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A METHODOLOGY FOR ESTIMATING THE ECONOMIC IMPACT OF SPORTFISHING TOURNAMENTS

Michael J. Ellerbrock
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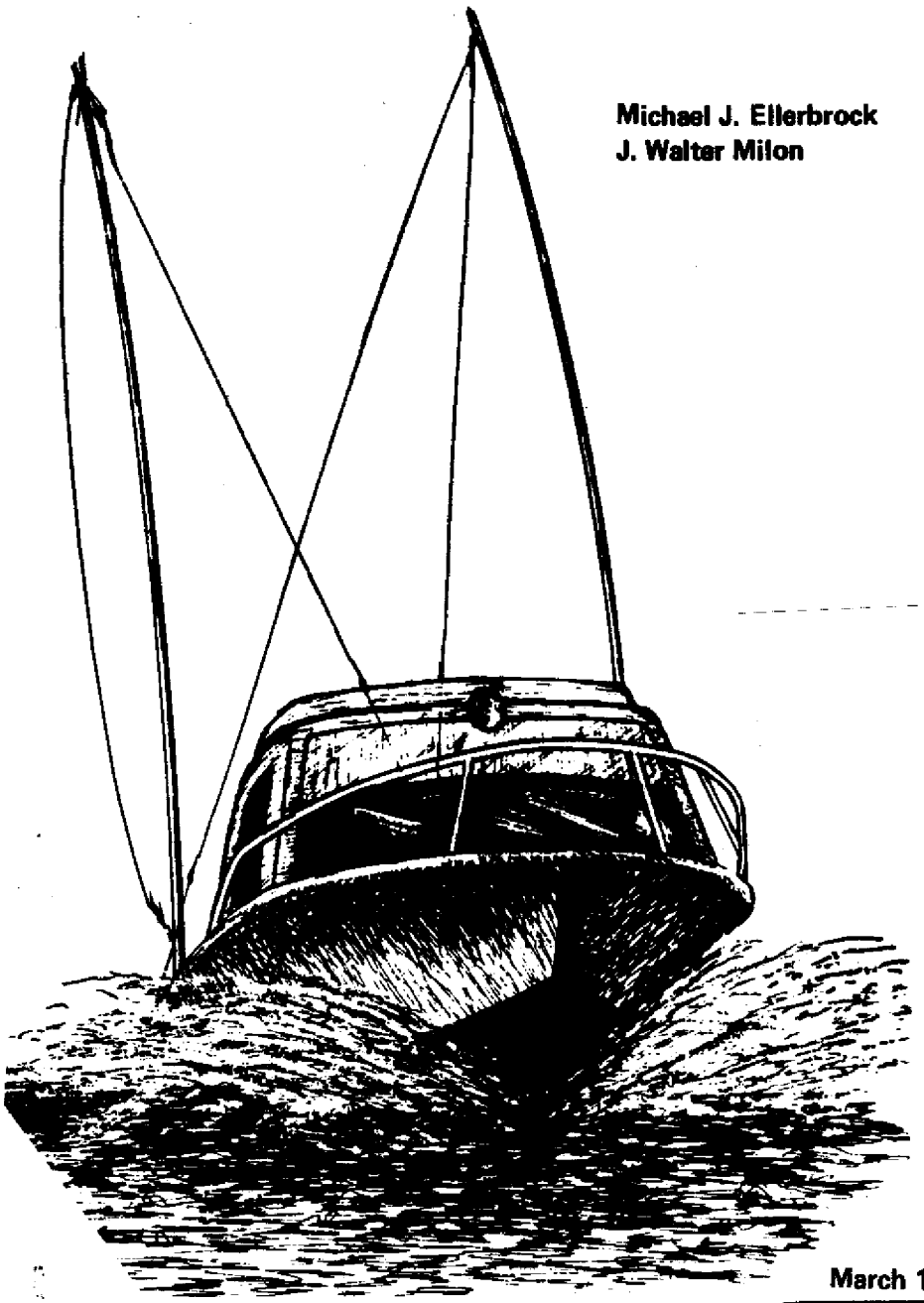

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SEA GRANT

A METHODOLOGY FOR ESTIMATING THE ECONOMIC IMPACT OF SPORTFISHING TOURNAMENTS

By

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ABSTRACT

This report presents one methodology for estimating the economic impact of sportfishing tournaments. It discusses objectives, personnel and computational needs, survey design, sample selection, survey distribution and collection, data analysis, multiplier effects, report of findings, and methodological limitations. References are made to economic impact studies previously conducted of three offshore sportfishing tournaments in Florida. This report can be used as a guide for local groups to conduct their own studies of the economic impact of sportfishing tournaments and other short term entertainment events.

KEY WORDS: economic impact, sportfishing tournaments, multiplier effect, recreational fishing.

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I. INTRODUCTION

Fishing is a primary industry in the economic base of several states and many communities. In Florida, it has recently been estimated that recreational saltwater fishing is a $5 billion per year industry directly responsible for 44,000 jobs and indirectly responsible for 80,000 other jobs [2,9].

Recreational sportfishing tournaments are an increasingly popular means of attracting visitors to coastal communities and of drawing attention to the fishery stocks of the area. Large scale tournaments generate benefits and costs for the host communities. The amount of benefits and costs are of growing concern to communities, industry merchants, tournament planners, conservation groups and scientific researchers.

Only a few reports have been published on the economic impact of marine sportfishing tournaments [4,5,6,8]. No agreement has been reached among professional economists on the best methodology for estimating the economic impact on host communities [3]. This report presents one methodology for analyzing the economic impact of sportfishing tournaments. It is prepared primarily for use by tournament officials but it could be used by anyone interested in recreational fishing, e.g.

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marine extension agents, sportfishing clubs, local government and civic leaders, chambers of commerce, and scientific researchers. The methodology could easily be adapted to examine other short-term entertainment events, e.g. fairs, art exhibitions, festivals, athletic contests and memorial celebrations.

The methodology presented here was developed through field studies of three major offshore sportfishing tournaments held in Florida: The First and Second Annual Greater Jacksonville Natural Light Kingfish Tournament held in the summers of 1981 and 1982, and the Second Annual Fort Pierce Sportfishing Club Open held in the summer of 1982 [4,6]. Those studies focused on the tournament's economic benefits, without considering the costs to the communities. Assessing the costs of sportfishing tournaments (e.g. traffic congestion, law enforcement, environmental damage, possible fishery stock depletion) warrants development of an appropriate methodology.

II. PURPOSE OF ECONOMIC IMPACT RESEARCH

The procedures presented in this manual are suggested for estimating the economic impact of a sportfishing tournament based on the monetary expenditures of participants and the subsequent multiplier effects of such expenditures on the community. Other purposes for researching tournaments, e.g. biological, sociological, psychological, geographical, marketing, ecological, are pertinent and can sometimes be conducted in conjunction with economic impact analysis. The methodology discussed here does not capture all of the economic impacts of a sportfishing tournament. The limitations of this methodology are discussed in Sextion XV.

III. PERSONNEL NEEDS

Although one person can design and conduct the survey discussed below, it may be useful to organize a small committee (3-4 persons) to properly carry out the complete methodology. One member of the committee should have access to a small personal computer. It is recommended that tournament officials responsible for operating decisions (rules, concessions, etc.) do not participate in this process because of possible conflicts of responsibility during the tournament.

IV. COMPUTATIONAL NEEDS

A small computer will facilitate calculation of descriptive statistics of interest such as means, sums, minima and maxima, standard deviations, and cumulative frequency distributions by number and percent. Most of the personal computers have software programs which will provide these calculations. If necessary, these can be calculated manually.

V. OBJECTIVES OF STUDY

Though the primary objective of this methodology is to assess the economic impact of the tournament, it is important to define and agree on any other objectives tournament officials may have. It is best to seek the input of tournament officials on specific questions to be asked. The questionnaire can thus include or delete any topics of special concern. The questionnaire should be previewed by several members of the tournament committee to check for ambiguous or offensive questions.

VI. DESIGN OF SURVEY INSTRUMENT

After deciding what to ask comes the difficult job of figuring out how to ask, in order to get unbiased responses and a high response rate. The questionnaire should be brief, easy to read and fill out, have an interest-catching title, and an introduction that explains the purpose and benefits of the research.

A. Questions

Ask specific questions that have short, unambiguous answers. Ask for the tournament registration numbers, but not for personal names. Economic information solicited should include local and non-local expenditures on specific goods and services related to participation in the tournament. The expenditures involve some non-fishing items, e.g. entertainment, lodging, souvenirs, food. Sociological information that may be of interest includes: age, sex, number of fishing partners, occupation, education, income, distance traveled to the tournament,

number of tournaments participated in within the previous 12 months, amount of previous winnings, home town and home state, number of non-fishing friends that came to the tournament, reasons for entering, length of stay, and other places visited in conjunction with participation in the tournament. Figures 1, 2 and 3 present the questions asked in the Florida tournaments. (In the 1981 Jacksonville tournament, questions 9, 13 and 18 on income and expected winnings were asked to enable the researchers to evaluate some economic issues different than the economic impact.)

Questions may also be included that will assist officials in evaluating the success of the tournaments. These may include the level of enjoyment, complaints, suggested improvements and likelihood of participating next year. Some examples are questions 19, 20, and 21 on the 1981 and 1982 Jacksonville tournament forms (Figures 1 and 2).

B. Answers

Check-box answers are convenient for the respondent and data coding and should be used wherever possible. Answer blanks may be more appropriate for data on hometown, income, education or age, but they risk ambiguous, inappropriate and lengthy responses. Answers for some questions, e.g. occupation, may be hard to categorize for check-boxes, yet yield even more spurious results if left as an answer blank.

C. Respondents

For most fishing tournaments, the appropriate person to address in the questions is the captain of each boat. If all participants are surveyed, they may not be able to distinguish their individual expenditures from their party's total expenditures and they may feel their responses are not very important because every participant was surveyed. In addition, if a follow-up survey is conducted, the registration list of the tournament may only have the address of the captain. It should be clearly stated in the questionnaire directions that the captain responds for the entire fishing party that is participating in the tournament. This would include the family of participants who have traveled to the tournament site from another city.

1. Boat registration entry number _____ .

2. What is the total number of people in your GROUP (fishing party, families and friends) who came to the Greater Jacksonville area because of this tournament?
_____ .

3. What is the number of males and females in your FISHING PARTY in each of the following age groups?

	Males	Females
Youth (under 18 yrs.)	_____	_____
Adults (19-65 yrs.)	_____	_____
Seniors (Over 65 yrs.)	_____	_____

THE FOLLOWING QUESTIONS APPLY ONLY TO THE BOAT CAPTAIN:

4. Hometown _____ Zip Code _____

5. Age _____ Race (check one):
White ☐ Hispanic ☐
Black ☐ Other ☐

6. Highest educational degree you have earned:
High School ☐ Doctorate ☐
Vocational School ☐ M.D. ☐
Junior College ☐ J.D. ☐
Bachelor's ☐ Other: _____
Master's ☐

7. Occupation: _____ , or
Non-employed ☐ Retired ☐

8. How many people live in your household? _____ .

9. PRIOR TO THE TOURNAMENT, how much cash and/or merchandise did you expect your boat to win?
$ _____ .

10. How many other fishing tournaments have YOU entered in the past 12 months? _____ .
Your fishing PARTNERS? _____ .

11. What is the dollar value of the prizes YOU won in those tournaments $ _____ .
Your fishing PARTNERS? $ _____ .

12. What was your household's approximate income last year?
$0– 4,999 ☐ $25,000–29,999 ☐
$ 5,000– 9,000 ☐ $30,000–34,999 ☐
$10,000–14,999 ☐ $35,000–39,999 ☐
$15,000–19,000 ☐ Over $40,000 ☐
$20,000–24,999 ☐

13. How would you characterize your feelings about your household's current income level?
Satisfied ☐ Dissatisfied ☐

14. Please indicate with a check mark how important each of the following factors were in YOUR decision to enter this tournament?

	Not Important	Somewhat Important	Very Important
Entry fee ($160)	☐	☐	☐
Competition	☐	☐	☐
Fun and fellowship	☐	☐	☐
Total purse ($150,000)	☐	☐	☐
Number of major prizes (11)	☐	☐	☐
Value of prizes ($25,000, etc.)	☐	☐	☐

Other: _____

15. How many days does your GROUP plan to stay in the Greater Jacksonville area?
1 day ☐ 3 days ☐ 5 days ☐ 1 week or
2 days ☐ 4 days ☐ 6 days ☐ more ☐

16. How many days does your GROUP plan to visit other places in Florida?
1 day ☐ 3 days ☐ 5 days ☐ 1 week or
2 days ☐ 4 days ☐ 6 days ☐ more ☐

17. Please estimate the expenditures by your GROUP for the following items while visiting the Greater Jacksonville area and other places in Florida.

	Greater Jacksonville	Other Places in Florida
Oil and gas for your boat	$ _____	$ _____
Oil and gas for your car	$ _____	$ _____
Lodging	$ _____	$ _____
Bait	$ _____	$ _____
Tackle (replacement or new)	$ _____	$ _____
Restaurant/coffee shop meals	$ _____	$ _____
Entertainment	$ _____	$ _____
Groceries/beverages	$ _____	$ _____
Ice	$ _____	$ _____
Launching or marina fees	$ _____	$ _____
Boat repairs	$ _____	$ _____
Travel (public transport)	$ _____	$ _____
Rental car	$ _____	$ _____
Airfare	$ _____	$ _____
Boat charter	$ _____	$ _____
Crew costs (e.g. tips, wages, food)	$ _____	$ _____
Other ( )	$ _____	$ _____

18. Based on your party's skills, equipment, and expertise, what did you feel your boat's chances were BEFORE THE TOURNAMENT of catching the following fish? Rate each chance from 0% to 100%.
World record fish _____ %
Largest fish of tournament _____ %
2nd largest fish of tournament _____ %
Most pounds, 5 fish, of tournament _____ %
Largest fish for your home state _____ %
Largest fish daily, 1st day _____ %
2nd largest fish daily, 1st day _____ %
Most pounds daily, 5 fish, 1st day _____ %
Largest fish daily, 2nd day _____ %
2nd largest fish daily, 2nd day _____ %
Most pounds daily, 5 fish, 2nd day _____ %

19. Did you enjoy fishing in this Tournament?
Yes, very much ☐ No ☐
Yes ☐ No, not at all ☐
Satisfactory ☐

20. Would you like to participate again next year?
Yes ☐ Probably not ☐
Yes, with improvements listed below ☐ No ☐

21. Your comments, complaints, ideas, suggested improvements:
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

Figure 1.--1981 Jacksonville tournament survey form.

1. Boat entry number_____.

2. What is the total number of people in your GROUP (fishing party, families, and friends) who came to the Greater Jacksonville area for this Tournament?_____

3. What is the number of males and females in your FISHING PARTY in each of the following age groups?

	Males	Females
Youths (under 18 years)	_____	_____
Adults (19-65) years)	_____	_____
Seniors (over 65 years)	_____	_____

THE FOLLOWING QUESTIONS APPLY ONLY TO THE BOAT CAPTAIN:

4. Hometown_____ State_____

5. Approximate number of miles from your hometown to Jacksonville Beach:

0	☐	151-200	☐
1-50	☐	201-250	☐
51-100	☐	251-300	☐
101-150	☐	over 300	☐

6. Age_____

7. Highest educational degree you earned:

High School	☐	Doctorate	☐
Vocational School	☐	M.D.	☐
Junior College	☐	J.D.	☐
Bachelor's	☐	Other	☐
Master's	☐		

8. Occupation:

Management	☐	Own business	☐
Sales	☐	Military	☐
Professional	☐	Fishing industry	☐
Skilled laborer	☐	Retired	☐
Nonskilled laborer	☐	Non-employed	☐

9. What was your household's income last year?

0-$10,000	☐	$40,001-$50,000	☐
$10,001-$20,000	☐	$50,001-$60,000	☐
$20,001-$30,000	☐	$60,001-$70,000	☐
$30,001-$40,000	☐	over $70,000	☐

10. How would you characterize your feelings about your household's current income level?

Satisfied ☐ Dissatisfied ☐

11. Did you participate in the Kingfish Tournament last year?

Yes ☐ No ☐

12. If Yes, what was the dollar value of the prizes YOU won? $_____

13. How many other fishing tournaments have YOU entered in the past 12 months?_____

Your fishing PARTNERS?_____

14. What is the dollar value of the prizes YOU won in those tournaments?_____

Your fishing PARTNERS?_____

15. Please indicate with a check mark how important each of the following factors were in YOUR decision to enter this Tournament?

	Not Important	Somewhat Important	Very Important
Pre-Tournament publicity	☐	☐	☐
Fun and fellowship	☐	☐	☐
Competition	☐	☐	☐
Prestige of winning	☐	☐	☐
Number of prizes	☐	☐	☐
Value of prizes	☐	☐	☐
Total purse	☐	☐	☐

16. How many days does your GROUP plan to stay in the Greater Jacksonville area?_____ days

17. How many days does your GROUP plan to spend visiting other places in Florida?_____ days

18. Please estimate the expenditures by your GROUP for the following items while visiting the Greater Jacksonville area and other places in Florida:

	Greater Jacksonville	Other Places in Florida
Oil and gas for your boat	$_____	$_____
Oil and gas for your car	$_____	$_____
Lodging	$_____	$_____
Bait	$_____	$_____
Tackle (replacement or new)	$_____	$_____
Restaurant/coffee shop meals	$_____	$_____
Entertainment	$_____	$_____
Groceries/beverages	$_____	$_____
Ice	$_____	$_____
Launching or marina fees	$_____	$_____
Boat repairs	$_____	$_____
Travel (public transport)	$_____	$_____
Rental car	$_____	$_____
Airfare	$_____	$_____
Boat charter	$_____	$_____
Crew costs (e.g. tips, wages, food)	$_____	$_____
Other ( )	$_____	$_____

19. Did you enjoy fishing in the Tournament?

Yes, very much	☐	No	☐
Yes	☐	No, not at all	☐
Satisfactory	☐		

20. Would you like to participate again next year?

Yes	☐	Probably not	☐
Yes, with improvements listed below	☐	No	☐

21. Your comments, complaints, ideas, suggested improvements:

_____

_____

_____

Figure 2.--1982 Jacksonville tournament survey form.

FORT PIERCE SPORTFISHING CLUB
OPEN ECONOMIC SURVEY

Dear Captain,

We are delighted that you decided to participate in our Tournament. We want to make this the best Tournament anywhere and in order to do that we need your help. Please take a few minutes to answer the questions below. Your responses will help us learn how to better serve you, the sport-fishing industry, and the Fort Pierce community. All responses are strictly confidential. Thank you.

Chuck Rhoads
Tournament Chairman

Mike Ellerbrock
Wally Milon
Florida Sea Grant College

1. Boat entry number_____.

2. What is the number of people in your GROUP (fishing party, families and friends) who came to the Fort Pierce Area because of this tournament?

	Males	Females
Youth (under 18 yrs.)	_____	_____
Adults (19-65 yrs.)	_____	_____
Seniors (Over 65 yrs.)	_____	_____

THE FOLLOWING QUESTIONS APPLY ONLY TO THE BOAT CAPTAIN:
Check circle where appropriate ✓

3. Hometown_____ State_____

4. Approximate number of miles from your hometown to Fort Pierce:

0	O	51-100	O
1-25	O	101-250	O
26-50	O	Over 250	O

5. Age_____

6. Highest educational degree you have earned:

High School	O	Doctorate	O
Vocational School	O	M.D.	O
Junior College	O	J.D.	O
Bachelor's	O	Other_____	
Master's	O		

7. Occupation:

Management	O	Self-employed	O
Sales	O	Military	O
Professional Practice	O	Fishing Industry	O
Skilled Laborer	O	Retired	O
Nonskilled Laborer	O	Non-employed	O

8. What was your household's approximate income last year?

$0- 4,999	O	$25,000-29,999	O
$ 5,000- 9,999	O	$30,000-34,999	O
$10,000-14,999	O	$35,000-39,999	O
$15,000-19,999	O	Over $40,000	O
$20,000-24,999	O		

(OVER)

OFFICE USE ONLY.

1._____		4._____	
2._____		5._____	
3._____		6._____	
7._____	1 = FL 0 = Other		
8._____		11._____	
9._____		12._____	
10._____		13._____	
14-15_____			
16._____		21._____	
17._____		22._____	
18._____		23._____	
19._____		24._____	
20._____			
25._____		30._____	
26._____		31._____	
27._____		32._____	
28._____		33._____	
29._____		34._____	
35._____		40._____	
36._____		41._____	
37._____		42._____	
38._____		43._____	
39._____			

Figure 3.--1982 Fort Pierce Tournament survey form.

OFFICE USE ONLY

9. How many other fishing tournaments have YOU entered in the past 12 months?_____ 44-45._____

10. What is the dollar value of the prizes YOU won in those tournaments? $_____ 46-50._____

11. How many days does your GROUP plan to stay in the Fort Pierce Area?_____ 51-52._____

12. How many days does your GROUP plan to visit other places in Florida?_____ 53-54._____

13. Please estimate the expenditures by your GROUP for the following items while visiting the Fort Pierce Area and other places in Florida.

	Fort Pierce	Other Places in Florida		
Oil and gas for your boat.....	$_____	$_____	55-57_____	106-108_____
Oil and gas for your car.....	$_____	$_____	58-60_____	109-111_____
Lodging.....	$_____	$_____	61-63_____	112-114_____
Bait.....	$_____	$_____	64-66_____	115-117_____
Tackle (replacement or new).....	$_____	$_____	67-69_____	118-120_____
Restaurant/coffee shop meals.....	$_____	$_____	70-72_____	121-123_____
Entertainment.....	$_____	$_____	73-75_____	124-126_____
Groceries/beverages.....	$_____	$_____	76-78_____	127-129_____
Ice.....	$_____	$_____	79-81_____	130-132_____
Launching or marina fees.....	$_____	$_____	82-84_____	133-135_____
Boat repairs.....	$_____	$_____	85-87_____	136-138_____
Travel (public transport).....	$_____	$_____	88-90_____	139-141_____
Rental car.....	$_____	$_____	91-93_____	142-144_____
Airfare.....	$_____	$_____	94-96_____	145-147_____
Boat charter.....	$_____	$_____	97-99_____	148-150_____
Crew costs(e.g. tips, wages, food).	$_____	$_____	100-102_____	151-153_____
Other( ).....	$_____	$_____	103-105_____	154-156_____

14. Did you enjoy fishing in this Tournament?

Yes, very much	O	No	O	157_____	160_____
Yes	O	No, not at all	O	158_____	161_____
Satisfactory	O			159_____	

15. Would you like to participate again next year?

Yes	O	Probably not	O	162_____	164_____
Yes, with improvements listed below	O	No	O	163_____	165_____

16. Your comments, complaints, ideas, suggested improvements:

_____

_____

_____

PLEASE RETURN TO AWARDS BANQUET OR MAIL TO:

Fort Pierce Sportfishing Club
P.O. Box 3688
Fort Pierce, Florida 33454

THANK YOU FOR YOUR TIME!

Figure 3.--(continued)

VII. SELECTION OF SAMPLE

In general, it is extremely difficult to correctly select a sample of participants. The most appropriate procedure is to hand out questionnaires to all captains. For the Florida tournaments, no pre-tournament statistical sampling procedure was used because participants could register up to the first day of the tournament. Thus a complete list of boat captains was not available to the researchers until the tournaments began. Therefore, every boat captain was asked to complete a survey.

VIII. DISTRIBUTION OF QUESTIONNAIRE

If possible, it is desirable to have the tournament officials distribute the survey as part of the registration materials. This assures distribution to every captain and may enhance the response rate by making the questionnaire appear as part of the official registration materials.

At the Jacksonville tournaments, the researchers spoke at the pre-tournament captains' meeting to explain the purpose of the survey and to urge all captains to respond. The Fort Pierce tournament officials handled distribution and collection of the survey without the researchers present.

IX. COMPLETION OF QUESTIONNAIRE

Some incentive to complete the survey form will improve the survey response rate. The form's introduction should emphasize that the research will benefit the sportfishing industry in particular as well as the community in general. The Fort Pierce tournament officials emphasized to participants that completion of the questionnaire was an expected part of participating in the tournament. The Jacksonville officials allocated a prize to be awarded in a special drawing from the completed questionnaires.[1]

---

[1] In 1981 the prize was an electric depth finder and in 1982 it was a trolling reel.

X. COLLECTION OF QUESTIONNAIRE

Collecting the questionnaire can pose a logistical challenge. A convenient collection place(s) is critical. At the Jacksonville tournaments, a team of four researchers met the boat captains at the most frequently used launching ramps at the close of the last fishing day. The researcher asked the captain if he had filled out his survey, and if so, the captain was asked to turn it in then or at the awards ceremony on the following day. If the form had not been completed the captain was offered a blank survey, clip board and pen and invited to complete it then. During the awards ceremony on the final day, announcements were made about the upcoming prize drawing from those who completed the survey and invitations were made to any captain to complete the survey who had not already done so. The researchers were present with a table, poster, blank forms, clip boards, pens and a turn-in box. This approach yielded response rates of about 30 percent.

At the Fort Pierce tournament, officials collected the survey at the awards ceremony without the researchers present. This approach also worked well.

On both survey forms, the captain was asked to complete and return the survey by mail if he could not turn it in during the tournament. The Jacksonville survey was printed on a postage-paid, self-addressed return form that folded to letter size and had an adhesive tab.

XI. FOLLOW-UP EFFORT

To increase response rate and to ensure a wider variety of respondents, a follow-up letter and blank questionnaire were sent to captains who did not return the form at the tournament or shortly thereafter. The researchers sent the letter shown in Figure 4 and a questionnaire. Addresses were obtained from the tournament registration list. Fort Pierce officials sent a follow-up letter and a questionnaire after the initial effort to their non-respondents.

FLORIDA SEA GRANT COLLEGE

Building 803, University of Florida, Gainesville 32611
(904) 392-5870 Suncom 622-5870

August 5, 1982

Dear Captain,

We hope that you enjoyed participating in the Greater Jacksonville Natural Light Kingfish Tournament. Because we did not receive a completed Captain's Opinion Survey from you at the Tournament, we have enclosed another copy which we hope you will return to us as soon as possible. Your responses will be included in our research project which will help the Tournament Committee in serving you, the sport-fishing industry, and the Greater Jacksonville community. All of your responses are strictly confidential. Please drop your completed Survey in the mail, no postage is needed. Thank you for your assistance.

Sincerely,

Wally Milon

Mike Ellerbrock
Florida Sea Grant

WM:ME:edl

Enclosure

Figure 4.--Follow-up letter for Jacksonville tournaments.

XII. DATA ANALYSIS

Means, minima, maxima, sums and cumulative frequency distributions should be calculated for each variable (other than boat registration number) on the questionnaire. Minima and maxima may be of interest concerning the variables distance traveled, age, and participation in previous tournaments. The means (per respondent boat) of age and sex can be used to estimate by simple extrapolation the total number of participants in the tournament and the age and sex breakdowns by number and percent. Table 1 presents the estimates for the 1982 Florida tournaments.

Table 1.--Estimated number and percent of participants by age and sex, 1982

Category	Jacksonville		Fort Pierce	
	number	percent	number	percent
SEX AND AGE				
Females 18 or under	58	2	24	3
Females 19-65	337	11	229	29
Females 65 or over	3	a	14	2
Males 18 or under	234	7	107	14
Males 19-65	2,489	79	405	52
Males 65 or over	45	1	5	a
TOTAL	3,166	100	784	100

[a]less than 1 percent

A socio-economic profile of boat captains in the 1982 Florida tournaments is provided in Table 2 which shows the education, occupation and income of captains who responded to the survey. The tournament registration list provided addresses of boat captains thereby allowing calculation of the total number of local residents and non-residents participating in the tournament. As explained in the following section on multiplier effects, it is important to know the total number of residents and non-residents. It is also important to know the number of survey respondents by residents and non-residents. Figures 5 and 6 present the breakdowns for the 1982 Florida tournaments.

Table 2.--Highest educational degree earned, occupation and household income of respondent boat captains.

Category	Jacksonville		Fort Pierce	
	number	percent	number	percent
EDUCATION				
High school	103	36.3	25	33.8
Vocational school	13	4.6	2	2.7
Junior college	67	23.6	16	21.6
Bachelor's	68	23.9	25	33.8
Master's	16	5.6	2	2.7
Doctorate	3	1.1	1	1.4
Doctor of Medicine	5	1.8	2	2.7
Doctor of Jurisprudence	3	1.1	1	1.4
Other	6	1.8	0	0.0
Total respondents	284	100.0	74	100.0
OCCUPATION				
Management	62	21.9	13	17.6
Sales	34	12.0	6	8.1
Professional	49	17.3	11	14.9
Skilled	44	15.5	3	4.0
Nonskilled	0	0.0	0	0.0
Self-employed	60	21.2	38	51.4
Military	9	3.2	0	0.0
Fishing industry	6	2.1	2	2.7
Retired	16	5.7	1	1.4
Non-employed	3	1.1	0	0.0
Total respondents	283	100.0	74	100.0
INCOME				
$0-$10,000	8	3.0	2	2.9
$10,001-$20,000	20	7.4	2	2.9
$20,001-$30,000	75	27.7	11	16.2
$30,001-$40,000	68	25.1	12	17.6
Over $40,000	100	37.0	41	60.3

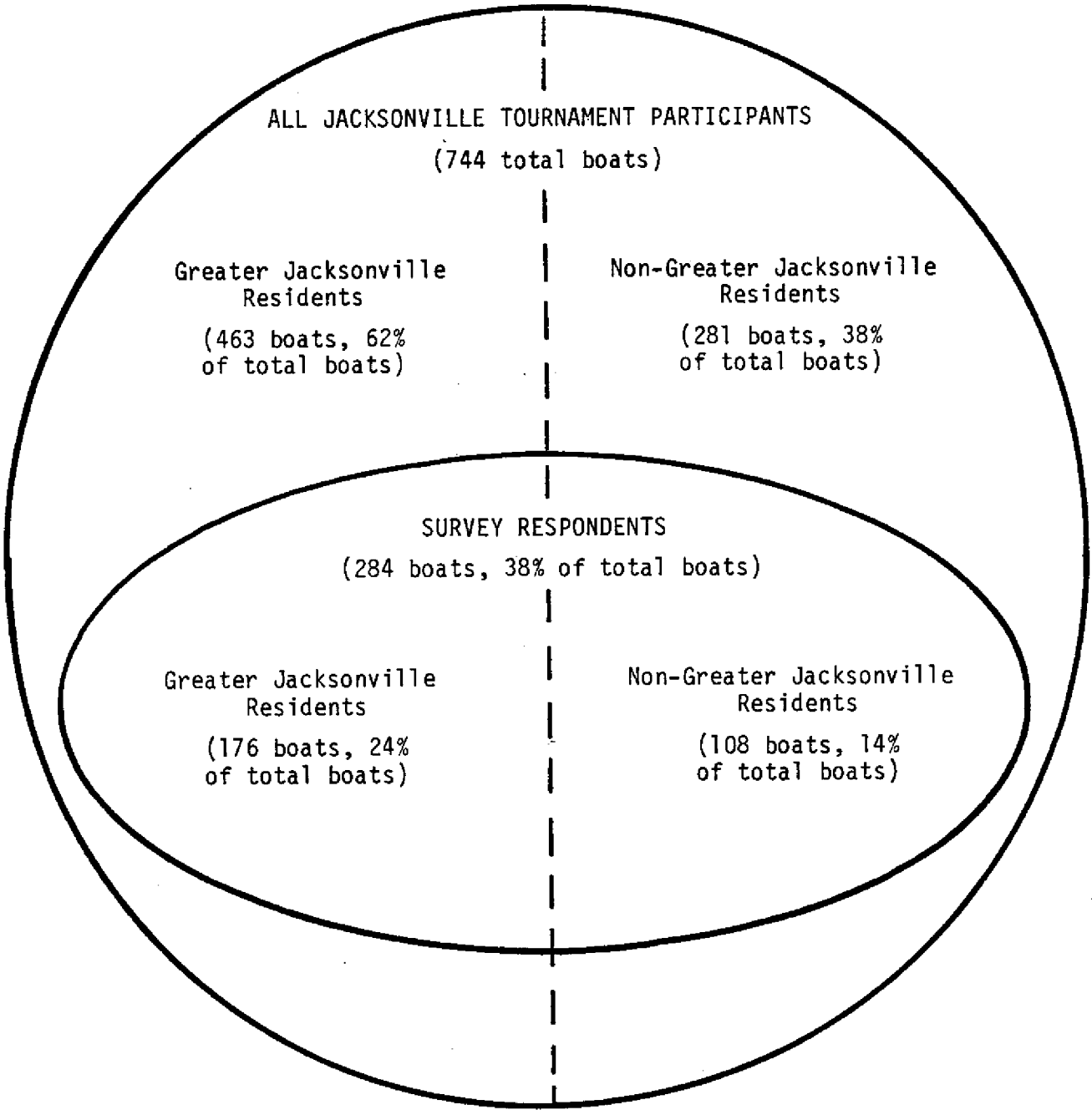

Figure 5.--Participants and survey respondents for Jacksonville tournament, by resident and non-resident

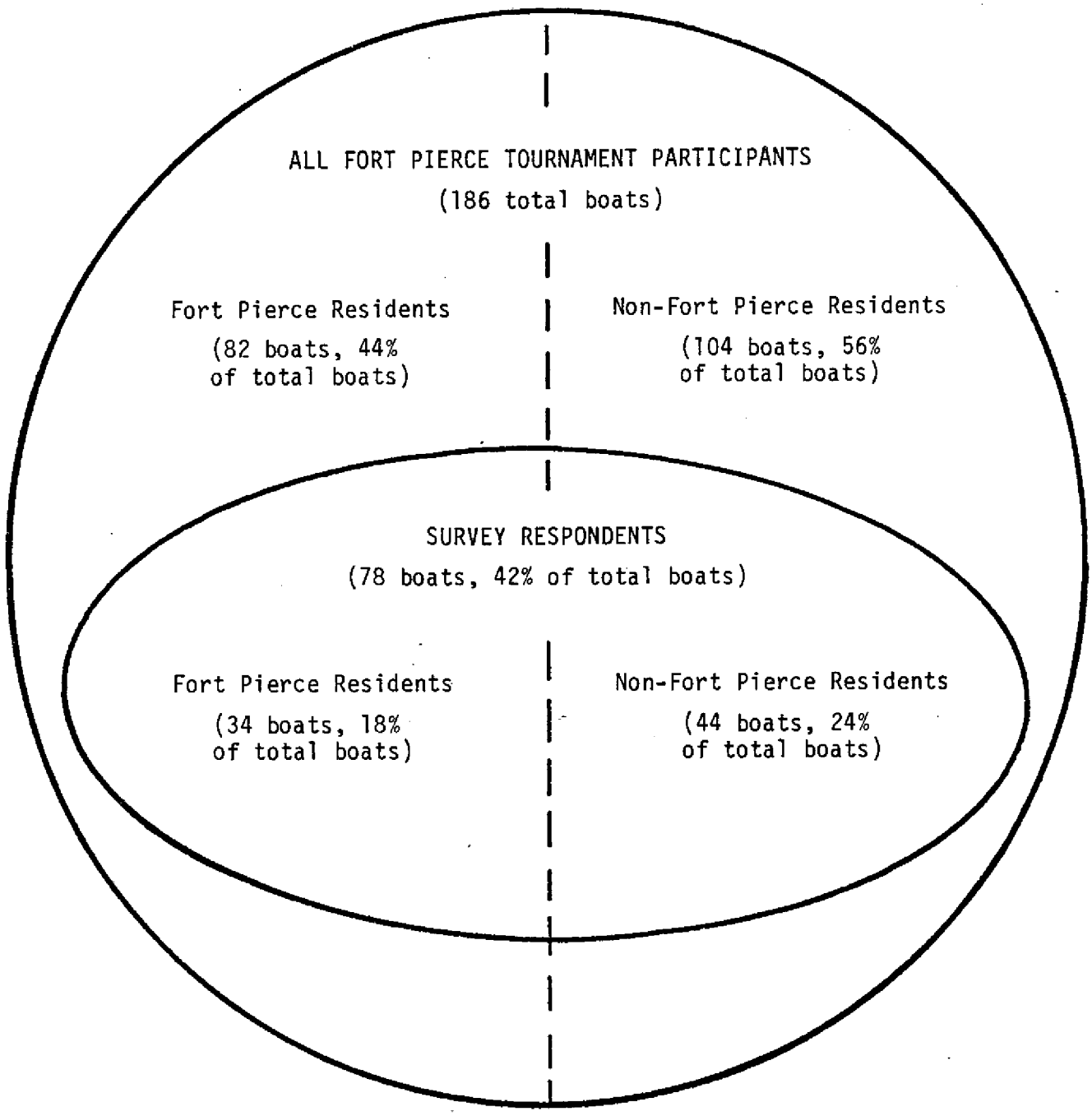

Figure 6.--Participants and survey respondents for Fort Pierce tournament, by resident and non-resident

To estimate the expenditures generated by tournament participants, it is necessary to determine the total for each of the expenditure categories. First, calculate the average expenditure in the community for resident and non-resident respondents. Next, multiply the respective averages for each category by the total number of resident and non-resident registered boats to obtain an estimate of total local expenditures by resident and non-resident participants. In Tables 3 and 4, the first three columns of monetary figures present the estimates for the 1982 Florida tournaments. For example, residents in the Fort Pierce tournament spent approximately $56,837 locally and non-residents spent $79,420.

It may be of interest to examine the tournament's economic impact outside of the locality in which the tournament is held. Calculate the average expenditure in "other places" on each of the expenditure categories for non-resident respondents. Multiply the figures by the total number of non-respondent boats in the tournament to estimate total expenditures in other places. The last column in Tables 3 and 4 present the estimates for the 1982 Florida tournaments. For example, participants in the Fort Pierce tournament spent approximately $50,179 in other places in Florida.

The total expenditures, both local and in other places, estimated thus far are termed "direct" expenditures. A tournament also has some indirect effects that need to be taken into account.

XIII. MULTIPLIER EFFECT

The direct expenditures do not fully reflect the total volume of economic activity sparked by the tournaments. The economic impact on a community of $1 spent on retail goods is greater than $1 because the expenditure generates a chain reaction in which the dollar may be respent several times on production inputs and other retail goods. Termed the "multiplier" effect, the magnitude of the chain reaction varies over different types of goods and in different geographic areas. The multiplier effect is only important when non-residents bring in new dollars to a community. The money spent by residents at a special attraction (such as a tournament) in their community would have

Table 3.--Total expenditures by category in the Greater Jacksonville area and other places in Florida by tournament participants from within/outside the Greater Jacksonville Area.

Activity	Greater Jacksonville			Other Places in Florida, All participants
	Residents	Non-residents	Subtotal	
1. Oil and gas for boat	$ 65,172	$ 39,944	$105,116	$1,943
2. Oil and gas for car	17,029	10,438	27,467	2,085
3. Lodging	13,289	8,145	21,434	1,510
4. Bait	15,487	9,492	24,979	240
5. Tackle (replacement or new)	35,538	21,781	57,319	323
6. Restaurant/coffee shop meals	19,479	11,939	31,418	1,212
7. Entertainment	13,814	8,467	22,281	573
8. Groceries/beverages	21,787	13,354	8,807	920
9. Ice	5,460	3,347	8,807	125
10. Launching or marina fees	10,599	6,498	17,097	180
11. Boat repairs	32,280	19,784	52,064	457
12. Travel (public transport)	546	334	880	0
13. Rental car	512	313	875	0
14. Airfare	3,612	2,214	5,826	0
15. Boat charter	812	498	1,310	0
16. Crew costs (e.g., tips)	4,786	2,934	7,720	0
17. Other	7,007	4,294	11,301	0
Subtotal	$267,209	$163,776	$430,985	$9,568

ESTIMATED TOTAL DIRECT EXPENDITURES $440,557

Table 4.--Total expenditures by category in Fort Pierce and other places in Florida by tournament participants from within/outside Fort Pierce.

Activity	Fort Pierce			Other Places in Florida, All participants
	Residents	Non-residents	Subtotal	
1. Oil and gas for boat	$24,771	$15,571	$ 40,342	$8,561
2. Oil and gas for car	3,909	8,753	12,662	8,167
3. Lodging	226	16,671	16,897	6,939
4. Bait	2,709	4,577	7,286	3,171
5. Tackle (replacement or new)	3,812	5,201	9,013	3,970
6. Restaurant/coffee shop meals	2,359	11,717	14,076	8,847
7. Entertainment	1,644	5,488	7,132	3,219
8. Groceries/beverages	4,574	6,574	11,148	3,517
9. Ice	1,065	2,121	3,186	534
10. Launching or marina fees	1,215	986	2,201	1,550
11. Boat repairs	3,847	1,761	5,608	1,192
12. Travel (public transport)	0	0	0	238
13. Rental car	0	0	0	0
14. Airfare	0	0	0	0
15. Boat charter	3,574	0	3,574	0
16. Crew costs (e.g., tips)	1,405	0	1,405	36
17. Other	1,727	0	1,727	238
Subtotal	$56,837	$79,420	$136,257	$50,179
ESTIMATED TOTAL DIRECT EXPENDITURES				$186,436

been spent locally anyway on regularly purchased items. Multiplier effects should not be used for resident expenditures.

The United States Water Resources Council (WRC) has estimated economic output multipliers for approximately 60 sectors of the Florida economy [10]. Two sectors represent most of the fishing tournament expenditure categories: Sector 43--oil and gas and Sector 56--general services. The WRC multipliers are calculated for six regions of the state: Jacksonville, Orlando, Miami, Tampa-St. Petersburg, Tallahassee and Pensacola. The WRC multipliers for Sectors 43 and 56 are presented by area and county in Table 6, Appendix A.

To estimate the total economic impact of the tournaments, it is necessary to apply the appropriate multipliers to the expenditures by non-resident tournament participants. For example, non-residents in the Fort Pierce tournament spent $24,324 locally for oil and gas and $55,096 locally on expenditure categories 3 through 17 (Table 4). With the $56,837 of spending by residents, the estimated local economic impact of the Fort Pierce tournament is thus:

$$\$56,837 + \$24,324\ (2.148) + \$55,096\ (3.203)$$
$$= \$56,837 + \$52,248 + \$176,472 = \$285,557$$

Non-resident participants also spent $16,728 for oil and gas and $33,451 on categories 3 through 17 in other places in Florida (Table 4). The economic impact of the Fort Pierce tournament on other places in Florida was figured with WRC multipliers for the Orlando region because Orlando is centrally located and has several well-known tourist attractions. The impact is estimated as follows:

$$\$16,728\ (1.586) + \$33,451\ (2.834) = \$26,531 + \$94,800 = \$121,331$$

The total economic impact of the tournament is therefore $406,888 = $285,557 + $121,331 or $2,188 per boat (Table 5).

The economic impacts of the Jacksonville tournaments were also estimated with the same formulas using the direct expenditure data from Table 3 and the WRC multipliers for the Jacksonville area from Table 6 (Appendix A). The findings are presented in Table 5.

To provide a broader estimate of a tournament's economic impact, other multipliers can be used to provide a range for the impact. For

example, statewide multipliers estimated by Milon et al. [7] for five sectors related to marine recreation were also used to estimate the impact of the Jacksonville and Fort Pierce tournaments [2].[2] The findings are also presented in Table 5.

Table 5.--Estimated total economic impact of tournaments

Tournament	Multiplier Source	Local Impact	Other Places in Florida	Total Impact	Impact per Boat
Jacksonville	[10]	$673,587	$22,088	$695,675	$935
Jacksonville	[7]	705,985	22,642	728,627	979
Fort Pierce	[10]	$285,557	$121,331	$406,888	$2,188
Fort Pierce	[7]	287,857	126,829	414,686	2,229

A word of warning is in order. There is some controversy in the economic literature on the derivation and use of multipliers [1,3]. The methodology presented in this manual does not use the output multipliers in a theoretically correct manner. Instead, the formulas provide a simple approximation for capturing the indirect effects of the tournament. For the methodology to be entirely precise, the researcher needs two additional pieces of economic information: the mean local retail sales margin and the marginal propensity of retail establishments to purchase inputs locally. For example, assume a baithouse sells $100 worth of ice to tournament participants. The first question is: "What is its margin or 'mark-up'?" If it is 30 percent, i.e. $30, then the second question is: "Of the remaining $70 of input costs paid by the baithouse, how much was paid for local purchases (e.g. water, electricity, labor, rent, machinery and equipment, packaging and storage facilities, insurance, etc.)?" Assume the answer is 50 percent, i.e.

[2]By Sector, the multipliers are: boat manufacturing = 2.96, marinas = 3.36, boat dealers = 2.63, equipment manufacturing = 2.31, and financial and insurance services = 2.90.

$35. The gross output multipliers used in this manual and listed in Table 6 (Appendix A) should be applied to the $30 retail margin because that figure represents the output of the retail sector, i.e. the value added to the ice by the baithouse. Production sector multipliers (neither used nor available in this manual) should be applied to the $35 of local input purchases to capture the indirect effects on local sectors that provide inputs to the baithouse. The total local economic impact of the ice sales would therefore be the direct effect plus the indirect effects (i.e.:

$100 + $30(gross output multiplier) + $35(production sector multiplier)
= Total Local Economic Impact of Hypothetical Ice Sales

Substantial time and expense may be necessary to obtain information on the mean local retail sales margin and the marginal propensity to purchase locally. Since many regional output multipliers are within a range of 1.5 to 2.5, the time, effort and expense necessary to be entirely precise may not produce significantly different results from the approximation techniques discussed in this manual. Therefore, the formulas and multipliers, limitations notwithstanding, used in this manual are suggested because of their practicality and efficiency.

XIV. REPORT OF FINDINGS

There are a variety of formats in which the findings of an economic impact study can be presented. The tables and figures included in this manual can serve as a suggested format for presenting the most important data and findings.

XV. STUDY LIMITATIONS

As with most scientific research, it is important to report on weaknesses or limitations in the work. The methodology presented in this manual falls short of estimating the entire economic impacts of the tournaments for several reasons. It was not possible to include all pre-tournament expenditures related to planning, organizing and advertising the events. Post-tournament expenditures related to the tournaments should also have been available and identified by sector. It was

also not possible to quantify benefits to the communities which may stem from goodwill, public relations and tourist promotion brought about by the tournament.

A second aspect of the tournaments' economic impacts that is missing from the analysis is expenditures by non-fishing visitors and observers on concessions, tournament events and related activities. If data were available on both aspects it would be possible to identify the total economic activity created by the tournaments. This information could then be compared to estimates of the cost for added police enforcement or other costs borne by the communities involved in the tournaments. By utilizing both costs and expenditures, the net benefits to the areas from the tournaments could be determined. Although these additional economic effects may be difficult to measure, it is important that they are considered when tournament officials assess the overall economic impact of the tournament.

XVI. CONCLUDING REMARKS

It should be noted that the methodology discussed here will not be effective for tournaments in which the captain and boat are chartered by the fishing party. In this case the boat captain will not have good information about participant expenditures and another approach to collect data should be used. A survey aimed directly at each participant may be necessary.

Tournament planners should not overlook the possibility of negative reaction in the community to the sportfishing tournament. Residents who are not participating may be concerned about the possible effects of overfishing on recreational and commercial fishing in the area. These concerns should be assessed and steps taken to prevent adverse reaction.

Finally, it is important to emphasize that the quality of information provided by an economic impact study depends directly on the time and effort given to careful survey design and implementation. Tournament officials can provide a real service to their communities by dedicating some of their time to consider the methods outlined in this report and developing a survey form which meets their information needs. Good luck!

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APPENDIX A

Table 6.--Gross Output Multipliers for Oil and Gas and General Services by Area in Florida.

Area*	Counties	Sector	
		43--Oil and Gas	56--General Services
34. Jacksonville	Nassau Baker Duvall St. Johns Clay Putnam Marion Levy Alachua Dixie Gilchrist Lafayette Suwannee Columbia Union Bradford Hamilton	1.692	2.832
35. Orlando	Flagler Volusia Seminole Orange Osceola Brevard Lake Sumter	1.586	2.834
36. Miami	Indian River St. Lucie Martin Palm Beach Broward Dade Monroe Hendry Glades Okeechobee	2.148	3.203

Table 6.--Continued.

Area*	Counties	Sector	
		43--Oil and Gas	56--General Services
37. Tampa--St. Petersburg	Citrus Hernando Pasco Pinellas Hillsborough Polk Hardee Manatee Highlands Sarasota De Soto Charlotte Lee Collier	1.820	3.088
38. Tallahassee	Taylor Madison Jefferson Leon Wakulla Franklin Gadsden Gulf Liberty Bay Calhoun Jackson Washington Holmes	1.478	2.382
39. Pensacola	Walton Okaloosa Santa Rosa Escambia	1.607	2.451

*U.S. Bureau of Economic Analysis Economic Area
Source: [10 pp. 4, 44-45].

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