2009 Lake Michigan
TOURNAMENT FISHING STUDY

DANIEL M. O'KEEFE
Michigan Sea Grant
Southwest District Extension Educator
Michigan State University Extension

STEVEN R. MILLER
Director
Center for Economic Analysis
Michigan State University

JANUARY 2011

2009 Lake Michigan Tournament Fishing Study

Daniel M. O'Keefe
Michigan Sea Grant
Southwest District Extension Educator
Michigan State University Extension

Steven R. Miller
Director
Center for Economic Analysis
Michigan State University

January 2011

Michigan Sea Grant

MICHU-11-201

Great Lakes salmon and trout tournaments create economic impacts for host communities both by attracting anglers to compete and by creating a festival atmosphere that attracts tourists not engaged in fishing. Sixteen tournaments around Lake Michigan created an average of $53, 257 per tournament in output based solely on the spending of captains and their fishing and travel parties. The average party included 2.1 residents of the host community and 4.6 non-residents, with 1.1 party members being non-contestants. The total economic output attributed to non-tournament activities amounted to $578,168 in one weekend during the Grand Haven Salmon Festival, which also incorporated a fishing contest that created $33,198 in output. Non-tournament activities were less extensive for most events of the sixteen-tournament Lake Michigan Tournament Trail. These tournaments created total of $310,189 in personal income and 21,386 employment hours in coastal Lake Michigan communities during 2009, excluding the economic impacts of fees that supported tournament organizers, charitable donations, and benefits of tournament sponsorship.

Introduction

Competitive sport fishing has grown in popularity over the past several decades (Schramm *et al.* 1991a, Kerr 1999). During the same time period, sport fishing on the Great Lakes experienced overall declines (USFWS 2006). Although tournament fishing has been the subject of many investigations regarding biological, sociological, and economic implications (Schramm *et al.* 1991b, Siepker *et al.* 2007) a review of 80 scientific and popular articles found no scientific papers specific to Great Lakes salmon and trout tournaments, and only one popular article on the subject (Grant 1999).

Great Lakes salmon and trout tournaments substantially differ from the black bass (*Micropterus* spp.) tournaments that accounted for 77.8% of North American tournaments in 1991 (Schramm *et al.* 1991a) and generate a substantial portion of research focused on tournament angling (Grant 1999). Great Lakes salmon and trout anglers use different vessels and fishing gear, compete as teams instead of individually, and typically keep their catch. In bass tournaments, catch-and-release has become the standard and this has generated intense scrutiny of handling procedures and other factors in post-release mortality (Siepker *et al.* 2007). Great Lakes tournaments often target short-lived, iteroparous Pacific salmon that are maintained in part by stocking programs. This creates less of a concern regarding the mortality associated with tournaments, and at many events contestants are encouraged to donate their catch to a food bank or local charity with the assistance of tournament organizers. Proceeds from many Great Lakes tournaments are used to fund community projects or local charities, and many are coupled with youth events and entertainment that contributes to a festival atmosphere.

The regional economic impacts tournament fishing can be significant, but few studies have attempted to quantify economic impacts of Great Lakes salmon and trout tournaments (Schramm *et al.* 1991b, Grant 1999). Two types of tournaments were studied: events that primarily attract anglers who compete in the tournament, and events that incorporate a festival atmosphere that appeals to a broader audience primarily composed of non-contestants. Both types of events are common in coastal communities around the Great Lakes region.

Methods

An online survey of tournament fishing captains was developed using SurveyMonkey.com with input from tournament organizers. Print versions of the survey (Appendix A) were distributed at mandatory captains' meetings before each of the sixteen events of the 2009 Lake Michigan Tournament Trail (May-September 2009). Distributing the printed surveys to a captive audience allowed tournament organizers and researchers to discuss the value of the survey and enabled captains to write down expenses on the printed version during the course of tournaments that typically last two days or more. Instructions suggested that captains enter data online following the end of the tournament, but the option to return the survey to project personnel was also included for those who did not wish to report online.

The Tournament Trail events included tournaments at fourteen lower peninsula Michigan ports and two Wisconsin ports on Lake Michigan. This does not encompass all tournaments around Lake Michigan, but it does include most major tournaments on the Michigan shore and represents a cohesive series of events that encourages captains to fish multiple events in multiple ports. Events are generally timed to coincide with the best fishing of the season in a given port, with early-season events in the southern lake and later events in the north. Captains at four tournaments on Michigan' Lake Huron side were also invited to participate.

A second survey (Appendix B) was developed for attendees of the Grand Haven Salmon Festival on September 18-20, 2009. This second survey includes questions and expenditures specific for the unique aspects of the Grand Haven Salmon Festival, which attracts many attendees not participating in the associated tournament. Festival-goers were asked to provide their e-mail addresses for entry in a drawing to win a free charter fishing trip, with the understanding that they would be invited via e-mail to participate in the online survey. Non-respondents were invited a second and third time before survey collection was completed.

The IMPLAN economic impact model was used to determine economic impacts of tournament fishing and the Grand Haven Salmon Festival (Appendix C). Spending categories recommended by Stynes and White (2006) were used as the basis for categories chosen in each survey (Appendix A, Appendix B) to facilitate linking spending to key sectors in the IMPLAN model. Multipliers used for a Lake Michigan regional economic model was based on an average of four representative coastal Lake Michigan counties.

Results

Surveys were returned from each of the sixteen events on the Lake Michigan Tournament Trail (Table 1). These accounted for 94.3% of all surveys (n = 176) returned with useable data. Five surveys were returned from two Lake Huron tournaments that were invited to participate, three surveys were returned from small tournaments that were not specifically invited to participate, and two surveys did not specify the tournament they fished. All of these surveys were included in data analysis. Several of the same anglers fish tournaments on both Lake Michigan and Lake Huron, and the costs associated with fishing big lake salmon and trout tournaments are likely similar regardless of the basin being fished. Most captains who returned surveys (80.6%) resided in Michigan or Wisconsin (8.8%); other Great Lakes states and Ontario were also represented, and one captain maintained a Florida address (Table 2).

Amateur and professional divisions were sampled in proportion to their popularity among anglers. Of surveys returned, 61.4% were from amateurs and 22.7% were from professionals. Overall participation in Tournament Trail events included 57.0% amateurs and 27.9% professionals. Most events included professional and amateur divisions, but three of the sixteen Tournament Trail events did not. Professionals and amateurs were equally likely to participate in other tournament divisions such as the 333 Championship Series and ladies' tournaments. Pros and amateurs alike participated in an average of 2.1 divisions, and 77% of all Tournament Trail entrants fished in the 333 competition.

The average team included 6.7 people in its travel/fishing party. This included all individuals who either fished with the captain on his boat for at least one day of the tournament or travelled with the captain to the port hosting the tournament. Professionals and amateurs had similar travel/fishing party composition (two sample, two-tailed t test; P = 0.828). On average, 2.1 travel/fishing party members were residents of the port community and 4.6 were non-residents. Of these non-residents, 0.9 travelled to the port but did not fish in the tournament. An average of 0.2 resident non-anglers was also included in the travel/fishing party.

Most tournament captains (89.3%) did not include paying customers in their fishing party. Those that did allow anglers to charter their boat and fish in a tournament took an average of 4.0 paying customers fishing. Of 1,019 boats fishing in the Tournament Trail in 2009, 109 were chartered. This gave 436 charter customers the opportunity to compete in tournament fishing. Chartered boats were more likely to be entered in the professional division (χ^2 test for independence; $P <$ 0.001) than the amateur division, with 23.8% of professionals and only 5.6% of amateurs including paying customers.

Professional and amateur captains had different opinions regarding bonus point awards and the influence of sponsorship. Captains fishing in amateur divisions were more likely to state that tournament sponsorship influenced their purchase of goods and services (χ^2 test for independence; $P <$ 0.001). Although the majority (82.5%) of professionals indicated that tournament sponsorship encourages them to support sponsors, even more amateur captains (92.5%) were influenced by

sponsorship. Professionals were more likely to voice an opinion against bonus points than amateurs (χ^2 test for independence; $P = 0.040$), with 51.7% of pros and only 25.9% of amateurs siding against bonus points for uncommon fish species. Amateurs and professionals had similar answers regarding opinions on distance limits set by tournament organizers (χ^2 test for independence; $P = 0.945$), with half of all captains against limits, one quarter in favor of limits, and one quarter with no opinion.

Tourism induced by the sixteen events in Lake Michigan's Tournament Trail generated $1,045,339 in total expenditures and $852,113 in economic output. Each team spent an average of $1,436.56 in addition to tournament fees over the course of an event. Output was low relative to expenditures in large part because of the low margin (0.149) on fuel. Fuel for boats, automobiles, and trucks accounted for 31% of all expenditures. Lodging and dock fees were also major expenditures, and contributed more to the local economy than other categories due to the high margin (1.000). The total contribution of Tournament Trail events to port communities included $310,189 in personal income and 21,386 employment hours during the 2009 tournament season (Table 3). This does not include impacts of any spending generated by tourists who may have visited ports to participate in non-angling events, except when these tourists were part of a captain's travel/fishing party.

The 2009 Grand Haven Salmon Festival included a variety of activities in addition to the Big King Fishing Contest that included 63 teams. This tournament drew a higher percentage of local captains than Tournament Trail events, with only 45% coming from outside the Grand Haven area to fish. The fishing contest generated $33,198 in gross sales and 833 employment hours (Table 3). The other festival events drew many tourists and local residents who did not participate in fishing, and these were surveyed to assess additional economic impacts.

E-mail invitations were sent to 376 festival attendees, and 128 of these completed the online survey. An exact count of all attendees was not possible, but the four largest events of the festival drew 6,565 participants. The average participant attended 1.62 events, suggesting 4,052 individual attendees. Of these attendees, 1,061 (26.2%) were tourists who travelled to Grand Haven primarily for the purpose of attending the festival. These tourists spent an average of 1.36 nights in town and contributed $578,168 to the local economy. The fishing contest and other festival events generated 17,709 employment hours over the course of the three-day event (Table 4).

Discussion

Great Lakes tournaments offer a unique competitive fishing opportunity that coastal communities can highlight as an element of their identity. In addition to the economic impacts realized during tournaments, these events highlight the quality fishing available in coastal towns and often stimulate repeat visits by anglers, which bring additional money into local economies (Grant 1999). Some tournaments on Lake Michigan are supported by local Convention & Visitors Bureaus that cross-promote fishing and tournament activities with other local amenities. In Manistee, Michigan, for example, lodging packages are offered during Salmon Splash Tournament Week, which include

options for anglers and their families to golf, canoe, or ride horses (Ball 2009). While activities such as these are offered by a variety of tourist destinations, the unique opportunities provided by coastal communities (i.e., big lake angling, Great Lakes beaches) can be highlighted in conjunction with festival events to demonstrate the added attributes that coastal destinations offer.

Lake Michigan and Lake Huron salmon and trout tournaments surveyed were characterized by high non-resident participation, indicating the important role of tournaments in stimulating tourism. A review of demographics at 23 tournaments ranging from inland bass tournaments to offshore billifish tournaments found only two exceeded the 68% of non-resident anglers reported in this survey (Schramm *et al.* 1991b). In contrast, the Lake Superior Trout and Salmon Derby included only 15% non-local participation and the Eslo Trout and Salmon Derby on Lake Ontario had 52% non-local participation (Schramm *et al.* 1991b).

In addition to the tourism-related economic benefits, tournaments can provide cost savings to agencies that rely on voluntary data collection, increased fishing license revenues, charitable donations, and increased sales for businesses that sponsor tournaments (Grant 1999). During 2009, the Michigan Department of Natural Resources collected Chinook salmon vertebrae at Tournament Trail events for an evaluation of the contribution of natural reproduction. Fishing license expenditures were not estimated for the Tournament Trail events, but amounted to $6,424 for the Grand Haven Salmon Festival alone. This is especially significant because the Salmon Festival is held at the end of the Great Lakes salmon season and licenses were purchased primarily by attendees who did not enter the Big King Contest. The theme of the festival evidently stimulated interest in local fishing opportunities even among those visitors who did not enter the tournament.

Charitable contributions were not quantified in the present study, but these also represent economic benefits of Great Lakes tournaments. Several Tournament Trail events support local charities and conservation-related projects on an annual basis. Examples include rearing of salmon in net pens and local schools, which is supported by tournaments in Saugatuck and Grand Haven. Huntington's Grand Haven Offshore Challenge also raises money for hospice, scholarships, and a local nature center in addition to donating fish caught during the tournament to a live-in program for teenagers recovering from addiction. The tournament provides enough food for 10,400 meals of salmon annually, which would have cost over $30,000 at grocery stores based on generous 8-ounce servings and minimum retail prices for 2009 (Perishables Group 2010). Another approach to charitable fundraising is used by the Big Red Classic in Holland, Michigan, which supports breast cancer research through donations to the American Cancer Society that are generated through pledges for teams fishing in their women's tournament.

The economic benefits to businesses sponsoring tournaments are another benefit of tournament fishing that was not explicitly addressed in this survey. Tournament anglers typically spend more on fishing-related expenses than non-tournament anglers (Schramm *et al.* 1991b), and the high profile of tournament activities offer advertisers a chance to reach a carefully targeted audience. The overwhelming majority of surveyed anglers in this study reported that tournament sponsorship influenced their choice of brands. Tournament sponsorship occurs on the level of individual

anglers, local tournaments, and the Tournament Trail organization that collectively advertises local tournaments via their annual magazine, sport show booths, a mobile office that attends all events, and website, and on television beginning in 2011. Since its inception in 2003, the number of events included in the Tournament Trail has increased from nine to sixteen, the annual magazine has grown from 24 to 96 pages, the annually-projected prize value has increased from $200,000 to $750,000, and nationally-syndicated television broadcast of events will begin 2011 despite the difficult economic climate. This demonstrates the value of an overarching organization to advertisers that target big lake anglers, and also indicates a rising awareness of individual events and the tourism potential of the communities that support them.

Another dimension of tournament fishing economics is the effect of competitive angling on an angler's willingness to pay for a fishing experience. A study of angler recreation behavior found that the Salmon-A-Rama tournament on Lake Michigan increased the net value of a fishing trip by $162.63 among local Wisconsin-area fishing club members (Provencher and Bishop 1997). The social and competitive dimensions of the tournament were an important component of the fishing experience for these local anglers, and their willingness to pay for the tournament experience overshadowed all other factors. This included weather- and catch-dependent factors that authors expected to be more influential (Provencher and Bishop 1997). Thus, the competitive aspect is at least somewhat independent of actual and expected fishing success among Great Lakes anglers. Although in the Salmon-A-Rama example authors noted that catch may have seemed unimportant because it fluctuated within a narrow range of quality fishing (Provencher and Bishop 1997), it is also notable that long-running tournaments such as the Alpena Brown Trout Festival on Lake Huron have continued to draw large numbers of contestants despite major declines in catch rates for preferred species.

In addition to the substantial economic benefits of Great Lakes salmon and trout tournament fishing, there are potential economic, social, and biological costs that were beyond the scope of the current study. Many of the widely-recognized potential costs of bass tournament fishing do not apply to Great Lakes salmon and trout tournaments, while others warrant further investigation. Biological concerns regarding post-release mortality and relocation of fish are generally not applicable to salmon and trout tournaments where fish are kept. Culling, the practice of releasing small fish in the event of landing larger fish later in the day, is prohibited in all tournaments as is intentionally breaking the line if a small fish is hooked. The only common exception to the general rule that all fish are kept occurs when lake trout *Salvelinus namaycush* of sublegal size or outside of slot limits are caught.

The common concern of increased harvest resulting from tournaments (Schramm *et al.* 1991b) is not relevant to Pacific salmon in Lake Michigan. Recent investigation of predator-prey balance (Claramunt *et al.* 2009) led to an increase in the harvest limit from three to five Pacific salmon per angler per day in Michigan waters, and tournament regulations typically allow teams to weigh far fewer fish than allowed by state regulations. More potential for harvest concern and user-group

conflict exists with steelhead *Oncorhynchus mykiss*, which are an important component of both big lake and river fisheries, and with lake trout.

User-group conflict between competitive and non-competitive anglers was one of the most commonly cited tournament-related problems among state natural resource agencies (Schramm *et al.* 1991a). In addition to potential harvest allocation concerns, congestion at access points, and increased boating traffic are among the potential negative consequences of fishing tournaments (Grant 1999). The vast expanse of Great Lakes waters and their comparative lack of structural elements that congregate fish probably mitigate some concerns noted by Grant (1999), such as invasion of private fishing location and increased boating traffic near fishing grounds. However, boat traffic and congestion at access points in harbor areas before and after fishing may be a deterrent to some, and the competitive atmosphere may be viewed negatively by some anglers.

During a time of declining participation in Great Lakes fishing (USFWS 2007), the largest tournament organization on Lake Michigan is growing and interest in tournament fishing remains high. The economic impacts of anglers travelling to fish are significant, but relatively small when compared for the potential impacts of a tournament-centered festival with broad appeal to non-anglers. The ability of coastal communities to leverage the potential of tournaments and provide a focal point for tourism is likely to increase in coming years as television broadcast stimulates broader awareness of Lake Michigan tournament fishing as a spectator event.

Acknowledgements

This project was funded by Michigan Sea Grant with support from Grand Haven Charter Boat Association, Grand Haven Area Convention & Visitors Bureau, and Thunderduck Charters. The authors would like to thank Fred and Scott MacDonald of Tournament Trail for distributing and collecting surveys, and Captain Willis Kerridge for contributing to survey design. Thanks also to Chuck Pistis and Lynn Vaccaro of Michigan Sea Grant for help in review and development of reports and fact sheets.

Literature Cited

Ball, J. 2009. Tournament week in Manistee…great fun!! Lake Michigan Tournament Trail Magazine 2009:52, 66.

Bence, J. R. and K. D. Smith. 1999. An overview of recreational fisheries of the Great Lakes. Pages 259-306 *in* Taylor, W. W. and C. P. Ferreri, editors. Great Lakes Fisheries Policy and Management: A Binational Perspective. Michigan State University Press. East Lansing, Michigan.

Claramunt, R. M., T. L. Kolb, D. F. Clapp, D. B. Hayes, J. L. Dexter, Jr., and D. M. Warner. 2009. Effects of increasing Chinook salmon bag limits on alewife abundance: Implications for Lake Michigan management goals. North American Journal of Fisheries Management 29:829-842.

Grant, R. E. 1999. Potential impacts and concerns associated with competitive fishing events: A literature review. Pages 13-25 *in* Kerr, S. J., editor. Competitive fishing in Ontario Workshop Proceedings. Workshop Proceedings WP-O1. Southcentral Sciences Section, Ontario Ministry of Natural Resources. Kemptville, Ontario.

Kerr, S. J. 1999. A survey of competitive fishing events in Ontario. Pages 7-11 *in* Kerr, S. J., editor. Competitive fishing in Ontario Workshop Proceedings. Workshop Proceedings WP-O1. Southcentral Sciences Section, Ontario Ministry of Natural Resources. Kemptville, Ontario.

Perishables Group, Inc. 2010. Retail Report: Summer strengthens salmon sales. Seafood Business Magazine. http://www.seafoodbusiness.com/articledetail.aspx?id=4294994194

Provencher, B. and R. C. Bishop. 1997. An estimable dynamic model of recreation behavior with an application to Great Lake angling. Journal of Environmental Economics and Management 33(107)-127.

Schramm, H. L. Jr., M. L. Armstrong, N. A. Funicelli, D. M. Green, D. P Lee, R. E. Manns, Jr., B. D. Taubert, and S. J. Walters. 1991a. The status of competitive sport fishing in North America. Fisheries 16(3):4-12.

Schramm, H. L. Jr., M. L. Armstrong, A. J. Felder, N. A. Funicelli, D. M. Green, J. L. Hahn, D. P Lee, R. E. Manns, Jr., S. P. Quinn, and S. J. Walters. 1991b. Sociological, economic, and biological aspects of competitive fishing. Fisheries 16(3):13-21.

Siepker, M. J., K. G. Ostrand, S. J. Cooke, D. P. Phillipp, and D. H. Wahl. 2007. A review of the effects of catch-and-release angling on black bass, *Micropterus* spp.: Implications for conservation and management of populations. Fisheries Management and Ecology 14(2):91-101.

United States Fish and Wildlife Service (USFWS). 2007. 2006 National survey of fishing, hunting, and wildlife-associated recreation. Arlington, Virginia.

TABLE 1.—Great Lakes salmon and trout fishing tournaments surveyed in 2009.

Tournament	Port	County	End Date
Lake Michigan Tournament Trail Events			
Hoosier Coho Club Classic	Michigan City	LaPorte, IN	5/3/2009
SW MI Steelheaders Summer Challenge	St. Joseph	Berrien, MI	5/9/2009
South Haven Steelheaders Big Jon Pro-Am	South Haven	Van Buren, MI	5/17/2009
Onekema Marine Memorial Weekend Shakedown	Onekema	Manistee, MI	5/24/2009
Huntington's Grand Haven Offshore Challenge	Grand Haven	Ottawa, MI	5/31/2009
Sheboygan Salmon Cup	Sheboygan	Sheboygan, WI	6/14/2009
MCSFA Budweiser Pro/Am	Manistee	Manistee, MI	6/28/2009
Cabela's Salmon Shoot Out	Muskegon	Muskegon, MI	7/12/2009
Ludington Offshore Classic	Ludington	Mason, MI	7/19/2009
MCCVB Salmon Splash	Manistee	Manistee, MI	7/26/2009
Huntington Big Red Classic	Holland	Ottawa, MI	8/2/2009
Huntington/OCD Big Lake Classic	Saugatuck	Allegan, MI	8/9/2009
Sturgeon Bay Offshore Challenge	Sturgeon Bay	Door, WI	8/16/2009
Benzie Fishing Frenzy	Frankfort	Benzie, MI	8/23/2009
Big Jon/Huntington Salmon Classic	Traverse City	Grand Traverse, MI	8/30/2009
Bay Harbor Fishing Tournament	Bay Harbor	Emmet, MI	9/6/2009
Lake Huron Events			
Hammond Bay Area Anglers	Rogers City	Presque Isle, MI	7/25/2009
Alpena Brown Trout Festival	Alpena	Alpena, MI	7/26/2009

TABLE 2.—Percentage of tournament fishing captains by geographic area.

Location	ZIP Code Prefix	Percentage of Captains	
Michigan			
Detroit/Flint Area			20.0%
Royal Oak	480-	3.8%	
Detroit	481- to 483-	10.6%	
Flint	484-, 485-	5.6%	
Other Areas			60.6%
Grand Rapids	493- to 495-	28.1%	
Other Southern L.P.	486- to 492-	12.5%	
Northern L.P. and U.P.	496- to 499-	20.0%	
Other States and Canada			19.4%
Ohio		1.9%	
Indiana		4.4%	
Wisconsin		8.8%	
Illinois		1.9%	
Other States		1.8%	
Ontario, Canada		0.6%	

TABLE 3.—Team expenditures and economic impacts to coastal communities hosting sixteen Lake Michigan salmon and trout tournaments. In 2009, 1,019 teams participated in these events. The average team that provided expenditure data was composed of both residents and non-residents of the host port, and also included non-angling travel party members. Only expenditures of the 71% of fishing and travel party members that were non-residents are included in total expenditures and calculations of output, personal income, and employment hours.

	Expenditure Per Team	Total Expenditures	Output	Personal Income	Employment Hours
Hotels, motels, B&Bs, camping	$204.35	$148,699	$273,412	$90,556	6,120
Dock Fees	$160.87	$117,062	$231,143	$90,400	5,744
Fuel for boat	$338.35	$246,205	$64,316	$23,840	1,535
Fuel for automobiles/trucks	$108.48	$78,938	$20,621	$7,644	492
Boat/marine expenditures other than fuel	$64.13	$46,663	$25,522	$9,982	634
Auto/truck expenditures other than fuel	$63.93	$46,520	$23,931	$7,846	456
Groceries and beverages	$134.79	$98,083	$53,844	$21,921	1,439
Restaurants and taverns	$154.91	$112,721	$58,773	$17,971	1,564
Fishing equipment	$134.52	$97,886	$73,607	$29,559	2,694
Souvenirs and shopping	$27.35	$19,905	$8,201	$3,312	216
Entertainment	$24.56	$17,874	$9,870	$3,687	273
Other	$20.32	$14,784	$8,874	$3,471	221
TOTAL	$1,436.56	$3,136,018	$852,113	$310,189	21,386

TABLE 4.—Economic impacts of the Big King Fishing Contest and the Grand Haven Salmon Festival. In 2009, 63 teams participated in the fishing contest and 4,052 people attended the four largest festival events. Only expenditures of non-residents who travelled primarily for the contest and festival are included in total expenditures and calculations of output, personal income, and employment hours.

Big King Fishing Contest

	Expenditure Per Party	Total Expenditures	Output	Personal Income	Employment Hours
Hotels, motels, B&Bs, camping	$204.35	$5,793	$10,652	$3,528	238
Dock Fees	$160.87	$4,561	$9,005	$3,522	224
Fuel for boat	$338.35	$9,592	$2,506	$929	60
Fuel for automobiles/trucks	$108.48	$3,075	$803	$298	19
Boat/marine expenditures other than fuel	$64.13	$1,818	$994	$389	25
Auto/truck expenditures other than fuel	$63.93	$1,812	$932	$306	18
Groceries and beverages	$134.79	$3,821	$2,098	$854	56
Restaurants and taverns	$154.91	$4,392	$2,290	$700	61
Fishing equipment	$134.52	$3,814	$2,868	$1,152	105
Souvenirs and shopping	$27.35	$775	$320	$129	8
Entertainment	$24.56	$696	$385	$144	11
Other	$20.32	$576	$346	$135	9
TOTAL	$1,436.56	$55,388	$33,198	$12,085	833

Grand Haven Salmon Festival

	Expenditure Per Party	Total Expenditures	Output	Personal Income	Employment Hours
Hotels, motels, and B&Bs	$67.24	$71,367	$112,776	$35,053	2,921
Camping & RV expenditures	$105.71	$112,201	$177,302	$55,109	4,592
Souvenirs and shopping	$54.69	$58,045	$28,729	$12,208	1,490
Entertainment and attractions	$50.00	$53,068	$81,721	$29,999	2,573
Fuel for automobiles/trucks	$57.28	$60,796	$13,872	$5,134	311
Auto/truck expenditures other than fuel	$0.53	$559	$871	$277	15
Fuel for boats	$21.05	$22,344	$5,099	$1,887	114
Boat expenditures other than fuel	$7.89	$8,379	$13,938	$5,284	390
Groceries and beverages	$53.20	$56,464	$26,618	$10,773	870
Restaurants and taverns	$90.57	$96,124	$41,879	$12,615	1,252
Charter boat fees and tips	$27.78	$29,482	$48,329	$35,661	1,341
Fishing licenses	$6.05	$6,424	$10,110	$6,513	261
Fishing equipment	$8.95	$9,496	$7,141	$2,868	261
Other	$18.95	$20,110	$9,783	$3,933	484
TOTAL	$569.89	$604,861	$578,168	$217,314	16,876

Appendix A: Tournament Captain's Survey

Fishing Tournament Team Survey

1. Consent Letter

Because of your participation in tournament fishing, we have invited you to complete this survey. It is important for communities to understand the contribution that anglers make to local economies. We therefore developed this survey to better understand the economic impacts of fishing, and to provide feedback for tournament organizers to help them serve the needs of anglers. Your input is important to this effort.

This short survey should take less than 10 minutes to complete. Nevertheless, do not let the brevity of the survey understate the importance of the information collected. The information we collect will be summarized and distributed to coastal community leaders and tournament organizers. We will not collect, nor will we deliver any personal information, so your identity will not be revealed through this survey. Your participation in this survey is strictly voluntary. You can refuse to complete any or all questions in this survey, and you have the right to withdraw at any time.

This survey is a component of a joint research project with Michigan State University, MSU Extension, and Michigan Sea Grant. Your participation in any or all questions of this survey is evidence of your consent to participate this survey. You must be at least 18 years old to participate. If you have any questions about the survey items, why the survey is being conducted, or how to complete and return the questionnaire, please do not hesitate to call me at (517) 355-2153. Question concerning your rights as a participant in this survey can be directed to the MSU Human Research Protection Program at (517) 355-2180.

Thank you for participating in this important survey.

Steven Miller
Center for Economic Analysis
88 Agriculture Hall,
East Lansing, MI 48824

2. Name of Tournament

1. Name of tournament:

Other (please specify)

3. Team and Travel Party Members

1. List number of people that fished on your boat AND number of people that traveled with anglers who fished on your boat:

	Residents of Port Community	Non-Residents
Fished on your team		
Fished on ladies/youth teams		
Traveled but did not fish		

2. Were any of the anglers on your boat paying customers?

- ◯ Yes
- ◯ No

4. Number of Paying Customers

Fishing Tournament Team Survey

1. How many paying customers fished from your boat during this tournament?

5. Tournament Questions

1. Which division(s) did anglers on your boat fish in (check all that apply)?

- ☐ PRO
- ☐ AM
- ☐ LADIES
- ☐ YOUTH
- ☐ 333
- ☐ BEST OF THE BEST
- ☐ OTHER (please specify)

2. How much did you pay per gallon of boat fuel?

3. Does tournament sponsorship encourage you to purchase goods or services from sponsors?

- ◯ Yes
- ◯ No

4. If you were setting rules for this tournament, how many fish would you allow each team to weigh per day?

5. Do you favor restrictions on the distance boats can travel from port?

- ◯ I am in favor of distance limits
- ◯ I am against distance limits
- ◯ It makes no difference to me

Fishing Tournament Team Survey

6. Are you in favor of awarding bonus points for less common fish species?

- ◯ I am in favor of bonus points
- ◯ I am against bonus points
- ◯ It doesn't matter to me

6. Zip Code

1. What is your zip code?

ZIP/Postal Code: _____

2. If there had not been a tournament this weekend, would you have fished out this port anyway?

- ◯ Yes
- ◯ No

7. Expenditures

1. To estimate economic impacts, we need to ask about your actual spending during this tournament. Please include total out of pocket expenditures for yourself and ALL ANGLERS WHO FISHED ON YOUR BOAT. Record a zero if no money was spent for a given category.

Hotels, motels, B&Bs, camping	
Dock Fees	
Fuel for boat	
Fuel for automobiles/trucks	
Boat/marine expenditures other than fuel	
Auto/truck expenditures other than fuel	
Groceries and liqour stores	
Restaurants and taverns	
Fishing equipment	
Souvenirs and shopping	
Entertainment	
Other	

8. Thank You

Appendix B: Grand Haven Salmon Festival Survey

Salmon Festival Survey

1. Consent Letter

This short survey should take less than 10 minutes to complete. Nevertheless, do not let the brevity of the survey understate the importance of the information collected. The information we collect will be summarized and distributed to coastal community leaders. We will not collect, nor will we deliver any personal information, so your identity will not be revealed through this survey. Your participation in this survey is strictly voluntary. You can refuse to complete any or all questions in this survey, and you have the right to withdraw at any time.

This survey is a component of a joint research project with Michigan State University, MSU Extension, and Michigan Sea Grant. Your participation in any or all questions of this survey is evidence of your consent to participate this survey. You must be at least 18 years old to participate.

If you have any questions about the survey items, why the survey is being conducted, or how to complete and return the questionnaire, please do not hesitate to call me at (517) 355-2153. Question concerning your rights as a participant in this survey can be directed to the MSU Human Research Protection Program at (517) 355-2180.

Thank you for participating in this important survey.

Steven Miller
Center for Economic Analysis
88 Agriculture Hall,
East Lansing, MI 48824

2. Visit Details

1. Do you live more than 50 miles from Grand Haven?

◯ Yes

◯ No

2. How important was the Salmon Festival in your decision to visit downtown Grand Haven?

◯ The Salmon Festival was the only reason I visited downtown Grand Haven

◯ The Salmon Festival was the primary, but not the only, purpose of my visit

◯ The Salmon Festival wasn't the primary purpose of visiting downtown Grand Haven, but I did plan on attending the festival before leaving home

◯ I did not plan to attend the Salmon Festival when deciding to visit downtown Grand Haven

Salmon Festival Survey

3. How many times have you attended Salmon Festival prior to this year?

- ◯ 5
- ◯ 4
- ◯ 3
- ◯ 2
- ◯ 1
- ◯ This is the first time I attended Salmon Festival.

3. Your Salmon Festival Experience

1. Which of the following did you attend (check all that apply)?

- ◯ Friday - Fresh Catch Fish Boil
- ◯ Saturday - Big King Fishing Contest
- ◯ Saturday - Kid's Zone
- ◯ Saturday - Nature Themed Art Fair
- ◯ Saturday - Purple Romp Grape Stomp
- ◯ Saturday - Gourmet Salmon Cook-off
- ◯ Saturday - Michigan Wine and Beer Tasting
- ◯ Saturday - Fall Harvest Beer Tent
- ◯ Sunday - Guided Fall Hike at Kitchel-Linquist Dune Preserve
- ◯ Sunday - Tri-cities Historical Museum

2. How would you rate your experience at this year's Salmon Festival?

- ◯ Excellent
- ◯ Good
- ◯ Average
- ◯ Poor
- ◯ Very Poor

Salmon Festival Survey

3. Do you have any suggestions for improving the Salmon Festival?

4. Trip Expenditures

1. How many nights did you spend in the Grand Haven area?

Skip this question if you live in the area for more than 1 month per year.

2. When visiting the Grand Haven area, where did you stay (check all that apply)?

Skip this question if you didn't stay overnight or if you live in the area for more than 1 month per year.

- [ ] Hotel, Motel, or Bed & Breakfast
- [ ] Campground/RV
- [ ] Relative's or Friend's House
- [ ] Second Home or Cabin
- [ ] Rental House
- [ ] Other

Salmon Festival Survey

3. To estimate the economic impacts of the Salmon Festival, we need to collect detailed information on your spending while in the Grand Haven area.

Enter the amount you spent in the Grand Haven area for each of the following categories. INCLUDE SPENDING ON DEPENDANTS LESS THAN 18 YEARS OLD. Please be as accurate and precise as possible, and include spending for all days and nights spent in the area.

If you do not know the exact amount, use your best guess. Enter a zero if no money was spent for a given category.

Hotels, motels, and B&Bs	
Camping & RV expenditures	
Souvenirs and shopping	
Entertainment and attractions	
Fuel for automobiles/trucks	
Auto/truck expenditures other than fuel	
Fuel for boats	
Boat expenditures other than fuel	
Groceries and beverages	
Restaurants and taverns	
Charter boat fees and tips	
Fishing licenses	
Fishing equipment	
Other	

5. Zip Code

1. What is your zip code?

6. Thank You

Appendix C: The IMPLAN Economic Impact Model

The Minnesota IMPLAN Group Inc. model for economic impact evaluation, IMPLAN Pro. 2 (Minnesota IMPLAN Group Inc. 2004), is a general application economic impact evaluation model based on a common economic construct known as a social accounting matrix (SAM). The SAM is a comprehensive accounting system that identifies all the monetary transactions between the sectors in an economy. The SAM comprises a square matrix (number of columns equals number of rows) that represents individual sectors as both buyers and sellers. Each row represents the revenue earned by the corresponding sector while each column represents its expenditures (Isard et al. 1998, pp. 283). This construct builds a closed system that represents transactions within and amongst all sectors: inter-industry transactions; transactions between industries and government; transaction between industries and households; transaction between households and government; and the purchases and sales between the state economic sectors and the rest of the world.

IMPLAN provides industry detail to 440 different industry categories including agricultural, goods-producing, and service-providing industries. Institutions are broken out into households by income group, federal, state and local government sectors, and by import and export markets. The SAM also provides household and government purchases of goods and services. Additional transactions are recorded within the SAM including transactions across households, government transfers to households and household transactions to government in the form of taxes and fees. Because the social accounting system examines all the aspects of a local economy, it provides a comprehensive snapshot of the economy and its spending patterns.

The I-O framework was first described by Francois Quesnay in 1758 and developed by Wassily Leontief (1960). The structure supports demand-driven responses, where changes in output demand in one industry materializes in changes in the demand for production of other industries. For example, an increase in local demand for printing services will spur demand for feed paper, ink, printer repair services and other goods and services required by printing companies. The beneficiaries of these direct transactions will increase the demand for inputs used in their respective production processes. Households that enjoy enhanced employment opportunities earn and spend more on goods and services and taxes. Such household impacts generate additional direct and secondary transactions across the economy. The extent to which initial stimulus generates such secondary transactions is hindered by the degree of purchases made outside the modeled region. Industries that purchase inputs from local suppliers generate greater secondary transactions than industries that tend to purchase inputs produced outside the state, holding all else constant.

I-O models have become staple economic impact models for regional analysis (Blakely and Bradshaw 2002). I-O models provide a systematic and intuitive approach to estimating economy-wide impacts of a change in the local economy. This approach uses linear relationships to reflect production processes that equate industry inputs and outputs. The linear transactions that define a SAM are generalized in a set of multipliers that capture the full extent of transactions associated with any changes in the level of production in an industry (Cabrera et al. 2008). To exemplify, within the I-O analysis, the total impact is specified in value of transactions as,

$$Total\ Effect = Direct\ Effect + Indirect\ Effect + Induced\ Effect \qquad (1)$$

The I-O model takes changes in demand called direct effect and relates them to overall economic impact called total effect through a set of mathematical equations described above. In this analysis, the direct effect is the value of transactions generated from charter fishing excursions booked by non-residents of the coastal community. The indirect effect is the value of secondary inter-industry transactions in response to direct effects. The induced effect is the value of transactions resulting from changes in income in response to direct effects. Because the relationships are linear, the direct, indirect and induced effects can be specified as multiples of the direct effect and equation (1) can be restated as,

$$Total\ Effect = (1 + k_1 + k_2) \bullet Direct\ Effect, \qquad (1.1)$$

where k_1 and k_2 greater than or equal to zero. More simply, Equation (1.1) can be restated as,

$$Total\ Effect = k \bullet Direct\ Effect \qquad (2)$$

where $k = (1 + k_1 + k_2)$. Equation (2) says that the economy-wide impact, Total Effect, is some multiple of the direct effect, where the multiplier takes a positive value equal or greater than one. The minimum value the multiplier can take, one, reflects the intuitive result that if the economy's output of agricultural products – for example – expands by $1 million dollars, the economy will expand at least by $1 million dollars. However, if the indirect and induced effects are not equal to zero, this $1 million increase in output will spur other industries to expand output of goods and services and will generate household income that are applied to the purchase of goods and services in the economy; generating a total economic impact greater than the initial $1 million expansion.

Generally, the economic multiplier is specified as a ratio of the total to direct effects. Rearranging equation (2) provides,

$$k = \frac{Total\ Effect}{Direct\ Effect} \qquad (3)$$

where the multiplier, k encompasses all the direct, indirect and induced effects for a given industry

and denotes the impact of a change in direct effects on the total economic system. Each industry in a region is characterized by its own multiplier *k*. Industries with expansive localized production chains will tend to have higher multipliers than industries that rely on suppliers outside of the modeling region. When there is adequate supply within the state, the state has more potential to retain the total effects of the industry. However, when producers have to depend on supplies outside the state, leakage occurs and part of the total effect is lost.

The I-O impact evaluation model requires several restrictive assumptions. First, the model imposes constant returns to scale, such that a doubling of output requires a doubling of all inputs. Second, technology is fixed with no substitution. These two assumptions impose that an increase in industry output requires an equal and proportionate increase in all inputs. Additionally, supply is assumed perfectly elastic such that there are no supply constraints. This final assumption also asserts that all prices are fixed, such that an increase in demand for any commodity will not result in a price changes for that industry. I-O models have been criticized on the grounds that some of these assumptions are overly restrictive and the magnitude of the bias generated by these assumptions are greater the larger the industry direct effects are relative the overall size of the industry (Coughlin and Mandelbaum 1991). Despite this criticism, I-O models have become a standard by which economic impact assessment generated.

Literature Cited

Blakely, E. J., and T. K. Bradshaw. 2002. Planning Local Economic Development: Theory and Practice. 3rd ed. Thousand Oaks, CA: Sage Publications.

Cabrera, V. E., R. Hagevoort, D. Solfs, R. Kirksey, and J. A. Diemer. 2008. Economic Impact of Milk Production in the State of New Mexico. Journal of Dairy Science 91:2144-2150.

Coughlin, C. C., and T. B. Mandelbaum. 1991. A Consumer's Guide to Regional Economic Multipliers. Review 73 (1):19-32.

Isard, W., I. J. Azis, M. P. Drennan, R. E. Miller, S. Saltzman, and E. Thorbecke. 1998. Methods of Interregional and Regional Analysis. Brookfield, VT: Ashgate.

Leontief, W. W. 1960. The Structure of the American Economy, 1919-1939. New York: Oxford University Press.

Matthiessen, L. F., and P. Morris. 2004. Costing Green: A Comprehensive Cost Database and Budgeting Methodology. Washington, D.C.: Davis Langdon.

Miller, R. E., and P.D. Blair. 1985. Input-Output Analysis: Foundations and Extensions. New York, NY: Oxford University Press.

Minnesota IMPLAN Group Inc. 2004. Implan Professional Version 2.0: 3rd Edition. Stillwater, MN: MIG, Inc.