

Dynamics and Economic Contribution of Large Bass Tournaments at Lake Fork Reservoir, Texas

Daniel L. Bennett¹, *Texas Parks and Wildlife Department, Inland Fisheries Division, P.O. Box 1446, Pottsboro, TX 75076*

M. Todd Driscoll, *Texas Parks and Wildlife Department, Inland Fisheries Division, 900 County Road 218, Brookeland, Texas 75931*

Jacob D. Norman, *Texas Parks and Wildlife Department, Inland Fisheries Division, 11810 FM 848, Tyler, TX 75707*

Abstract: An economic valuation of the recreational sport fishery of Lake Fork in northeast Texas was completed in 2014 and 2015, finding that angler direct expenditures totaled US\$18.8 million annually on fishing trips to the reservoir. Although some largemouth bass (*Micropterus salmoides*) tournament anglers were included in that study, it did not assess economic impacts of six large (>200 participants) tournaments during the study period. Since 2006, largemouth bass tournament effort at Lake Fork has generally increased to comprise half of all fishing activity in the reservoir and is currently believed to account for most of the Lake Fork sport fishery's economic value. This is despite supporting a renowned trophy fishery for largemouth bass managed by a highly restrictive slot-length limit that makes it difficult to conduct tournaments using traditional formats. To estimate economic contribution of large tournaments, we surveyed anglers from six of the largest events at Lake Fork between July 2015 and June 2016. A total of 7923 anglers participated in these tournaments, resulting in \$4.7 million in direct expenditures and an overall economic value of \$5.7 million. Understanding the economics of tournaments is important to fisheries managers, businesses, and local economic development groups engaging in decisions that may impact tournament angling. This study found that substantial tournament activity and associated economic benefit still occurs at Lake Fork despite the restrictive slot-length limit.

Key words: tournament angling, survey, expenditures, largemouth bass

Journal of the Southeastern Association of Fish and Wildlife Agencies 11:23–35

Anglers contribute millions of dollars in annual expenditures to use a freshwater fishery (Anderson et al. 1986, Martin 1987, Schorr et al. 1995). These fishing expenditures support local and regional businesses, creating a source of personal income and jobs (Schorr et al. 1995, Hunt et al. 1996). Because fishery management decisions often include consideration of the economic impact of a fishery, economic valuation of a fishery is important to protect or enhance these resources (Schorr et al. 1995).

An economic valuation of the recreational sport fishery of Lake Fork, Texas, was completed in 2014 and 2015 and found that anglers spent US\$18.8 million annually on fishing trips to the reservoir (Hunt and Parker 2016). Tournament effort accounted for 42% of all angler effort during the 36-day creel survey when contact information was collected, so some largemouth bass (*Micropterus salmoides*) tournament anglers were encountered and included in the study. However, the random study design resulted in the omission of six large tournaments held annually at Lake Fork. Despite their omission from the 2014 and 2015 economic study, these large events were believed to contribute significantly to the overall local and regional economic value of the Lake Fork fishery. A similar economic study at Sam Rayburn Reservoir, Texas, found

that black bass tournament angling accounted for two-thirds of the total economic value of the Sam Rayburn fishery in 2008 (Driscoll and Myers 2013). Lake Fork likely hosts a fraction of the 400+ tournaments held annually at Sam Rayburn Reservoir, due to its smaller relative size and restrictive regulation for largemouth bass; however, we identified 63 advertised events held at Lake Fork during the 2014–2015 economic study. Taking into consideration unadvertised small club tournaments (≤ 20 participants), it is likely that well over 100 competitive angling events for largemouth bass occur annually at Lake Fork. In addition to thousands of tournament participants, these participants also bring additional non-participants (family/friends) to the area who contribute to the local economy by shopping and other leisure activities.

Restrictive regulations, like the 406–610-mm slot-length limit at Lake Fork, are generally believed to limit competitive angling activity because they prohibit anglers from temporarily retaining bass in size ranges desirable for potential prizes (Dotson et al. 2013, Driscoll and Myers 2013, Maahs et al. 2022). However, tournament fishing effort has followed an increasing trend at Lake Fork since it was first estimated during annual surveys in 2005 (Figure 1), except for 2020 when the Covid-19 pandemic forced

1. E-mail: dan.bennett@tpwd.texas.gov

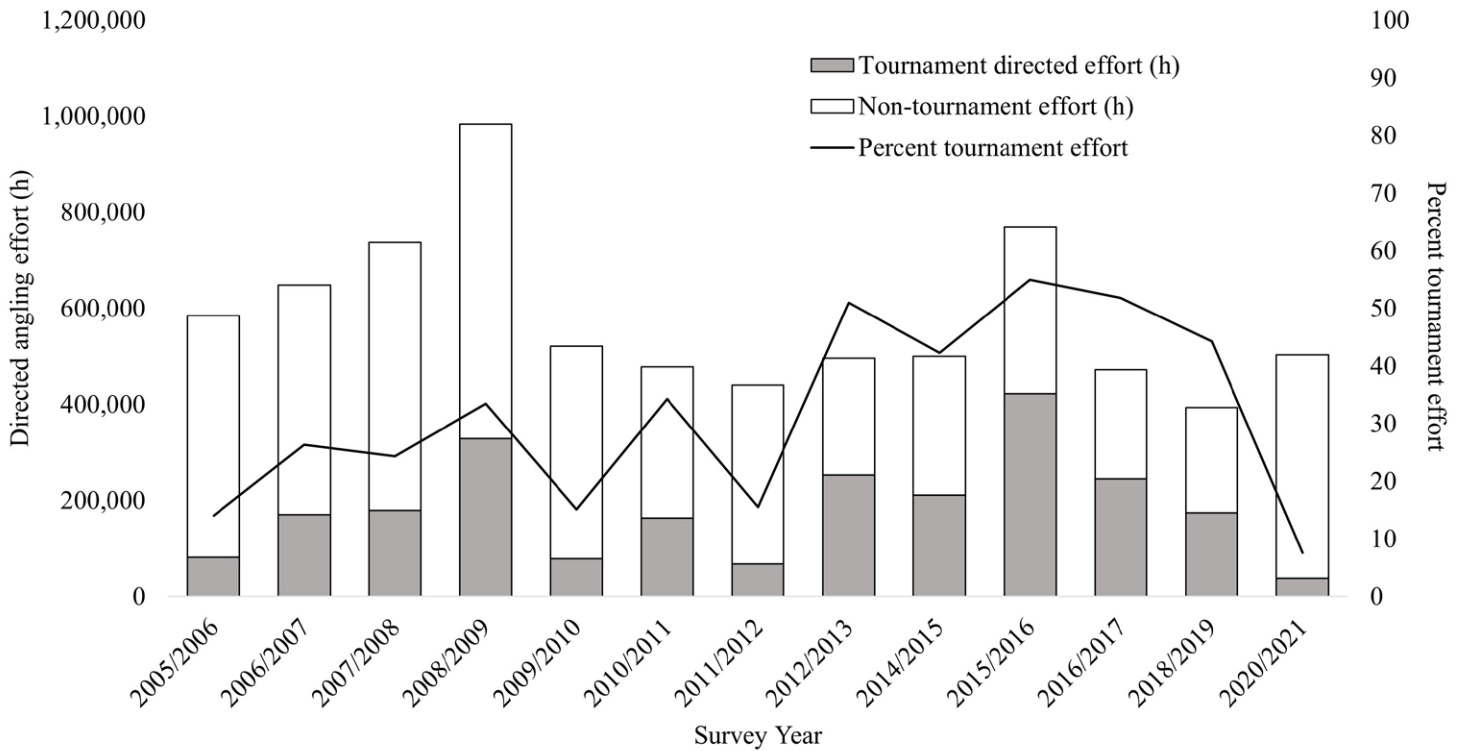


Figure 1. Creel estimates of tournament and non-tournament fishing effort (h) and percentage of total effort for largemouth bass at Lake Fork Reservoir, Texas, 2005–2021 (Norman et al. 2022). Survey period was 1 June through 31 May each year.

the cancellation of most organized events (Norman et al. 2022). Tournament frequency also generally increased throughout Texas by greater than 40% between 2005 and 2013 (Driscoll et al. 2012). At Lake Fork, tournament effort exceeded non-tournament effort for the first time in 2012 and 2013, accounting for just over half (51%) of all largemouth bass angling effort (Storey 2016). Because many tournament participants were randomly encountered and included in the 2014 and 2015 economic study, the majority of the \$18.8 million in direct angler expenditures estimated by that study can likely be attributed to tournament anglers. However, creel surveys were routinely avoided during the largest annual tournaments (>200 participants) and were excluded from this valuation, limiting understanding of the impacts of these large events. Therefore, the objective of this study was to evaluate the relative economic contribution of six large bass tournaments at Lake Fork in 2015 and 2016.

Methods

Study Area

Lake Fork is a 10,862-ha reservoir on Lake Fork Creek and Caney Creek, tributaries of the Sabine River, near Quitman, Texas. The reservoir's primary uses include municipal water supply and

recreation, with largemouth bass as a major sport fish. Slot-length limits were initiated for largemouth bass starting in 1985, and the 406–610-mm slot-length limit has been in place since 2000 (Norman et al. 2022).

Tournaments

Of the six large tournaments at Lake Fork in 2015 and 2016 evaluated in this study, four exhibited an hourly prize format, offering prizes for the heaviest fish weighed in each hour (Sealy Big Bass Splash [BBS], Berkley Big Bass [BBB], Legend of Lake Fork [LLF], and Skeeter Owners [SKO]; Table 1). These tournaments were individual events held over a two to three-day period. The other two events, the Mad Dog Moore (MDM) and Bass Champs North (BCN) tournaments, offered prizes for the heaviest daily bag limit of five largemouth bass and additional prizes for heaviest bass caught in a single day (Table 1). These tournaments were two-person team events, and each lasted only one day. Participants per tournament ranged 336–2367 across the six tournaments.

Survey Administration

Prior to each tournament, tournament organizers were solicited to obtain participant contact information. Organizers of the

Table 1. Tournament details for six large tournaments held on Lake Fork Reservoir, Texas, in 2015–2016. Prize amounts in US\$.

Tournament	Dates	Format	Duration (Days)	# of participants	Top prize distributed
Mad Dog Moore (MDM)	12 September 2015	5 fish, big fish pot	1	336	\$5100
Sealy Big Bass Splash (BBS)	18–20 September 2015	hourly big bass	3	2367	\$7000 + truck & boat
Berkley Big Bass (BBB)	17–18 October 2015	hourly big bass	2	1136	\$1000 + boat
Bass Champs North (BCN)	27 February 2016	5 fish, big fish pot	1	667	\$28,000
Legend of Lake Fork (LLF)	13 May 2016	hourly big bass	3	1227	\$500 + boat
Skeeter Owners (SKO)	9 June 2016	hourly big bass	2	2190	\$700 + boat

MDM tournament provided names and addresses for all participants following the event. The organizer for the LLF tournament required us to collect contact information directly from participants at boat access sites during the event. When we obtained contact information for MDM and LLF events, participants were randomly selected to receive a survey using a random number generator in Microsoft Excel (Microsoft Corp, Redmond, Washington). Organizers of the other four tournaments sought to maintain participant confidentiality, so hard copies of our survey instrument and materials were provided directly to tournament organizers to conduct in-house mailings and we requested that recipients be randomly selected. We were unable to quantify undeliverable surveys returned to tournament organizers. For all six events, surveys were distributed to at least 10% of the participants in each event or a minimum of 100 for events with less than 1000 participants. Because participant numbers were not available prior to each tournament, the number of surveys provided to organizers was based on the number of participants of each tournament the prior year.

Surveys were distributed by mail or email as close to the event date (within one month) as possible to reduce recall bias (Connelly et al. 2000). Anglers were instructed to complete the questionnaire regarding the tournament event specified on the survey. Mailed surveys included a postage-paid return envelope along with a web-link to an online version of our survey hosted on SelectSurvey.net to increase response rate. A unique code including the tournament date was assigned to each survey to track each participant's response method. Due to logistics of distribution by tournament organizers, we did not attempt to track individual participation and survey response from more than one event. If a respondent received and submitted a survey response from more than one event it was considered a separate trip and analyzed as a unique response.

In addition to mailed surveys, participants in two of the six tournaments received emailed surveys. Participants of the BBS tournament who did not provide an email address during event registration ($n = 127$) received a mailed survey, and an additional 1607 participants received an email invitation with a link to our online survey. Participants of the LLF tournament, contacted in

person at boater access sites, were given the opportunity to provide a mailing address ($n = 68$) or an email address ($n = 33$) and surveys were distributed according to participants' preferences.

Thank you/reminder postcards were mailed to participants of the MDM Bass Tournament and the LLF tournament using contact information obtained for these participants. We received only one undeliverable mail survey each for the MDM and LLF tournament and our response rate was adjusted. To reduce difficulty and workload for organizers conducting direct mailings, thank you/reminder postcards were not mailed to participants of those four events.

Survey Questions and Analyses

Our survey instrument consisted of questions concerning general characteristics and party expenditures for 13 expense categories of participant's primary tournament trip and separate practice trips (Appendix 1). Tournament practice or "pre-fishing" is common among tournament anglers and was defined as a separate angling trip to the reservoir, completed before an upcoming event. Mean party size (people per vehicle) and trip length (days) were derived from questionnaire return data. In addition to questions about expenditures, we also asked anglers to report information about the number and sizes of fish caught and retained for tournament weigh-ins to better understand management implications and angler motivations.

Expenditures per angler were computed for each tournament separately using data from returned questionnaires. Expenses in each category (lodging, fuel, meals, etc.) were summed for primary tournament trips and divided by the number of tournament participants in each party to estimate mean trip expenditures per angler. Total direct expenditures were estimated by multiplying mean total expenditures per tournament angler by the total number of tournament anglers registered for each event. We assumed the proportion of respondents who reported taking a separate practice trip was equal to the proportion of total tournament participants taking a practice trip. Therefore, practice trip expenditures were estimated by multiplying mean practice trip expenditures per

angler by the estimated number of tournament participants taking a practice trip. Total expenditures by category were estimated by calculating the proportion of expenditures reported in each category multiplied by the total estimated tournament expenditures for primary and practice trips. Expenditures were estimated by trip type (event and practice trip), and residency location. Residency locations were local (within 56.3 km [35 miles] of Lake Fork), non-local (elsewhere in Texas), and out-of-state.

We also determined anglers' willingness to pay (WTP) above current trip costs (consumer surplus, CS) which was used to estimate the economic value of each tournament. The online survey option prevented us disseminating and randomly determined bid values to each respondent and using these responses to estimate WTP (Loomis 2006). Therefore, we estimated consumer surplus by using median values determined from an open-ended contingency valuation for each event (Kealy and Turner 1993). Typically, economic value of recreational angling is defined as the total value above direct expenditures that anglers are willing to pay (Steinback 1999). Therefore, total direct expenditures and total consumer surplus were summed to estimate total economic value of each event.

A Shapiro-Wilk test for normality was performed on mean daily and total expenditures and estimates and associated relative standard errors (RSEs) were estimated from \log_{10} -transformed data (Toivonen et al. 2004, Oh and Ditton 2008, Wilson 2018). A one-way ANOVA and Tukey's multiple comparison were performed on transformed data to evaluate differences in expenditures among tournaments and angler type (local, non-local, and out-of-state). All statistical tests and analysis were performed using JMP (SAS Institute Inc. 2014), with $\alpha = 0.05$ to assess significance. Relative standard errors were calculated for base-level estimates on raw questionnaire data (e.g., mean party size, mean trip length, catch rates).

Results

Response

A total of 2470 mailed and emailed surveys were distributed to tournament participants, and we received 555 returned surveys for an overall adjusted response rate of 22%. Fourteen email surveys and two mail surveys were returned as undeliverable from addresses provided to us by tournament participants or organizers. Response rates for individual tournaments ranged from 20% to 37% (Table 2). Forty-two percent of LLF Tournament participants who provided an email address completed our online survey, which was the highest response rate in the study.

Tournament participants from 16 U.S. states responded to our survey (Figure 2). For the hourly big-bass tournaments, the proportion of out-of-state respondents ranged 8–57%. No surveys were returned by out-of-state participants in the two tournaments without hourly prize formats (MDM and BCN), and we only initially received two out-of-state addresses for MDM participants from the tournament director. Overall, 21% of respondents were from out-of-state, but most respondents (66%) were non-local Texans. Tournament participants from 54 of 254 Texas counties (21%) were represented in our survey. Local anglers accounted for just 13% of tournament participants.

Tournament Participation and Characteristics

Collectively, 7923 anglers participated in these six tournaments. Each of the hourly big bass tournaments registered more than 1000 participants (Table 1). Anglers fishing in these tournaments were often accompanied by family or friends who did not participate in the tournaments, comprising 7–24% (mean 22%) of total party size. The primary tournament trip lasted an average of 5.7 days (RSE = 7) for out-of-state participants, whereas those of non-local Texans averaged 3.5 days (RSE = 3), and those of local participants lasted 3.1 days (RSE = 8).

Table 2. Number of distributed surveys and response rates by mode for six large tournaments held on Lake Fork Reservoir, Texas, in 2015–2016.

Tournament ^a	Mail					Email				Overall response rate (%)
	Distributed	Returned by mail	Completed online survey	Undeliverable	Response rate (%)	Distributed	Completed online survey	Undeliverable	Response rate (%)	
MDM	172	51	8	1	34	0				34
BBS	127	28	2	– ^b	24	1607	312	7	20	20
BBB	114	25	2	– ^b	24	0				24
BCN	150	28	2	– ^b	20	0				20
LLF	68	22	1	1	34	33	11	7	42	37
SKO	199	59	4	– ^b	32	0				32

a. MDM = Mad Dog Moore; BBS = Big Bass Splash; BBB = Berkley Big Bass; BCN = Bass Champs North; LLF = Legend of Lake Fork; SKO = Skeeter Owners.

b. Mailings returned to tournament organizers as undeliverable were non-reported or were unconfirmed.

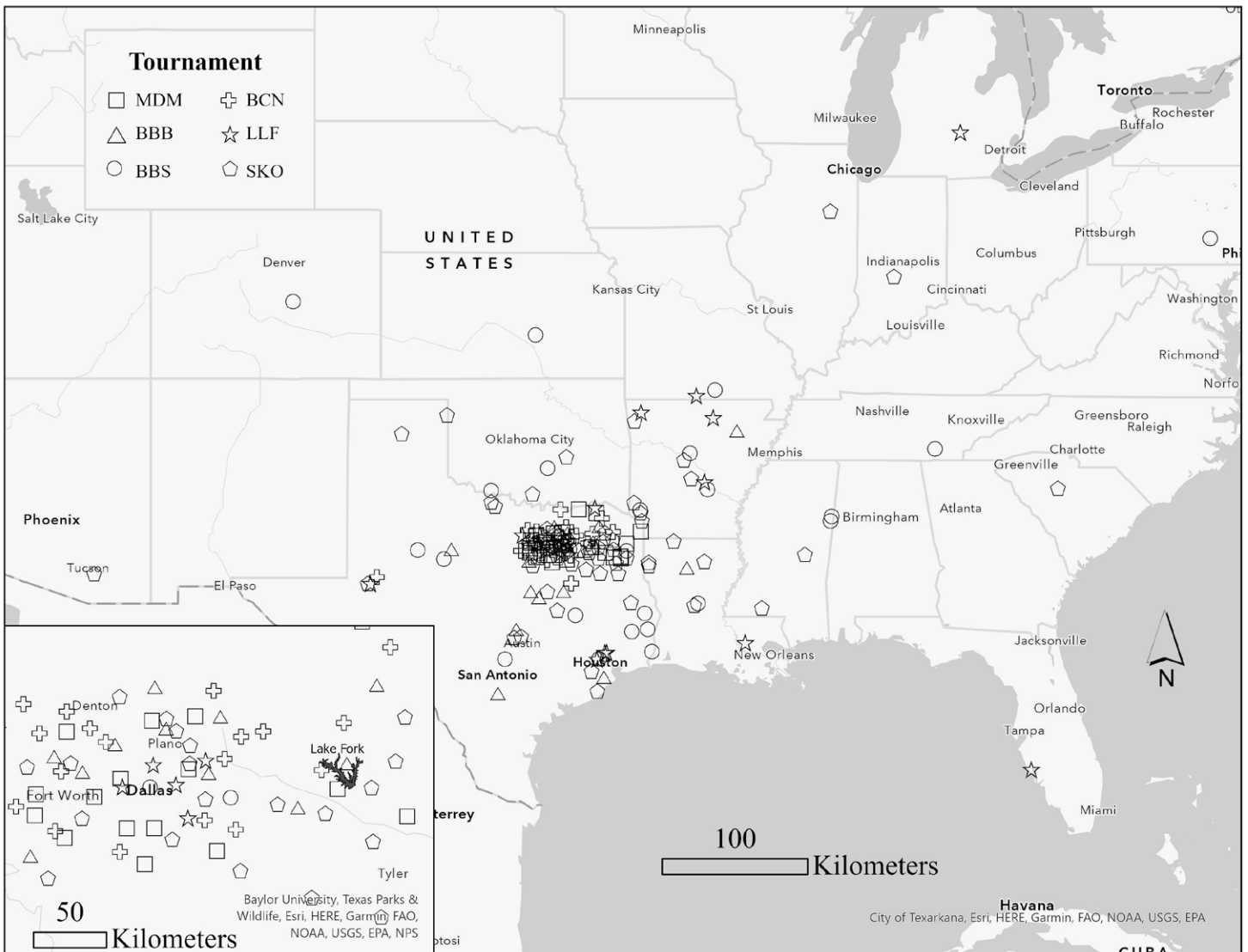


Figure 2. Map of home residence for mail survey respondents from six large tournaments held on Lake Fork Reservoir, Texas, in 2015–2016 ($n = 212$). Tournaments included Mad Dog Moore (MDM), Big Bass Splash (BBS), Berkley Big Bass (BBB), Bass Champs North (BCN), Legend of Lake Fork (LLF), and Skeeter Owners (SKO).

Anglers fishing the two 5-fish format tournaments reported catching an average of 15.5 (RSE = 17) and 8.1 (RSE = 30) bass per team, but only brought an average of 1.7 (RSE = 15) and 1.1 (RSE = 32) bass to the weigh-in. Just 13% of MDM survey respondents reported bringing a bag limit of five fish to the weigh-in, and no respondents of the BCN tournament retained five fish. However, official tournament results indicated that 37% of MDM teams (Mad Dog Moore 2015) and 16% of BCN teams weighed in five bass during the tournament (Bass Champs 2016). No largemouth bass over the slot limit were reported caught by survey respondents for either tournament, and just 12% and 22% of bass reported caught were within the slot. One largemouth bass (3.95 kg) above the slot limit was included in the winning team's bag at the MDM

tournament, and two largemouth bass (4.89 and 4.21 kg) above the slot limit were weighed during the BCN tournament. Participants of hourly big-bass format tournaments reported catching an average of 5.3 (RSE = 8) largemouth bass per angler per day during the four events, and 2% of those participants reported catching a bass over the slot limit. Only seven respondents (1%) from all events reported harvesting a fish after a tournament.

Expenditures

Overall, the six events resulted in \$4.7 million in direct expenditures, of which \$3.3 million (70%) were spent in the local area (Table 3). The BBS tournament accounted for more than a third (35%) of this value (\$1.7 million). A small proportion of overall

Table 3. Estimated total direct expenditures (US\$ spent) of tournament anglers at six large tournaments held on Lake Fork Reservoir, Texas, in 2015–2016. Relative standard errors are in parentheses. Dashes indicate associated expenditures were not reported.

Tournament ^a	Primary trip				Practice trip			
	Local ^b	Non-local, Texas	Outside Texas	Total	Local	Non-local, Texas	Outside Texas	Total
MDM	\$85,750 (12)	\$17,018 (31)	–	\$102,768 (10)	\$20,442 (20)	\$3121 (40)	–	\$23,563 (21)
BBS	\$1,049,984 (5)	\$321,214 (10)	\$81,767 (11)	\$1,452,965 (4)	\$163,020(12)	\$49,322 (24)	\$2407 (22)	\$214,749 (4)
BBB	\$328,929 (17)	\$125,448 (35)	\$4799 (50)	\$459,177 (12)	\$27,055 (41)	\$26,237 (37)	–	\$53,292 (42)
BCN	\$118,415 (21)	\$63,671 (23)	\$17,043 (25)	\$199,129 (11)	\$42,038 (29)	\$35,191 (43)	–	\$77,229 (23)
LLF	\$576,253 (16)	\$337,163 (30)	\$32,162 (30)	\$945,578 (15)	\$28,759 (75)	\$9077 (100)	–	\$37,836 (54)
SKO	\$786,895 (9)	\$218,715 (23)	\$65,228 (24)	\$1,070,838 (9)	\$43,989 (30)	\$16,046 (35)	\$1519 (100)	\$61,554 (25)
Total	\$2,946,226 (10)	\$1,083,230 (23)	\$200,998 (20)	\$4,230,455 (9)	\$325,303 (25)	\$138,994 (38)	\$3927 (52)	\$468,223 (19)

a. MDM = Mad Dog Moore; BBS = Big Bass Splash; BBB = Berkley Big Bass; BCN = Bass Champs North; LLF = Legend of Lake Fork; SKO = Skeeter Owners.
 b. Local: spent within 56.3 km (35 miles) of Lake Fork.

expenditures (4%) were encumbered outside of Texas. Median consumer surplus (CS) ranged from \$50 to \$200 per tournament angler across tournaments. Estimated CS for the six events totaled \$955,000, resulting in an overall economic value of \$5.7 million.

Overall, approximately a third (34%) of respondents reported taking a separate practice trip prior to the primary tournament event, which accounted for approximately 10% of total direct expenditures (Table 3). Practice trips were more common and thus accounted for a greater percentage of overall expenditures at events with a 5-fish format such as the MDM tournament (19%) and the BCN tournament (28%); roughly half (48% and 51%, respectively) of the participants of these two events reported taking a separate practice trip prior to the event.

Mean daily expenditures (\$154, RSE = 3) for angler’s primary trip ranged from \$134 (RSE = 7) for the SKO tournament to \$205 (RSE = 10) for the LLF tournament. Mean daily expenditures were significantly different among tournaments ($F_{5, 549} = 2.6, P = 0.02$); however, pairwise comparisons indicated only LLF daily expenditures were significantly greater than the SKO event ($P = 0.02$; Figure 3) which attracted a greater number of local participants. Local participants spent less (\$102, RSE = 9) than non-local Texans (\$152, RSE = 3) and out-of-state participants (\$158, RSE = 6; $F_{2, 552} = 5.9, P < 0.01$). Daily expenditures by non-local and out-of-state participants were similar ($P = 0.9$).

Tournament entry fees was the largest individual expense category for all six tournaments, accounting for 28–50% of mean daily expenditures (Table 4). Vehicle and boat fuels (21%), lodging (17.4%), and meals and groceries (17%) accounted for an additional 55% of each party’s total direct expenditures associated with primary tournament trips. Bait and tackle accounted for just under 7% of angler expenditures on average. Entry fees and fuel costs

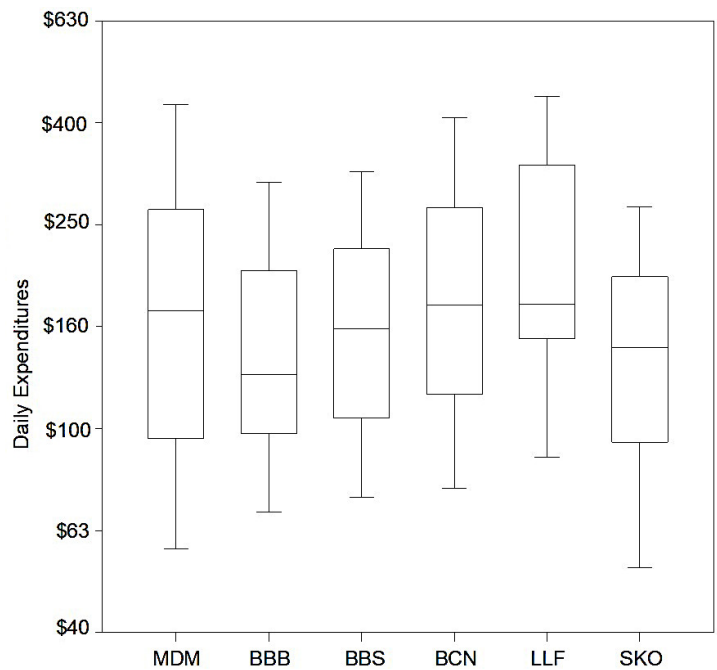


Figure 3. Box plot for daily expenditures (US\$) by tournament at Lake Fork Reservoir, Texas, in 2015–2016, including Mad Dog Moore (MDM), Big Bass Splash (BBS), Berkley Big Bass (BBB), Bass Champs North (BCN), Legend of Lake Fork (LLF), and Skeeter Owners (SKO).

each accounted for just over \$1 million in direct expenditures associated with the six events, followed closely by lodging (\$0.8 million). When combined, \$0.8 million was spent on restaurant meals and groceries, and approximately \$0.4 million was spent for bait and tackle purchased in association with tournament trips. Participants also spent nearly \$0.1 million for fishing licenses and \$0.2 million was spent outside of Texas (Table 4).

Table 4. Total direct angling expenditures (US\$) by expense category for each tournament primary and practice trip for six large tournaments held on Lake Fork Reservoir, Texas, in 2015–2016. Relative standard errors are in parentheses, and dashes indicate associated expenditures were not reported by survey respondents.

Expense type	MDM ^a	BBB	BBS	BCN	LLF	SKO	Total
Tournament fees	\$36,322 (9)	\$162,416 (10)	\$377,073 (3)	\$84,037 (5)	\$218,437 (8)	\$219,409 (6)	\$1,097,694 (6)
Fuel (Auto/Boat)	\$36,100 (11)	\$144,153 (15)	\$351,249 (6)	\$71,025 (11)	\$239,637 (25)	\$234,589 (8)	\$1,076,753 (12)
Lodging	\$11,727 (23)	\$59,773 (27)	\$325,127 (6)	\$35,114 (23)	\$185,115 (15)	\$211,737 (15)	\$828,592 (13)
Restaurant meals	\$12,274 (17)	\$53,747 (14)	\$170,600 (67)	\$30,335 (20)	\$97,442 (26)	\$125,522 (14)	\$489,921 (14)
Groceries	\$10,339 (16)	\$34,030 (28)	\$109,600 (6)	\$10,811 (19)	\$73,873 (28)	\$120,930 (14)	\$359,583 (16)
Bait and tackle	\$12,391 (21)	\$33,303 (21)	\$111,328 (9)	\$23,249 (39)	\$91,615 (35)	\$75,937 (19)	\$347,823 (22)
Fishing license	\$4603 (25)	\$7624 (41)	\$37,736 (14)	\$1054 (56)	\$21,633 (23)	\$21,212 (23)	\$93,862 (21)
Launch fees	\$853 (22)	\$2935 (37)	\$7489 (13)	\$785 (47)	\$3631 (41)	\$3171 (25)	\$18,865 (26)
Other transportation	–	–	\$6046 (47)	–	–	–	\$6046 (47)
Fishing guide	\$162 (100)	–	\$35,560 (24)	–	\$6917 (100)	\$25,804 (55)	\$68,442 (44)
Boat rental	\$23 (100)	–	\$5585 (41)	\$1874 (72)	\$1729 (100)	–	\$9211 (58)
Other	\$1539 (41)	\$9688 (78)	\$45,876 (21)	\$1031 (91)	\$11,223 (80)	\$27,335 (37)	\$96,691 (39)
Out of state	–	\$4799 (80)	\$84,174 (13)	\$17,043 (60)	\$32,162 (51)	\$66,747 (38)	\$204,925 (33)

a. MDM = Mad Dog Moore; BBS = Big Bass Splash; BBB = Berkley Big Bass; BCN = Bass Champs North; LLF = Legend of Lake Fork; SKO = Skeeter Owners.

Discussion

Our study demonstrates that despite a highly restrictive slot limit, bass tournaments, some with unique formats, continued to be valuable additions to the state and local economies around Lake Fork. This was especially true for large tournaments with high participation, as anglers spent an estimated \$4.7 million in just these six tournaments, which was 25% of the total direct annual expenditures (\$18.8 million) by all anglers fishing Lake Fork the year before (Hunt and Parker 2016). The estimated economic value of these six tournaments was approximately equal to the annual estimated value of all tournaments in 2013 (\$4.6 million in 2016 dollars) at Lake Guntersville, Alabama (Maceina et al. 2018). The total number of anglers fishing a total of 259 Lake Guntersville tournaments in 2013 (9035) was only slightly greater than the total number fishing just our six studied tournaments at Lake Fork. The greater number of participants attending each event and two to three-day duration of our studied events likely contributed to the greater estimated expenditures at Lake Fork.

Administration and Response

We believe our overall response rate was sufficient to precisely estimate the economic contribution of these six large annual tournaments at Lake Fork. While our levels of response resulted in acceptable levels of precision ($RSE < 15$) for total primary trip expenditure estimates, the precision of expenditures associated with practice trips and some expense categories could have been improved with increased survey distribution and response. Our attempt to improve response rates by offering mail recipients the option to complete the survey online resulted in limited online response and may have reduced response rates overall (Medway and Fulton 2012, Flüß et al. 2014).

Our results suggest a trade-off may exist between increasing response rate and increasing sample size depending on the method used to collect contact information. Our highest response rate (37%) from an individual tournament occurred when contact information was obtained in person at the LLF event. However, this required substantial effort yet obtained the smallest number of contacts (101) for any event. Obtaining contact information in person provided us the ability to distribute thank you/reminder cards or emails to participants, but few additional surveys were completed after follow-up correspondence, suggesting the direct contact with participants alone may have improved response rate over other events. Face-to-face survey modes are known to improve response rates over telephone or email surveys (Schonlau et al. 2002), and initial face-to-face contact has demonstrated an increased response rate for internet-based surveys as well (Cook et al. 2000, Porter and Whitcomb 2003). However, using this methodology for future surveys of tournament anglers may not be warranted if email addresses for all participants can be obtained from tournament organizers. During the BBS tournament, we received email addresses for more than 1600 participants. Although the overall response rate was only 20%, the number of usable responses was ten-fold greater than the other five tournaments without incurring any additional costs associated with mailings, staff, or travel time. Future surveys using email invitations and an online-only platform could also be conducted anonymously through tournament organizers but would require cooperation and successful distribution.

Our study also highlights that a census of tournament activity should be conducted along with future economic studies where tournament activity is suspected to account for a substantial proportion

of angler effort. A similar economic study by Anderson et al. (2002) concluded that their study design did not adequately include tournament angling at Sam Rayburn Reservoir, and likely underestimated overall angler expenditures. While large tournaments can now be identified online and through public forums, robust creel surveys can also adequately encounter most of the smaller tournaments held throughout the year at a reservoir. Contact information for each tournament director and additional tournament participants can then be obtained to disseminate additional surveys to participants and obtain more accurate data on angler expenditures throughout the year (Maceina et al. 2018).

Economics

Economic dynamics of angling at Lake Fork appear to have shifted through time. Hunt and Parker (2016) reported a decline of \$24 million in angling expenditures between the 1995 and 2015 economic studies, when adjusted for inflation, and attributed that to decreased visitation to Lake Fork by non-local Texans. However, angler effort estimates have varied by as much as 100% from year to year over the last two decades (Storey 2016, Norman et al. 2022). Further, respondents of our tournament study were primarily (66%) non-local Texans or from out-of-state (21%). Because creel surveys during the six tournaments we studied were not included in the 2014 and 2015 economic study (Hunt and Parker 2016), and many smaller tournaments (e.g., club, trail/series, small open) may be missed during usual roving creel surveys, we suspect many non-local visitors were missed. The estimated annual expenditures by Lake Fork anglers would likely be much greater if a census and separate analysis of tournaments was conducted like the 2008 study on Sam Rayburn Reservoir (Driscoll and Myers 2013). Although overall angling effort for largemouth bass increased by 54% between the 2014–2015 and 2015–2016 creel surveys, estimated tournament effort doubled during this period (Storey 2016). While tournament effort was not routinely documented during creel surveys at Lake Fork until 2005, the proportion of tournament anglers increased from 14% to 55% between 2005 and the time of our study (Storey 2016). Because tournament anglers spend more money per day to fish than non-tournament anglers (Driscoll and Myers 2013, McKean et al. 2014, Maceina et al. 2018), and often comprise more than 40% of total angler effort at Lake Fork, it is likely that tournament anglers and competitive events now account for most fishing associated expenditures and new monies entering the Lake Fork area.

Except for the slightly greater daily expenditures observed during the LLF tournament, daily expenditures were similar among tournaments. The proportion of out-of-state anglers participating in each event varied by tournament, and out-of-state anglers spent

nearly twice as long and twice as much money on their trips to Lake Fork than did either local or non-local anglers. While we only received returned surveys from six states for the LLF, out-of-state participants represented almost half (48%) of our total response for this tournament. Anglers from 19 states registered for the 2016 LLF tournament (Hampton 2016), and overall, 20% of respondents traveled from out-of-state to fish the big-bass tournaments included in our study. Almost all (95%) monies spent outside of the state were associated with each angler's primary trip, suggesting that few anglers traveling from other states conducted a separate practice trip prior to a tournament event.

Fuels (vehicle and boat) and lodging composed a slightly higher proportion of overall expenses (49%) at Lake Guntersville (Maceina et al. 2018) and Sam Rayburn Reservoir (46%) tournaments (Driscoll and Myers 2013) than the tournaments in our study (41%). However, the relative short travel time to the Dallas-Fort Worth metroplex, where most participants lived, may have reduced lodging and travel costs compared to other studies. Tournament entry fees also comprised a considerable portion of angler expenditures and although the fate of entry fees varies across events, typically most fees collected are redistributed among tournament anglers as prizes or cover hosting expenses, with the remaining monies being profit for tournament organizers. Even when entry fees were not included, surveyed tournament anglers still spent more than twice as much per day than that reported by local, non-tournament anglers in the prior year (Hunt and Parker 2016). Similarly, in 2001–2002 estimated tournament fishing at the Hudson River, New York, was valued at \$423 (2016 dollars) per angler trip, compared to \$104 (2016 dollars) per angler trip for other sport fishing (McKean et al. 2014). A similar study at Lake Guntersville, Alabama, found that tournament anglers spent an average of \$514 (2016 dollars) per tournament in 2013 (Maceina et al. 2018), more than twice the average (\$207; 2016 dollars) expenditures per visit of all bass anglers in 2012 (McKee 2013). Driscoll and Myers (2013) also found that tournament anglers still spent more than non-tournament anglers and contributed most of the annual direct expenditures (69%) at Sam Rayburn Reservoir even when entry fees were excluded from economic estimates.

Non-contestants made up a significant portion of each party traveling to the Lake Fork area for tournaments and pre-event practice. It is unknown how many of these individuals also participated in fishing, or if they simply accompanied tournament participants to Lake Fork to pursue other leisure or recreational activities. While our study accounted for the total expenditures encumbered by each party, we did not attempt to estimate the specific amount attributable to non-contestants; however, that amount may be considerable. O'Keefe and Miller (2011) found that 16%

of those traveling to a single Lake Michigan tournament were non-contestants whose non-tournament activities contributed almost \$600,000 of expenditures. When assessing the total economic impact of organized events, it may be important for local businesses and economic development agencies to recognize that these events typically result in considerably more people traveling to the area than the total number of contestants registered for each event. These individuals may be pursuing other activities or shopping in the local area.

Consumer surplus for tournament participants was much lower than Hunt and Parker (2016) reported in the 2014 to 2015 economic survey that included non-tournament anglers. At Sam Rayburn Reservoir, Driscoll and Myers (2013) found that non-tournament anglers suggested they would spend considerably more (91%) for their fishing than did tournament anglers (25% to 35%). This is likely because tournament anglers already spend more money than non-tournament anglers for their fishing, often traveling further distances and paying tournament fees. It is not known how our WTP estimates may have been impacted using an open-ended contingent valuation as opposed to the use of bid-value/regression analysis often used to estimate consumer surplus in similar studies; however, we found CS was in the range of that reported by Sam Rayburn tournament anglers observed by Driscoll and Myers (2013). While the use of open-ended or dichotomous-choice formats is controversial, we favored the ability to provide an online option at the time of our survey. Further, studies evaluating differences in open-ended and closed-ended contingent valuations have found either no difference between methods or that close-ended contingent valuations can result in overestimating WTP (Kealy and Turner 1993, Lunander 1998, Grutters et al. 2009).

Management Considerations

The high-value prizes offered (e.g., cash, boats, and trucks) by the largest events (>1000 participants) incentivize participation, substantially increasing the number of anglers traveling to Lake Fork for these events. Our results suggest that the proportion of survey respondents (2%) who reported catching a bass above the slot limit, and likely qualifying for a high value prize (e.g., boat or vehicle) during one of the big bass events, may be relatively high in comparison to similar public contests. The likelihood of catching a fish ≥ 610 mm and winning a big bass tournament might be reduced without such a restrictive regulation. Additionally, the format of big bass events has also allowed anglers to occasionally win these prizes by submitting individual sub-slot (<406 mm) bass (Sealy Outdoors 2023), which would be unlikely at reservoirs managed with minimum length limits.

Although the regulations allow the option to accommodate newer tournament formats, such as catch-weigh-release (e.g., Champions Tour, Major League Fishing, Student Angler Tournament Trail, etc.), the long-standing restrictive harvest regulation (Storey and Jubar 2008) at Lake Fork creates a unique dynamic for those anglers that participate in live weigh-in tournaments at the reservoir. Additional live weigh-in tournaments effort could increase the overall associated fishing mortality (Meals and Miranda 1994, Hysmith et al. 2013, Sylvia and Weber 2022) and ultimately reduce the incidence of catches of fish above the slot limit in successive years if anglers were allowed to retain bass currently protected by the slot limit. Further, it is unknown if the apparent increase in tournament activity at Lake Fork has been additive or has come at a cost of displacing traditional non-tournament anglers. However, Hunt and Parker (2016) noted that 52% of anglers responding to the 2014–2015 survey indicated that they try to avoid fishing during tournaments at Lake Fork. If harvest regulations were less restrictive and subsequently encouraged additional tournament activity, it is likely that the increase would result in a further reduction in non-tournament fishing effort at the reservoir. Surprisingly, many open-ended comments by survey respondents (i.e., tournament anglers) suggested that the frequency of tournaments is already too high at Lake Fork.

Local marinas and government sponsored access sites in predominately rural areas surrounding most reservoirs are rarely designed to support parking and facilities for large events such as our studied tournaments. As a result, these tournaments often result in congestion of parking areas and roadways surrounding the reservoir (Yow et al. 2008). While encouraging additional tournament activity through infrastructure improvements at Lake Fork may be controversial, such actions may be important to better accommodate large events considering the substantial economic impact to the local area. Additionally, infrastructure improvements that encourage adequate fish care during the tournament weigh-in process may help to conserve bass and preserve Lake Fork's status as a world-class trophy bass fishery.

Acknowledgments

This research was partially funded by the U. S. Fish and Wildlife Service through Federal Aid in Sport Fish Restoration grants F-30-R and F-221-M to the Texas Parks and Wildlife Department (TPWD), Inland Fisheries Division. We thank the Wood County Industrial Commission for helping to fund this study, and tournament directors who assisted with survey distribution. We thank TPWD Inland Fisheries staff, Monte Brown, Corey Clouse, Kurt Felix, John Moczygamba, and Todd Robinson for collecting angler

contact information, and Bob Betsill, Dave Buckmeier, Craig Bonds, Jennifer Granneman, Randy Myers, and Warren Schlechte for their assistance with study design, analysis, and reviews.

Literature Cited

- Anderson, D. K., R. B. Ditton, and C. O. Oh. 2002. Characteristics, participation patterns, management preferences, expenditures, and economic impacts of Sam Rayburn Reservoir anglers. Texas A&M University Human Dimensions Research Laboratory, Report HD-622, College Station.
- Anderson, R. S., C. J. Schwinden, and J. A. Leitch. 1986. Regional economic impact of the Devil's Lake fishery. *Fisheries* 11(5):14–17.
- Bass Champs. 2016. Results: 2016. Bass Champs, Haslet, Texas. <www.basschamps.com>. Accessed 6 June 2016.
- Connelly, N. A., T. L. Brown, and B. A. Knuth. 2000. Assessing the relative importance of recall bias and nonresponse bias and adjusting for those biases in statewide angler surveys. *Human Dimensions of Wildlife* 5(4):19–29.
- Cook, C., F. Heath, and R. L. Thompson. 2000. A meta-analysis of response rates in web-or internet-based surveys. *Educational and Psychological Measurement* 60:821–836.
- Dotson, J. R., M. S. Allen, J. A. Kerns, and W. F. Poudner. 2013. Utility of restrictive harvest regulations for trophy Largemouth Bass management. *North American Journal of Fisheries Management* 33:499–507.
- Driscoll M. T. and R. A. Myers. 2013. Black bass tournament characteristics and economic value at Sam Rayburn Reservoir, Texas. *Journal of the Southeastern Association of Fish and Wildlife Agencies* 1:26–32.
- _____, H. L. Schramm, Jr., and K. M. Hunt. 2012. Trends in fishery agency assessments of black bass tournaments in the southeastern United States. *Proceedings of the Annual Conference of the Southeastern Association of Fish and Wildlife Agencies* 66:25–32.
- Fließ, E., C. M. Bond, G. T. Jones, and G. J. Macfarlane. 2014. The effect of an internet option and single-sided printing format to increase the response rate to a population-based study: a randomized controlled trial. *BMC Medical Research Methodology* 14:104.
- Grutters, J. P., L. J. Anteonis, M. N. Chenault, and M. A. Joore. 2009. Willingness to pay for a hearing aid: comparing the payment scale and open-ended question. *Journal of Evaluation in Clinical Practice* 15:91–96.
- Hampton, D. 2016. 12th Annual Legend of Lake Fork Big Bass Tournament. *The Fisherman's Guide, News You Can Use* 17:4–14. <<http://www.fishguidenews.com/index.htm>>. Accessed 12 June 2016.
- Hunt, K. M. and C. R. Parker. 2016. A social and economic study of the Lake Fork Reservoir recreational fishery. Report of the Department of Wildlife, Fisheries, and Aquaculture, Mississippi State University, to Texas Parks and Wildlife Department, Austin, Texas.
- _____, S. M. Poarch, and R. Riechers. 1996. Trip characteristics, expenditures, and economic value of a trophy largemouth bass fishery: Lake Fork Reservoir, Texas. *Proceedings of the Annual Conference of the Southeastern Association of Fish and Wildlife Agencies* 50:163–173.
- Hysmith, B. T., J. H. Moczygemba, R. A. Myers, M. T. Driscoll, and M. S. Allen. 2013. Population-level impacts of Largemouth Bass mortality associated with tournaments in a Texas reservoir. *Journal of the Southeastern Association of Fish and Wildlife Agencies* 1:98–102.
- Kealy, M. J. and R. W. Turner. 1993. A test of the equality of close-ended and open-ended contingent valuations. *American Journal of Agricultural Economics* 75:321–331.
- Loomis, J. 2006. Use of survey data to estimate economic value and regional economic effects of fishery improvements. *North American Journal of Fisheries Management* 26:301–307.
- Lunander, A. 1998. Inducing incentives to understate and to overstate willingness to pay within the open-ended and the dichotomous-choice elicitation formats: an experimental study. *Journal of Environmental Economics and Management* 35:88–102.
- Maahs, B., A. Sylvia, and M. J. Weber. 2022. Effects of length and bag limits on Largemouth Bass tournament capture and mortality. *North American Journal of Fisheries Management* 42:1513–1529.
- Maceina, M. J., P. L. Snellings, T. R. Hanson, and D. Hite. 2018. Sociodemographic and economic characteristics of black bass anglers participating in different tournament types on Lake Guntersville, Alabama. *Journal of the Southeastern Association of Fish and Wildlife Agencies* 6:9–18.
- Mad Dog Moore. 2015. Tournament results: 2015 results. Garland Police Never Walk Alone Mad Dog Moore Memorial Bass Tournament, Garland, Texas. <<https://www.maddogmoore.com/results.php>>. Accessed 1 December 2023.
- Martin, L. R. G. 1987. Economic impact analysis of a sport fishery on Lake Ontario: an appraisal of method. *Transactions of the American Fisheries Society* 116:461–468.
- McKean, J. R., D. Johnson, and R. G. Taylor. 2014. Estimating tournament effects on sportfishing demand. *Tourism Economics* 20:1067–1086.
- McKee, C. E. 2013. Economic impact of recreational angler visitation to Lake Guntersville, Alabama. Master's thesis, Auburn University, Auburn, Alabama.
- Meals, K. O. and L. E. Miranda. 1994. Size-related mortality of tournament-caught largemouth bass. *North American Journal of Fisheries Management* 14:460–463.
- Medway, R. L. and J. Fulton. 2012. When more gets you less: A meta-analysis of the effect of concurrent web options on mail survey response rates. *Public Opinion Quarterly* 76:733–746.
- Norman, J., D. Smith, and Q. Dean. 2022. Statewide freshwater fisheries monitoring and management program, Lake Fork Reservoir. Texas Parks and Wildlife Department, Federal Aid in Sport Fish Restoration, Performance Report, Project F-221-M-4, Tyler.
- Oh, C. and R. B. Ditton. 2008. A time series approach to estimating the economic impacts of exogenous events on recreational fishing. *Human Dimensions of Wildlife* 13:348–360.
- O'Keefe, D. M. and S. R. Miller. 2011. 2009 Lake Michigan tournament fishing study. Michigan Sea Grant, MICHU-11-201.
- Porter, S. R. and M. E. Whitcomb. 2003. The impact of contact type on web survey response rates. *Public Opinion Quarterly* 67:579–588.
- SAS Institute Inc. 2014. JMP 11.0. SAS Institute, Inc. Cary, North Carolina.
- Schonlau, M., R. D. Fricker, and M. N. Elliot. 2002. Conducting research surveys via e-mail and the web. Rand Corporation, Santa Monica, California.
- Schorr, M. S., J. Sah, D. F. Schreiner, M. R. Meador, and L. G. Hill. 1995. Regional economic impact of the Lake Texoma (Oklahoma-Texas) striped bass fishery. *Fisheries* 20(5):14–18.
- Sealy Outdoors. 2023. Sealy Outdoors Big Bass Splash, Brookeland, Texas. <<https://sealyoutdoors.com/>>. Accessed on 25 May 2023.
- Steinback, S. R. 1999. Regional economic impact assessments of recreational fisheries: an application of the IMPLAN modeling system to marine party and charter boat fishing in Maine. *North American Journal of Fisheries Management* 19:724–736.
- Storey, K. W. 2016. Statewide freshwater fisheries monitoring and management program, Lake Fork Reservoir, Texas Parks and Wildlife Department, Federal Aid in Sport Fish Restoration, Performance Report, Project F-221-M-2, Job A, Tyler.
- _____, and A. K. Jubar. 2008. Statewide freshwater fisheries monitoring and

management program, Lake Fork, Texas Parks and Wildlife Department, Federal Aid in Sport Fish Restoration, Performance Report, Project F-30-R-33, Job A, Tyler.

Sylvia, A. and M. J. Weber 2022. Assessing size-dependent population-level effects of largemouth bass tournament mortality. *North American Journal of Fisheries Management* 42:1324–1339.

Toivonen, A. L., E. Roth, S. Navrud, G. Gudbergsson, H. Appelblad, B. Bengtsson, and P. Tuunainen. 2004. The economic value of recreational fisheries in Nordic countries. *Fisheries Management and Ecology* 11:1–14.

Wilson, T. J. 2018. The effects of power transformations on consumer expenditure survey data. U. S. Bureau of Labor Statistics, Consumer Expenditure Surveys Program Report Series. <https://www.bls.gov/cex/research_papers/pdf/power-transformations-in-ce.pdf>. Accessed 3 November 2023.

Yow, D. L., K. B. Hodges, A. P. Wheeler, and J. M. Rash. 2008. Crowding and response: angler perceptions on western North Carolina reservoirs. Pages 231–245 in M. S. Allen, S. M. Sammons, and M. J. Maceina, editors. *Balancing fisheries management and water uses for impounded river systems*. American Fisheries Society, Symposium 62, Bethesda, Maryland.

Appendix 1. Survey Instrument Used in this Study.

Lake Fork Reservoir
Tournament Angler Survey



Texas Parks and Wildlife Department
*Funded By the Wood County Economic
Development Commission*

You participated in the bass tournament indicated below at Lake Fork Reservoir. To ensure that we get the most accurate economic estimates, please answer questions 1–4 with this specific tournament in mind. For your convenience you may complete this survey online at <https://www.selectsurvey.net>.

Tournament Name: _____

1. How many total days did you spend on this trip to Lake Fork for this tournament? _____ Day(s)

2. Did the following people travel with you in the same vehicle to the Lake Fork tournament?

(Circle one) If “YES” how many people?

Spouse Yes No _____
Children Yes No _____
Friends/other family Yes No _____
Other tournament anglers Yes No _____

3. How much did your group (those traveling in your vehicle) spend on the following items on this specific Lake Fork tournament trip? Please include total expenses for your entire group, as reflected in your response to Question 2.

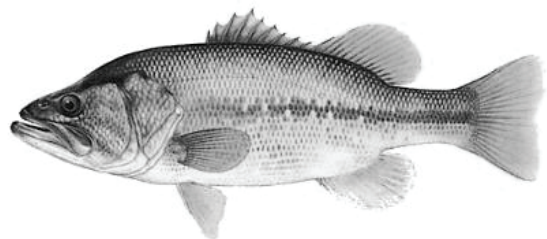
	Within 35 miles of Lake Fork	Elsewhere in Texas
Automobile transportation (fuel, car rental, repairs, etc.)	US\$	US\$
Other transportation (airplane, etc.)	US\$	US\$
Boat rental	US\$	US\$
Boat operation (fuel, oil, service, etc.)	US\$	US\$
Boat launch fees	US\$	US\$
Entrance or parking fees	US\$	US\$
Lodging (hotel, camp site, resort rental, etc.)	US\$	US\$
Restaurant meals	US\$	US\$
Groceries (food, drink, ice, etc.)	US\$	US\$
Bait and tackle (purchased during this trip)	US\$	US\$
Fishing guide fees	US\$	US\$
Fishing license	US\$	US\$
Tournament entry fee	US\$	US\$
Other expenses (please list: e.g. golf, shopping, etc.)	US\$	US\$
Total:	US\$	US\$
If you traveled from another state, how much did you spend outside Texas for this trip?		US\$

4. If the cost of goods and services were to increase so this trip cost more than it did (refer to **Total** in Question 3), how much more would you have been willing to pay rather than **NOT** have gone fishing on this trip? \$_____

5. Is most of your fishing at Lake Fork **tournament angling** or **non-tournament angling**? (Circle one)

Tournament angling **Non-tournament angling**

6. How many years have you fished tournaments at Lake Fork; (Number of years) of the last 5 years? _____; of the last 10 years? _____.



Many anglers also spend considerable time practice fishing for tournaments. For study purposes, we are defining practice fishing as days spent specifically preparing for this tournament on separate trip(s) prior to your actual tournament trip. To ensure that we get the most accurate economic estimates, please answer questions 7–9 with days primarily attributed to practice fishing for this specific tournament in mind. If no separate trips were taken, please skip to Question #10.

7. How many total days, NOT including the days you reported in Question 1, did you spend **practice** fishing at Lake Fork prior to the trip for this tournament? _____ Day(s)

8. Did the following people travel with you in the same vehicle on the **practice** days you reported in Question 7?

(Circle one) If “YES” how many people?

- Spouse Yes No _____
- Children Yes No _____
- Friends/other family Yes No _____
- Other tournament anglers Yes No _____

9. How much did your group (those traveling in your vehicle) spend on the following items on the **practice** days you reported in Question 7? Please include total expenses for your entire group, as reflected in your response to Question 8.

	Within 35 miles of Lake Fork	Elsewhere in Texas
Automobile transportation (fuel, car rental, repairs, etc.)	US\$	US\$
Other transportation (airplane, etc.)	US\$	US\$
Boat rental	US\$	US\$
Boat operation (fuel, oil, service, etc.)	US\$	US\$
Boat launch fees	US\$	US\$
Entrance or parking fees	US\$	US\$
Lodging (hotel, camp site, resort rental, etc.)	US\$	US\$
Restaurant meals	US\$	US\$
Groceries (food, drink, ice, etc.)	US\$	US\$
Bait and tackle (purchased during this trip)	US\$	US\$
Fishing guide fees	US\$	US\$
Fishing license	US\$	US\$
Other expenses (please list)	US\$	US\$
Total:	US\$	US\$
If you traveled from another state, how much did you spend outside Texas?		US\$

10. If you caught any largemouth bass longer than 24 inches or greater than 7 pounds (lbs.) during this tournament, please list the approximate length and weight of those fish in inches and pounds (lbs.) (E.g. 24.25”, 8.3 lbs; or 24.25”, 8 lbs. 5 oz.)

11. Not including this tournament, how many tournaments did you participate in since this time last year in:

- Lake Fork Reservoir _____ Number of tournaments
- Freshwater elsewhere in Texas _____ Number of tournaments
- Freshwater outside of Texas _____ Number of tournaments
- Saltwater _____ Number of tournaments

12. If you caught **largemouth bass** during this tournament, please list the number of fish you caught in each length category (**lengths in inches**) during this tournament:

Total number of largemouth bass **caught** in each size group:

____ <12” ____ 12 to 16” ____ 16 to 24” ____ >24”

Number of largemouth bass brought to the tournament **weigh-in**:

____ < 12” ____ 12 to 16” ____ >24”

Number of largemouth bass **harvested** (i.e. **not released** after the tournament):

____ <12” ____ 12 to 16” ____ >24”

13. What steps did you use to care for fish retained in your livewell during this tournament? (Check all that apply.)

	Yes	No
Livewell chemical additives (please list):		
Aeration/recirculation		
Oxygen injection (compressed gas from a tank)		
Temperature control (ice)		
Fizzing fish (released air in swim bladder)		
Other (please list):		

14. If you have access to the internet, would you be willing to provide us with your e-mail address to receive a copy of the economic study results? Email: _____

15. Did the person to whom this survey was addressed complete the survey? (Circle one)

- 1) YES
- 2) NO

16. What is the zip code of your permanent residence? _____

17. Please use this space to provide us with additional comments you may have: _____

We sincerely appreciate you taking the time to complete this questionnaire. Please return the completed questionnaire in the enclosed postage-paid reply envelope to: **Texas Parks and Wildlife, Attn: Dan Bennett, 2122 Old Henderson Hwy., Tyler, TX 75707, dan.bennett@tpwd.texas.gov, 903-593-5077.**