1984 Deep Sea Roundup: An Analysis of Participants' Characteristics, Attitudes and Expenditures

Marine Recreation

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by

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ABSTRACT

The 49th Annual Deep Sea Roundup was July 9-13, 1984 at Port Aransas, Texas and attracted 451 fishermen. This included 186 heavy-tackle, 217 light-tackle and 37 bay-surf division participants. Tournament participants were sent a mail questionnaire one week after the tournament and followed, if necessary, by a second mailing and a phone call. Forty-seven percent of the fishermen in the heavy-tackle, and 51 percent of the light-tackle and bay-surf division participants responded, resulting in a total response rate of 51 percent. Telephone interviews were conducted by a sample of 20 non-respondents. Results were used to correct survey findings for non-response bias.

Most of the respondents were active male fishermen and held professional-technical positions (average age was 40 years old). The average income of the respondents was $50,000-$59,999 a year. Bay-Surf division participants generally owned smaller boats than either light or heavy-tackle respondents, and along with heavy-tackle fishermen, spent more time fishing than light-tackle respondents. The most important reasons for tournament fishing reported by respondents in all divisions were the challenge or sport, to escape from the regular routine and to relax.

Total direct purchases associated with the tournament were estimated to be about $285,000 (excluding tournament fees). One hundred percent of the $8,949 spent by the 10 out-of-state respondents was spent in the Port Aransas area. Including respending effects, this expenditure resulted in a state-wide economic impact of more than $25,000.

Results indicate the tournament was economically successful in that it produced substantial impacts on the local economy. Impacts on Nueces

County resulting from the expenditures by the out-of-state and out-of-county participants in the Port Aransas area were considerably greater than the statewide impacts. Combined, these non-residents spent more than $285,000, resulting in an economic impact of about $333,750. The local economy realized the greatest benefits in the fuel, dining and lodging sectors. Additional impacts can be seen if one also considers that the majority of the $20,980 collected as registration fees was spent locally for entertainment, advertising and printing services.

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Finally we would like to thank the Roundup fishermen and women who contributed their time and effort to the survey. We hope this report gives them an opportunity to examine the impact of their expenditures on local economies, and to better understand their fellow tournament fishermen.

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INTRODUCTION

More than 56 saltwater fishing tournaments were available to the sportfishermen along the Texas Coast in 1984 (Christian, 1983). These tournaments varied in many ways, including type of fish sought, type of registration (open-closed) and categories of participation (offshore-bay). This report examines the characteristics and expenditure patterns of participants in the Deep Sea Roundup held annually in Port Aransas, Texas. It also provides an estimate of the economic impact of the tournament at the state and local level.

Sportfishing events such as the Roundup attract sportfishermen and other visitors to the local area. Fishermen and visitors attracted to the coastal region bring outside monies with them. The impact of these expenditures on local and statewide economies can often be substantial. Recreational fishermen spend money on fishing tackle, boats and motors, food, lodging, travel and other goods and services. To the extent that a tournament can attract non-local fishermen and visitors to a local area, there can be important economic benefits to that area. Since tournaments generate costs and benefits for host communities (Ellerbrock and Milon, 1984), information concerning these benefits and costs can be used by tournament planners and local officials alike to enhance the net impact to the community and region. Furthermore, since people engage in recreational activities such as fishing tournaments to fulfill various personal needs (Holland, 1985; Pierce, 1980) knowledge of the socioeconomic characteristics and motives of tournament participants will allow businessmen and planners to better understand and serve this target market group. Finally, a comparison between the Deep Sea Roundup results

and those obtained from other tournament studies can identify common tournament expenditure patterns. The results of this study should prove useful not only to the host communities and sponsors of current tournaments, but also to those who are contemplating or organizing future tournaments.

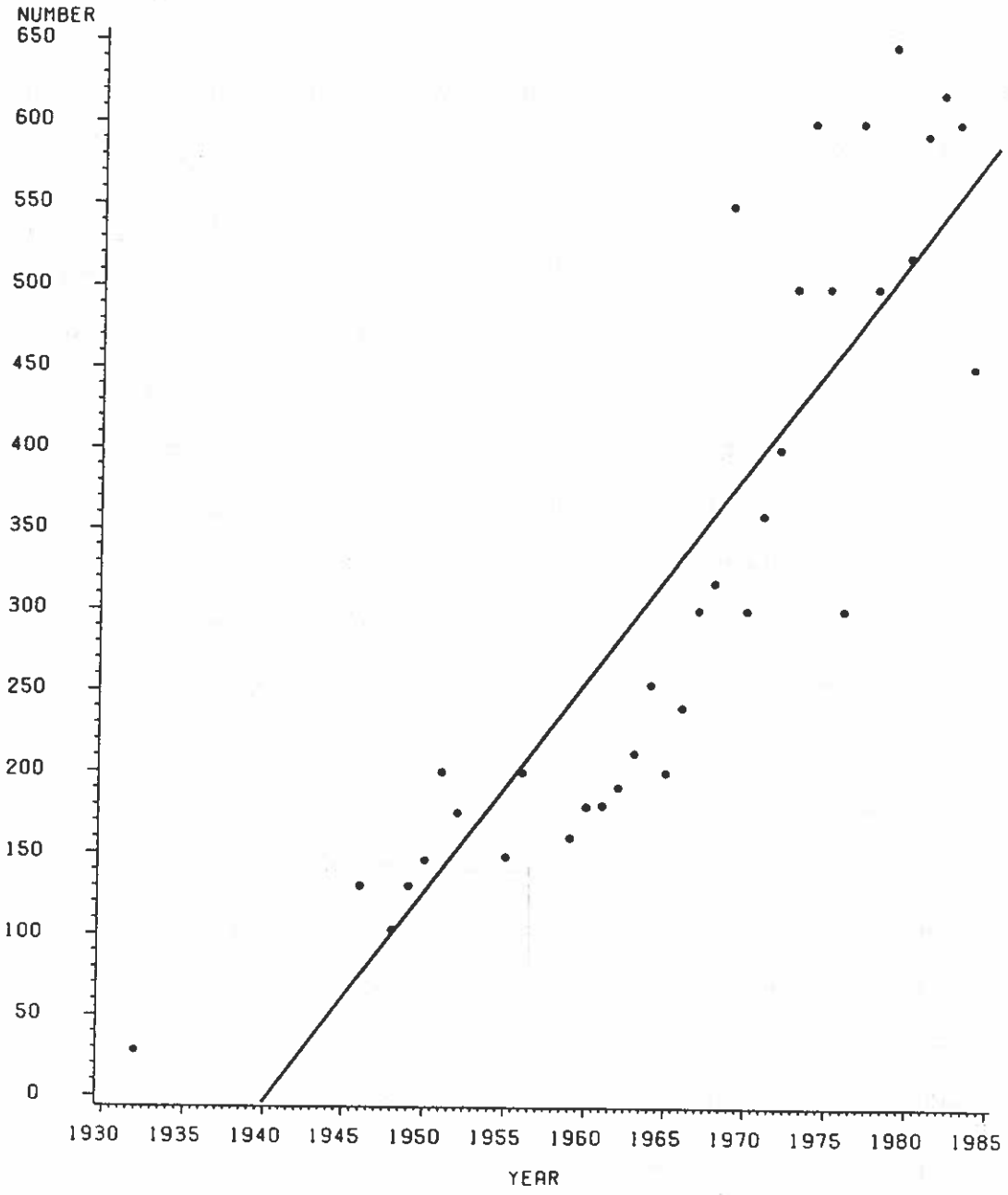
This is the second report in a series of studies focusing on saltwater fishing tournaments in Texas. The first report examined the Texas International Fishing Tournament (TIFT) in South Padre Island and presented an evaluation of socioeconomic characteristics and spending patterns of tournament fishermen (Ditton and Loomis, 1985). This report expands on the approach used in the TIFT study by including, as part of the economic impact assessment, a detailed analysis of the extent and location of expenses incurred by the sponsors as well as a cross-tournament comparison on selected variables.

The Deep Sea Roundup

The 49th Deep Sea Roundup was held between July 9 and July 13, 1984, with registration on Monday, fishing on Tuesday and Thursday, a "weather" or "activity" day on Wednesday and an awards ceremony and dance on Friday. Although 464 fishermen registered for the tournament, 13 participants withdrew from competition. Registration was less than the 550 participants in 1983. The general trend since the tournament's inception in 1932, however, has been one of steady growth in the number of registered participants (Figure 1).

The Deep Sea Roundup began as the "Texas Tarpon Rodeo" in 1932, when 11 boats entered. Except for three years during World War II, it has been held every year since. Barney Farley, a long-time

Figure 1. Number of Registered Participants in the Deep Sea Roundup Fishing Tournament 1932-1984



resident of Port Aransas proposed the idea of a tarpon rodeo in 1932, intending it to be a small private tournament. Of the 22 local fishermen who participated, half were women, and they won most of the prizes that year (South Jetty, 1984). In 1933 the city of Port Aransas began to sponsor the event. In 1954, due to a declining tarpon population, the name of the tournament was changed to the Deep Sea Roundup. The Port Aransas Boatman's Association has been sponsoring the event since 1955.

There were three divisions in the 1984 tournament: bay-surf (species sought included speckled trout, redfish, pompano, flounder, spanish mackerel and tarpon); light-tackle (under 50 pound-test line for blue marlin, white marlin, sailfish, mako shark and tarpon); and heavy-tackle (50 pound-test line and over for the same species as light-tackle) (Lambertson, 1984). There was also a "Piggy Perch" competition for children (aged 9 and under) on Tuesday and Thursday, with poles and lines donated by local merchants.

The pre-registration fee was $65. The fee at the time of registration was $60 for the light-tackle and bay-surf divisions, and $70 for the heavy-tackle division.

Scoring was one point per pound, with trophies awarded in each division for the champion and runner-up point achievers, and a $1,400 cash prize for the largest king mackerel. The Deep Sea Roundup champion is the contestant in either the light or heavy-tackle division who scores the most points.

In addition to registered fishermen, the weigh-in station attracted 300 - 400 spectators daily, with live radio and television broadcasts on location (Swank, 1984). The various activities and social events drew many visitors not otherwise involved in the tournament.

Related Literature

Results from the study of the Texas International Fishing Tournament on South Padre Island indicate the tournament was an economic success in that it provided substantial impacts on the local economy (Ditton and Loomis, 1985). The economic impact produced by this event is estimated at $561,000.

Graefe and Falk (1985) documented and analyzed results from five recreational fishing tournament studies. It was estimated that 1,844 fishermen participated in the Third Annual Arthur Smith King Mackerel Tournament held in 1979 in Little River, South Carolina. These fishermen spent an estimated $650,000 and brought 4,740 friends or family members with them (Smith and Moore, 1980). The total impact of expenditures made by these groups during the two day event was approximately $879,000.

The First Annual Greater Jacksonville Natural Light Kingfish Tournament had an estimated 2,355 participants (Milon et al., 1982). Expenditures made by the participants during this three-day event produced an economic impact of $642,000 (Ellerbrock et al., 1983).

The Second Annual Fort Pierce Sportfishing Club Open was held in 1982, and although only 186 boats were entered, participant expenditures produced a total economic impact of $406,888 (Ellerbrock and Milon, 1984).

Findings from a study of the 1981 Milford Weakfish Tournament in Milford, Delaware indicated that the $137,000 spent by 440 participants generated a substantial economic impact (Falk et al., 1981).

In addition to studies that focus on socio-economic impacts of specific events, there are numerous studies of marine recreational fishing and related tourism. The increase in number and corresponding economic

impact of marine recreational fisheries and their support industries has been documented at the national level by the U.S. Fish and Wildlife Service (1960, 1965, 1970, 1975, 1980). These studies reveal a significant rise in the number of participants in saltwater fishing since 1955. Nationwide an estimated 4.6 million marine recreational fishermen in 1955 spent an average of $123 on sportfishing. In 1960 the number increased to 6.3 million fishermen spending an average of $147. In 1975 sixteen million saltwater fishermen spent a total of $3.45 billion, or about $225 per person. There was a decrease in 1980 both in the numbers of fishermen, down to 12 million, and in the average amount spent, to $200.

It has also been noted that more than 50 percent of the U.S. population now lives in coastal areas, and by 1990 this could increase to 75 percent (Davenport, 1980). In Texas, more than one- third of the population lives within "the first two tiers of counties bordering the coastline" (Davenport, 1980). The population of these tiers grew by more than 25 percent between 1970 and 1980, representing an addition of nearly 900,000 individuals. It is projected that an additional 918,00 new residents will move into the area during the next decade, pushing the state's coastal population to more than five million. In light of the finding that the majority of Roundup participants reside within 150 miles of the Texas coast, tournament participation in this, and other events is likely to increase in the future years. The tourism industry in coastal communities will profit not only from Texas residents who come to swim, fish, boat and hunt, but also from the more than six million out-of-state visitors to the Texas coast each year (Davenport, 1980). Based on these observations, it is likely that the impact generated by sportfishing, both in terms of participation rates and economic activity, will increase.

Possible negative impacts can also be generated by fishing tournaments. The increase in boat and vehicular traffic can cause congestion at service facilities. Fishery impacts of non-tag-and-release tournaments should also be included. These negative impacts deserve attention and remain to be studied.

Objectives

The principal objectives of this study are:

1. To provide a demographic and economic profile of the participants in the Deep Sea Roundup.
2. To test for significant differences in a variety of sport fishing related variables between participants in the bay-surf, light-tackle and heavy-tackle divisions.
3. To determine the economic impact of the 1984 Deep Sea Roundup on Nueces County and the State of Texas.
4. To compare findings for the 1984 Deep Sea Roundup with other fishing tournaments on selected variables.

METHODS

Data collection was accomplished through a mail survey of participants entered in each division of the 1984 Deep Sea Roundup. A questionnaire was mailed to each adult participant, accompanied by a cover letter describing the purpose of the study, and a postage-paid return envelope (Appendix A and B). One week later a reminder postcard was mailed to fishermen who had not yet responded. A second questionnaire mailing followed two weeks later. Those participants who had not

responded after 28 days were contacted by telephone and encouraged to return a completed survey. Another questionnaire was sent upon request.

If during the telephone contact participants were reluctant to return a completed survey, they were instead asked to answer a few select questions as a non-response check. This procedure examined whether or not those who responded to the survey varied substantially from those who did not respond to the survey (non-response bias).

Attempts were made to contact each non-respondent at least four times. This was difficult because a great many of the participants had unlisted phone numbers. Another possible impediment to a higher response was that participants in three other tournaments were also being surveyed, and 34 contestants in the Roundup also participated in one or more of the other tournaments. It is likely that many of these individuals prefered not to respond to multiple surveys. These individuals were asked to fully complete one survey, and only answer those questions dealing with expenditures on the others. Because there were a large number of unlisted phone numbers, two more mailings were sent to those who could not be reached by phone. All surveys were mailed by first-class postage.

The survey instrument was similar to that used in the 1983 survey of the Texas International Fishing Tournament, which was designed in consultation with TIFT officials and marine advisory personnel. Previous studies of fishermen on the Texas coast provided additional guidance into the questionnaire design process (Ditton and Holland, 1983; Ditton and Fedler 1983; Ditton et.al., 1980). Differences between the TIFT and Roundup instruments were relatively minor.

Each participant was asked to estimate individual expenditures for items such as fishing tackle, snack foods and beverages, bait, ice, and gas and oil. They also were asked to estimate group expenditures for lodging and restaurants to account for family members and friends not surveyed.

Participants were asked their age, gender, occupation, income, their year-round fishing activity and about their fishing methods and related expenditures. Tournament fishermen were also questioned about their level of satisfaction with the tournament, their likes and dislikes, how the tournament could have been improved and how they learned about the Roundup.

Means, medians, and standard deviations were calculated for all variables. Significant differences between divisions were tested for using Kruskal-Wallis Analysis. Dunn's Multiple Range test was used to identify significant differences between divisions.

The overall response rate of 51 percent represents 226 questionnaires returned complete and in usable form (Table 1). A slightly higher response was achieved from light-tackle and bay-surf participants than heavy-tackle. Of the 451 participants, 47 percent of the 186 total heavy tackle, 51 percent of the 217 light-tackle, and 51 percent of the 37 bay-surf participants responded. For 11 of the participants, or 3.5 percent of the total, it was not possible to determine division status.

Since the survey obtained information from only 226 of the 451 tournament fishermen, study results could possibly be biased if respondents differed significantly from non-respondents. To estimate the tournament's total economic impact, it was necessary to represent the fishermen who did not return a questionnaire. To minimize non-response bias, a sample of 20 non-respondents was contacted by telephone. The

Table 1. Status of Tournament Questionnaire Responses

Type of Response	Bay-Surf N	Bay-Surf %	Light-Tackle N	Light-Tackle %	Heavy-Tackle N	Heavy-Tackle %	Total N	Total %
Useable	19	51.4	111	51.2	88	47.3	218	49.5
Non-Response								
Non-Deliverable	3	8.1	12	5.5	10	5.4	25	5.6
Not Returned	15	40.5	94	43.3	88	47.3	197	44.7
Total Non-Response	18	48.6	106	48.8	98	52.7	222	50.5
Totals	37	100.0	217	100.0	186	100.0	440*	100.0

* Division status was not available for 8 respondents and 3 non-respondents.

non-response interview did not obtain all the information sought in the mail questionnaire. Instead it covered some key variables and spending patterns of participants during the tournament (Appendix C). The interviews indicated light-tackle non-respondents were less likely to own a boat (58 percent) than respondents (77 percent). Also, heavy-tackle non-respondents participated less often in saltwater fishing (median of 30 days) than respondents (40 days). Finally the majority of non-respondents brought one to five additional non-fishing friends or family members with them (75 percent) vs. 46 percent of respondents who brought one to five additional persons.

Biases were corrected by weighting spending patterns of respondents and non-respondents according to their respective proportions of the total group of fishermen in each division. Expenses incurred by non-respondents and respondents in each division were calculated separately and combined to provide an estimate of the total expenditures associated with the tournament. Expenditure figures in the text represent the combined

expenses of both respondents and non-respondents; data for expenditures by non-respondents only is presented in Appendix D.

RESULTS

Tournament Fishing Participation

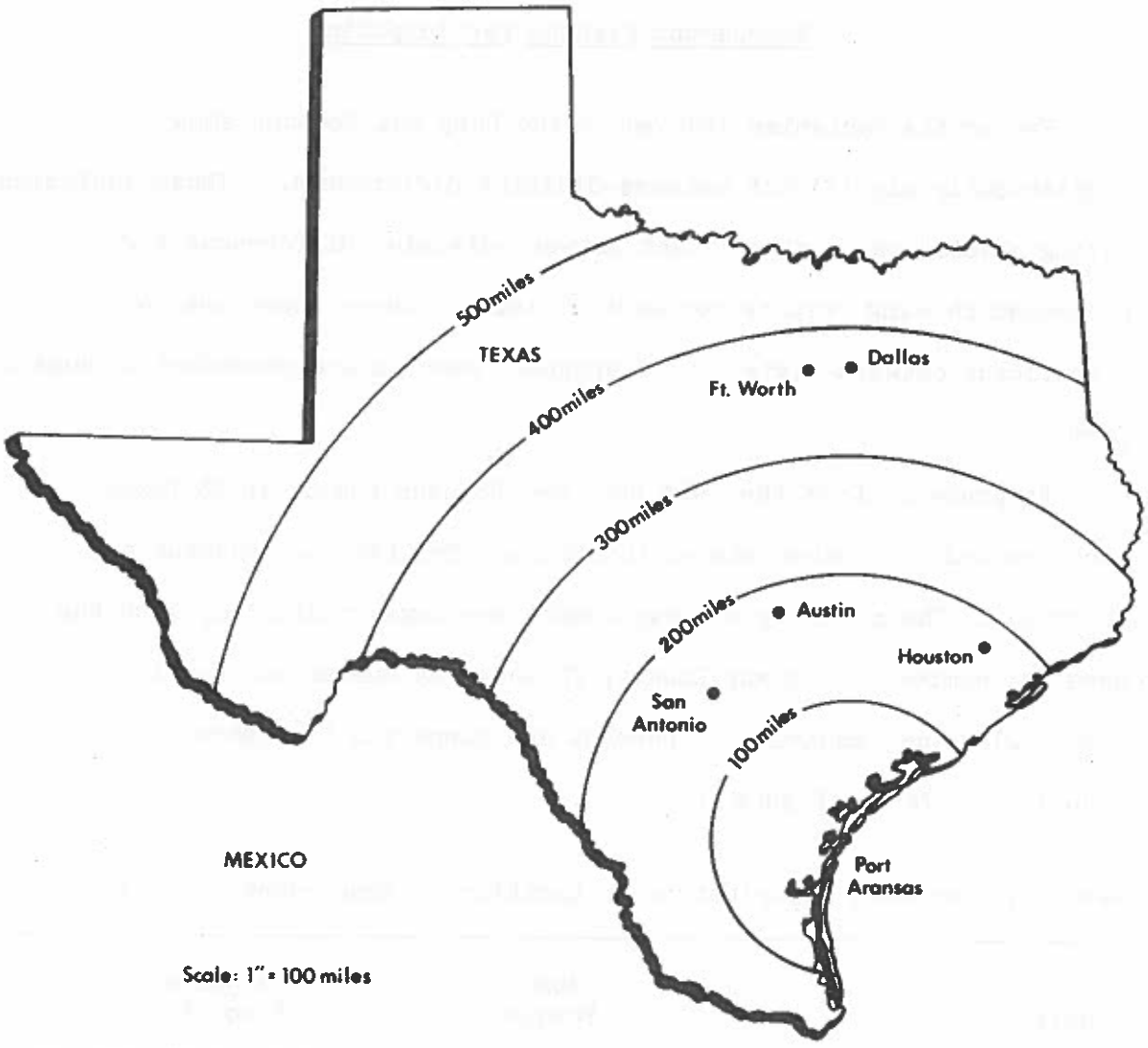
Few of the variables studied in the Deep Sea Roundup show statistically significant between-division differences. Those variables having statistically significant between-division differences are presented showing results for each division. Where there are no significant between-division differences, results are presented in summary form.

Respondents from the 1984 Deep Sea Roundup reside in 28 Texas counties and four other states (Louisiana, California, Arkansas and Oklahoma). The majority of respondents are Texas residents, with the greatest number from Bexar County, followed by Nueces and Harris counties (Table 2). The remaining 30 percent are dispersed throughout 25 other counties in Texas (Figure 2).

Table 2. Frequency Distribution of Location of Respondents' Residence

County	Absolute Frequency	Adjusted Freq.(Pct)
Bexar	72	32.1
Nueces	61	27.2
Harris	13	5.8
Other Texas Counties	68	30.4
Out-of-state	10	4.5
Missing	2	- -
Total	226	100.0

Figure 2. Concentric Travel Zone Map of Texas

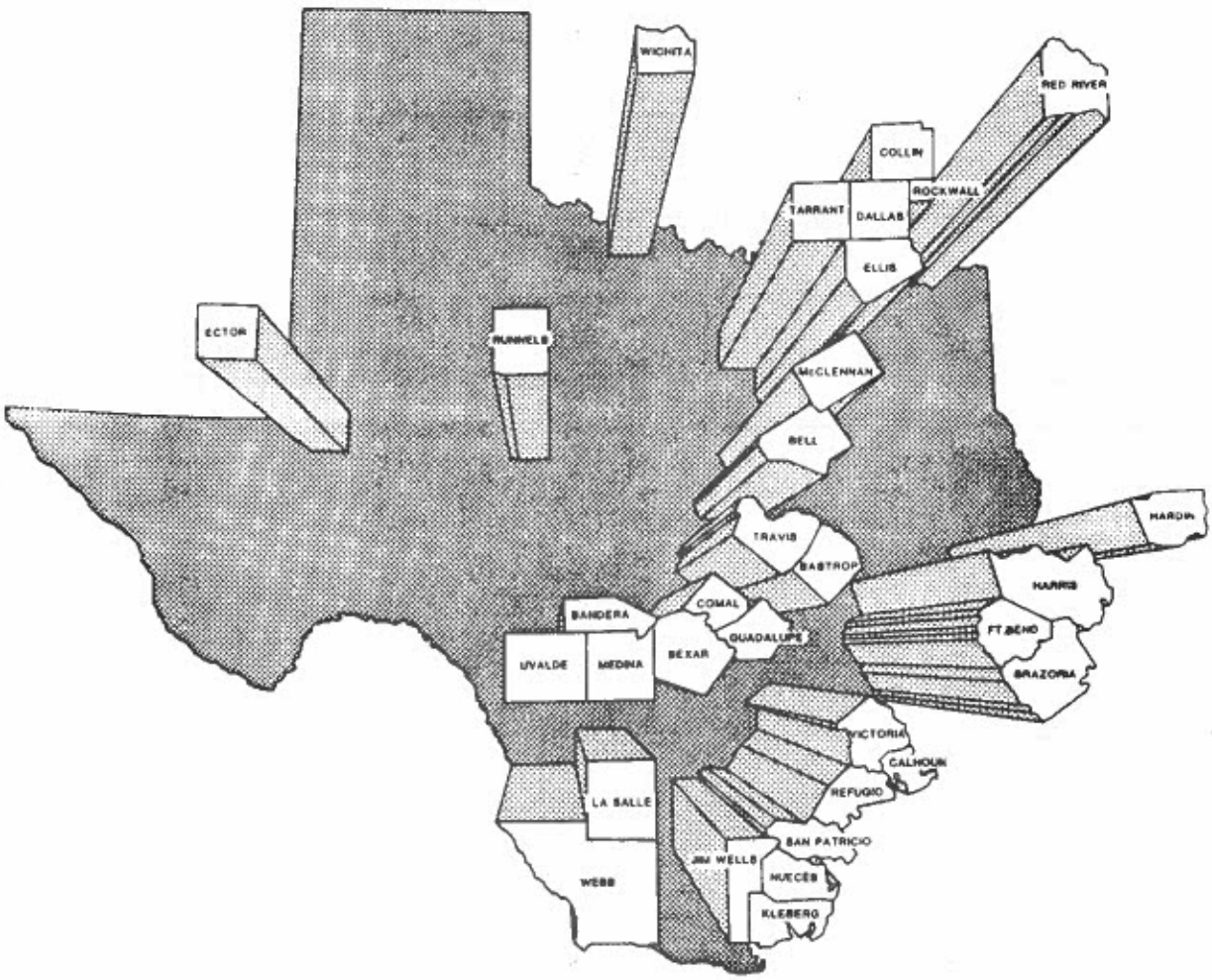


Nearly all the Bexar County respondents reside in San Antonio (Table 3). The majority of fishermen from Nueces County live either in Port Aransas or Corpus Christi (41 percent). Most of the fishermen from Harris County are from Houston (54 percent). A zip code analysis of addresses for the tournament respondents reveals the majority traveled less than 200 miles to participate (Figure 3). The majority of respondents came from areas between 100-200 miles, reflecting the influence of the San Antonio area (Table 4). Only 6 percent came from distances greater than 500 miles.

Table 3. Frequency Distribution of Respondents' Residence By City and County

Residence	Absolute Frequency	Adjusted Freq.(Pct)
Bexar		
San Antonio	70	97.2
Other	2	2.8
Total	72	100.0
Nueces		
Port Aransas	32	52.5
Corpus Christi	25	40.9
Other	4	6.6
Total	61	100.0
Harris		
Houston	7	53.8
Other	6	46.2
Total	13	100.0

Figure 3. Residence by County of Texas Respondents in the 1984 Deep Sea Roundup (vertical height does not imply magnitude)



A majority of respondents have fished in the tournament at least once before. Most of the participants have fished the tournament one to five times previously (Table 5). Twenty five percent fished the tournament six or more times. Thus this tournament seems to have developed a cadre of "veterans."

Table 4. Frequency distribution of Miles Participants Traveled to Compete in the Roundup

Miles Traveled	Absolute Frequency	Adjusted Freq. (Pct)
0-100	71	31.7
101-200	98	43.8
201-300	24	10.7
301-400	15	6.7
401-500	3	1.3
500+	13	5.8
Missing	3	- -
Totals	226	100.0

Table 5. Frequency Distribution of Number of Previous Times Respondents Had Fished in the Deep Sea Roundup

Number of Times	Absolute Frequency	Adjusted Freq.(Pct)
0	64	29.5
1-5	99	45.6
6-10	28	13.0
11+	26	11.9
Missing	9	- -
Total	226	100.0

The 226 respondents brought an additional 465 non-fishing family members or friends to Port Aransas, an average of two per participant (Table 6). Most participants brought fewer than five additional non-fishing persons; at least one additional person was brought by more than half of the respondents.

Most respondents fished both days of the tournament (Table 7). Those not living in the Port Aransas area spent an average of six nights there (Table 8).

Respondents, their families and non-fishing friends used various types of lodging (Table 9). Results indicate that most fishermen either owned a second home within Nueces county or permanently reside there.

Table 6. Frequency Distribution of Number of Additional Persons Brought to the Deep Sea Roundup by Respondents

Number of Additional Persons Brought	Absolute Frequency	Total Additional Persons Brought
0	68	0
1	32	32
2	33	66
3	33	99
4	18	72
5	13	65
6	6	36
7	5	35
8	2	16
10	2	20
12	2	24
Missing	12	--
Total	226	465

Table 7. Frequency Distribution of Number of Days Respondents Fished in the Deep Sea Roundup

Number of Days	Absolute Frequency	Adjusted Freq.(Pct)
1	16	7.3
2	204	92.7
Missing	6	- -
Total	226	100.0

Table 8. Frequency Distribution of the Number of Nights Respondents Stayed in the Port Aransas Area

Number of Nights	Absolute Frequency	Adjusted Freq.(Pct)
0	12	5.6
1-2	14	6.6
3-4	41	19.2
5-6	42	19.7
7-9	42	19.7
10+	33	15.5
Live in Area	29	13.6
Missing	13	- -
Total	226	99.9

Table 9. Frequency Distribution of Type of Lodging Used by Deep Sea Roundup Respondents in the Port Aransas Area

Type of Lodging	Absolute Frequency	Adjusted Freq.(Pct)
Own Home in County	77	35.9
Condo Rent/Own	47	21.9
Private Home	45	21.0
Trailer	28	13.1
Motel/Hotel	13	6.1
Rental	2	.9
Boat	2	.9
Missing	12	- -
Total	226	99.8

Most respondents learned of the tournament from friends (Table 10). Survey responses further indicate that most of the participants liked the tournament because it was "fun" (Table 11).

Participants were also asked what one thing about the tournament they would most like to see changed. Their responses vary, as evidenced by the wide range of responses and the relatively high proportion of uncategorizable, or "other" responses (Table 12). Categories were established based upon previous tournament studies, with new ones added if they were unique to the Roundup. The largest percentage of categorizable responses reveals that respondents would most like to see improvements made in the food.

Currently, the Deep Sea Roundup is primarily a trophy tournament, with the only cash prize awarded for the largest king mackerel. Perhaps reflective of the trend toward prize money tournaments in Texas, a majority of respondents gave full or partial endorsement of prize money fishing tournaments (Table 13).

Table 10. Frequency Distribution of How Respondents in the Deep Sea Roundup Found Out About the Tournament

Source	Absolute Frequency	Adjusted Freq.(Pct)
Friends	122	57.0
Combination	44	20.6
Other	19	8.9
Newspaper	16	7.5
Mail Ad	9	4.0
Magazine	3	1.4
Radio	1	.5
Missing	12	- -
Total	226	100.0

Table 11. Frequency Distribution of What Respondents in the Deep Sea Roundup Most Liked About the Tournament

Response	Absolute Frequency	Adjusted Freq.(Pct)
Fun	44	25.7
Well Organized	24	14.0
Social Events	18	10.5
Food	18	10.5
Other	18	10.5
Rest Day	16	9.4
Weigh-in	9	5.3
Family Atmosphere	8	4.7
Nothing	6	3.5
Prizes	3	1.8
Rules	3	1.8
More Time To Fish	3	1.8
Night Registration	1	.6
Missing	55	- -
Total	226	100.1

Table 12. Frequency Distribution of What Respondents in the Deep Sea Roundup Would Most Like To See Changed About the Tournament

Response	Absolute Frequency	Adjusted Freq.(Pct)
Other	38	22.4
Food	35	20.6
Nothing	21	12.4
Need another fishing day	20	11.8
Cash Prizes	15	8.8
Trophy for 2nd. Largest	11	6.5
Weigh-In or Fueling	7	4.1
Need Tag & Release	6	3.5
Tickets Too Expensive	5	2.9
Organization	4	2.4
Need More Time Daily	3	1.8
Too Long	2	1.1
Facilities	2	1.1
Need Calcutta	1	.6
Missing	56	- -
Total	226	100.0

Table 13. Frequency Distribution of Whether Prize Money Should be Offered in Saltwater Fishing Tournaments

Response	Absolute Frequency	Adjusted Freq.(Pct)
Yes	90	41.7
No	42	19.4
Some Tournaments	84	38.9
Missing	10	- -
Total	226	100.0

Demographic Characteristics

The average age of the 1984 Deep Sea Roundup participant is 40 (Table 14). The majority are male (Table 15). Most are engaged in a professional or technical occupation (Table 16) with a median income of $50,000-$59,999 a year (Table 17).

Table 14. Frequency Distribution of Respondent Age

Response	Absolute Frequency	Adjusted Freq.(Pct)
0-10	3	1.4
11-19	11	5.1
20-29	35	16.1
30-39	50	23.0
40-49	70	32.3
50-59	33	15.2
60-69	9	4.1
70-79	6	2.8
Missing	9	- -
Total	226	100.0

Table 15. Frequency Distribution of Respondent Gender

Gender	Absolute Frequency	Adjusted Freq.(Pct)
Male	167	76.3
Female	52	23.7
Missing	7	- -
Total	226	100.0

Table 16. Frequency Distribution of Income Categories of Respondents

Income	Absolute Frequency	Adjusted Freq.(Pct)
< 10,000	11	5.5
10-19,999	13	6.5
20-29,999	19	9.5
30-39,999	28	14.0
40-49,999	28	14.0
50-59,999	26	13.0
60-69,999	15	7.5
> 70,000	60	33.0
Missing	26	- -
Total	226	100.0

Table 17. Frequency Distribution of Occupation Category of Respondents

Occupation	Absolute Frequency	Adjusted Freq.(Pct)
Professional/Technical	107	50.2
Skilled/Semi-Skilled	33	15.5
Student	17	7.9
Retired/Disabled	14	6.6
Housewife	12	5.6
Self-Employed	11	5.2
Manager	10	4.7
Captain	5	2.3
Farmer/Rancher	3	1.4
Unemployed	1	.5
Missing	13	- -
Total	226	99.9

General Fishing Participation

Participants in the Roundup were asked questions concerning their participation in recreational fishing. Results indicate a statistically significant difference between divisions regarding time reportedly spent fishing (Table 18). The largest percentage of bay-surf and heavy-tackle division respondents report they spend more time fishing than the average fisherman, while the largest proportion of light-tackle respondents feel they spend the same or less time than the average fisherman. Most respondents feel their skill level is about average (Table 19).

Given the previous findings relative to the skill level and time spent fishing, it is ironic that the majority of participants also feel they catch about the same number of fish as the average fisherman (Table 20).

Table 18. Frequency Distribution by Division of Whether Respondents Spend More Time Fishing than the Average Fisherman

	Bay-Surf		Light-Tackle		Heavy-Tackle	
Time	Absolute Frequency	Adjusted Freq.(Pct)	Absolute Frequency	Adjusted Freq.(Pct)	Absolute Frequency	Adjusted Freq.(Pct)
Less	5	26.3	34	32.0	17	20.5
Same	5	26.3	42	39.6	29	34.9
More	9	47.4	30	28.3	37	44.6
Missing	0	- -	5	- -	5	- -
Total	19	100.0	111	99.9	88	100.0

Chi Square = 6.3
Significant at .05 level

Table 19. Frequency Distribution of Respondents Self-Reported Skill Level as Compared to the Average Fisherman

Skill Level	Absolute Frequency	Adjusted Freq.(Pct)
Less	13	6.2
Equal	123	58.0
More	76	35.8
Missing	14	- -
Total	226	100.0

Table 20. Frequency Distribution of How Many Fish Respondents Feel They Catch Compared to the Average Fisherman

Catch	Absolute Frequency	Adjusted Freq.(Pct)
Fewer	13	6.1
Same	123	58.0
More	76	35.9
Missing	14	- -
Total	226	100.0

Tournament participants were asked a series of questions to probe the extent of their annual fishing activity across a variety of fishing modes. A majority of respondents in the bay-surf and light-tackle divisions participate in all modes of fishing except pier fishing (Table 21). Heavy and light-tackle division participants participate predominantly in saltwater boat fishing.

There was a statistically significant difference between the bay-surf and other divisions in both the time spent boat fishing in the Gulf (Table 22) and time spent shore, surf, or wade fishing (Table 23).

Table 21. Frequency Distribution of Respondents Who Participated in Each Fishing Type During Previous Year by Tournament Division

Fishing Type	Bay-Surf %	Light-Tackle %	Heavy-Tackle %
Shore-Surf-Wade	93*	52	46
Saltwater Boat---total	88	98	97
Boat Fish in bays	90	80	81
Boat Fish in gulf	76*	98	94
Freshwater Fish	71	55	47
Pier Fish*	15*	40	25

* Chi-Square Significant at .05 level

Table 22. Frequency Distribution of the Number of Days Respondents Boat Fished in the Gulf in 1983 by Division

	Bay-Surf		Light-Tackle		Heavy-Tackle	
Number Of Days	Absolute Frequency	Adjusted Freq.(Pct)	Absolute Frequency	Adjusted Freq.(Pct)	Absolute Frequency	Adjusted Freq.(Pct)
0	4	23.5	2	1.9	5	6.2
1-13	11	64.7	56	52.8	29	35.3
14-33	1	5.9	36	33.9	36	43.9
34-63	0	0.0	8	7.5	10	12.2
>64	1	5.9	4	3.8	2	2.4
Missing	2	- -	5	- -	6	- -
Total	19	100.0	111	99.9	88	100.0
Median	4	- -	10	- -	18	- -

Chi-Square = 13.5
Significant at .05 level

Table 23. Frequency Distribution of Number of Days Respondents Shore, Surf or Wade Fished in 1983 by Division

Number Of Days	Bay-Surf Absolute Frequency	Bay-Surf Adjusted Freq.(Pct)	Light Tackle Absolute Frequency	Light Tackle Adjusted Freq.(Pct)	Heavy Tackle Absolute Frequency	Heavy Tackle Adjusted Freq.(Pct)
0	1	6.3	48	48.0	39	54.2
1-13	8	50.0	39	39.0	28	39.9
14-33	5	31.3	11	11.0	4	5.6
34-63	2	13.0	2	2.0	0	0.0
>64	0	0.0	1	1.0	0	0.0
Missing	3	- -	11	- -	16	- -
Total	19	100.6	111	101.0	88	99.7
Median	9	- -	1	- -	0	- -

Chi-Square = 18.55
Significant at .05 level

Although 93 percent of bay-surf fishermen participated in shore, surf, or wade fishing in the previous year, with a median number of nine days fishing, about half of the light and heavy-tackle fishermen reportedly spent a median of only one and zero days respectively shore, surf, or wade fishing. The opposite pattern emerges with respect to participation in boat fishing in the Gulf, where both light and heavy-tackle fishermen are more active than bay-surf fishermen.

Overall, a majority of respondents did not pier fish during 1983 (Table 24). On the other hand, a majority of fishermen did boat fish in the bays (Table 25). Almost half of the fishermen did not participate in freshwater fishing during 1983 (Table 26).

Table 24. Frequency Distribution of Number of Days Respondents Pier Fished in 1983

Number of Days	Absolute Frequency	Adjusted Freq.(Pct)
0	129	66.5
1-13	53	27.5
14-33	10	5.2
34-63	2	1.0
>64	0	0.0
Missing	32	- -
Total	226	100.0

Table 25. Frequency Distribution of Number of Days Respondents Boat Fished in the Bays in 1983

Number of Days	Absolute Frequency	Adjusted Freq.(Pct)
0	40	19.4
1-13	108	52.4
14-33	49	23.8
34-63	6	2.9
>64	3	1.5
Missing	20	- -
Total	226	100.0

Table 26. Frequency Distribution of Number of Days Respondents Freshwater Fished in 1983

Number of Days	Absolute Frequency	Adjusted Freq.(Pct)
0	92	46.7
1-13	75	38.1
14-33	23	11.7
34-63	3	1.5
>64	4	2.0
Missing	29	- -
Total	226	100.0

Regardless of fishing type, bay-surf and heavy-tackle respondents were tied for the most days fishing in 1983, with a median of 40 days (Table 27).

Participants were asked about their previous tournament experience. The majority of fishermen have fished in tournaments before (Table 28). The largest proportion of respondents participate two to three times a year. Those who participate in tournaments once a year comprised the second largest group.

Table 27. Frequency Distributions of Number of Days Fishing in Previous Year by Tournament Division

	Bay-Surf		Light-Tackle		Heavy-Tackle	
Number of Days	Absolute Frequency	Adjusted Freq.(Pct)	Absolute Frequency	Adjusted Freq.(Pct)	Absolute Frequency	Adjusted Freq.(Pct)
0	0	0.0	2	1.9	0	0.0
1-13	5	26.3	19	17.9	10	12.3
14-33	2	10.5	31	29.2	33	40.2
34-63	8	42.1	31	29.2	27	32.9
>64	4	21.1	23	21.8	12	14.6
Missing	0	- -	5	- -	6	- -
Total	19	100.0	111	100.0	88	100.0
Median	40	- -	35	- -	40	- -

Chi Square = 12.9
Significant at .05 level

Table 28. Frequency Distribution of How Often Respondents Participate in Fishing Tournaments

Tournaments Entered	Absolute Frequency	Adjusted Freq.(Pct)
This is First	49	20.7
Once every 2-3 Years	10	4.6
Once a Year	62	28.6
2-3 Times a Year	65	30.0
4-5 Times a Year	19	8.7
More than 5	16	7.4
Missing	10	- -
Total	226	100.0

A series of questions were asked to ascertain the extent of participation in activities associated with fishing. Fishermen are involved in their sport in many ways beyond the act of fishing. More than half of the respondents regularly read fishing reports in newspapers (Table 29), and more than half subscribe to a sport magazine (Table 30). The majority of respondents do not belong to fishing clubs (Table 31), do not call or write their legislators (Tables 32 and 33) or do not attend hearings on fisheries matters (Table 34).

There is a statistically significant difference between light and heavy-tackle respondents regarding whether a respondent had ever called his legislator on a fisheries matter (Table 32). Heavy-tackle respondents were more likely to call their legislator than light-tackle respondents. Only 5 percent of the light-tackle fishermen had ever called their legislator, compared to about 24 percent for the bay-surf and heavy-tackle respondents.

Table 29. Frequency Distribution of How Often Respondents Read Fishing Reports in the Newspapers

Response	Absolute Frequency	Adjusted Freq.(Pct)
Rarely	33	15.3
Occasionally	64	29.6
Regularly	119	55.1
Missing	10	- -
Total	226	100.0

Table 30. Frequency Distribution of Whether Respondents Subscribe to a Sport Magazine

Response	Absolute Frequency	Adjusted Freq.(Pct)
Yes	154	70.6
No	64	29.4
Missing	8	- -
Total	226	100.0

Table 31. Frequency Distribution of Membership in A Fishing Club

Response	Absolute Frequency	Adjusted Freq.(Pct)
Yes	19	8.7
No	199	91.3
Missing	8	- -
Total	226	100.0

Table 32. Frequency Distribution by Division of Whether Respondents Had Ever Called their Legislator on a Fisheries Matter

	Bay-Surf		Light-Tackle		Heavy-Tackle	
Response	Absolute Frequency	Adjusted Freq.(Pct)	Absolute Frequency	Adjusted Freq.(Pct)	Absolute Frequency	Adjusted Freq.(Pct)
Yes	5	27.8	5	5.2	16	19.0
No	13	72.2	92	94.8	68	81.0
Missing	1	- -	14	- -	4	- -
Total	19	100.0	111	100.0	88	100.0

Chi-Square = 11.4
Significant at .05 level

Table 33. Frequency Distribution of Whether Respondents Had Ever Written Their Legislator on a Fisheries Matter

Response	Absolute Frequency	Adjusted Freq.(Pct)
Yes	40	19.0
No	170	81.0
Missing	16	- -
Total	226	100.0

Table 34. Frequency Distribution of Whether Respondents had Ever Attended a Hearing on a Fisheries Matter

Response	Absolute Frequency	Adjusted Freq.(Pct)
Yes	56	26.4
No	156	73.6
Missing	14	- -
Total	226	100.0

Participants were also asked what they would like to see done to improve sportfishing. The largest proportion of respondents believed there should be more regulations controlling various aspects of fishing, and tighter enforcement of existing rules (Table 35).

Participants were asked about their equipment. They were first asked to indicate if they make any of their own gear. The majority do not (Table 36). Of those respondents who do, lures are the item most likely to be made (Table 37).

Table 35. Frequency Distribution of What Respondents Would Like to See Done to Improve Sportfishing

Response	Absolute Frequency	Adjusted Freq.(Pct)
More Regulations	32	18.3
More Commercial Restrictions	20	11.4
Other	19	10.9
Control Pollution	17	9.7
More Tag & Release	16	9.1
Nothing	15	8.6
Abolish Gill Netting	14	8.0
Ban Longlining	13	7.4
More Artificial Reefs	11	6.3
Open Fish Passes	5	2.9
Stock Fish	4	2.3
Better Boat Ramps	4	2.3
Repeal Redfish Act	3	1.7
Create Spawning Areas	2	1.1
Missing	63	- -
Total	238*	100.0

* This total exceeds the number of respondents since multiple responses were possible

Table 36. Frequency Distribution of Whether Respondents Make Any of Their Own Gear

Response	Absolute Frequency	Adjusted Freq.(Pct)
Yes	86	41.1
No	124	59.0
Missing	16	- -
Total	226	100.0

Table 37. Frequency Distribution of the Type of Gear Respondents Make

Type of Gear	Absolute Frequency	Adjusted Freq.(Pct)
Rod	14	16.3
Reel	3	3.5
Lure	57	66.3
Rod and Reel	0	0.0
Reel and Lure	1	1.2
Rod and Reel and Lure	6	6.9
Rod and Lure	5	5.8
Missing	140	- -
Total	226	100.0

Equipment ownership and level of investment are indicators of the level of commitment fishermen have for their sport. Entrants in the Roundup were therefore asked how many rod-reel combinations they own. Results show the majority of respondents own 10 or fewer combinations (Table 38). Those who own 11 to 20 comprise the next largest group. The average number of rods and reels owned is 12.

Table 38. Frequency Distribution of the Number of Rod-Reel Combinations Respondents Own

Number	Absolute Frequency	Adjusted Freq.(Pct)
0	7	3.3
1-10	121	57.3
11-20	63	29.9
21-30	14	6.6
31-40	2	.9
> 40	4	1.9
Missing	15	- -
Total	226	100.9

In terms of annual expenditures for equipment, heavy-tackle division fishermen spent an average of $476 on rods, reels, bait and tackle during 1983 (Table 39). Light-tackle participants spent an average of $400, and bay-surf division fishermen spent an average of $163. Statistically significant differences were noted among the bay-surf and the other divisions regarding the amount spent on reels and bait, and between all divisions regarding the amount spent on tackle. As might be expected, light and heavy-tackle paticipants tended to spend more than bay-surf respondents in all categories.

The largest proportion of respondents used artificial bait (62 percent), followed closely by the use of dead bait (20 percent) (Table 40).

Table 39. Median Annual Expenditures for Fishing Equipment and Bait by Tournament Division

Category	Bay-Surf Expense	Bay-Surf Percent	Light-Tackle Expense	Light-Tackle Percent	Heavy-Tackle Expense	Heavy-Tackle Percent
Rods	$ 50	30.7	100	25.0	88	18.5
Reels	23	14.1	100	25.0	138	29.0
Bait	50	30.7	100	25.0	100	21.0
Tackle	40	24.5	100	25.0	150	31.5
Total	$ 162	100.0	400	100.0	476	100.0

Table 40. Frequency Distribution of the Type of Bait Used by the Respondents

Type of Bait	Absolute Frequency	Adjusted Freq.(Pct)
Artificial	58	27.0
Dead	42	19.5
Live	31	14.4
Artificial and Dead	26	12.1
Artificial and Live	25	11.6
Artificial,Live and Dead	24	11.2
Live and Dead	7	3.3
Missing	13	- -
Total	226	99.7

To evaluate the social group aspects of tournament fishing, a number of questions regarding group affiliations were asked. Results showed that most respondents have close friends who also fish (Table 41).

There is a statistically significant difference between bay-surf and the other divisions regarding the group respondents most often fished with (Table 42). Heavy-tackle respondents indicate they fish more often with friends (39 percent) than family members. A majority of bay-surf fishermen (65 percent) fish with friends more often than any other group.

Table 41. Frequency Distribution of Whether Respondents Have Close Friends Who Fish

Response	Absolute Frequency	Adjusted Freq.(Pct)
None	2	.9
Some	85	38.8
Most	132	60.3
Missing	7	- -
Total	226	100.0

Table 42. Frequency Distribution of the Types of Groups Respondents Most Often Fished With by Tournament Division

	Bay-Surf		Light-Tackle		Heavy-Tackle	
Type of Group	Absolute Frequency	Adjusted Freq.(Pct)	Absolute Frequency	Adjusted Freq.(Pct)	Absolute Frequency	Adjusted Freq.(Pct)
Friends	11	64.7	36	36.0	31	38.7
Family	4	23.5	39	39.0	19	23.8
Family/ Friends	1	5.9	20	20.0	25	31.3
Yourself	1	5.9	2	2.0	0	0.0
Club	0	0.0	0	0.0	2	2.4
Other	0	0.0	3	3.0	3	3.8
Missing	2	- -	11	- -	8	- -
Total	19	100.0	111	100.0	88	100.0

Chi-Square = 9.11
Significant at .05 level

A majority of the respondents indicate they usually fish with the same group (Table 43), and that most of their vacations include fishing (Table 44).

Table 43. Frequency Distribution of Whether Respondents Usually Fish With the Same Group

Response	Absolute Frequency	Adjusted Freq.(Pct)
Yes	166	78.3
No	46	21.7
Missing	14	- -
Total	226	100.0

Table 44. Frequency Distribution of the Number of Vacations That Include Fishing

Number of Vacations	Absolute Frequency	Adjusted Freq.(Pct)
None	12	5.5
Some	73	33.3
Most	134	61.2
Missing	7	- -
Total	226	100.0

There is a statistically significant difference between bay-surf and the other divisions in terms of respondents with co-workers who also fish (Table 45). More than half the light and heavy-tackle fishermen (63 and 67 percent, respectively) indicate that only some of their co-workers fish. Bay-surf division respondents are evenly divided between those who note that some, and those who state that most, of their co-workers fish.

Table 45. Frequency Distribution by Tournament Division of the Number with Co-Workers Who Fish

Number	Bay-Surf		Light-Tackle		Heavy-Tackle	
	Absolute Frequency	Adjusted Freq.(Pct)	Absolute Frequency	Adjusted Freq.(Pct)	Absolute Frequency	Adjusted Freq.(Pct)
None	0	0.0	10	9.9	9	10.9
Some	9	50.0	64	63.4	55	67.1
Most	9	50.0	27	26.7	18	22.0
Missing	1	- -	10	- -	6	- -
Total	19	100.0	111	100.0	88	100.0

Chi-Square = 6.84
Significant at .05 level

Who initiates the idea to go fishing? Respondents indicate that both they and another member of their group usually propose the idea (Table 46).

It appears that most respondents are unified in the type of fish they most prefer to catch. Almost twice as many respondents in the light (Table 47) and heavy-tackle divisions prefer to catch king mackerel over any other fish (Table 48). Bay-surf division fishermen, not suprisingly, prefer to catch speckled trout, a bay species (Table 49).

Table 46. Frequency Distribution of Who Initiates the Idea To Go Fishing

Whose Idea	Absolute Frequency	Adjusted Freq.(Pct)
Yourself	75	35.4
Member of Group	25	11.8
Both	112	52.8
Missing	14	- -
Total	226	100.0

Table 47. Frequency Distribution of the Fish Species Most Sought by Light-Tackle Division Respondents

Species Sought	Preference			Total	
	First	Second	Third	N	%
King mackerel	32	14	18	64	21.2
Trout	14	12	13	39	12.9
Sailfish	10	17	3	30	9.9
Red drum	9	14	7	30	9.9
Marlin	9	3	5	17	5.6
Dolphin	6	7	12	25	8.3
Billfish	5	5	1	11	3.6
Ling	4	7	3	14	4.6
Flounder	4	3	4	11	3.6
Amberjack	3	2	0	5	1.7
Blue Marlin	2	1	0	3	1.0
Bass	2	2	0	4	1.3
Catfish	1	0	0	1	.3
Trout/Red drum	1	0	0	1	.3
Tarpon	1	0	1	2	.7
Anything	1	0	2	3	1.0
Other	1	2	6	9	3.0
White Marlin	0	0	1	1	.3
Wahoo	0	4	4	8	2.6
Shark	0	6	2	8	2.6
Red Snapper	0	3	10	13	4.3
Grouper	0	0	2	2	.7
Offshore	0	0	1	1	.3
Missing	6	9	16	31	- -
Total	111	111	111	333	99.7

Table 48. Frequency Distribution of the Fish Species Most Sought by Heavy Tackle Division Respondents

Species Sought	Preference			Total	
	First	Second	Third	N	%
King mackerel	22	12	7	41	17.4
Sailfish	12	10	6	28	11.9
Marlin	11	6	5	22	9.4
Blue Marlin	7	1	0	8	3.4
Billfish	6	1	2	9	3.8
Bass	5	2	0	7	2.9
Trout	4	7	4	15	6.4
Dolphin	3	8	8	19	8.1
Redfish	3	6	5	14	6.0
Shark	2	3	1	6	2.6
Flounder	2	2	3	7	3.0
Other	2	1	4	7	3.0
Ling	1	7	8	16	6.8
Red Snapper	1	2	10	13	5.5
White Marlin	1	4	2	7	3.0
Tarpon	1	0	0	1	.4
Catfish	1	0	0	1	.4
Wahoo	0	4	2	6	2.6
Amberjack	0	1	1	2	.9
Jack Crevalle	0	1	2	3	1.3
Barracuda	0	0	1	1	.4
Trout/Red drum	0	0	1	1	.4
Tuna	0	0	1	1	.4
Missing	4	10	15	29	- -
Total	88	88	88	264	100.0

Respondents differ over whether they always fish for the same species. Fifty one percent indicate they do not fish for the same species; 49 percent indicate they did (Table 50).

Table 49. Frequency Distribution of the Fish Species Most Sought by Bay Division Respondents

Species Sought	Preference			Total	
	First	Second	Third	N	%
Trout	8	7	2	17	31.4
Red drum	5	5	5	15	27.7
Flounder	2	3	5	10	18.4
King mackerel	2	1	1	4	7.4
Blue Marlin	1	0	0	1	1.9
Bass	1	0	0	1	1.9
Red Snapper	0	0	1	1	1.9
Black Drum	0	0	1	1	1.9
Billfish	0	0	1	1	1.9
Catfish	0	1	1	2	3.7
Fresh Water Trout	0	1	0	1	1.9
Missing	0	1	2	3	- -
Total	19	19	19	57	100.0

Table 50. Frequency Distribution of Whether Respondents Fish for One Particular Species

Response	Absolute Frequency	Adjusted Freq.(Pct)
Yes	104	48.8
No	109	51.2
Missing	13	- -
Total	226	100.0

While the preference for catching certain fish achieves widespread agreement, the motives for choosing that fish as favorite are varied. Respondents are fairly evenly divided, noting fight, taste, challenge, and availability as reasons for choosing a favorite fish (Table 51).

For those respondents who specialize in fishing for a particular species, marlin and king mackerel are equally preferred, followed by trout and billfish (Table 52).

The vast majority of respondents in the Roundup own a boat (Table 53). Again there is a statistically significant difference between bay-surf and the other divisions, this time in regard to the length of the boat owned. The largest percentage of both light and heavy-tackle fishermen own boats in the 21-to-24-foot range. Not surprisingly, bay-surf division respondents generally own smaller boats, and these are evenly split between the 13-to-16-foot and the 17-to-20-foot ranges.

Table 51. Frequency Distribution of the Reason Respondents Chose Their Favorite Fish

Reason	Absolute Frequency	Adjusted Freq.(Pct)
Fight	45	23.0
Taste	44	22.4
Challenge	30	15.3
Availability	30	15.3
Sport	27	13.8
Other	12	6.1
Size	7	3.6
Money Fish	1	.5
Missing	30	- -
Total	226	100.0

Table 52. Frequency Distribution of Species Participants Specialized in Catching

Species	Absolute Frequency	Adjusted Freq.(Pct)
Marlin	20	18.7
King mackerel	20	18.7
Trout	14	13.1
Billfish	13	12.1
Sailfish	8	7.5
Blue Marlin	6	5.6
Dolphin	4	3.7
Red drum	4	3.7
Flounder	3	2.8
Grouper	3	2.8
Shark	2	1.9
Red Snapper	2	1.9
Anything	2	1.9
Bass	2	1.9
Amberjack	1	.9
Trout/Red drum	1	.9
Other	1	.9
Fresh Trout	1	.9
Missing	119	- -
Total	226	99.9

Table 53. Frequency Distribution of the Lengths of Respondent-Owned Boats

	Bay-Surf		Light Tackle		Heavy Tackle	
Own	Absolute Frequency	Adjusted Freq.(Pct)	Absolute Frequency	Adjusted Freq.(Pct)	Absolute Frequency	Adjusted Freq.(Pct)
Not Own	7	37	20	19	21	26
Length						
1-12	0	0.0	1	1.2	2	3.2
13-16	5	41.7	7	8.1	9	14.5
17-20	5	41.6	19	22.1	11	17.7
21-24	0	0.0	28	32.6	15	24.3
25-30	2	16.7	11	12.8	6	9.7
31-40	0	0.0	18	20.9	13	20.9
40+	0	0.0	2	2.3	6	9.7
Non-Response	7	- -	25	- -	26	- -
Total	19	100.0	111	100.0	88	100.0

Chi-Square = 9.0
Significant at .05 level

Tournament Fishermen Motives

Roundup participants were asked a variety of questions concerning their reasons or motives for fishing. They were presented with a series of 17 items and asked to rate each as a reason for tournament fishing. The response categories range on a five-point Likert scale from "not at all important" (1) to "extremely important" (5). Motives noted as being most important by a large percentage of all respondents are: the challenge, the desire to get away from people and the regular routine and to relax (Table 54). Differences between divisions are not significant except in the desire to win a trophy. The desire to win a trophy is much more important to light and heavy-tackle participants than bay-surf fishermen. Forty-

Table 54. Importance of Tournament Fishing Motives to Tournament Respondents

Tournament Fishing Motives	Mean	Not at All Important 1	Slightly Important 2	Moderately Important 3	Very Important 4	Extremely Important 5
		Values given are percentages				
For the challenge or sport	3.9	8	9	13	26	46
To get away from the regular routine	3.8	10	10	14	25	41
For the experience of the catch	3.7	10	7	21	27	35
For relaxation	3.9	7	8	16	30	39
To be outdoors	3.8	5	7	21	35	32
To be close to the sea	3.7	9	7	23	32	29
To be with my friends	3.8	5	8	21	38	28
To get away from the demands of people	3.7	14	7	18	23	39
To obtain a trophy fish	3.6	12	16	24	20	28
To develop my skills	3.1	16	16	30	18	21
To experience natural surroundings	3.5	9	12	23	31	25
To experience new and different things	3.3	11	11	31	28	20
For family recreation	3.5	6	13	27	34	21
To win a trophy*	2.7	27	22	21	15	15
For the prize money	2.4	39	18	20	10	14
To obtain fish for eating	2.9	18	18	32	18	14
To test my equipment	2.3	34	25	20	11	10

* Significant differences at .05 level between bay-surf and other divisions

four percent of the bay-surf respondents note this is not at all an important motive. Responses for both light and heavy-tackle fishermen are more evenly dispersed.

Consumptive Aspects

A series of nine statements were included in the survey to determine the attitudes of tournament fishermen on the consumptive aspects of fishing. Participants could respond to the statements on a 5-point Likert scale ranging from "strongly disagree" (1) to "strongly agree" (5). The statements covered several aspects of catching fish and the importance of size and number of fish caught (Table 55). Respondents strongly agree that they like to eat the fish they catch. They also tend to agree with the statement that they would rather catch a few large fish than many small ones.

Table 55. Frequency Distribution of Responses to Consumptive Aspects of Fishing by Tournament Respondents

Item	Mean	Strongly Disagree 1	Disagree 2	Neutral 3	Agree 4	Strongly Agree 5
		Values given are percentages				
I would rather catch one or two big fish than ten smaller ones	3.7	5	13	20	30	33
The bigger the fish I catch the better	3.4	7	16	23	36	18
I usually eat the fish I catch	4.1	4	6	7	42	41
A fishing trip can be successful even if no fish are caught	3.8	7	12	9	46	27
The more fish I catch the happier I am	3.6	8	7	24	44	18
I'm just as happy if I don't keep the fish I catch	3.0	13	22	21	34	10
A successful fishing trip is one in which many fish are caught	3.1	8	24	27	30	12
When I go fishing, I'm just as happy if I don't catch a fish	2.8	12	35	19	26	8
It doesn't matter to me what type of fish I catch	3.0	12	30	18	29	11

Tournament Expenditures

Tournament participants in the Deep Sea Roundup were asked to estimate their tournament-related expenses to determine the extent of overall economic activity generated. Daily expenses for items such as gas and oil, launch fees, fishing tackle, bait, ice, snack foods and beverages were estimated as well as the total amount spent in Port Aransas restaurants and for lodging facilities by participants and their non-fishing friends and family members. Tournament fishermen were also asked to indicate whether each item was purchased at home or in the tournament area. Survey responses often indicate that a particular item was purchased both at home and Port Aransas; therefore, a third category indicating that the item was purchased in both places was included in the analysis.

A. Bay-Surf Division Daily Fishing Expenses

The majority of the respondents in the bay-surf division purchased most of the expense items included in the survey (Table 56). Less than half incurred launch, lodging and other expenses. Many bay-surf respondents did not incur a lodging expense because they stayed in a privately-owned residence. There are two possible explanations for the fact that only a small percentage of bay-surf respondents incurred a launch expense. First, the bay-surf division did not require a boat to participate, and second, 37 percent of the respondents in this division did not own a boat.

Table 56. Average Daily Expenditures of Bay-Surf Division Fishermen by Type of Purchase

Type of Purchase	Percent of Fishermen Who Purchased Each Item	Average Amount Spent by Fishermen Who Purchased Item[1]
Lodging[3]	42	$ 26
Launch fees or boat slip	16	20
Gas and oil for boat	84	19
Restaurant meals[3]	74	18
Snacks, beer, beverages	95	16
Ice	95	11
Bait	74	10
Gas for auto	95	9
Fishing tackle and equipment	79	9
Other[2]	5	7

[1] Includes respondents only.

[2] Other includes expenditures for repairs, receptions, gifts entertainment and charter fees.

[3] Dining and lodging include expenses on a daily basis incurred by participants and others who accompanied them during the tournament. Total expenses were divided by the average number of nights (6.5) in the Port Aransas area to yield average daily amount.

Direct expenditures by the bay-surf division fishermen total about $11,500 (Table 57). When entry-fee expenditures of $2,100 are included, the total increases to about $13,550. The extent of entry-fee totals and where they are dispersed are discussed later as revenues to understand their regional economic impact.

Table 57. Total Direct Purchases of Bay-Surf Division Fishermen

Type of Purchase	Total Amount Spent*	Percent of Total
Lodging	$ 3,244	28
Restaurant meals	2,275	20
Snacks, beer, beverages	1,244	11
Bait	1,168	10
Gas and oil for boat	1,036	9
Launch fees or boat slip	962	8
Gas for auto	809	7
Fishing tackle and equipment	419	4
Ice	279	2
Other	14	.1
Total	11,450	99.1
Registration Fee	2,100	
Grand Total	$13,550	

* Includes respondents and non-respondents.

B. Light Tackle Division Daily Fishing Expenses

The same pattern of expenditures as noted for the bay-surf division fishermen can be seen for light-tackle participants. Again, a majority of fishermen show expenditures in all but the lodging, launch and other categories (Table 58).

The explanation for the lack of lodging expenses is similar to that for the bay-surf division - the largest proportion of the light tackle participants stay in privately-owned homes. The low percentage with an expenditure for launch fees cannot be attributed to a lack of boat ownership as it was for bay-surf division participants - eighty one percent of light-tackle participants own boats. Perhaps they used public facilities and did not incur a fee, or facilities were made available at no cost by friends.

Table 58. Average Daily Expenditures of Light Tackle Division Fishermen by Type of Purchase

Type of Purchase	Percent of Fishermen Who Purchased Each Item	Average Amount Spent by Fishermen Who Purchased Item[1]
Other[2]	10	$ 222
Gas and oil for boat	73	110
Fishing tackle and equipment	53	37
Lodging[3]	33	36
Snacks, beer, beverages	84	34
Gas for auto	72	23
Restaurant meals[3]	65	23
Bait	71	21
Launch fees or boat slip	30	17
Ice	71	11

[1] Includes respondents only.

[2] Other includes expenditures for repairs, receptions, gifts entertainment and charter fees.

[3] Dining and lodging include expenses on a daily basis incurred by participants and others who accompanied them during the tournament. Total expenses were divided by the average number of nights (5) in the Port Aransas area to yield average daily amount.

The large average amount indicated for the "other" category reflects the inclusion of charter boat fees. A more accurate view of the "other" category can be seen when total expenditures are compared by category (Table 59).

Direct expenditures for the light-tackle participants total about $126,490. Again, this total is increased by the $10,875 in entry fees. Expenses for dining, and gas and oil for the boat represent 45 percent of the total expenditures. The next largest single expenditure category is snacks at $16,698, 13 percent of the total.

Table 59. Total Direct Purchases of Light Tackle Division Fishermen .

Type of Purchase	Total Amount Spent[1]	Percent of Total
Gas and oil for boat	$ 31,492	24
Restaurant meals	26,348	21
Lodging	20,682	16
Snacks, beer, beverages	16,698	13
Fishing tackle and equipment	7,273	6
Gas for auto	7,269	6
Bait	6,468	6
Other	4,698	4
Launch fees or boat slip	2,805	2
Ice	2,757	2
Total	126,490	100
Registration fee	10,875	
Grand Total	$137,365	

[1] Includes respondents only.

C. Heavy-Tackle Division Daily Fishing Expenses

Again, a majority of participants in this division made purchases in all but the launch, lodging and "other" categories (Table 60). This pattern can also be attributed to the finding that 67 percent of the respondents stayed in private residences, and 46 percent did not pay launch fees. Charter expenses again serve to make the "other" category disproportionatly large.

Total direct expenditures amount to about $147,173, with the combination of boat gas and oil, and restaurant meals accounting for 54 percent of the total. By including entry-fee expenditures, the total for

this division increases to about $155,178 (Table 61). Summing over all divisions, excluding entry fees, total direct expenditures amount to $285,113.

Table 60. Average Daily Expenditures of Heavy Tackle Division Fishermen by Type of Purchase

Type of Purchase	Percent of Fishermen Who Purchased Each Item	Average Amount Spent by Fishermen Who Purchased Item [1]
Other [2]	16	$ 433
Gas and oil for boat	73	133
Lodging [3]	21	56
Fishing tackle and equipment	40	49
Snack, beer, beverages	81	33
Restaurant meals [3]	68	28
Bait	61	27
Launch fees or boat slip	26	18
Gas for auto	68	17
Ice	65	10

[1] Includes respondents only.

[2] Other includes expenditures for repairs, receptions, gifts entertainment and charter fees.

[3] Dining and lodging include expenses on a daily basis incurred by participants and others who accompanied them during the tournament. Total expenses were divided by the average number of nights (4.5) in the Port Aransas area to yield average daily amount.

Table 61. Total Direct Purchases of Heavy-Tackle Division Fishermen

Type of Purchase	Total Amount Spent[1]	Percent of Total
Gas and oil for boat	$ 53,595	36
Restaurant meals	25,169	18
Lodging	22,901	16
Other	11,641	8
Snacks, beer, beverages	9,400	6
Fishing tackle and equipment	7,953	5
Bait	5,879	4
Gas for auto	4,911	3
Launch fees or boat slip	3,118	2
Ice	2,598	2
Total	147,173	100
Registration fee	8,005	
Grand Total	$155,178	

[1]Includes respondents only.

D. Location of Purchases

Direct expenditures reflect the total amount spent by participants who responded to the survey, regardless of the location of the purchase. To determine the economic impact of purchases, two things must be known: 1) location of the purchase and 2) location of expenses incurred by those who did not respond to the survey.

Participants were asked to indicate whether they purchased the item at home or in Port Aransas. Because participants often indicated they purchased a particular item both at home and in Port Aransas, a third location category was added.

Data concerning non-respondents were obtained from a telephone survey of those who did not respond to the mail questionnaire. As indicated

previously, the amounts provided by the non-respondents were weighted proportionally to the number of total participants in each division. (Appendix Tables D-2 to D-10). Non-respondents were asked to indicate only the amount spent in the Port Aransas area.

Tables 62, 63 and 64 show the percentage of respondents who purchased each item in each location. The total dollars spent in Port Aransas reflect both respondent and non-respondent expenditures. Further, since responses were based on a per-day expenditure basis, expenditures are multiplied by the average number of days fished within each tournament division. Lodging and dining expenses were averaged over the number of days in the area.

The sum across the percentage of expenditures in Port Aransas, home, and both places may not equal 100 percent. The discrepancy is accounted for by the number of participants who did not include a location for their purchase.

About $11,158 or 92 percent of the total purchases made by the bay-surf division fishermen; $119,109 or 84 percent of the light-tackle division purchases; and $127,161 or 93 percent of the heavy-tackle division purchases, were made in the Port Aransas area (Tables 62-64).

The greatest non-fishing expenditures in the Port Aransas area among bay-surf division fishermen were for lodging and dining. Expenditures for snacks were also relatively high at $1,218. The largest fishing-related purchases made in the Port Aransas area were associated with gas and oil for the boat, and bait.

A majority of bay-surf division respondents spent more money in Port Aransas than they did at home for all items. The largest percentage of expenditures made outside Port Aransas was for automobile gas. This is to be expected since gasoline could be purchased in advance at home.

Table 62. Location of Purchase by Bay-Surf Division Fishermen

Type of Purchase	Percent who Purchased Items[1]			Total[2] $ Spent in PA
	In PA	At Home	Both	
Lodging	100	0	0	$ 3,244
Restaurant meals	100	0	0	2,275
Snack, beer, beverages	89	6	6	1,218
Bait	93	7	0	1,152
Gas and oil for boat	94	0	6	1,013
Launch fees or boat slip	100	0	0	962
Gas for auto	67	17	17	681
Fishing tackle and equipment	86	7	7	347
Ice	88	12	0	252
Other	100	0	0	14
Total				$11,158

[1]Includes respondents only.

[2]Includes respondents and non-respondents. This is a conservative estimate since expenditures of respondents making purchases at both locations were omitted.

Table 63. Location of Purchase by Light-Tackle Division Fishermen

Type of Purchase	Percent who Purchased Items[1]			Total[2] $ Spent in PA
	In PA	At Home	Both	
Gas and oil for boat	91	6	6	$ 28,581
Restaurant meals	100	0	0	22,106
Snack, beer, beverages	84	10	6	15,852
Lodging	100	0	0	20,432
Fishing tackle and equipment	80	13	7	6,202
Bait	95	4	1	6,294
Gas for auto	77	13	10	6,438
Other	89	0	11	3,114
Ice	94	5	1	2,582
Launch fees or boat slip	29	.9	0	1,866
Total				$119,109

[1]Includes respondents only.

[2]Includes respondents and non-respondents. This is a conservative estimate since expenditures of respondents making purchases at both locations were omitted.

Table 64. Location of Purchase by Heavy-Tackle Division Fishermen

Type of Purchase	Percent who Purchased Items[1]			Total[2] $ Spent in PA
	In PA	At Home	Both	
Gas and oil for boat	98	2	0	$ 36,357
Restaurant meals	100	0	0	25,169
Lodging	100	0	0	22,901
Other	100	0	0	11,353
Snack, beer, beverages	83	9	8	8,133
Fishing tackle and equipment	85	12	3	7,855
Gas for auto	69	19	12	4,080
Bait	96	2	2	5,687
Ice	96	4	0	2,556
Launch fees or boat slip	100	0	0	3,070
Total				$127,161

[1] Includes respondents only.

[2] Includes respondents and non-respondents. This is a conservative estimate since expenditures of respondents making purchases at both locations were omitted.

The largest expense category for both light and heavy-tackle fishermen was for boat gas and oil. Ninety one percent and 98% respectively, of the total amount spent for boat gas and oil by these two groups were purchased in the Port Aransas area. Dining expenses again accounted for the next largest percentage of the total amount spent in Port Aransas.

Economic Impact Assessment

To evaluate the economic impact of tournament-related expenditures, it was necessary to determine whether purchases were made by residents or non-residents of Nueces County or the state of Texas. Expenditures made by Nueces County residents were not included in the calculation of economic impacts because it's assumed that local residents would have made these expenditures in the local area regardless of whether or not a tournament was held. Expenditures by non-residents represent new monetary input that would not have been introduced into the area without the tournament.

Participants in the Roundup made considerable purchases in the local area, generating income for local merchants, bait shops, gas station owners, etc. This creates a second round of local expenditures or sales. These increased sales lead to higher-than-usual incomes for those who make and sell goods to this second group of spenders. This cycle goes on until the original money is no longer within the local economy. To evaluate this respending, economists commonly employ a multiplier which indicates how many times the initial amount was respent locally. A multiplier is generally in the range of 1.0 to 5.0. The larger the multiplier, the longer the money stays in the area. The more income that leaks out of a region, the closer the multiplier is to 1 (Davidson and Shaffer, 1980).

To determine statewide impacts, an estimate of expenses in the Port Aransas area by out-of-state participants was established. Similarly, to determine impacts on Nueces County, expenditures of non-Nueces county residents (both from out-of-state and in state non-Nueces) in the Port Aransas area was used.

A. Economic Impacts On the State of Texas

To calculate economic impacts on the state of Texas, the appropriate multiplier was applied to the expenditures made in Texas by out-of-state participants (both respondents and non-respondents). Regional multipliers applied at the county level are usually smaller than those for the state because money leaves a region more rapidly than the state. Statewide multipliers were obtained from the Texas Department of Water Resources (1983) and ranged from 2.80 to 3.11.

1. Bay-Surf Division Statewide Economic Impact

Ten out-of-state fishermen competing in the bay-surf division spent $2,553, all in the Port Aransas area (Table 65). The largest expense incurred by out-of-state visitors was for lodging.

The statewide economic impact resulting from respending of out-of-state bay-surf division expenditures in Port Aransas is shown in Table 66. The initial $2,553 spent in the local area results in a total economic impact of about $7,315.

Table 65. Location of Purchases by Out-of-State Bay-Surf Division Fishermen

Type of Purchase	Amount Spent in Home State	Amount Spent In PA	Total Amount Spent[1]	% Spent in PA
Lodging	0	875	875	100
Restaurant meals	0	465	465	100
Bait	0	328	328	100
Snacks, beer, beverages	0	268	268	100
Gas for auto	0	161	161	100
Launch	0	171	171	100
Gas and oil for boat	0	136	136	100
Fishing tackle and equipment	0	83	83	100
Ice	0	0	66	100
Other	0	0	0	0
Total		$ 2,553	$ 2,553	

[1]Includes respondents and non-respondents.

Table 66. Economic Impact of Purchases by Out-Of-State Bay-Surf Division Fishermen on the State of Texas

Type of Purchase	Amount Spent in PA by Out-Of-State Fishermen	Multiplier	Total Statewide Impact of Out-of-State Fishermen Purchases[1]
Restaurant meals	$ 875	2.88	$ 2,520
Lodging	465	3.11	1,466
Bait	328	2.80	918
Snacks beer, beverages	268	2.88	772
Launch fees or boat slip	171	3.08	527
Gas for auto	161	2.39	385
Gas and oil for boat	136	2.39	325
Fishing tackle and equipment	83	2.80	232
Ice	66	2.88	190
Other	0	2.81	0
Total	$ 2,553		$ 7,315

[1] Includes respondents and non-respondents

2. Light-Tackle Division Statewide Economic Impact

Eleven out-of-state light tackle paticipants spent 4,095 in Port Aransas (Table 67). The largest expenditure category was gas and oil for the boat, followed by dining in local restaurants. The total statewide economic impact resulting from expenditures by light-tackle participants is $11,159 (Table 68).

Table 67. Location of Purchases by Out-of-State Light Tackle Division Fishermen

Type of Purchase	Amount Spent in Home State	Amount Spent In PA	Total Amount Spent[1]	% Spent in PA
Gas and oil for boat	0	1,501	1,501	100
Restaurant meals	0	858	858	100
Lodging	0	639	639	100
Snacks beer, beverages	0	451	451	100
Gas for auto	0	215	215	100
Fishing tackle and equipment	0	188	188	100
Bait	0	156	156	100
Launch	0	52	52	100
Ice	0	35	35	100
Other	0	0	0	0
Total		$ 4,095	$ 4,095	

[1]Includes respondents and non-respondents.

Table 68. Economic Impact of Purchases by Out-Of-State Light Tackle Division Fishermen on the State of Texas

Type of Purchase	Amount Spent in PA by Out-Of-State Fishermen	Multiplier	Total Statewide Impact of Out-of-State Fishermen Purchases[1]
Gas and oil for boat	$ 1,501	2.39	$ 3,587
Restaurant meals	858	3.11	2,688
Lodging	639	2.88	1,840
Snacks, beer, beverages	451	2.88	1,299
Fishing tackle and equipment	188	2.80	526
Gas for auto	215	2.39	514
Bait	156	2.80	437
Launch fees or boat slip	52	3.08	167
Ice	35	2.88	101
Other	0	2.81	0
Total	$ 4,095		$ 11,159

[1]Includes respondents and non-respondents.

3. Heavy-Tackle Division Statewide Economic Impact

Eight participants in the heavy-tackle division were from out-of-state. Table 69 shows that all of their expenditures were made in the local area, and that the largest expenditure was for restaurant meals. The initial $2,301 of economic input produces a statewide economic impact of $6,530 (Table 70).

Summing divisions, it is estimated that 29 out-of-state participants generated a total statewide economic impact of about $25,000.

Table 69. Location of Purchases by Out-of-State Heavy Tackle Division Fishermen

Type of Purchase	Amount Spent in Home State	Amount Spent In PA	Total Amount Spent[1]	% Spent in PA
Restaurant meals	0	832	832	100
Gas and oil for boat	0	534	534	100
Lodging	0	434	434	100
Snacks, beer, beverages	0	154	154	100
Fishing tackle and equipment	0	92	92	100
Bait	0	84	84	100
Launch fees or boat slip	0	69	69	100
Gas for auto	0	58	58	100
Ice	0	44	44	100
Other	0	0	0	0
Total		$2,301	$2,301	

[1]Includes respondents and non-respondents

Table 70. Economic Impact of Purchases by Out-Of-State Heavy Tackle Division Fishermen on the State of Texas

Type of Purchase	Amount Spent in PA by Out-Of-State Fishermen	Multiplier	Total Statewide Impact of Out-of-State Fishermen Purchases[1]
Restaurant meals	$ 832	3.11	$ 2,588
Gas and oil for boat	534	2.39	1,276
Lodging	434	2.88	1,250
Snacks, beer, beverages	154	2.88	444
Fishing tackle and equipment	92	2.80	258
Bait	84	2.80	235
Launch fees or boat slip	69	3.08	213
Gas for auto	58	2.39	139
Ice	44	2.88	127
Other	0	2.81	0
Total	$ 2,301		$ 6,530

[1] Includes respondents and non-respondents

B. Economic Impact on Nueces County

As previously stated, economic impacts on Nueces County result from the respending effects of money brought in by both out-of-state participants and non-Nueces county in-state residents. Although statewide multipliers are available from the Department of Water Resources, no such recent multipliers are available for the region (Hawkins and Jones). To calculate comparable regional multipliers, the following formula was employed:

$$\text{1979 regional multiplier} = \frac{\text{1979 state multiplier}}{\text{1972 state multiplier}} \times \text{1972 regional multiplier}$$

1. Bay-Surf Division Economic Impacts on Nueces County

Direct expenditures of $8,058 in Port Aransas by bay-surf division participants have a local economic impact of $18,419 (Table 71). Dining and lodging expenditures generated the greatest amount of economic activity in Nueces County.

Table 71. Economic Impact of Purchases by Bay-Surf Division Fishermen on Nueces County

Type of Purchase	Amount Spent in PA by Non-Nueces Co. Fishermen	Multiplier	Total Impact of Non-Nueces Co. Fishermen Purchases[1]
Lodging	$ 2,244	2.88	$ 6,463
Restaurant meals	1,815	2.63	4,773
Bait	788	2.17	1,710
Snacks, beer, beverages	827	1.77	1,464
Launch fees or boat slip	776	1.87	1,451
Gas and oil for boat	745	1.50	1,118
Gas for auto	431	1.50	647
Fishing tackle and equipment	248	1.86	461
Ice	171	1.77	303
Other	14	2.07	29
Total	$8,058		$18,419

[1]Includes respondents and non-respondents.

2. Light-Tackle Division Economic Impacts on Nueces County

Direct expenditures of $70,826 by non-local light-tackle participants result in an economic impact of close to $150,000 (Table 72). These participants spent most of their money in local restaurants, and in purchases of gasoline and oil for the boat.

Table 72. Economic Impact of Purchases by Light Tackle Division Fishermen on Nueces County.

Type of Purchase	Amount Spent in PA by Non-Nueces Co. Fishermen	Multiplier	Total Impact of Non-Nueces Co. Fishermen Purchases[1]
Restaurant meals	$ 16,989	2.63	$ 44,681
Lodging	13,635	2.72	37,087
Gas and oil for boat	16,907	1.50	25,361
Snacks, beer, beverages	8,976	1.77	15,891
Bait	3,739	2.17	8,114
Gas for auto	4,263	1.50	6,395
Fishing tackle and equipment	3,333	1.86	6,199
Ice	1,487	1.77	2,632
Launch fees or boat slip	1,384	1.87	2,588
Other	109	2.07	226
Total	$ 70,826		$ 149,174

[1]Includes respondents and non-respondents.

3. Heavy-Tackle Division Economic Impacts on Nueces County

The largest expenditure item for heavy-tackle non-local participants was for boat gas and oil, but because the corresponding multiplier is lower than that for dining, the resulting economic impact is less than that provided by local restaurant expenditures. Table 73 shows how the

initial direct expenditure of $76,585 results in an economic impact on Nueces County of $159,193.

Again, summing divisions plus the economic impact of the eight participants who failed to indicate their division (Appendix Table D-1), it is estimated the participants generated a total economic impact of $333,747 on Nueces county.

Table 73. Economic Impact of Purchases by Heavy Tackle Division Fishermen on Nueces County

Type of Purchase	Amount Spent in PA by Non-Nueces Co. Fishermen	Multiplier	Total Impact of Non-Nueces Co. Fishermen Purchases[1]
Restaurant meals	$ 17,567	2.63	$ 46,201
Lodging	13,212	2.72	35,937
Gas and oil for boat	23,117	1.50	34,676
Snacks, beer, beverages	5,171	1.77	9,153
Fishing tackle and equipment	4,850	1.86	9,021
Bait	3,932	2.17	8,523
Other	2,352	2.07	4,869
Gas for auto	2,604	1.50	3,906
Launch fees or boat slip	2,077	1.87	3,884
Ice	1,703	1.77	3,014
Total	$76,585		$159,193

[1]Includes respondents and non-respondents.

CONCLUSIONS AND IMPLICATIONS

Survey results indicate few statistically significant differences among fishermen registered in the three tournament divisions. In fact as a group the fishermen are more alike than different.

Overall, Deep Sea Roundup fishermen are mostly male with an average age of 40 years, come from professional or technical backgrounds and have a median income of $50,000 - 59,000 per year. Nearly all participants are from Texas and most reside within 200 miles of Port Aransas.

As a group they are active fishermen; the median number of fishing days in the previous year exceed 35. They are oriented to saltwater fishing (though not exclusively) and more specifically to boat fishing. Most participate in tournaments two or three times a year. Most take vacations that include fishing. Despite their active involvement in fishing, their involvement in fishery-related activities is mixed. Although most read fishing articles and magazines regularly, few belong to an organized fishing club, make their own equipment, attempt to influence their legislator on fishing matters or attend fishing-related hearings. However, most favor fisheries conservation through increased regulations and further restrictions on commercial fishing.

Other important dimensions of fishing behavior are reported reasons for participation and orientation toward catch. The five items rated most important by tournament fishermen were 1) for relaxation, 2) for the challenge or sport, 3) to get away from the regular routine, 4) to be outdoors and 5) to be with my friends. There are mixed signals here. Although there is some evidence to support the recreational value of fishing as a non-goal oriented outdoor activity, the focus on challenge and sport reaffirms goal-oriented aspects of tournament fishing as well.

The nine "orientation-toward-catch" items show that Deep Sea Roundup fishermen are oriented to catching and keeping big fish.

As a group, Deep Sea Roundup fishermen are heavily invested in fishing. Most own a boat. They own an average of 12 rods and reels. Annual expenditure for equipment ranges from $162 (bay-surf participants) to $476 (heavy-tackle participants).

A vast majority of Deep Sea Roundup fishermen fished the tournament at least once before. Most fish both days of the tournament. Although the tournament was two days in length, non-local fishermen spent an average of six nights in Port Aransas. Each participant brought 2 non-fishing family members or friends to the tournament. These participation patterns play an important role in the expenditure levels experienced at the tournament and their resultant economic impacts.

Where between-group differences occur, they are usually between bay-surf division participants and those registered in the other two divisions (Table 74). Only with regard to the amount of money spent on tackle during 1983 did participants in all three divisions vary substantially. Heavy-tackle participants spent the most, followed by light-tackle and bay-surf participants. The several significant differences between bay-surf and light and the other participants can best be explained by the types of fishing they pursue. Both light and heavy-tackle fishermen fish predominantly offshore and require a larger investment of time and money to be successful.

Although light and heavy-tackle differences were noted in the time spent fishing in 1983 (heavy-tackle fishermen spend more time), the general trend indicates that most believe they spend an average or greater than average amount of time fishing as compared to other fishermen (Table

18). Although this seems to indicate a relatively active fisherman, other activity indicators such as membership in fishing clubs and legislative contacts reveal less involvement with other aspects of fishing. Most respondents never call or write their legislator. There is, however, a significant difference between light and heavy-tackle respondents in relation to calling a legislator. Heavy-tackle participants call more.

Table 74. Location of Significant Differences Between Divisions

Variable	Bay-Surf & Light-Tackle	Bay-Surf & Heavy-Tackle	Light-Tackle & Heavy-Tackle	Bay-Surf Light & Heavy Tackle
Money Spent on Ice (T-57-61)*	X	X		
Second Favorite Fish (T-47-49)	X	X		
Third Favorite Fish (T-47-49)	X	X		
Co-Worker Fish (T-45)	X	X		
What Group Fish With (T-42)	X	X		
Desire to Win Trophy (T-54)	X	X		
Money Spent On Reels (T-39)	X	X		
Money Spent On Bait (T-39)	X	X		
Money Spent On Tackle (T-39)				X
Days Spent Shore/Surf/Wade Fishing (T-23)	X	X		
Days Spent Boat Fishing in Gulf (T-22)	X	X		
Time Spent Fishing (T-18)	X		X	
Call Legislator (T-32)			X	
Length of Boat (T-53)	X	X		
Money Spent on Boat Gas or Oil (T-57-61)	X	X		

* Table in text where information can be found.

Most respondents note that they have friends who fish, and that they mostly fish with friends or family members. This would suggest that fishermen in the Roundup belong to social groups in which participation in fishing is common. This continuity, however, did not appear to carry over to the workplace. More than half the light and heavy-tackle respondents indicate that only some of their co-workers fish.

While there are few significant differences among fishermen in the three divisions, the extent of their direct expenditures as groups varied considerably. Heavy-tackle participants had the greatest per-day expenditure followed by light-tackle and bay-surf divisions. This information should be useful to those planning tournaments in other areas.

The Deep Sea Roundup was successful in an economic sense. Results indicate that tournament-related expenditures produced a sizable impact on Nueces County. When compared to three other offshore fishing tournaments, the Deep Sea Roundup enjoyed the greatest percentage of out-of-county participants (Table 75). Although this tournament was a source of new monies to the Nueces County economy, the state of Texas realized small impact because of the small number (.5 percent) of out-of-state participants. Heavy and light-tackle expenditures accounted for the greatest amount of impact on the local county economy.

Tournament entry fees accounted for the greatest single revenue producing factor for the tournament. Income was also realized from the sale of t-shirts and caps, advertising and guest tickets. The greatest disbursement was for catering, which was non-local in origin (Alice, Texas). All other tournament-related expenditures, such as beverage expenses, rental of facilities, trophies and administrative costs, were made locally.

Table 75 compares the 1984 Deep Sea Roundup, the 1983 Texas International Fishing Tournament (TIFT), the First Greater Jacksonville Natural Light Kingfish Tournament and the Arthur Smith King Mackerel Tournament. Variables examined include the number of participants, their per-day and total direct expenditures, and the percentage of participants from out-of-county and out-of-state. Results indicate that the Roundup most closely resembles TIFT for the variables examined. The Arthur Smith King Mackerel Tournament, is also comparable in terms of expenditure patterns. The First Greater Jacksonville Natural Light Kingfish Tournament appears to be unique. While there were more participants in that tournament than in any of the others, the participants spent an average of almost 50 percent less than the participants in the other three tournaments.

Texas tournaments bring new monies to coastal communities. In the two tournaments studied, this is likely due to the fact that major urban populations are located inland in Texas and provide a major source of

Table 75. Cross-Tournament Comparison on Selected Variables

Variables	Arthur Smith Kingfish	First Jacksonville	TIFT	Deep Sea Roundup
Number of Participants	1244	2355	446	451
Direct Expenditure	$650,000	427,737	449,000	285,113
Expenditure/Day/ Participant	$176	91	201	170
Percent Out-Of-County	20	37	59	68
Percent Out-Of-State	11	NA	.02	.05

participants. Charleston, South Carolina (where the Arthur Smith Kingfish Tournament is held) and Jacksonville, Florida are major fishing markets. Hence, there are numerous fishermen in the local area without having to attract them from outside the county. The Arthur Smith Tournament stands out best in terms of attracting out-of-state fishermen and their expenditures.

From a local and statewide economic perspective, it can be argued that the goal is to increase the extent of participation by non-locals and out-of-state fishermen, respectively. If tournament goals include local economic development (and they may not), efforts need to be made to enhance the number of non-local fishermen. Total direct expenditures at a fishing tournament is significant only to the extent that new money is spent in the local community or state. The Deep Sea Roundup did not attract many fishermen from out-of-state. The implications for tourism development efforts at the statewide level should be clear. There is great potential for attracting out-of-state fishermen and their expenditures to the state. Public and private interests should make extensive marketing and information dissemination efforts.

This report provides a baseline study for the Deep Sea Roundup. If the tournament planning committee wants to develop and implement strategies to further enhance economic impacts to the local area or state of Texas, members can measure their results against those shown in this report.

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Appendix A

MAIL SURVEY INSTRUMENT

TEXAS A&M UNIVERSITY DEPARTMENT OF RECREATION AND PARKS

1984 TOURNAMENT FISHING STUDY

QUESTIONNAIRE

IN THE FOLLOWING QUESTIONS, PLEASE TELL US ABOUT YOUR ACTIVITY, EXPENDITURES, AND OPINIONS OF THE 1984 DEEP SEA ROUNDUP.

1. How many times have you fished the Deep Sea Roundup before? _____

2. How many days did you fish in this tournament? ☐ 1 ☐ 2

3. How many family members or non-tournament fishing friends came with you? _____

4. How many nights did you spend in the Port Aransas area? _____

5. How did you find out about this tournament?
   ☐ Friends ☐ Magazine ☐ Mail Ad
   ☐ Radio ☐ Newspaper ☐ _____

6. What type of lodging did you use while in the Port Aransas area? _____

7. Were lodging and other facilities and services adequate? ☐ Yes ☐ No

   If no, please explain: _____

8. Do you feel prize money should be offered? ☐ Yes ☐ No ☐ Some Tournaments

9. What one thing did you most like about the tournament or how it was run?

   _____

10. What one thing would you most like to see changed about the tournament?

    _____

FOR EACH ITEM LISTED BELOW, PLEASE ESTIMATE THE AVERAGE AMOUNT OF MONEY YOU SPENT EACH DAY OF TOURNAMENT FISHING. (INCLUDE YOUR EXPENSES ONLY).

	Amount Spent Each Day	Where Item Was Bought: Home	Port Aransas
Gas or Diesel for Auto.	_____	☐	☐
Gas and Oil for Boat.	_____	☐	☐
Launch Fees or Boat Slip.	_____	☐	☐
Fishing Tackle and Equipment. . . .	_____	☐	☐
Bait.	_____	☐	☐
Ice	_____	☐	☐
Snack Foods, Beer, Other Beverages.	_____	☐	☐
Other (specify)	_____	☐	☐

11. Estimate the total amount which was spent in restaurants in the Port Aransas area (include expenses for family members, etc.). _____

12. Estimate the total amount which was spent for lodging in the Port Aransas area (include expenses for family members, etc.). _____

PLEASE ANSWER THE FOLLOWING QUESTIONS ABOUT YOUR FISHING ACTIVITY IN GENERAL. (THIS SECTION IS NOT RESTRICTED TO TOURNAMENT FISHING ONLY.)

13. Please list in order, the fish species you fish for most often during the year:

Favorite Fish _____

2nd Favorite _____

3rd Favorite _____

14. Please explain why you listed the first fish as your favorite:

_____

15. Do you subscribe to any fishing or sporting magazines? ☐ Yes ☐ No

16. How often do you read fishing reports in the newspaper?
☐ Rarely
☐ Occasionally
☐ Regularly

17. About how many of your close friends fish? ☐ None ☐ Some ☐ Most

18. How many of your vacation trips include fishing? ☐ None ☐ Some ☐ Most

19. About how many of your co-workers fish? ☐ None ☐ Some ☐ Most

20. What types of groups do you fish with? (CHECK AS MANY AS APPLY)
☐ By yourself
☐ Friends
☐ Family
☐ Family & friends together
☐ Club

21. Which type of group do you fish with most often? _____

22. Do you usually fish with the same group of people? ☐ Yes ☐ No

23. Which member of the fishing group usually initiates the idea to go fishing?
☐ Yourself
☐ Another member of the group
☐ Both you and another member of the fishing group

24. Do you put most of your effort into fishing for one particular kind of fish?
☐ Yes ☐ No If yes, what species: _____

25. Do you make any of your own fishing gear? ☐ Yes ☐ No What kind? _____

26. How many rod and reel combinations do you own? _____

27. Do you usually fish with: ☐ Artificial Bait ☐ Live Bait ☐ Dead Bait?

28. How many fish do you usually catch compared to the average fisherman?

☐ Fewer fish ☐ About the same number ☐ More fish

29. Below is a list of reasons why people fish in TOURNAMENTS. Please circle the number that indicates how important each item is to you as a reason for TOURNAMENT fishing.

REASONS:	NOT AT ALL IMPORTANT	SLIGHTLY IMPORTANT	MODERATELY IMPORTANT	VERY IMPORTANT	EXTREMELY IMPORTANT
To be outdoors.	1	2	3	4	5
For family recreation	1	2	3	4	5
To experience new and different things.	1	2	3	4	5
For relaxation.	1	2	3	4	5
To be close to the sea.	1	2	3	4	5
To obtain fish for eating	1	2	3	4	5
To get away from the demands of other people.	1	2	3	4	5
For the experience of the catch	1	2	3	4	5
To test my equipment.	1	2	3	4	5
To be with friends.	1	2	3	4	5
To experience natural surroundings.	1	2	3	4	5
To win a trophy.	1	2	3	4	5
To develop my skills.	1	2	3	4	5
To get away from the regular routine.	1	2	3	4	5
To obtain a "trophy" fish	1	2	3	4	5
For the challenge or sport.	1	2	3	4	5
For the prize money.	1	2	3	4	5

30. How do you compare your fishing ability to that of other fishermen in general?

☐ Less skilled ☐ Equally skilled ☐ More skilled

31. How much did you spend on the following types of fishing equipment during 1983?

A. reels _____ C. bait _____

B. rods _____ D. tackle (lures, hooks, lines, etc.) _____

32. Considering all the fishing you did during 1983, about how many days did you spend doing each of the following types of fishing?

A. _____ Number of days saltwater pier fishing.

B. _____ Number of days saltwater shore, surf or wade fishing.

C. _____ Number of days boat fishing in bays.

D. _____ Number of days boat fishing in the Gulf.

E. _____ Number of days freshwater fishing.

33. How much time do you usually spend fishing compared to the average fisherman?

☐ Less time ☐ About the same ☐ More time

34. PLEASE INDICATE THE EXTENT TO WHICH YOU AGREE OR DISAGREE WITH EACH OF THE FOLLOWING STATEMENTS ABOUT FISHING.

	STRONGLY DISAGREE	DISAGREE	NEUTRAL	AGREE	STRONGLY AGREE
The more fish I catch, the happier I am.	1	2	3	4	5
A fishing trip can be successful even if no fish are caught	1	2	3	4	5
When I go fishing, I'm just as happy if I don't catch a fish	1	2	3	4	5
I usually eat the fish I catch	1	2	3	4	5
A successful fishing trip is one in which many fish are caught	1	2	3	4	5
I would rather catch one or two big fish than ten smaller fish	1	2	3	4	5
It doesn't matter to me what type of fish I catch.	1	2	3	4	5
The bigger the fish I catch, the better the fishing trip	1	2	3	4	5
I'm just as happy if I don't keep the fish I catch	1	2	3	4	5

35. How often do you participate in fishing tournaments?

☐ This is my first
☐ Once every 2-3 years
☐ Once a year
☐ 2-3 times a year year
☐ 4-5 times a year
☐ More than 5 times a year

36. Are you a member of a fishing club? ☐ Yes ☐ No

37. Have you ever: called your legislator on a fisheries matter? ☐ Yes ☐ No
written your legislator on a fisheries matter? ☐ Yes ☐ No
attended a hearing on a fisheries matter? ☐ Yes ☐ No

38. Do you own a boat? ☐ Yes ☐ No

If yes, what length is it? _____

39. What one thing would you most like to see done to improve saltwater fishing?

_____

THE FOLLOWING QUESTIONS WILL HELP US TO KNOW MORE ABOUT FISHERMEN. YOU WILL NOT BE IDENTIFIED WITH YOUR ANSWERS, SO PLEASE BE FRANK.

40. What is your occupation? _____

41. What is your age? _____

42. Are you: ☐ male ☐ female?

43. What is your approximate annual household income before taxes?

☐ Under $10,000
☐ $10,000 to $19,999
☐ $20,000 to $29,999
☐ $30,000 to $39,999
☐ $40,000 to $49,999
☐ $50,000 to $59,999
☐ $60,000 to $69,999
☐ $70,000 and above

THANK YOU! PLEASE RETURN IN THE STAMPED RETURN ENVELOPE AS SOON AS POSSIBLE.

Appendix B

COVER LETTER

TEXAS A&M UNIVERSITY
COLLEGE STATION, TEXAS 77843-2261
A/C 409-845-5411

Department of
RECREATION AND PARKS

July 18, 1984

Dear Deep Sea Roundup Tournament Fisherman:

The Department of Recreation and Parks of Texas A&M University is conducting a study to provide information about tournament fishermen and the economic impact associated with fishermen who participate in fishing tournaments. This information will be useful to local communities and their businesses, and will help to guide future planning and operation of tournaments.

When planning for the future, local tournament and business officials need to consider you, the tournament fisherman. Your responses to our questionnaire are as important to you as they are to us because you participate in and enjoy this specialized fishing activity.

As you probably know, the accuracy of our study depends a great deal on the number of returned questionnaires we receive; so we would greatly appreciate it if you would complete the questionnaire and return it to us in the enclosed postage-paid envelope as promptly as possible. All responses will be handled in strict confidentiality.

Thank you for your time and effort.

Sincerely,

Robert B. Ditton
Professor

Lynn Arneson
Research Assistant

RBD:mvd

Enclosure

Appendix C

NON-RESPONSE SURVEY FORM

IF PERSON CANNOT/WILL NOT COMPLETE A MAIL SURVEY

I understand. In that case, could I ask you several very short and quick questions right now that would help us and only take two more minutes of your time?

IF NO....I am sorry to have interrupted your evening. Thank-you. Good-bye.

IF YES...Thank-you. Here's the first question:

1. How many times have you fished the Roundup before? _____
2. How many days did you fish in this tournament? 1 2 3
3. How many family members or non-tournament fishing friends came with you? _____
4. How many nights did you spend in the Port Aransas area? _____
5. How much per day did you spend on the following items in Port Aransas?
   - Gas or Diesel for Auto _____
   - Diesel/Gas and oil for Boat _____
   - Launch Fees or Boat Slip _____
   - Fishing Tackle and Equipment _____
   - Bait _____
   - Ice _____
   - Snack Foods, Beer and other Beverages _____
6. About how much was spent in restaurants in the Port Aransas area? _____
7. About how much was spent for lodging? _____
8. Do you own a boat? YES NO
   If yes, what length is it? _____
9. About how many days did you fish in 1982? _____
10. And finally, may I ask your age? _____

Thank-you on behalf of the Deep Sea Roundup and myself for taking the time to talk with me.

Appendix D-1. Economic Impact by Missing Division Fishermen on Nueces County

Type of Purchase	Amount Spent in PA by Non-Nueces Co. Fishermen	Multiplier	Total Impact of Non-Nueces Co. Fishermen Purchases[1]
Restaurant meals	$ 746	2.63	$ 1,962
Gas and oil for boat	590	1.50	1,670
Launch fees or boat slip	449	1.87	1,612
Lodging	275	2.72	748
Bait	98	2.17	408
Fishing tackle and equipment	50	1.86	179
Snacks, beer, beverages	52	1.77	177
Ice	41	1.77	139
Gas for auto	23	1.50	66
Other	0	2.07	0
Total	$2,324		6,961

[1]Includes respondents only.

Appendix D-2. Average Daily Expenditures by Type of Purchase and Total Amount Spent for Non-Respondent Bay-Surf Division Fishermen (n=20)

Type of Purchase	Average Amount Spent	Total Expenses During Tournament[1]
Lodging[2]	$ 33	$ 2,000
Restaurant meals[2]	13	800
Bait	22	854
Snacks, beer, other beverages	18	698
Gas for auto	13	504
Launch fees or boat slip	12	466
Gas and oil for boat	10	388
Ice	4	155
Fishing tackle and equipment	3	116
Other[3]	—	—
Registration fee		$ 1,115
Total		$ 7,096

[1]All expenditures made in Port Aransas area.

[2]Average amounts are per non-respondent for the full tournament rather than per day.

[3]Expense for "other" was not asked in non-response check.

Appendix D-3. Average Daily Expenditures by Type of Purchase and Total Amount Spent for Non-Respondents Light-Tackle Division Fishermen (n=106)

Type of Purchase	Average Amount Spent	Total Expenses During Tournament[1]
Gas and oil for boat	$ 74	$ 14,350
Lodging[2]	23	11,413
Snacks, beer, beverages	55	10,666
Restaurant meals[2]	29	10,504
Gas for auto	19	3,684
Bait	17	3,297
Fishing tackle and equipment	16	3,103
Launch fees or boat slip	9	1,745
Ice	6	1,164
Other[3]	--	--
Registration fee		5,180
Total		$ 65,106

[1]All expenditures made in Port Aransas area.

[2]Average amounts are per non-respondent for the full tournament rather than per day.

[3]Expense for "other" was not asked in non-response check.

Appendix D-4. Average Daily Expenditures by Type of Purchase and Total Amount Spent for Non-Respondent Heavy-Tackle Division Fishermen (n=98)

Type of Purchase	Average Amount Spent	Total Expenses During Tournament[1]
Gas and oil for boat	$ 108	$ 20,943
Lodging[2]	44	16,867
Restaurant meals[2]	25	15,251
Snacks, beer, beverages	25	4,848
Fishing tackle and equipment	24	4,654
Bait	16	3,103
Gas for auto	15	2,909
Launch fees or boat slip	12	2,327
Ice	8	1,551
Other[3]	--	--
Registration fee		3,650
Total		$ 76,103

[1]All expenditures made in Port Aransas area.

[2]Average amounts are per non-respondent for the full tournament rather than per day.

[3]Expense for "other" was not asked in non-response check.

Appendix D-5. Average Daily Expenditures by Type of Purchase and Total Amount Spent by Out-Of-State Non-Respondent Bay-Surf Division Fishermen (n=6).

Type of Purchase	Average Amount Spent	Total Expenses During Tournament
Lodging[1]	$ 33	$ 198
Bait	22	132
Snacks, beer, beverages	18	108
Restaurant meals[1]	13	78
Gas for auto	13	78
Launch fees or boat slip	12	72
Gas and oil for boat	10	60
Ice	4	24
Fishing tackle and equipment	3	18
Other[2]	--	--
Total		$ 768

[1]Average amounts are per non-respondent for the full tournament rather than per day.

[2]Expense for "other" was not asked in the non-response check.

Appendix D-6. Average Daily Expenditures by Type of Purchase and Total Amount Spent by Out-Of-State Non-Respondent Light-Tackle Division Fishermen (n=3)

Type of Purchase	Average Amount Spent	Total Expenses During Tournament
Restaurant meals[1]	$ 29	$ 438
Lodging[1]	23	339
Gas and oil for boat	74	222
Snacks, beer, beverages	55	165
Gas for auto	19	57
Bait	17	51
Fishing tackle and equipment	16	48
Launch fees or boat slip	9	27
Ice	6	6
Other[2]	--	--
Total		$ 1,353

[1]Average amounts are per non-respondent for the full tournament rather than per day.

[2]Expense for "other" was not asked in the non-response check.

Appendix D-7. Average Daily Expenditures by Type of Purchase and Total Amount Spent by Out-Of-State Non-Respondent Heavy-Tackle Division Fishermen (n=2)

Type of Purchase	Average Amount Spent	Total Expenses During Tournament
Lodging[1]	$ 28	$ 334
Restaurant meals[1]	25	302
Gas and oil for boat	108	216
Snacks, beer, beverages	25	50
Fishing tackle and equipment	24	48
Bait	16	32
Gas for auto	15	30
Ice	8	24
Launch	12	16
Other[2]	--	--
Total		$ 1,052

[1]Average amounts are per non-respondent for the full tournament rather than per day.

[2]Expense for "other" was not asked in the non-response check.

Appendix D-8. Average Daily Expenditures by Type of Purchase and Total Amount Spent by In-State Non Local Non-Respondent Bay-Surf Division Fishermen (n=6)

Type of Purchase	Average Amount Spent	Total Expenses During Tournament
Lodging[1]	$ 100	$ 600
Restaurant meals[1]	40	240
Bait	22	132
Snacks, beer, beverages	18	108
Gas for auto	13	78
Launch fees or boat slip	12	72
Gas and oil for boat	10	60
Ice	4	24
Fishing tackle and equipment	3	18
Other[2]	--	--
Total		$ 1,332

[1]Average amounts are per non-respondent for the full tournament rather than per day.

[2]Expense for "other" was not asked in the non-response check.

Appendix D-9. Average Daily Expenditures by Type of Purchase and Total Amount Spent by In-State Non Local Non-Respondent Light-Tackle Division Fishermen (n=44)

Type of Purchase	Average Amount Spent	Total Expenses During Tournament
Dining[1]	$ 29	$ 6,424
Lodging[1]	23	4,972
Gas and oil for boat	74	3,256
Snacks, beer, beverages	55	2,420
Gas for auto	19	836
Bait	17	748
Fishing tackle and equipment	16	704
Launch fees or boat slip	9	396
Ice	6	264
Other[2]	--	--
Total		$ 20,020

[1]Average amounts are per non-respondent for the full tournament rather than per day.

[2]Expense for "other" was not asked in the non-response check.

Appendix D-10. Average Daily Expenditures by Type of Purchase and Total Amount Spent by In-State Non Local Non-Respondent Heavy-Tackle Division Fishermen (n=62)

Type of Purchase	Average Amount Spent	Total Expenses During Tournament
Lodging[1]	$ 28	$ 10,304
Restaurant meals[1]	25	9,362
Gas and oil for boat	108	6,696
Snacks, beer, beverages	25	1,550
Fishing tackle and equipment	34	1,488
Bait	16	992
Gas for auto	15	930
Launch fees or boat slip	12	744
Ice	8	496
Other[2]	--	--
Total		$ 35,562

[1]Average amounts are per non-respondent for the full tournament rather than per day.

[2]Expense for "other" was not asked in the non-response check.