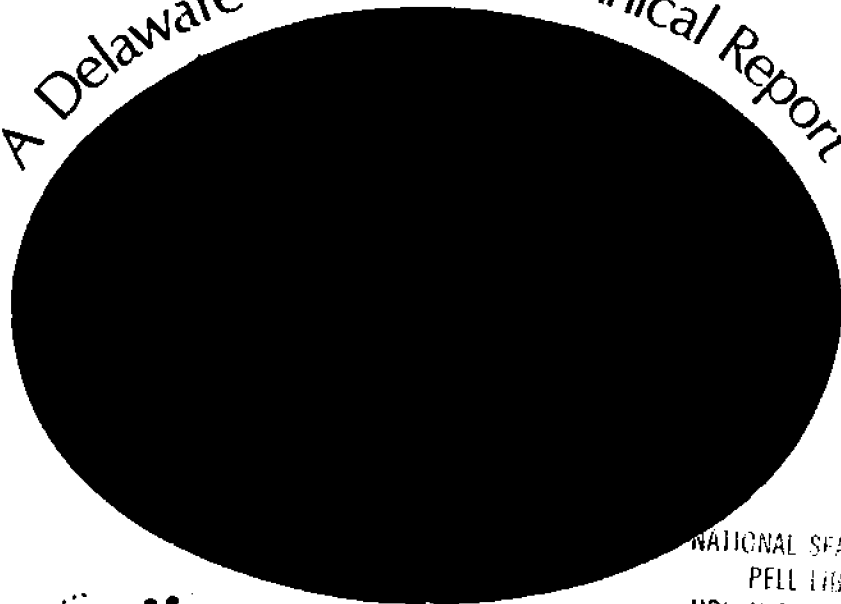


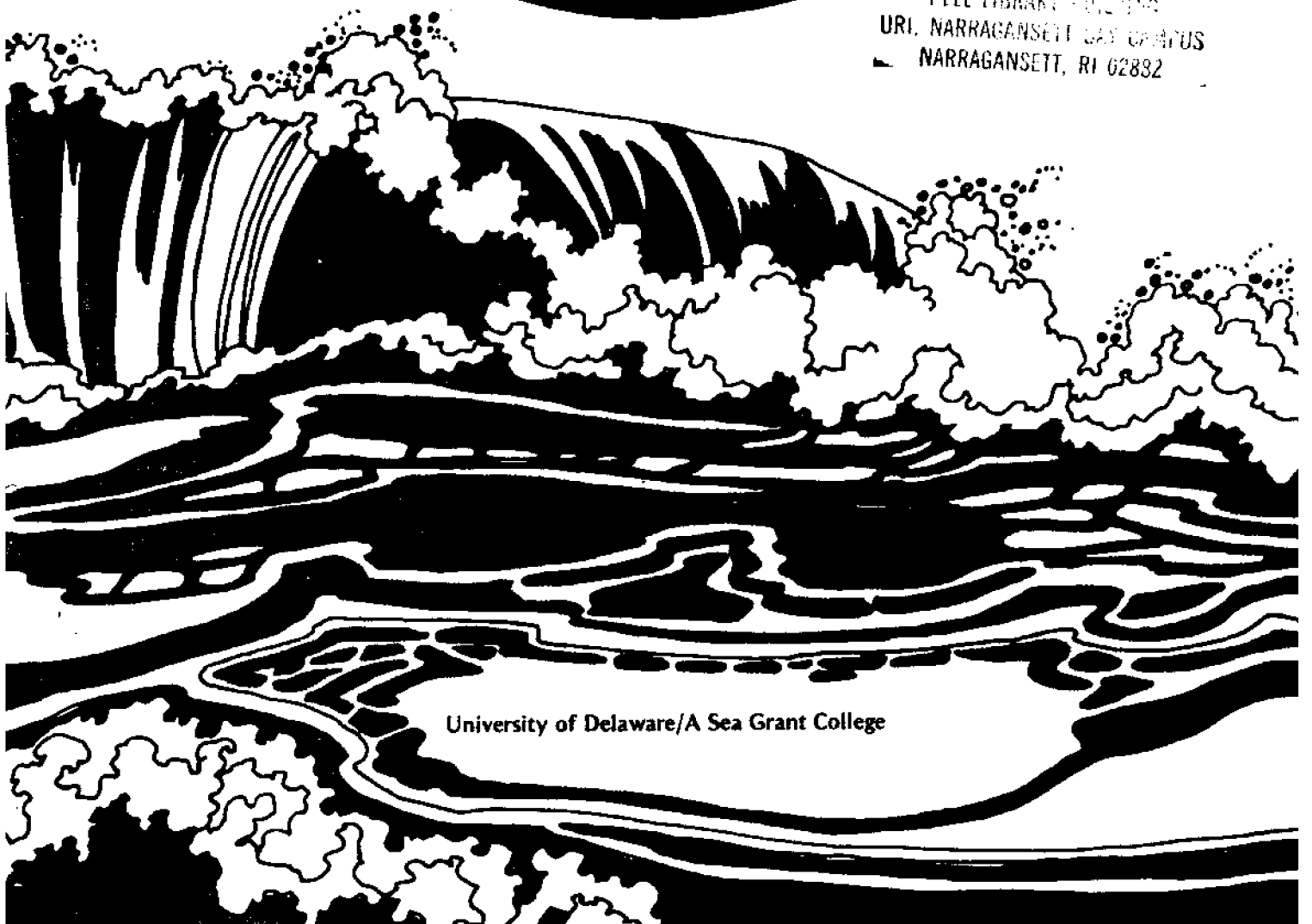
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1981 MILFORD

WORLD CHAMPIONSHIP WEAKFISH TOURNAMENT:

A SOCIO-ECONOMIC ANALYSIS

\$2.00

by

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ABSTRACT

This study identified the characteristics of participants and the economic impact resulting from an annual saltwater fishing tournament held near Milford, Delaware. The 1981 Milford World Championship Weakfish Tournament attracted about 440 fishermen for each of three days of fishing. Tournament participants, identified from registration forms, were sent a questionnaire one week after the tournament. A 75% response rate was achieved following a postcard reminder and follow-up mailing. A sample of 30 non-respondents was interviewed by telephone, with results used to correct survey findings for non-response bias.

Most of the tournament participants were active and experienced fishermen. They reported an average of 27 years of fishing experience and an average of 39 days fishing during the previous year. The average age among participants was about 42 years, and 87% had completed a high school education. The most common household income was between \$20,000 and \$30,000. Nearly half of the fishermen were employed in blue collar occupations and more than one-third lived in rural areas. Eighty-three percent of the participants had families with children. Tournament fishermen reported that the following motives were the most important reasons for fishing in the tournament: for the challenge or sport, for relaxation, to get away from the regular routine, to be outdoors, for the experience of the catch, and to be with friends.

Total direct purchases associated with the tournament were estimated to be about \$110,000. A majority of tournament participants were not Delaware residents. Of the \$69,000 spent by non-residents to participate in

the tournament, \$48,000 (70%) was spent in the Milford area. The transportation (fuel) sector of the local economy received the largest share of non-resident spending, followed by restaurants, lodging, and snack foods and beverages. Including respending effects, the \$48,000 spent initially on the tournament resulted in an economic impact of nearly \$172,000 to the state.

In comparison, 50% of the \$41,000 spent by Delaware residents was spent in Milford. Residents from elsewhere in Delaware spent nearly twice as much on the tournament as residents of the two local counties surrounding Milford. All totaled, out-of-state visitors and non-county residents spent over \$60,000 in Milford, resulting in a total economic impact including respending effects of \$137,000 on the local counties.

Results suggest that sportfishing tournaments can have substantial impacts on local coastal economies, but these impacts are a function of the proportion of fishing expenses made in the local area. Economic impacts could be enhanced by an increase in the number of out-of-state visitors entered in the tournament or if both resident and non-resident fishermen spent more money in the local area. In addition, economic benefits may be increased substantially if tournament scheduling and promotion encourage more fishermen to bring their families and stay for an extended visit to the area.

ACKNOWLEDGMENTS

This study was conducted by the University of Delaware Sea Grant Marine Advisory Service with the cooperation of the Milford Chamber of Commerce. A number of individuals deserve a special thanks for their contributions to this report. The Milford Chamber of Commerce officials, Jack Nylund and Sandy Dale in particular, are recognized for their cooperation and support throughout all phases of the research. The 1981 Weakfish Tournament Planning Committee provided timely comments and suggestions during the preparation of the survey questionnaire; their assistance was greatly appreciated.

We are also appreciative of the comments and reviews we received from a number of individuals, including Dave Rockland of the University of Delaware, College of Marine Studies; Roy Miller and Rich Seagraves of the Delaware Division of Fish and Wildlife; Robert Ditton of the Texas A & M Department of Recreation and Parks; Ivar Strand of the University of Maryland Department of Agriculture and Resource Economics; and Jerry Vaske of the University of Maryland Department of Recreation.

John Casadevall, computer programmer/analyst with the University of Delaware, College of Marine Studies, provided us with many hours of computer assistance; we thank him. Furthermore, we wish to thank our Sea Grant communications staff for their editorial and graphics support. We also extend a warm thank-you to April Beauchamp for typing this report.

Finally, we wish to thank the tournament fishermen who took the time to complete our questionnaire. Their cooperation has enabled us to better understand and characterize tournament fishermen.

INTRODUCTION

Various organizations in Delaware hosted approximately 16 saltwater fishing tournaments in 1981. Several tournaments focus on inshore species such as weakfish, bluefish, and flounder, while others seek tuna, marlin, and other offshore game fish. Still other tournaments are not species-specific and include any saltwater fish.

This report examines the economic impact of the third annual 1981 Milford World Championship Weakfish Tournament. The growth of this event since its inception is evidence of the demand for sportfishing tournaments in the area. Beginning with 100 boats and 400 participants in 1979, the Milford Tournament has grown to 330 boats with approximately 1,300 fishermen in 1981. Originally a one-day event, the 1981 tournament consisted of three days of fishing.

The University of Delaware's Sea Grant Marine Advisory Service conducted this study in cooperation with the Milford Chamber of Commerce. The purpose of the study was to describe the socio-economic characteristics of tournament fishermen and to identify the expenditures and economic impacts resulting from the 1981 tournament.

This is the first economic impact study of a sportfishing tournament in Delaware. Results of the study should be useful to many groups. The Milford Chamber of Commerce can use the economic data to determine the cost effectiveness of such events. For example, participants' spending in the local community can be viewed in relationship to the community costs involved in holding such an event. Characterizations of the individual fishermen will allow the Chamber to better realize the market potential and to adjust accordingly. Promotion and advertising of future tournaments might differ based on the socio-economic knowledge of

the tournament participants. Information generated for the county or state may be useful in demonstrating the benefits of tourism-related events like this to government agencies. Other communities or groups may find this data base useful in assessing the possibility of sponsoring their own events in the future.

RELATED STUDIES

Coastal communities often find tourism to be a major industry providing significant income and employment opportunities. With its central location, open beaches, and fine fishing opportunities, Delaware nurtures a major coastal tourism industry. The Delaware Tourism Policy Study (1979) estimated non-resident travelers spent \$313.6 million in Delaware during 1977. These non-residents bring new monies into the area which when respent increase the region's basic income (Daniel, 1974). In turn, this income supported over 30,000 jobs which paid nearly \$233 million in wages and salaries. As a result, tourism can be credited with providing over 12% of the jobs in Delaware during 1977.

In September, 1980, speakers at the Governor's Conference on Tourism and Recreation called for the development of a tourism industry that would more fully benefit Delaware. Several presentations focused on the procedures available to assess the economic impact of tourism on the state and local communities. Previous national studies on the economic impact of tourism have focused largely on the general tourist trade, but few reports have examined short-duration events which may also have significant impact.

Notable among these is Della Bitta and Loudon's (1974) study of the 1973 Newport (Rhode Island) International Sailboat Show. Designed to

present the new pleasure sailboats and equipment for the coming season, this annual four-day event affected its host state two ways. Not only did the exhibition create an estimated economic impact of \$816,904, but it also served to extend the summer tourist season to late September.

A similar event is the Block Island Race Week held biennially since 1965 during the month of June. Farrell (1973) estimated this week-long race to impact Rhode Island by \$255,096 in 1971. Normally, Block Island's summer tourist season does not begin until the fourth of July, but during race years this event hastens the arrival of the season. An increase of approximately 40% in retail business was evident when sales figures for June 1971 were compared to those of June 1970, which was a non-race year.

The seven-day Tall Ships '76 celebration in Newport, Rhode Island realized approximately 712,422 visitor-days (a measure of tourist attendance equivalent to one visitor staying one day) which created over \$15 million in economic impact to the state (Della Bitta et al., 1977). Furthermore, out-of-state visitors spent approximately \$15.69 per visitor-day while non-local Rhode Island residents spent an estimated \$10.26 per visitor-day.

A more recent report investigated the Harborfest '79 festival in Norfolk, Virginia (Lucy and Baker, 1979). An estimated 209,710 people visited the harbor during this four-day event. Coming by both land and water, patrons spent an estimated \$1,927,800 in the Norfolk metropolitan area. When the secondary or indirect impact of the Festival is considered, total expenditures associated with Harborfest '79 totaled \$2,106,719. These studies show that events such as these can positively impact a region's economy, especially if they are held annually.

In addition to the economic impact of planned events on a region's economy, the seasonal or year-round tourist trade provides significant economic impact. Coastal tourists, for instance, make significant expenditures for marine recreational fishing. Sportfishermen spend a substantial amount of money on fishing tackle, boats and motors, food, lodging, travel, and many other goods and services. In 1975, over \$3 billion were spent for fishing and related activities in the United States by more than 16 million saltwater fishermen (U.S. Fish and Wildlife Service, 1977). Retail level sales of goods and services associated with marine recreational fishing increased from \$1,333 million in 1972 to approximately \$1,840 million in 1975 (U.S. National Marine Fisheries Service, 1977). These 1975 sales generated approximately \$343 million in wages and salaries for an estimated 50,580 person-years of employment (a measure of employment equivalent to one person working one year).

In 1975, Delaware resident saltwater anglers spent an estimated \$25,124,000 pursuing their sport in their home state (U.S. Fish and Wildlife Service, 1977). According to a recent National Marine Fisheries Service report (1980), a total of 124,000 people fished in Delaware during 1979, including 88,000 out-of-state residents. All totaled, these anglers made 511,000 fishing trips in Delaware's waters.

Fishing tournaments represent an important single facet of the recreational fishing industry. The economic impacts associated with sportfishing tournaments, such as this one, have been studied before in other parts of the country. For instance, total expenditures of the 1971 Narragansett Tuna Tournament participants were estimated to be \$211,283 (Farrell, 1972). Similarly, Daniel (1974) found that 1,210

anglers participating in the 1973 Biloxi Rodeo (tournament) in Mississippi spent, on the average, approximately \$75.87 over 2.3 fishing days. During the same year, Gulfport was host to the Mississippi Deep Sea Fishing Rodeo where a typical fisherman's expenditures were estimated to be \$157.60 for 3.5 fishing days. The combined direct economic impact of these two rodeos on the Mississippi coast was estimated to be \$915,841.

OBJECTIVES

The primary objectives of this study are fourfold:

1. To describe participation in the 1981 Milford World Championship Weakfish Tournament.
2. To describe the characteristics of boats used in the 1981 Milford World Championship Weakfish Tournament.
3. To describe the characteristics, general fishing habits, and motivations of fishermen who participated in the Milford World Championship Weakfish Tournament.
4. To identify the expenses for purchases related to the tournament and the economic impacts resulting from these purchases.

METHODS

Information for this study was collected through a mail survey of participants entered in the 1981 Milford World Championship Weakfish Tournament. In addition, telephone interviews were conducted with a sample survey of non-respondents to determine whether the results were representative of the complete group of tournament fishermen.

A mailing list of tournament fishermen was prepared from information provided on individual tournament registration forms. Participation in

the tournament was limited to 330 boats with four people per boat, or a total of 1,320 people. However, only 1,142 individual fishermen were identified as having participated in the tournament. They accounted for 1,298 person-days of fishing during the event. This was due to the fact that some participants returned for two or three fishing days, a few boats did not have a full group of four fishermen, and some registered boats did not actually participate in the tournament for a variety of reasons. Further, some registration forms did not provide complete information on the names and addresses of participants. As a result, the mailing list included a total of 891 individual fishermen.

Each fisherman was mailed a questionnaire about a week after the tournament. The materials sent included a questionnaire, a cover letter describing the intent of the survey (see Appendix), and a stamped, self-addressed return envelope. A postcard reminder and second questionnaire were mailed to fishermen who had not responded within 11 and 20 days, respectively. All survey materials were sent via first class mail.

The questionnaire solicited information on the respondents' socio-economic characteristics, the nature of their tournament fishing trip, the amount of money they spent for various items during the tournament, and where the money was spent. The questionnaire also sought information about general sportfishing habits engaged in by respondents and certain attitudes towards fishing.

Three-fourths of the questionnaires were returned in useable form (Table 1). The remainder were non-respondents for the variety of reasons indicated in Table 1. A few questionnaires were returned incomplete because the individual either had not fished in the tournament or refused to participate in the survey. Six questionnaires were

received after the cut-off date for data analysis and 30 were returned as undeliverable by the U.S. Postal Service. About one-fifth of the mailing list did not respond to the survey mailings.

As shown in Table 1, the mail survey obtained information from 666 of the tournament fishermen. Since the study's objectives involved characterizing the complete group of fishermen and identifying the total economic impact of the tournament, it was also necessary to represent those fishermen who did not complete the questionnaire. Even with a response rate of 75%, it is possible that study results could be biased if respondents differed systematically from non-respondents.

To avoid such a non-response bias, a sample of 30 non-respondents was contacted by telephone. The telephone interviews did not obtain the complete information sought in the mail questionnaire, but they did identify some key variables related to tournament participation and spending patterns of non-respondents (see Appendix). Results of the interviews indicated that the mail survey results were indeed biased in two respects. Questionnaire respondents were more likely than non-respondents to be boat captains (owners rather than passengers) and tended to spend more to participate in the tournament. This bias was corrected by weighting spending patterns of captains and non-captains according to their respective proportions of the total group of fishermen. That is, fishing expenses of captains and non-captains were calculated separately and combined to indicate the total fishing expenses related to the tournament.

Table 1. Survey questionnaire response.

Type of Response	Number	Percent
Useable	666	74.7
Non-Response		
Incomplete	4	0.4
Late	6	0.7
Non-Deliverable	30	3.4
Not Returned	<u>185</u>	<u>20.8</u>
Total Non-Response	225	25.3

Total	891	100.0

RESULTS

Tournament Fishing Participation

A total of 1,142 separate fishermen participated in 1,298 person-days of fishing during the tournament. About 90% of the participants (1,022) fished one tournament day. Eighty-four fishermen (7%) fished two days, accounting for 168 positions in the tournament. The remaining 36 fishermen (3%) fished all three days of the tournament and thereby accounted for 108 tournament positions.

Tournament fishermen came from at least eight different states.* The majority of the participants (53%) were not Delaware residents. One-third of the fishermen came from Pennsylvania, while Maryland and New Jersey each accounted for about 10% of the participants. Survey

*Incomplete registration information made it impossible to ascertain full addresses to determine exactly how many different states were represented.

results showed that over 95% of the tournament fishermen reside within 150 miles of Milford, with the majority (60%) living between 50 and 100 miles away. Another 25% live within 50 miles of Milford, 11% between 100-150 miles, and approximately 4% reside greater than 150 miles from Milford (Figure 1). Only 3% of the tournament fishermen were residents of Milford, the host community.

Most of the tournament fishing groups came in a single vehicle (55%) and did not stay overnight in the Milford area (58%). However, 42% did spend between one and four nights there. Almost 78% of the fishermen did not bring additional family members or friends who were not participating in the tournament.

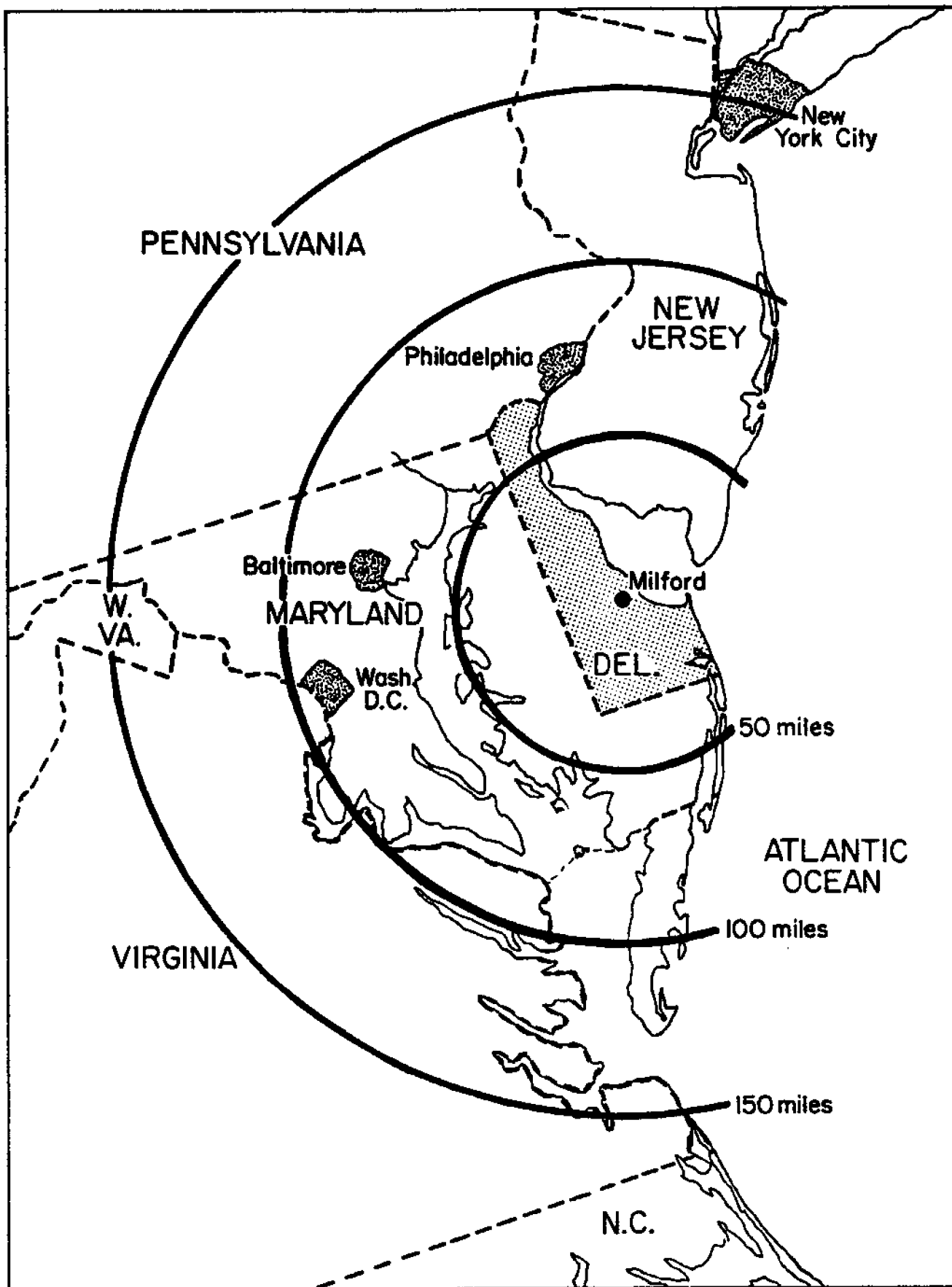
Tournament Boat Characteristics

The tournament boats ranged from 16 to 35 feet in length; 48% of the boats were between 19 and 21 feet long (Table 2). Substantial numbers of boats, 24% and 21%, were in the 16-to-18-foot range and the 22-to-24-foot range, respectively. Only 7% of the boats were 25 feet or longer. More 20-footers were entered than any other length, and the average boat length was 20.6 feet.

Table 2. Tournament boat lengths.

Length (feet)	Percent of Tournament Boats	Cumulative Percent
16-18	24.0	24.0
19-21	47.9	71.9
22-24	21.2	93.1
25-29	5.1	98.2
30-35	1.8	100.0
	<u>100.0</u>	

Figure 1



The most frequently identified commercial makes of tournament boats were: Grady-White,* 15.4%; Starcraft, 8.7%; and Mako, 6.8%. The most popular brands of trailers for trailerable boats were: E-Z Loader, 23.6%; Shoreline, 12.6%; and Cox, 11%. For those trailers with automatic winches, Powerwinch was by far the most frequently mentioned make; 46.5% of the trailers had this brand. The next most popular winches were Sears and Dayton, each on 2.7% of the trailers. Fifty-nine percent of these boats were powered by an outboard motor. Inboard-outboard motors propelled another 32% of the tournament boats and only 9% were equipped with inboard motors.

These motors ranged in horsepower from 40 to 604. Table 3 presents the percent of boats in seven categories. Most tournament entries had motors with 81 to 200 horsepower. Only 21% of the boats had greater than 200 horsepower. The most common horsepower ratings were 115 and 140, and the average horsepower was 163. The most popular engines mentioned by captains on tournament boats were Mercury, 26.7%; Johnson, 22.8%; and Evinrude, 20.7%.

Table 3. Horsepower distribution of tournament boats.

Horsepower Category	Percent of Tournament Boats	Cumulative Percent
40- 80	6.7	6.7
81-120	26.2	32.9
121-160	23.3	56.2
161-200	22.8	79.0
201-240	12.4	91.4
241-280	3.8	95.2
281+	4.8	100.0
	<u>100.0</u>	

*Mention of a trademark or proprietary product does not constitute a guarantee or warranty of the product by the University of Delaware Sea Grant Marine Advisory Service and does not imply its approval to the exclusion of other products that also may be substitutable.

Fuel capacity of the boats ranged from 10 to 285 gallons, with the most frequent capacity being 18 gallons. Table 4 breaks the range into eight categories. Boats within the 21 to 40 gallons range prevailed, accounting for 35% of the total tournament boat population. The average fuel capacity was 52 gallons.

Table 4. Fuel capacity distribution of tournament boats.

Fuel Capacity (gallons)	Percent of Tournament Boats	Cumulative Percent
10- 20	16.4	16.4
21- 40	35.0	51.4
41- 60	19.6	71.0
61- 80	14.5	85.5
81-100	6.1	91.6
101-120	2.8	94.4
121-140	2.3	96.7
141+	3.3	100.0

Table 5 presents the distribution of boats that were equipped with specialized communication and navigation equipment. Over 97% of the boats carried the basic navigational aide, a compass. Another 90% of the captains carried a two-way or citizens band radio onboard. Only 8%, however, had the more advanced LORAN and even fewer (0.5%) were equipped with radar. Fishermen in 84% of the boats had available to them a depth finder, and 63% of the boats carried a similar device, a fish finder.

Table 5. Specialized equipment on tournament boats.

Specialized Equipment	Percent Equipped
Fish Finder	63.0
Depth Finder	84.0
Two-Way Radio	89.7
Compass	97.2
LORAN	7.9
Radar	0.5

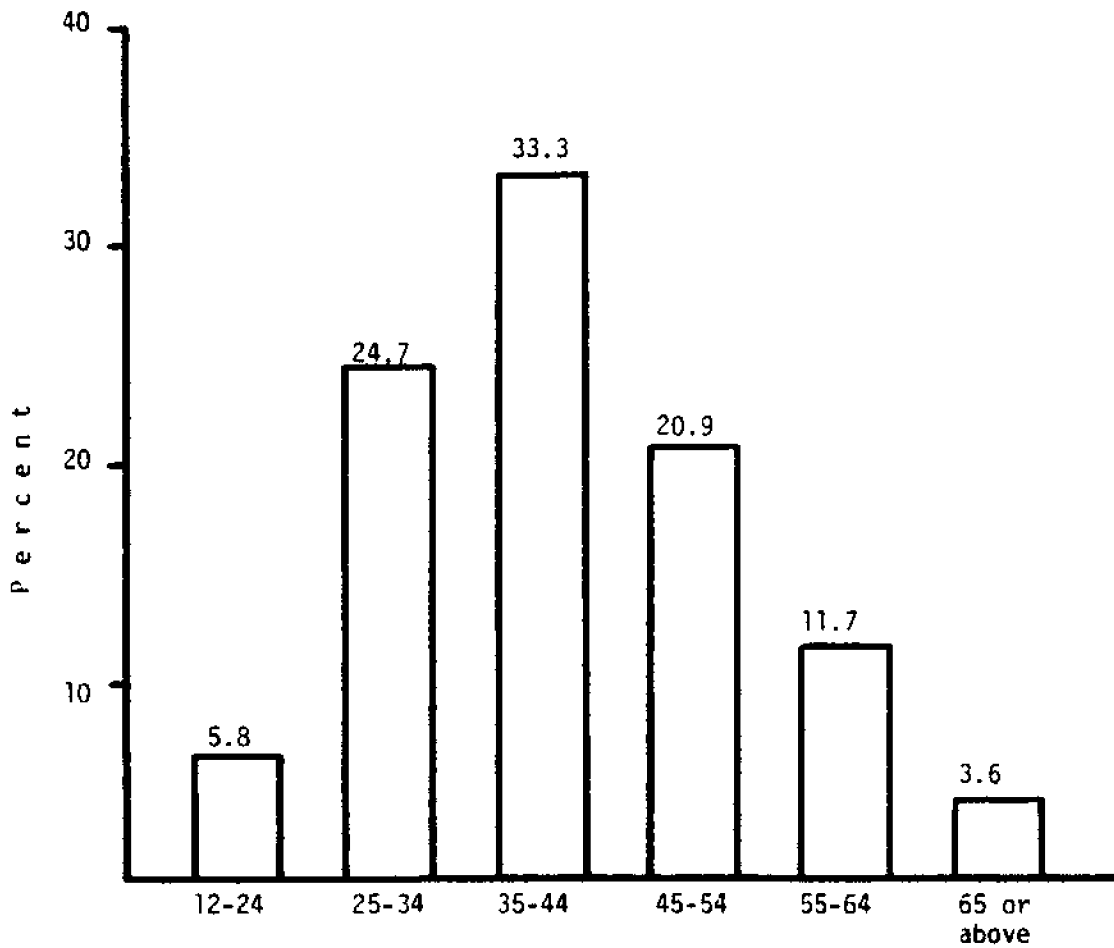
When all tournament fishermen were asked whether they familiarized themselves with new Coast Guard boating regulations, 84% responded affirmatively. However, only 66% stated that they received a free Coast Guard Auxiliary inspection for their boats annually.

Tournament Fishermen Characteristics

Socio-Economic Characteristics

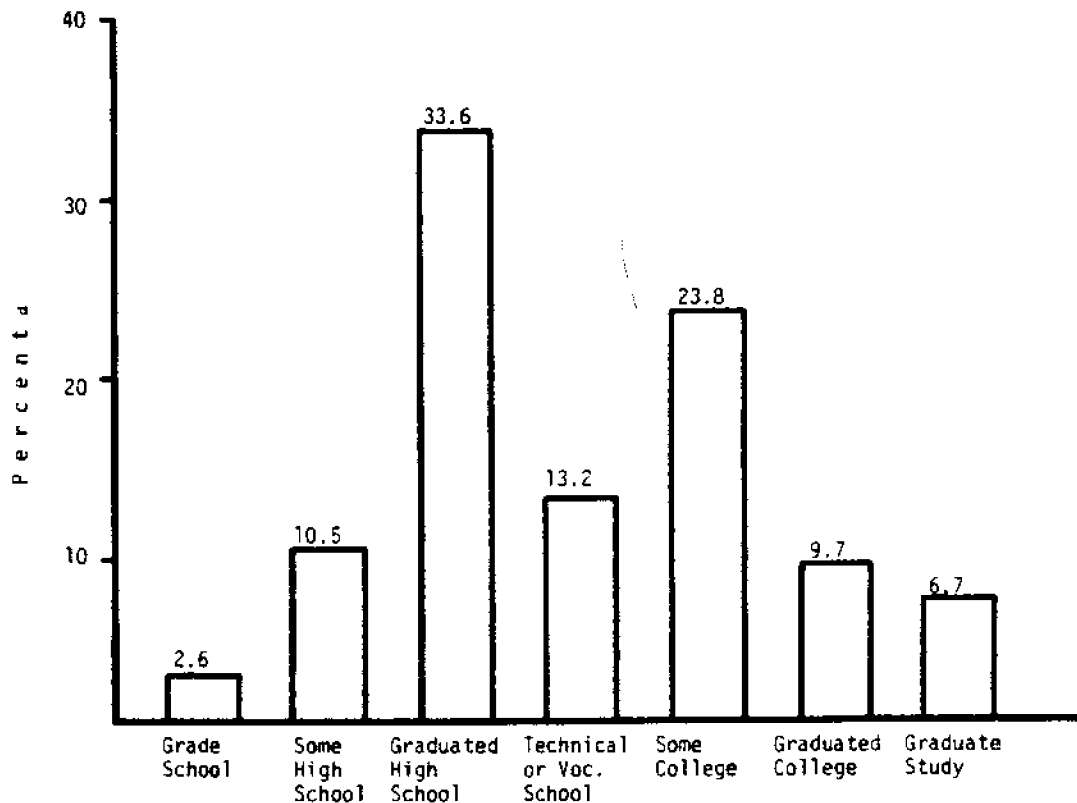
Respondents ranged in age from 12 to 83 years old, with the highest percentage of fishermen (33%) between 35 and 44 years of age. The average age among the group of fishermen was 41.6 years, and 98% of the respondents were male.

Figure 2. Age of tournament fishermen.



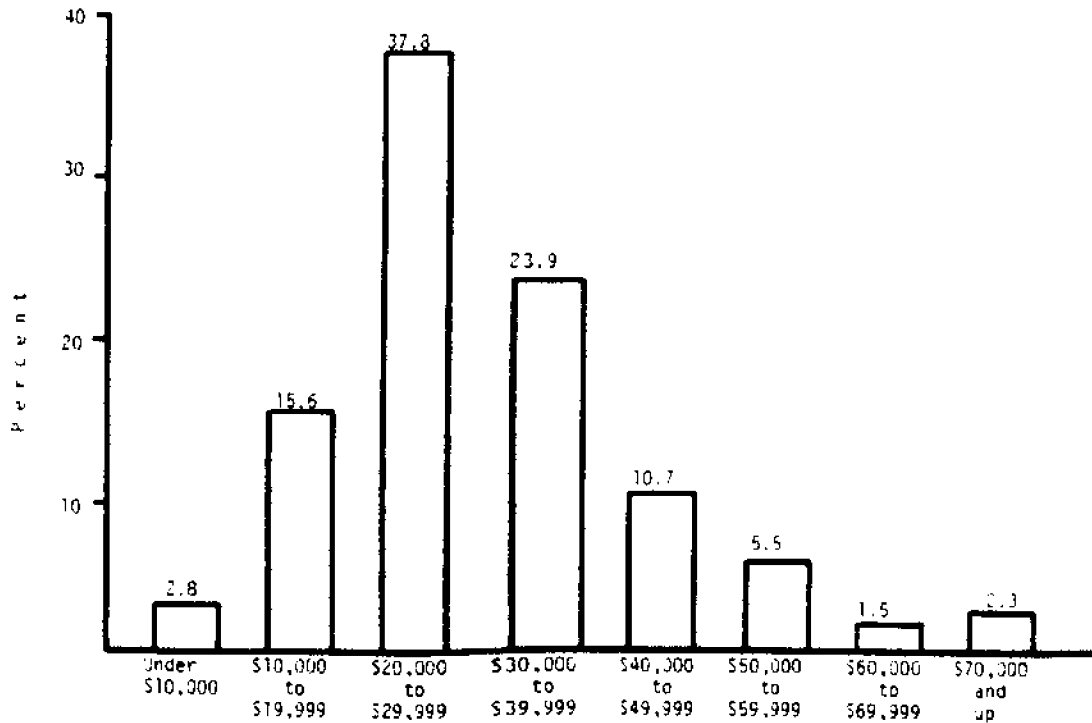
About 13% of the fishermen had not completed high school. However, a portion of these individuals were high school or junior high students. Approximately 53% of the respondents had attended vocational or technical school, college, or graduate school.

Figure 3. Education level of tournament fishermen.



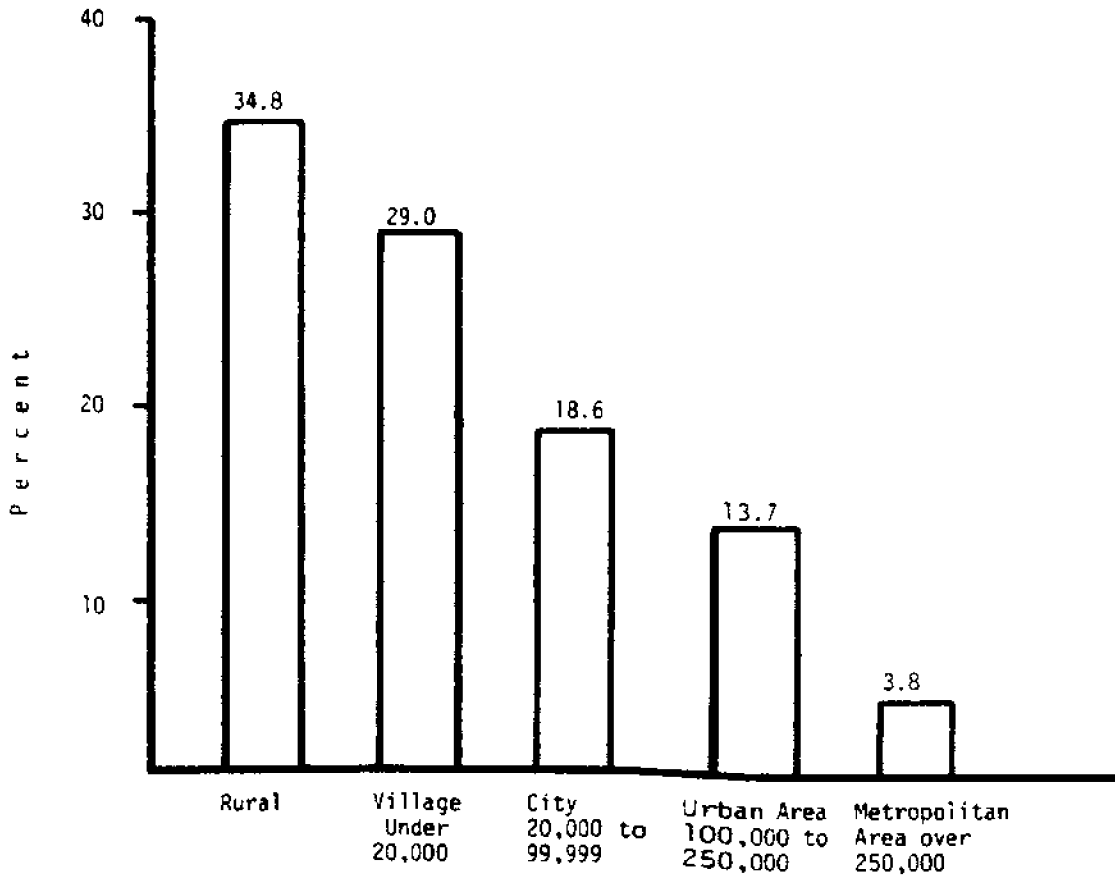
Annual household income before taxes most often was between \$20,000 and \$30,000. Approximately 38% of the respondents reported a household income in this range. Only 18% listed lower yearly incomes, while 44% reported incomes of \$30,000 and above. Less than 10% of the fishermen reported a yearly income of \$50,000 or greater.

Figure 4. Income level of tournament fishermen.



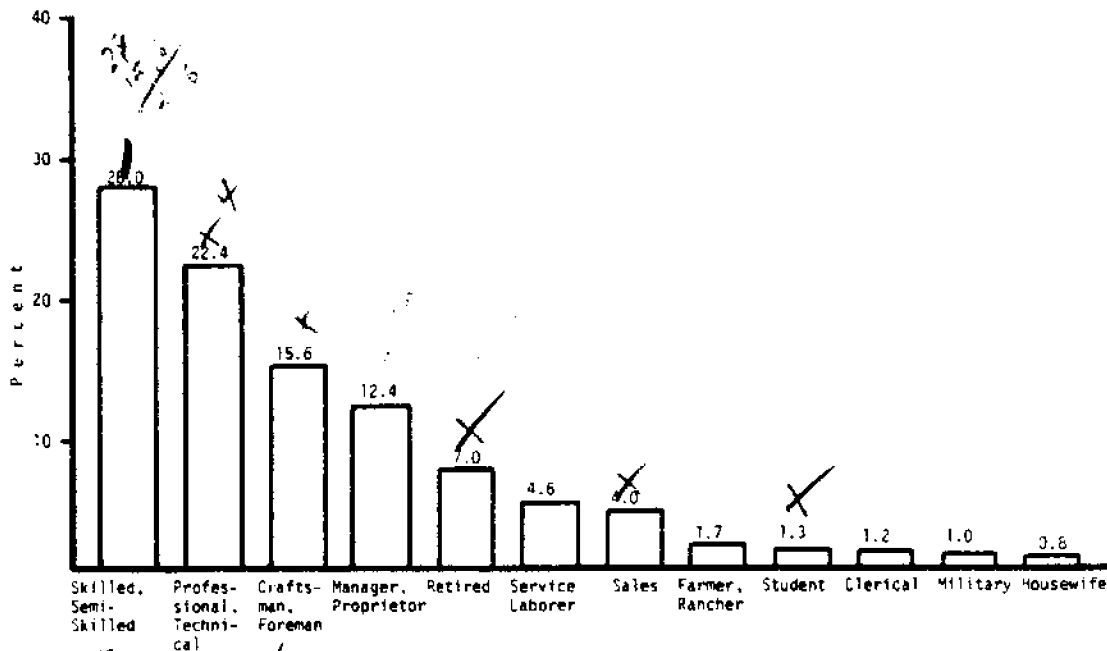
Very few of the fishermen lived in urban or metropolitan areas. It is noteworthy that while Milford is located relatively close to several major urban centers, 82% of the respondents lived in towns with populations below 100,000. It is also noteworthy that more than one-third of the fishermen lived in rural areas.

Figure 5. Type of residence of tournament fishermen.



Blue-collar occupations accounted for 48% of the reported professions. Included here were the categories of "craftsman, foreman;" "skilled, semi-skilled;" and "service laborer." Professional or white-collar occupations such as business executives, airline pilots, managers, and proprietors were types of employment for 36% of the fishermen.

Figure 6. Occupations of tournament fishermen.



Most of the fishermen (83%) had families with children. Most respondents reported having two children (31%), but 16% of the fishermen had one child, and 21% had three children. Fifteen percent of the participants had families with four or more children. Ages of children varied widely, with 18% of the participants reporting preschool children under six years of age and 17% indicating that all their children were 22 or older. More than one-third of the fishermen (36%) had children between the ages of 12 and 17.

General Fishing Habits

Most of the tournament participants were experienced and active fishermen. They reported fishing an average of 27 years. Only 9% reported less than ten years of fishing experience. Besides fishing in the tournament, the participants reported spending an average of 39 days fishing during the previous year. Most of this was saltwater fishing, with an average of 25 days of boat fishing, and five days of pier, shore, or wade fishing. However, these fishermen also spent an average of four days freshwater fishing with a boat and five days without one.

Fishing participation by Delaware residents and out-of-state visitors in the sample was somewhat different (Table 6). A larger proportion of Delaware residents practiced saltwater fishing, while more out-of-state fishermen participated in freshwater fishing.

Table 6. Percent of fishermen who practice various types of fishing by state of residence.

Type of Fishing	Percent Delaware Residents	Percent Out-of-State Visitors
Saltwater Pier, Shore, or Wade	50	39
Saltwater Boat	98	97
Freshwater Pier, Shore, or Wade	30	45
Freshwater Boat	29	34

Ninety-six percent of the Delaware fishermen and 90% of the out-of-state visitors had fished in the Delaware Bay or offshore area during the previous year, in addition to the days of the tournament. Most of this fishing occurred in private boats, although 16% of the fishermen reported using head boats, and 16% used charter boats. A majority

(85% of residents and 66% of non-residents) had used Delaware boat ramps during the previous year. Among Delaware residents, 82% used boat ramps maintained by the State Division of Fish and Wildlife, and 25% used private ramps. Among out-of-state visitors, 58% used state public ramps and 18% used private facilities. Since some fishermen used both public and private ramps, these percentages are greater than the 85% and 66% of residents and non-residents who used boat ramps, respectively. State residents reported using launch ramps in Delaware an average of 17 times annually, while non-residents reported an average of nine times.

Sixty-four percent of the fishermen fished during spring, summer, and fall. However, 15% reported year-round fishing. Considering each season individually, 94% of the fishermen fish during spring, 98% during summer, 83% during fall, and 16% in winter.

About 99% of the Milford tournament fishermen participate in fewer than six fishing tournaments per year. Most of their fishing occurs on weekends and during vacations, although 43% reported fishing on workdays as well. Forty-nine percent of the fishermen indicated they take between one and ten weekend fishing trips a year, and 41% take more than ten trips. A majority (53%) said they almost always include fishing during their vacations, while 24% indicated they usually include fishing.

Most of the fishermen indicated they usually fish between six and eight hours during a typical fishing day. About one-fourth of the group reported a typical fishing time of six hours and another one-fourth reported eight hours. Only 16% said they normally fish five hours or less.

The number of fishermen in a typical fishing party was 3.7. Ninety-two percent of the tournament fishermen also said they generally fished with four or fewer crew members.

Survey participants were asked to list the fish species that they generally fished for in decreasing order of importance. The responses for the first, second, and third preferences of the fishermen were totaled and are presented in Table 7.

Most of the respondents were saltwater fishermen, and over 75% said they sought weakfish, flounder, and bluefish most often. Striped bass was the next most popular species, followed by freshwater bass, both large and small mouth.

The "other" categories included various saltwater species, like swordfish, sailfish, dolphin, and cod; and freshwater species such as catfish, and bluegill.

In addition to daily fishing expenses, tournament fishermen spent an average of \$268 last year for durable fishing equipment. Of this, a typical fishermen spent \$58 on reels and \$53 on rods. He also spent \$46 on tackle. Various other accessories and equipment costs totaled \$111 for the year.

Tournament fishermen tended to own several rod and reel combinations. The typical participant had an average of seven combinations. Almost every fisherman (97%) owned a spinning reel. Most of the fishermen owned trolling (67%) and baitcasting (57%) outfits, while smaller numbers of fishermen had spincasting (38%) and fly (25%) reels. Over 85% of the fishermen indicated that they used spinning reels more often than any other type. Reels of a medium weight were the preference of over 80% of the participants.

Table 7. Fish species generally sought by tournament fishermen.

Preference			Total		Species Sought
1st	2nd	3rd	No.	%	
<u>Saltwater</u>					
421	26	30	477	31.8	Weakfish, <u>Cynoscion regalis</u>
91	252	93	436	29.0	Flounder and Fluke
22	101	204	327	21.8	Bluefish, <u>Pomatomus saltatrix</u>
27	21	41	89	5.9	Striped Bass, <u>Morone saxatilis</u>
0	14	33	47	3.1	Croaker, <u>Micropogon undulatus</u>
8	6	13	27	1.8	Marlin
3	8	16	27	1.8	Tuna
1	4	10	15	1.0	Drum
0	7	5	12	0.8	Sharks
1	3	3	7	0.5	Kingfish, <u>Menticirrhus saxatilis</u>
2	2	2	6	0.4	Tautog, <u>Tautoga onitis</u>
0	3	3	6	0.4	White Perch, <u>Morone americana</u>
0	2	2	4	0.3	Sea Bass, <u>Centropristis striata</u>
0	1	3	4	0.3	Mackerel, <u>Scomber scombrus</u>
0	2	2	4	0.3	Spot, <u>Leiostomus xanthurus</u>
2	4	7	13	0.8	Other Saltwater Species
			1,501	100.0	
<u>Freshwater</u>					
24	20	18	62	45.3	Bass, <u>Micropterus</u> spp.
21	6	8	35	25.5	Trout
1	3	4	8	5.8	Crappie, <u>Pomoxis</u> spp.
2	3	1	6	4.4	Walleye, <u>Stizostedion vitreum</u>
0	2	3	5	3.7	<u>vitreum</u> Pike, <u>Esox lucius</u>
0	1	2	3	2.2	Pickereel, <u>Esox niger</u>
3	5	10	18	13.1	Other Freshwater Species
			137	100.0	

Tournament Fishing Motives

Survey participants were asked to indicate how important several motives were to them as reasons for fishing in a tournament. The response format ranged from not at all important (1) to extremely important (5). The results are presented in Table 8 in order of decreasing average importance. Most fishermen considered the challenge or sport of fishing in a tournament the most important reason for participating. Almost as important were relaxation, escape from the routine, and the desire to be outdoors. Tournament fishermen ranked the experience of the catch as very important but considered obtaining a trophy only moderately important. Participants for the most part felt the prize money was only moderately important. While fishing in a tournament, most fishermen reported that social interaction with their friends was very or extremely important, but saw the tournament as a means for family recreation as only moderately important. Presumably, tournament participants are familiar with their fishing equipment and did not use a tournament to test new equipment. In fact, a large majority of the fishermen felt that this reason for participation was only slightly important or not important at all. They did generally agree, however, that a tournament affords them the opportunity to develop their skills. Reasons for participation relating to physical exercise and obtaining fish for eating were considered to be slightly to moderately important by most fishermen.

Tournament participants from different income brackets tended to fish for different reasons. Not surprisingly, fishing for the prize money was most important to the lowest-income fishermen and decreased in importance as income increased. A similar pattern was found for the

Table 8. Importance of tournament fishing motives.

Tournament Fishing Motives	Not at All	Slightly	Moderately	Very	Extremely	Average
	Important	Important	Important	Important	Important	
	1	2	3	4	5	
For challenge or sport	0.5	2.3	17.0	31.0	49.2	4.3
For relaxation	2.1	5.1	16.1	36.5	40.3	4.1
To get away from the regular routine	2.8	5.8	16.2	26.6	48.6	4.1
To be outdoors	2.1	5.1	16.1	40.9	35.9	4.0
For the experience of the catch	3.7	8.0	25.6	27.9	34.8	3.8
To be with my friends	3.3	7.0	27.1	36.3	26.2	3.8
To experience natural surroundings	7.7	11.1	29.9	31.4	19.9	3.4
To develop my skills	11.4	15.0	29.7	21.2	22.7	3.3
For the prize money	14.2	15.3	26.7	15.9	28.0	3.3
For family recreation	20.7	16.4	28.0	22.1	12.8	2.9
To obtain a trophy	22.6	17.9	27.7	10.2	21.6	2.9
To obtain fish for eating	15.4	27.7	34.1	13.1	9.7	2.7
For physical exercise	25.7	26.2	30.5	9.8	7.9	2.5
To test my equipment	28.2	25.5	25.6	12.5	8.2	2.5

(Values given are percentages.)

importance of obtaining fish for eating. It is noteworthy that the fishermen at lower income levels also attached more importance to the challenge or sport of the tournament and the chance to develop their skills. In general, lower-income fishermen were more highly motivated by catch-related aspects of the tournament. At the other extreme, higher-income fishermen attached slightly greater importance to relaxation and being with friends. The environmental, personal, and social motives for fishing were more constant than catch-related motives across income levels (Table 9).

Table 9. Average importance of tournament fishing motives by annual income of fishermen.

Tournament Fishing Motives	Tournament Fishermen Incomes				
	Less than \$20,000	\$20,000 \$29,999	\$30,000 \$39,999	\$40,000 \$49,999	More than \$50,000
For challenge or sport	4.5	4.3	4.1	4.2	4.2
For relaxation	4.1	4.0	4.2	4.1	4.3
To get away from the regular routine	4.1	4.2	4.2	4.0	4.1
To be outdoors	4.2	4.0	4.1	4.0	4.0
For the experience of the catch	4.1	3.7	3.7	4.0	3.7
To be with my friends	3.8	3.7	3.8	3.7	3.9
To experience natural surroundings	3.7	3.4	3.4	3.6	3.4
To develop my skills	3.7	3.2	3.0	3.6	3.2
For the prize money	3.7	3.4	3.0	2.9	2.7
For family recreation	3.3	2.7	2.8	3.1	2.5
To obtain a trophy	3.3	2.9	2.8	2.8	2.3
To obtain fish for eating	3.1	2.9	2.6	2.5	2.4
For physical exercise	2.7	2.4	2.6	2.3	2.4
To test my equipment	2.8	2.5	2.4	2.4	2.4

Tournament Fishermen Expenditures

Participants in the survey were asked to estimate their individual expenses for each tournament fishing day for items such as ice, bait, snack foods and beverages, tackle, gas and oil, and launch fees. They were also asked to estimate the total amount of money spent in Milford restaurants and lodging facilities during their stay. Respondents were instructed to include expenses for family members who accompanied them in their restaurant and lodging estimates.

For each expense, fishermen also indicated where the item was purchased: either at home or in Milford. This information is important when attempting to ascertain the impact of new monies entering Milford as a result of the tournament.

Daily Fishing Expenses

Table 10 presents the spending patterns of the participants for a typical tournament fishing day. Most of the fishermen purchased or contributed to the purchase of each expense category listed. Only launch or boat slip fees, lodging, and "other" expenses were incurred by less than a majority of the fishermen. The low number of fishermen reporting boat launch expenses results from the fact that boats registered in Delaware (47% of those in the tournament) are allowed use of Division of Fish and Wildlife ramps as a benefit of their yearly boat registration fee. Also, many out-of-state visitors purchased a Delaware Boat Ramp Certificate for their year-round use prior to the tournament.

Only about 16% of the fishermen reported expenses for lodging in the Milford area. This could be expected since almost all participants fished only one day and nearly all came from within 150 miles of Milford.

A large percentage (59%) spent an average of \$27 in restaurants in the Milford area. About the same number of fishermen (62%) reported spending approximately \$24 on the average for tackle and equipment for the tournament. Nearly all of the fishermen spent money on ice, bait, snacks, and fuel for the boat and car.

Table 10. Spending patterns of tournament fishermen.

Type of Purchase*	Percent of Fishermen Who Purchased Each Item	Average Amount Spent by Fishermen Who Purchased Each Item
Ice	73.9	\$ 2.49
Bait	83.6	4.95
Snack Foods, Beer, & Other Beverages	91.6	12.75
Tackle & Equipment	61.8	24.15
Gas & Oil for Boat	86.6	19.92
Launch Fees or Boat Slip	20.5	9.22
Gas for Auto	83.1	15.22
Restaurant Meals	58.6	27.28
Lodging	15.8	43.89
Other	9.2	35.92

*Restaurant meals and lodging include all expenses incurred by participants and others who accompanied them during the entire visit to the Milford area. All other purchase categories report expenses per tournament fishing day.

The total expenditures resulting from the 1981 Milford Weakfish Tournament are presented by category in Table 11. All totaled, the direct purchases associated with the tournament were estimated to be about \$110,000. This does not include the \$40 registration fee paid by each fisherman. Assuming a full complement of tournament registrations (440 fishermen per day), these fees would raise the total expenses by \$52,800. The registration fee of \$52,800 is not considered in the economic impact to Milford or the state due to the uncertainty of its

distribution. However, after cash awards are presented and other tournament expenses are totaled, the remainder of the money could provide additional economic impact to regional and state economies.

The largest single fishing expense was gas and oil for the boat. Combined with the cost of gas for car transportation, over 35% of the total expenses were for fuel purchases. Purchases of tackle and equipment were the next largest expense incurred by the fishermen. Snack foods and beverages and restaurant meals each accounted for about 14% of the total expenses. Added together, these two categories totaled over \$30,000 in expenses.

Table 11. Total direct purchases by tournament fishermen.

Type of Purchase	Total Amount Spent	Percent of Total
Ice	\$ 2,389	2.2
Bait	5,346	4.8
Snack Foods, Beer, & Other Beverages	15,175	13.7
Tackle & Equipment	19,344	17.5
Gas & Oil for Boat	22,501	20.4
Launch Fees or Boat Slip	2,413	2.2
Gas for Auto	16,397	14.9
Restaurant Meals	15,291	13.9
Lodging	7,315	6.6
Other	4,233	3.8
	<u>\$110,404</u>	<u>100.0</u>

Location of Purchases

To determine the significance of the direct expenditures on Milford, the locations of the purchases must be specified. Table 12 breaks down each expense category into the percentages of fishermen who purchased each item in Milford, at their home, or in both locations. Of the total

purchases made by tournament fishermen, over \$68,000 was spent in the Milford area. Milford realized the greatest income from gas and oil purchases for the participants' boats and from restaurant meals. The percentage of fishermen who purchased all or part of each item in Milford varied greatly. Dollars spent for snack foods and beverages represented the third largest local contribution, even though less than half of the fishermen purchased these products in Milford.

A large percentage (80%) of the expenditures for boat launching and boat slip rentals was spent in the Milford area. It is difficult to draw accurate conclusions about these expenditures since launch fees and slip rentals were combined in one category. However, it is clear that residents and visitors alike included slip rentals in the Milford area as part of their tournament costs. In addition, out-of-state fishermen probably included the price of Delaware boat ramp certificates they purchased in Milford or through the mail as a tournament expense.

Table 12. Location of tournament fishing purchases.

Type of Purchase	Percent Who Purchased Items			Total Amount Spent in Milford
	In Milford	At Home	Both Places	
Ice	60.3	38.3	1.4	\$ 1,712
Bait	58.9	38.8	2.4	3,256
Snack Foods, Beer, & Other Beverages	40.7	52.0	7.3	8,054
Tackle & Equipment	32.1	61.7	6.2	5,033
Gas & Oil for Boat	53.4	43.5	3.1	15,030
Launch Fees or Boat Slip	80.0	19.4	0.6	2,101
Gas for Auto	31.2	57.2	11.6	7,494
Restaurant Meals	100.0	0.0	0.0	15,291
Lodging	100.0	0.0	0.0	7,315
Other	75.0	21.7	3.3	3,399
				<u>\$68,685</u>

Economic Impacts of Tournament Purchases

To understand the importance of the tournament fishing purchases to the local counties and to the State of Delaware, it is also necessary to determine whether the purchases were made by visitors to the area or by local residents. It is assumed that money spent on the tournament by local residents does not have an economic impact on the area since it originated locally and probably would have been spent there even if the tournament had not been held. Money spent by visitors, on the other hand, can be considered new money, which increases the area's economic base and thereby produces economic impacts.

Purchases made at the local level for goods and services related to the tournament yield money that is in turn respent by the original recipients for further goods and services needed to maintain their businesses. This additional spending represents an indirect or secondary benefit which must be included as part of the economic impact resulting from the tournament. Some of this money is spent outside the local area while the rest remains to be spent locally. This cycle continues until the original expenditures are no longer within the local market.

The economic impact of fishing purchases is related to the size of the area affected. The Milford Weakfish Tournament affects the State of Delaware to the extent that out-of-state fishermen spend money in Delaware. The indirect impact of non-resident purchases refers to any respending of this imported money within the state. Impacts can also be calculated at a county level by examining fishing expenses of non-county residents and the respending of the initial dollars within the county. Respensing effects are usually smaller at the county level because money

"leaks out" of the county more rapidly than it leaves the state. Since Milford bisects Kent and Sussex Counties, it is reasonable to consider both as local counties. The economic impact of the Milford Tournament on these counties, then, must include the local expenses of out-of-state fishermen and fishermen from New Castle County, the only other county in the state.

Statewide Economic Impact

Table 13 shows that non-resident fishermen spent over \$69,000 to participate in the 1981 Milford Weakfish Tournament. Seventy percent of this total, or \$48,275, was spent in the Milford area. These figures do not include tournament registration fees. The percent of money spent by non-residents in Milford varied considerably for different types of purchases. Most of the ice and bait purchased, for example, was bought locally, while less than a third of the total expenses for tackle and equipment was spent in Milford.

Table 13. Location of purchases by out-of-state fishermen.

Type of Purchase	Amount Spent in Home State	Amount Spent in Milford	Total Amount Spent	Percent Spent in Milford
Ice	\$ 298	\$ 1,157	\$ 1,455	80
Bait	879	2,110	2,989	71
Snack Foods, Beer, & Other Beverages	3,862	5,682	9,544	60
Tackle & Equipment	6,963	3,293	10,256	32
Gas & Oil for Boat	3,555	9,885	13,440	74
Launch Fees or Boat Slip	136	1,849	1,985	93
Gas for Auto	5,091	5,803	10,894	53
Restaurant Meals	0	10,760	10,760	100
Lodging	0	5,921	5,921	100
Other	120	1,815	1,935	94
Totals	\$20,904	\$48,275	\$69,179	70

Table 14 estimates the total statewide impact by taking into account the respending of the initial expenses made by non-resident fishermen. The economic multipliers used to reflect the indirect impacts vary somewhat for different sectors of the economy and have been extracted from a study by Ryan (1977). Multiplying total initial tournament expenses by the appropriate economic multiplier accounts for both direct and indirect benefits. Thus, the \$48,275 spent initially on the tournament resulted in an economic impact of \$171,845 to the state.

Table 14. Economic impact of purchases by out-of-state fishermen on the State of Delaware.

Type of Purchase	Amount Spent in Milford by Out-of-State Visitors	Multiplier	Total Statewide Impact of Non-Resident Purchases
Ice	\$ 1,157	3.27	\$ 3,783
Bait	2,110	3.27	6,900
Snack Foods, Beer, & Other Beverages	5,682	3.27	18,580
Tackle & Equipment	3,293	3.68	12,118
Gas & Oil for Boat	9,885	3.77	37,266
Launch Fees or Boat Slip	1,849	3.77	6,971
Gas for Auto	5,803	3.77	21,877
Restaurant Meals	10,760	3.27	35,185
Lodging	5,921	3.77	22,322
Other	<u>1,815</u>	3.77	<u>6,843</u>
Totals	\$48,275		\$171,845

Economic Impact on Kent and Sussex Counties

Impacts on the two local counties must reflect money brought in by out-of-state visitors and dollars imported from elsewhere in Delaware.

Table 15 shows that more money was spent on the tournament by residents

Table 15. Location of purchases by Delaware fishermen.

Type of Purchase	Kent and Sussex County Residents			New Castle County Residents				
	Amount Spent at Home	Amount Spent in Milford	Total Amount Spent	Percent Spent in Milford	Amount Spent at Home	Amount Spent in Milford	Total Amount Spent	Percent Spent in Milford
Ice	\$ 142	\$ 194	\$ 336	58	\$ 237	\$ 361	\$ 598	60
Bait	530	521	1,051	50	681	625	1,306	48
Snack Foods, Beer, & Other Beverages	998	1,112	2,110	53	2,261	1,260	3,521	36
Tackle & Equipment	3,810	1,370	5,180	26	3,538	370	3,908	9
Gas & Oil for Boat	1,752	1,717	3,469	49	2,164	3,428	5,592	61
Launch Fees or Boat Slip	144	50	194	26	32	202	234	86
Gas for Auto	882	695	1,577	44	2,930	996	3,926	25
Restaurant Meals	0	1,022	1,022	100	0	3,509	3,509	100
Lodging	0	716	716	100	0	678	678	100
Other	7	538	545	99	707	1,046	1,753	60
Totals	\$8,265	\$7,935	\$16,200	49	\$12,550	\$12,475	\$25,025	50

of New Castle County than by residents of the two local counties of Kent and Sussex. Of the \$25,000 spent by New Castle residents, about half was spent at home and the other half was spent in the Milford area. The tackle and equipment sector of the local county economies received little impact from the New Castle fishermen, since only 9% of their purchases for tackle and equipment were made in Milford.

The total impacts of purchases by non-county residents, including direct spending and respending, are shown in Table 16. The multipliers used were taken from an input-output model developed for Sussex County by Brucker and Cole (1979). These multipliers are smaller than the statewide multipliers because money circulates for a longer time within the state than it does within these counties. However, the amount of initial spending that can be considered new money is larger at the county level because purchases made by New Castle County residents, as well as non-residents, can be included. As a result, the total economic impact to Kent and Sussex counties of \$137,490 was nearly as high as the statewide impact.

Table 16. Economic impact of purchases by non-county residents on Kent and Sussex counties.

Type of Purchase	Amount Spent by Out-of-State Visitors in Milford (a)	Amount Spent by New Castle County Residents in Milford (b)	Total Amount Spent by Out-of-State Visitors and New Castle County Residents in Milford (a + b)	Multiplier	Total Impact of Purchases on Counties
Ice	\$ 1,157	\$ 361	\$ 1,518	1.96	\$ 2,975
Bait	2,110	625	2,735	2.31	6,318
Snack Foods, Beer, & Other Beverages	5,682	1,260	6,942	1.96	13,606
Tackle & Equipment	3,293	370	3,663	2.31	8,462
Gas & Oil for Boat	9,885	3,428	13,313	2.47	32,883
Launch Fees or Boat Slip	1,849	202	2,051	2.21	4,533
Gas for Auto	5,803	996	6,799	2.47	16,794
Restaurant Meals	10,760	3,509	14,269	1.95	27,825
Lodging	5,921	678	6,599	2.68	17,685
Other	<u>1,815</u>	<u>1,046</u>	<u>2,861</u>	2.24	<u>6,409</u>
Totals	\$48,275	\$12,475	\$60,750		\$137,490

CONCLUSIONS AND IMPLICATIONS

The purpose of this study was to measure the expenditures by fishermen participating in the Milford Weakfish Tournament and to analyze their impact on the economies of Milford and the state. In addition, a socio-economic characterization of the tournament fishermen was obtained.

Findings of this study indicate that the 1981 Milford World Championship Weakfish Tournament resulted in a substantial economic impact on the surrounding area and on the State of Delaware. In this sense, the tournament could be considered successful. It is useful, however, at this point to examine the factors that contributed to this economic impact and their implications for increasing the success of future tournaments, both in Milford and elsewhere.

The economic success of any tournament is a function of at least four factors: the number of fishermen participating, where they come from, how many non-participants they bring with them, and how long they stay. The number of fishermen participating is limited by the pre-determined capacity of the tournament (330 boats, 1,320 fishermen). Since the 1981 tournament was fully subscribed, it does not appear necessary to explore ways of attracting more fishermen.

The remaining three factors do have implications for future tournaments. Considering where the fishermen come from, the 1981 tournament involved mostly non-local fishermen, with the majority coming from out-of-state. This was an important factor for two reasons. First, it meant that most of the money spent in the local area on the tournament was new money brought in by visitors rather than local money, which probably would have been spent there even without the tournament.

Second, it was found that out-of-state visitors spent more money than residents to participate in the tournament, and they spent a larger proportion of it in the Milford area. Delaware residents spent 50% of their total expenditures for the tournament in Milford, while out-of-state visitors left 70% of their tournament expenses in the Milford community. Consequently, the economic impact should increase if more out-of-state fishermen participate in the tournament. Additionally, the impact would also increase if both resident and non-resident fishermen spent more money locally.

Milford area businesses, while already benefitting from the tournament, should consider whether they are receiving as much benefit as they could. For instance, the early morning arrival time (4:00-5:00 a.m.) by tournament fishermen does not fall into the normal business hours of most merchants. Businesses like gas stations, restaurants, bait and tackle shops, and marine supply stores could find it worthwhile to adjust their schedules for the days of the tournament.

The third factor affecting tournament success was how many additional people accompanied the participants to Milford. Money spent locally for items not related to the tournament is just as beneficial as money spent on the fishing event. This money can be attributed to the tournament if the purpose of the visit was to fish in the competition. In this regard, the 1981 tournament could have been considerably more successful. Survey results revealed that 78% of the fishermen did not bring additional non-fishing family members or friends to the tournament. Since the tournament is usually held in mid-May, the weather in lower Delaware is warm and pleasant. Chamber of Commerce officials should consider planning or promoting additional activities or events that family members or

friends could enjoy while the actual tournament is in progress. In addition to the economic benefits derived, family members and friends might enjoy sharing in the fishing tournament awards presentation after the day of fishing. Further, if the fishing experience is enjoyed as well as the non-fishing activities or events, it is possible Milford could gain some repeat visitors in the future.

How long fishermen stay in the area is the final factor and is closely related to several of the other factors. The farther people come and the more family members and friends they bring with them, the more likely they will be to stay overnight. And the longer they stay, the more money they will spend locally. Here again the economic benefits of the 1981 tournament were limited because relatively few fishermen stayed overnight in the area. In sum, the number of additional people accompanying the fishermen and how long they stayed in the area are the two factors most open for improvement. Since 83% of the fishermen have families with children, additional economic benefits might be derived if future tournaments are structured to serve as the focal point for extended family visits to the Milford area.

The success of the 1981 Milford World Championship Weakfish Tournament should also be considered in relation to the organization and structure of the event. Although structured for three days of fishing, the tournament can be characterized as largely attracting non-local fishermen for a single day of fishing. Perhaps separating the three fishing days with "bad weather days" to be used if the scheduled days cannot be used prompts some fishermen to keep their visit short. Further, scheduling the tournament throughout the week may reduce the number of extended visits

to Milford. While there must be some provision for the possibility of bad weather, it may be worthwhile to consider alternative scheduling arrangements that could lead to greater economic benefits.

This study's results have useful implications for planned changes in the tournament structure. Plans for the 1982 tournament include increasing the registration fee from \$160 to \$200 per boat and increasing the number of fishermen permitted from four to five per boat. If the 1982 tournament is fully subscribed, these changes should result in greater economic benefits from the tournament because the additional fishermen should spend money locally, which will add to the economic impact. To keep things in perspective, it is important to remember that the expenses fishermen incurred to participate in the tournament were more than double the registration fees they paid.

However, it is unlikely that all of next year's participants will include five people per boat. Ninety-two percent of this year's participants indicated that they generally fished in groups of four or fewer crew members. For safety or other reasons, there may be some who feel that five people is an unnatural crew size. Some participants may choose to stick with a four-member group and pay more per person. Others may decide that the tournament has become too expensive and drop out, as is generally the case when prices rise. Still others may believe that their chances of winning will be lower because of more participants and drop out for that reason. Any of these outcomes would diminish the economic benefits that potentially could be realized from the change in tournament structure.

On the other hand, planned increases in the cash awards and prizes given should reduce the likelihood of people dropping out of the tournament.

Most of the participants felt the prize money was at least moderately important and some fishermen suggested that the prize money was inadequate in light of the entry fee. Further, the challenge of the tournament was the most important motive reported by the participants. Considering the dollars generated in the community by fishing expenses in relation to those obtained through registration fees, it seems clear that tournament sponsors should return a proportionate amount of any additional fees to the participants.

The economic impact of tourism and planned tourist events are indeed significant to the state and local community. However, quantifying the economic benefits is only half of the issue. To accurately assess the benefits of tourism and specific tourist events, the costs must also be monitored. For instance, added wear and tear on road systems, additional state and municipal services, and increased traffic congestion all must be considered to fully view the total benefits. This side of the coin should be carefully watched by tourist officials to avoid the possibility of costs exceeding the benefits.

Finally, this study reveals that sportfishing tournaments contribute significant economic activity to the local community as well as the state. In 1981 at least 16 sportfishing tournaments were held in Delaware along with the year-round Division of Fish and Wildlife citation tournament for all species. Furthermore, these conclusions suggest that careful planning, organization, and coordination should be essential elements of all future tournaments to insure quality and success.

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APPENDIX
DATA COLLECTION MATERIALS

Study Questionnaire
Initial Cover Letter
Postcard Reminder
Follow-Up Cover Letter
Non-Respondent Telephone Survey

Milford Weakfish Tournament Study

No. _____

PLEASE PLACE YOUR COMPLETED QUESTIONNAIRE IN THE PREPAID, SELF-ADDRESSED ENVELOPE PROVIDED AND DROP IN ANY CONVENIENT MAIL BOX. THANK YOU FOR YOUR HELP.

Sea Grant Marine Advisory Service
University of Delaware
700 Pilottown Rd.
Lewes, Delaware 19958

FOR YOUR TIME AND ASSISTANCE WITH THIS QUESTIONNAIRE, WE WOULD LIKE TO SEND YOU A FREE COPY OF ANY OF THE FOLLOWING SEA GRANT PUBLICATIONS LISTED BELOW. PLEASE CHECK THOSE ITEMS YOU WOULD LIKE TO RECEIVE.

- Weakfish - Catch a Queen for Dinner
- Delaware's Blue Crab
- Shark
- Delaware Seafood Recipes

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

1. How many days are you fishing in this tournament?
 1 day 2 days 3 days
2. Did your group all come to Milford in one vehicle? yes no
 If no, how many? _____
3. How many nights did you spend in the Milford area? _____
4. How many family members or non-tournament friends came to Milford with you? _____

FOR EACH TYPE OF EXPENDITURE LISTED BELOW, PLEASE ESTIMATE THE TOTAL AMOUNT OF MONEY YOU SPENT FOR EACH TOURNAMENT FISHING DAY. (NOTE: IF YOUR CREW SHARED EXPENSES, ESTIMATE ONLY YOUR SHARE.)

	Amount Spent on Your Share	Where Item Was Bought	
		HOME	MILFORD
Ice	_____	<input type="checkbox"/>	<input type="checkbox"/>
Bait	_____	<input type="checkbox"/>	<input type="checkbox"/>
Snack Foods, Beer, Other Beverages	_____	<input type="checkbox"/>	<input type="checkbox"/>
Tackle & Equipment	_____	<input type="checkbox"/>	<input type="checkbox"/>
Gas & Oil for Boat	_____	<input type="checkbox"/>	<input type="checkbox"/>
Launch Fees or Boat Slip	_____	<input type="checkbox"/>	<input type="checkbox"/>
Gas for Auto	_____	<input type="checkbox"/>	<input type="checkbox"/>
Other (specify) _____	_____	<input type="checkbox"/>	<input type="checkbox"/>

5. Estimate how much was spent in restaurants in the Milford area.
 (include all family members) _____

6. Estimate how much was spent for lodging in the Milford area.
(include all family members) _____
7. What is your age? _____
8. Are you male female?
9. How much formal education have you had?
 grade school graduated high school some college
 some high school technical or vocational school graduated college
 graduate study
10. What is your occupation? _____
11. What is your approximate annual household income before taxes?
 under \$10,000 \$30,000 to \$39,999 \$60,000 to \$69,000
 \$10,000 to \$19,999 \$40,000 to \$49,999 \$70,000 and above
 \$20,000 to \$29,999 \$50,000 to \$59,999
12. How many children do you have? _____
What are their ages? _____
13. Which of the following best describes the area in which you live?
 rural urban area 100,000 to 250,000 people
 village or town under 20,000 metropolitan area over 250,000 people
 city of 20,000 to 99,999 people

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.

REASON	HOW IMPORTANT				
	Not at all	Slightly	Moderately	Very	Extremely
To be outdoors	1	2	3	4	5
For relaxation	1	2	3	4	5
To get away from the regular routine . . .	1	2	3	4	5
For the challenge or sport	1	2	3	4	5
For family recreation	1	2	3	4	5
To obtain fish for eating	1	2	3	4	5
For physical exercise	1	2	3	4	5
To be with my friends	1	2	3	4	5
For the experience of the catch	1	2	3	4	5
To obtain a trophy	1	2	3	4	5
To experience natural surroundings	1	2	3	4	5
To develop my skills	1	2	3	4	5
For the prize money	1	2	3	4	5
To test my equipment	1	2	3	4	5
Other (specify) _____	1	2	3	4	5

14. Considering all the fishing you did during the past 12 months, about how many days did you spend doing each of the following types of fishing?
 _____ Number of days saltwater pier, shore, or wade fishing.
 _____ Number of days saltwater boat fishing (private, charter, or headboat)
 _____ Number of days freshwater fishing with a boat.
 _____ Number of days freshwater fishing without a boat.

QUESTIONS 15-18 APPLY TO YOUR FISHING ACTIVITY IN THE BAY AND OFFSHORE AREA SHOWN BELOW.

15. Did you go fishing during the past 12 months in the Delaware Bay or offshore area other than the days of the tournament?

- yes no

16. If yes, did you fish from (check as many as apply).

- private boat charter boat
 head boat other

17. How many boats do you own? _____

18. Have you launched a boat from Delaware boat ramps during the last 12 months? (Name the ramp and estimate the # of times.)

RAMP	# OF TIMES
A. _____	_____
B. _____	_____
C. _____	_____
D. _____	_____
E. _____	_____
F. _____	_____



19. Do you annually familiarize yourself with new Coast Guard regulations? yes no

20. Do you annually receive a Coast Guard auxiliary courtesy inspection? yes no

21. When do you do your fishing? (check as many as apply)

- on workdays on weekends or other days off during vacation

22. How long does a typical day of fishing last? _____ hours (actual fishing time)

23. How many fishing tournaments do you participate in each year?

- 1 to 5 6 to 10 11 or more

24. How many weekend fishing trips do you take?

- none 1 to 10 11 to 20 more than 21

25. How often do your vacations include fishing?

- almost always usually sometimes seldom

26. Are you a member of a fishing club? yes no

27. Do you subscribe to any fishing or outdoor magazines? yes no

If yes, please list them. _____

28. How often do you read outdoor columns in the newspaper?

- never occasionally regularly

29. Please check each type of group listed below that you fish with.

- family friends by myself family & friends
 business associates

Which group do you fish with most often? _____

30. Including yourself, how many people are usually in your fishing group? _____

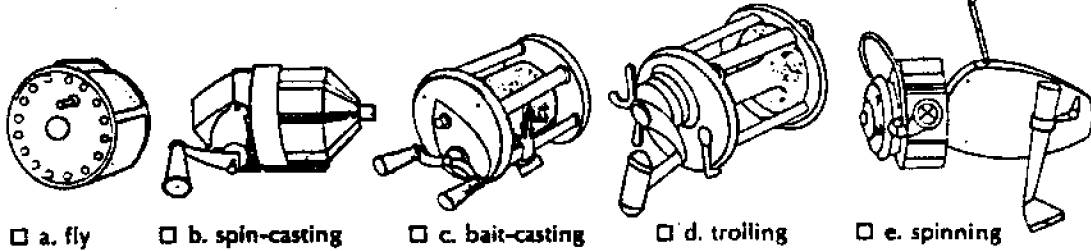
31. Who introduced you to the sport of fishing?

- parents spouse friends other relatives no one

32. How many years have you been fishing? _____

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

Please check each type of reel listed below that you own:



34. Which type of fishing reel do you use most often?

(Be specific: ultra light, medium or heavy) _____

35. About how much have you spent on the following types of fishing equipment during the past 12 months? (not counting your tournament expenditures)

Reels _____ Tackle (lures, hooks, lines, etc.) _____
 Rods _____ Other Equipment & Accessories _____

36. Do you specialize in fishing for one particular kind of fish? yes no

37. Please list the fish species you fish for most often, in decreasing order of importance.

38. How do you compare your fishing ability to other fishermen in general?

less skilled equally skilled more skilled

39. During which seasons do you fish? (check as many as apply);

winter spring summer fall

40. Please feel free to give your comments about the tournament or this questionnaire.
 (add extra sheet if necessary)

**THIS SECTION IS TO BE FILLED IN BY
 THE FISHING TOURNAMENT BOAT CAPTAIN ONLY.**

41. What is the make and length of boat that you fished from in this tournament?

42. What type of motor is used with this boat?

outboard inboard-outboard inboard

43. What is the make and horsepower of this engine _____

44. What type of trailer do you use? _____

45. Do you have an automatic winch on your trailer? yes no

If yes, what is the make? _____

46. What is the fuel capacity of this boat? _____ gallons

47. Does this boat have any of the following specialized equipment:

FISH FINDER — yes no DEPTH FINDER — yes no LORAN — yes no
 2-WAY RADIO — yes no COMPASS — yes no RADAR — yes no

48. Was this boat, motor, or trailer bought specifically for this tournament? yes no

If yes, estimate its value.
 Boat _____
 Motor _____
 Trailer _____

Was it purchased in the Milford area?
 yes no
 yes no
 yes no

UNIVERSITY OF DELAWARE
LEWES, DELAWARE
19958

SEA GRANT COLLEGE PROGRAM
MARINE ADVISORY SERVICES
COLLEGE OF MARINE STUDIES
CANNON BUILDING
PHONE: 302-648- 4235

May 18, 1981

Dear Milford Weakfish Tournament Fisherman:

The University of Delaware Sea Grant Marine Advisory Service is conducting a study of the fishermen participating in the Milford Weakfish Tournament. Your name has been obtained from the tournament roster provided us by the Milford Chamber of Commerce. The information you provide is important because it will help business and government to better respond to your fishing needs in Delaware.

The accuracy of this study depends on the number of questionnaires returned. Would you please take a few minutes to answer the questions on the enclosed questionnaire.

For your time and assistance in completing the enclosed questionnaire, we would like to send you a free copy of any of the publications listed on the front of the questionnaire. We hope these will be of use to you.

Please place your completed questionnaire in the enclosed postage-paid envelope and return it to us as promptly as possible. All responses will be handled in strict confidentiality. Survey data will be summarized, so there will be no way to associate your name or address with any particular set of responses.

Thank you for your interest and cooperation.

Sincerely,

James M. Falk
Marine Recreation Specialist
Sea Grant Marine Advisory Service

JMF/ab

Enclosures

Dear Milford Weakfish Tournament Fisherman:

About a week ago, you should have received a questionnaire requesting information on your participation in the Milford Weakfish Tournament. At the time this post card was mailed, we had not yet received your response. Your answers are very important and will be used to represent the responses of many other fishermen with views similar to yours.

We would greatly appreciate it if you would take a few minutes to complete the questionnaire and return it to us in the postage-paid envelope provided. If you have misplaced the questionnaire, or did not receive it, we will send you another one if we do not hear from you.

Thank you for your cooperation.

Sincerely

James M. Folk
Marine Recreation Specialist

Note: If you have already completed and returned the questionnaire we sent you, please disregard this reminder. Thank you for your prompt response.

UNIVERSITY OF DELAWARE
LEWES, DELAWARE
19938

SEA GRANT COLLEGE PROGRAM
MARINE ADVISORY SERVICES
COLLEGE OF MARINE STUDIES
CANNON BUILDING
PHONE: 302-843-4235

8 June 1981

Dear Milford Weakfish Tournament Fisherman:

About three weeks ago, you were sent a questionnaire which is part of a study of the fishermen participating in the Milford Weakfish Tournament. If you have already returned the questionnaire, we thank you for your prompt reply. If you have not completed the questionnaire, would you please take the time to do so today.

The information you provide helps to increase the accuracy of the study. It will also help business and government to better respond to your fishing needs in Delaware. Remember, all responses will be summarized and handled in strict confidentiality.

A questionnaire and prepaid return envelope are enclosed in case you did not receive one or no longer have the first one we sent you.

Thank you again for your interest and cooperation.

Sincerely,

James M. Falk
Marine Recreation Specialist

JMF/ab

Enclosures

1981 MILFORD WEAKFISH TOURNAMENT STUDY
NON-RESPONDENT TELEPHONE SURVEY

Respondent # _____ Name _____

Phone # _____

How many days did you fish in the tournament? _____

Did your group all come to Milford in one vehicle? _____

If no, how many? _____

How many nights did you spend in the Milford area? _____

How many family members or friends who didn't fish in the tournament came to Milford with you? _____

Did you buy any of the following items in Milford?

Ice _____

Bait _____

Snack Foods, Beer, Other Beverages _____

Tackle and Equipment _____

Gas and Oil for Boat _____

Launch Fees or Boat Slip _____

Gas for Auto _____

Do you remember about how much you spent in restaurants in the Milford area? _____

How much for lodging? _____

Did you fish during the past 12 months in the Delaware Bay or offshore area other than the days of the tournament? _____

If yes, about how many times did you launch your boat in the Delaware Bay? _____