services	\$810
92	Government & Non-NAICS	\$3,468
	Total	\$45,650