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MARINE ADVISORY SERVICE

The Connecticut Charter Boat Fleet: Its Characteristics, Costs and Returns

COOPERATIVE EXTENSION SERVICE
COLLEGE OF AGRICULTURE AND NATURAL RESOURCES
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Acknowledgements: The authors would like to express their appreciation to Connecticut charter and party boat operators for their cooperation in providing information for this study. We would also like to thank Dr. George Ecker for his helpful suggestions and comments.

The Connecticut Charter Boat Fleet: Its Characteristics, Costs and Returns

*By Margaret E. Thursland, Marilyn A. Altobello, and Norman K. Bender**

I. INTRODUCTION

The Connecticut coastline and off-shore areas in Long Island Sound contain valuable marine resources. Along with the expected continuing increase in population of coastal areas of southern New England, demand for the use of coastal resources is expected to grow. While the number of commercial fishermen operating out of Connecticut ports has dwindled in recent decades, a relatively new industry, commercial sportfishing, has developed along the coast.

Connecticut's commercial sportfishing fleet offers charter and party-boat excursions to thousands of salt-water anglers aboard vessels operating out of ports from Greenwich to Noank. The majority of participating sportfishers are from Connecticut, western Massachusetts, and the New York metropolitan and Hud-

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son Valley areas. Some, however, travel from as far as the Midwest to charter a vessel or join a party-boat excursion.

While the economic impact of charter and party-boat operations extends along the entire Connecticut shoreline, it is primarily concentrated in the coastal communities of New London County, where the home ports of most commercial sportfishing vessels are located. The fleet directly employs more than 100 people during the sportfishing season. Additional job opportunities are created along the coast by the need for fuel, hull, and engine maintenance and repair services, and a continuous supply of rods, reels, and other tackle. In addition to gross sales from boat trips, additional revenues are generated by the demand for lodging, food, fuel supplies and miscellaneous items and services purchased by customers as they travel to and from the docks. Consequently, a continuing economically viable charter and party boat fleet has financial implications for a wider sector of the state's economy than just those captains and mates employed directly in the industry.

In recent years charter and party-boat captains have been faced with two major problems: increasing fuel costs and rising interest rates. The sudden increase in fuel prices during the summer of 1979 caused financial hardship for many operators. Several added a fuel surcharge to their fees, while others absorbed the increase and consequently suffered lost income.

Along with increasing fuel costs, the recent rise in interest rates has added to income uncertainty. Most Connecticut captains purchased their vessels during the mid 1970's when interest rates were relatively low. These vessels are now nearing the end of their 10-year useful life and would normally undergo extensive renovation or be replaced. After considering the increased mortgage costs, compounded by skyrocketing new-vessel prices, established operators are holding on to their aging vessels. Moreover, the potential for new operators to enter the industry has diminished. High interest rates have prevented young men without vessels from purchasing one. Thus, it might be expected that as established operators leave the industry or retire, their ranks may not easily be filled by aspiring young captains, causing the number of charter and party vessels in Connecticut to decline.

Partly as a result of these and other considerations, in Spring 1980 a joint study was begun by the Marine Advisory Service and

the Department of Agricultural Economics and Rural Sociology at The University of Connecticut in response to a request by several charter boat captains for economic information on the industry within the state.

It is hoped that the information presented here will be of use to individuals and organizations concerned with guiding the development of the charter and party boat industry within the state and to those concerned with coastal resource management in general, such as current charter and party-boat operators, those considering entering the industry, the Connecticut Boatman's Association, state agencies, financial institutions, and the citizens of coastal communities and recreationists.

Organization. This report is divided into two major sections. The first presents an overview of Connecticut charter and party boat captains and their industry. It specifically focuses on a description of charter and party operations, including geographical considerations, trip types, seasonality of operation, employment and organization, vessel characteristics and services provided. Socio-economic characteristics of the captains are also explored along with their reasons for entering the industry.

The second part of this report explains basic financial considerations in a typical charter boat operation. After specifically delineating elements of fixed and variable costs, costs and returns statements for various income levels are developed. Partial budgeting is then used to investigate changes in net income levels resulting from changes in interest rates and the price of fuel. In a concluding section, potential problems facing the Connecticut charter and party boat industry are outlined, and the outlook for the industry is assessed.

Procedure. When this project was initiated, the exact number of charter operators in Connecticut was unknown. The Marine Advisory Service had developed a mailing list of 55 operators. In February 1980 a introductory letter was sent to each of these captains asking them to participate in the study. Within a few weeks

they were contacted by phone and personal interviews were arranged.

Twenty-eight captains participated in the survey. Five operators chose not to participate, six had retired, and two were commercial fishing. The remaining fourteen captains from the original list either had left the industry, were chartering infrequently, had moved their business to another state, or could not be located.

Interviews were held at each captain's convenience, generally at his home. Often the captain's wife would join the discussion, particularly if she managed the finances. Topics discussed were directed by a 7-page questionnaire which covered such subjects as length of time in the industry, geographical location, period of operation, trips per season, services provided, base rates, annual expenditures, initial investment, past experiences and future expectations. Letters of appreciation were sent to all participants when the interview phase of the project was completed.

II. INDUSTRY OVERVIEW

Data collected from personal interviews of 28 highly cooperative captains afforded an excellent view of the operation of an individual business, the personal interests and motivations of each operator, and his response to problems facing the industry. The first half of this overview will describe charter and party boat operations in Connecticut, while the second half will examine the socio-economic characteristics of captains.

Charter and Party-Boat Operations in Connecticut

Geographical Considerations. There were approximately 50 charter boats and six party-boats operating full- and part-time out of Connecticut ports in 1979-80. The home ports of vessel-owners surveyed were Greenwich, Stratford, Clinton, Old Saybrook, Waterford, New London, Groton, and Noank with the highest concentration of operations in the easternmost ports (Table 1 and Figure 1). Distance to prime fishing grounds is a major factor in the geographical distribution of the charter and party boat fleet. Southeastern Connecticut ports are within one-half to one hour traveling time to prime fishing grounds such as the Race in eastern Long Island Sound and the Peconic Bays at the eastern tip of Long Island. The offshore waters of Block Island Sound and Montauk Point are within two to three hours of these eastern ports.

Trip Types. Charter boat operators charge a fixed fee per trip for a small group of fishermen to reserve the services of the captain and his vessel for a day of sportfishing lasting from 6 to 12 hours. These vessels are generally licensed to carry up to 6 customers.

There are three basic types of charter trips offered by Connecticut operators: all-day, half-day and offshore. The all-day trip lasts about 8 hours. Half-day trips are 6 hours or less. Offshore

TABLE 1
Home Ports of Vessel-owners Surveyed, 1979

Home Port	Number of Vessels
Clinton	2
Greenwich	1
Groton	1
New London	6
Noank	5
Old Saybrook	1
Stratford	1
Waterford	10
Total vessels in survey	27

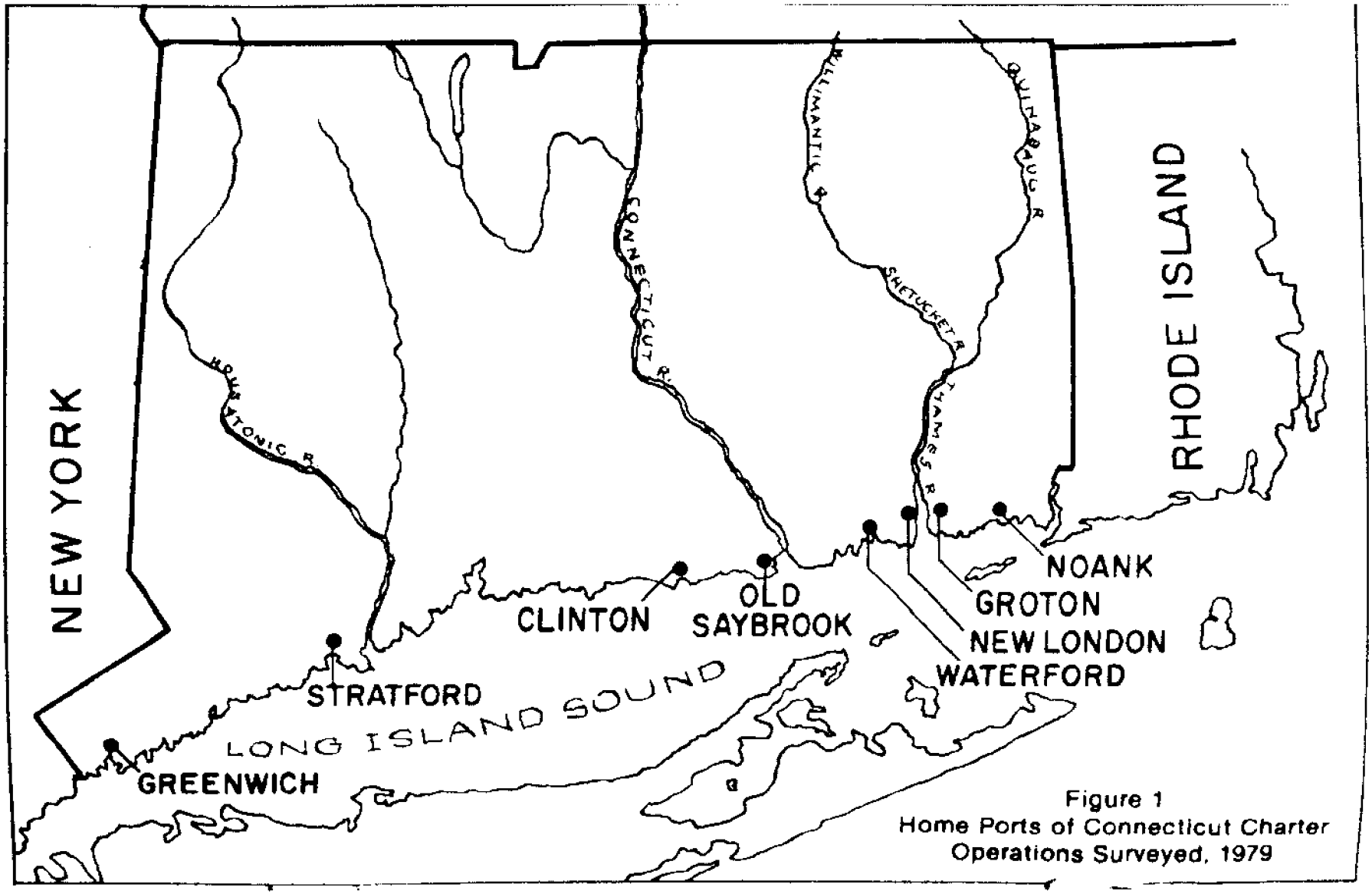

Figure 1
Home Ports of Connecticut Charter Operations Surveyed, 1979

trips, with the objective of catching large oceanic species, may last 12 hours and require special equipment and the purchase of chum to attract the fish.

A party or "head" boat can carry more than 100 passengers, depending upon vessel size. Patrons are usually walk-ons and each pays a fixed fee upon boarding.

Seasonality of Operation. While the peak commercial sportfishing season extends from July to October, the usual period of operation lasts from mid-March to mid-November (Figure 2). Table 2 indicates the seasonality of catch for the most common species landed including bluefish, cod, pollock, weakfish, and tuna.

Employment and Organization. Sixty-nine percent of the businesses surveyed were sole proprietorships with the remaining firms being incorporated. The 27 businesses surveyed employed 35 captains, 34 mates and 1 secretary for a total of 70 full and part-time workers during the commercial sportfishing season. Several operators hired additional captains to work a few days per week or an occasional full- or half-day trip in compliance with U.S. Coast Guard regulations limiting to 12 the number of hours per day an individual captain may operate a commercial sportfishing boat carrying more than 6 passengers. Charter and party-boat operations were often found to be family businesses with sons becoming licensed captains and spouses taking charge of bookkeeping. Several full-time operators were themselves the sons of commercial fishermen.

Vessel Characteristics and Services Provided. There was wide variation in size and engine power among the vessels owned and operated by captains interviewed (Figures 3 and 4). Vessel length ranged from 26 to 48 feet for charter boats and the two party-boats surveyed measured 65 feet. Charter boat engines ranged from 165 to 800 horsepower, while the party-boats were powered by 1200 horsepower engines. Seventy-eight percent of the vessels surveyed were diesel-powered; the remainder were gasoline engines.

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Figure 2 Charter Trips per Month:
Frequency Distribution for 14 Operators; 1979

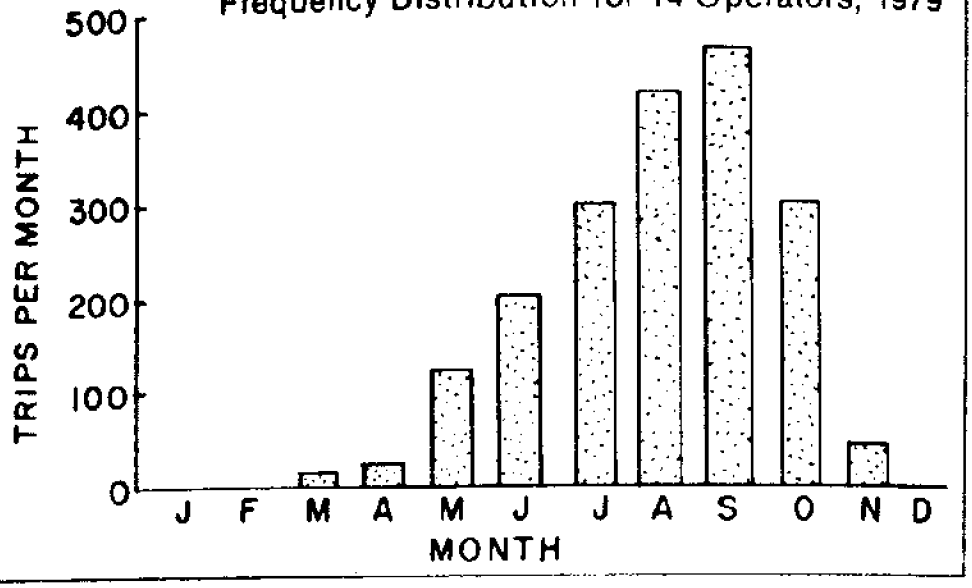


TABLE 2 Seasonality of Catch

Species	Season
Inshore:	
Bass, striped	March
Bass, sea	March-November
Blackfish	May-October
Bluefish	June-October
Flounder	April-May
Fluke	June-August
Mackeral	April-May
Pollock	May-June
Weakfish	June-October
Offshore:	
Bonita	July-August
Cod	December-June
Marlin	July-August
Shark	July-August
Swordfish	July-August
Tuna	July-August

Source: Marine Advisory Service, The University of Connecticut, Avery Point.

Figure 3
Vessel Length: Frequency Distribution for 27 Vessels, 1979

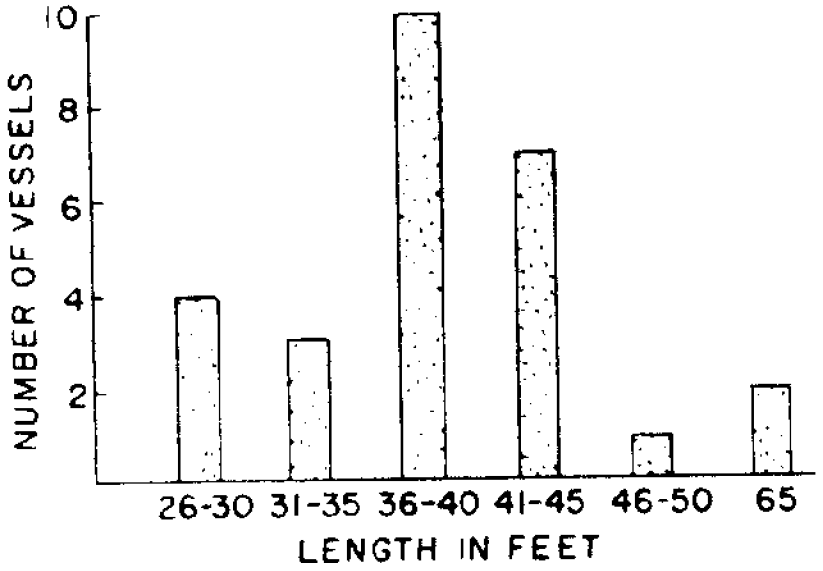
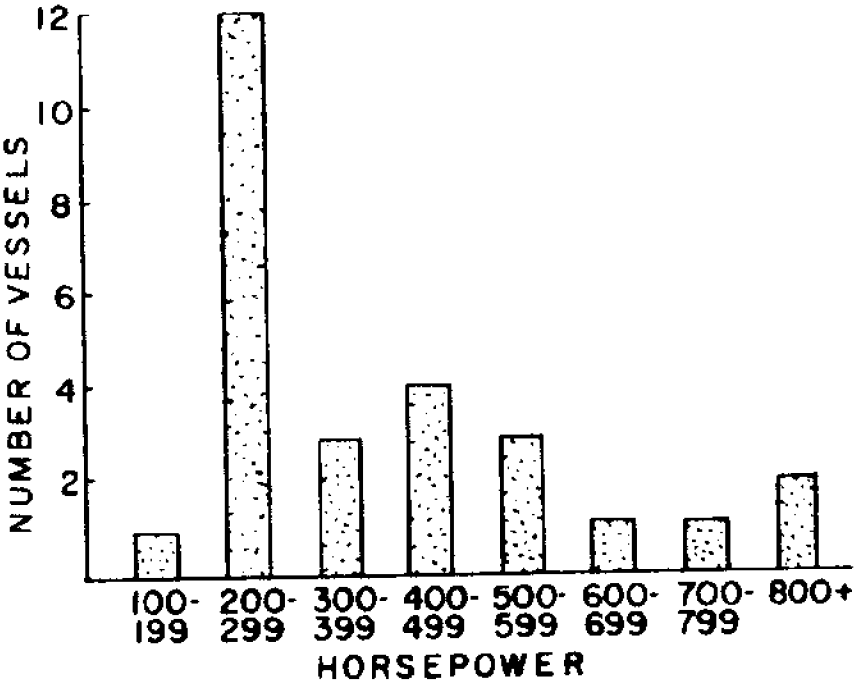


Figure 4
Engine Horsepower: Frequency Distribution
for 27 Vessels, 1979



Most vessels are equipped with radar, VHF and CB radios, a digital fathometer, a chart recorder and a loran. Other types of equipment found on some vessels include heater, air conditioning, automatic pilot and water temperature gauge. Services provided on charter boats include free fishing instruction, bait and tackle. Most operators provide ice or wet storage for the catch. Fish cleaning and filleting is part of the mate's chores for which he is tipped. Party-boats rent tackle and usually charge for bait. Large party-boats may have a snack bar where refreshments are sold.

Socio-Economic Characteristics of Charter and Party Boat Captains

Commercial Sportfishing and Alternative Occupations. The average number of years in the charter or party-boat industry for captains surveyed was 15, with experience ranging from 3 to 45 years. Figure 5 shows the frequency distribution for years in the industry for 26 captains. The survey did not formally review turnover rates of captains or mates. During attempts to contact captains, however, it was discovered that there was considerable turnover because of illness, retirement, relocation to other states, or exit from the industry.

The captains interviewed had such a wide range of previous occupations that it was not possible to identify any prior experience as most common; however six respondents had other entrepreneurial ventures prior to establishing a charter boat operation. Other frequently mentioned occupations were commercial fisherman, salesman, mechanic, and engineer. Table 3 lists the previous occupations of charter operators surveyed. Twenty-three captains indicated that they were continuing to work in these or other occupations; consequently, 85% of the operators surveyed supplemented their income from chartering with other employment.

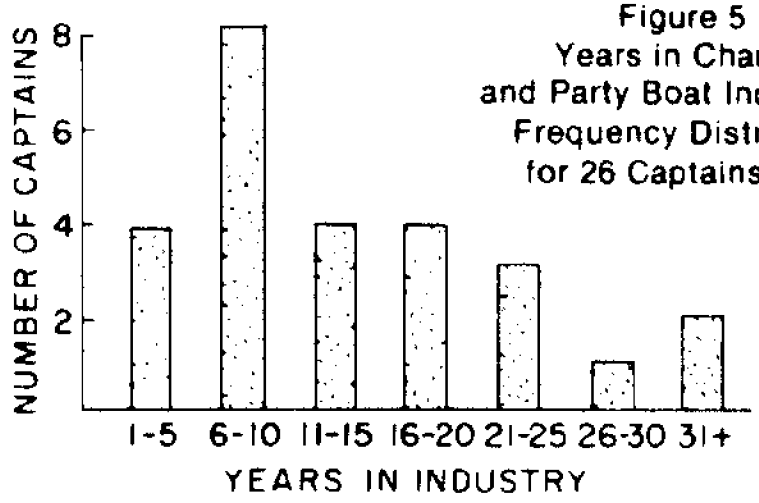


Figure 5
Years in Charter
and Party Boat Industry:
Frequency Distribution
for 26 Captains, 1979

Table 3

Captains' Employment Prior to Entering Charter
and Party Boat Industry
and Number Continuing in Occupation, 1979.

Previous Occupation	**Continuing in Occupation**	
	Yes	No
Deckhand		X
Ironworker	X	
Commercial Fishermen (3)	X	
Construction Worker		X
Mechanic (2)	X	
Electrician	X	
Carpenter		X
Merchant Mariner (2)	X	
Designer		X
Police Officer	X	
Engineer (2)	X	
Sales (3)		X
Service Consultant	X	
Marina Manager	X	
Fishing Tackle Sales and Repair	X	
Building Contractor		X
Research Vessel Operator		X
Automobile Sales and Repair (2)	X	X
Farm and Industrial Equipment Sales	X	

Factors Motivating Captains. While interviewing captains it became apparent that several factors combined to play a major role in the captains' decision to enter the industry. When asked to select the important motivating factors, 67% of the captains surveyed checked the category "enjoyed fishing." The second most common reason for chartering was "lifestyle," cited by 48% of the respondents (Table 4). Discussions with the captains indicated that their interest in fishing, combined with what is perceived as the independence associated with being one's own boss, encouraged many to engage in commercial sportfishing. Other important factors included "started as a hobby" (33%), "previous commercial fishing" (22%), "money" (22%), "Navy" (7%) and "boating" (7%). Other specific motivating factors mentioned by captains included: the desire to leave a large urban area, influenced by other captains, chartering was a family business, enjoyed teaching people to fish, chartering was a relaxing and healthful occupation, and provided a good source of retirement income.

Table 4

Factors that Motivated Captains into Entering the Charter and Party Boat Industry, 1979.

Motivating Factor	Number of Captains	Percent of Total Responding
Enjoyed Fishing	18	67
Preference for Life Style	13	48
Hobby	9	33
Previous Commercial Fishing	6	22
Money	6	22
Previous Naval Experience	2	7
Boating	2	7
Other	11	41

III. FINANCIAL CONSIDERATIONS

Costs and Returns for a Representative Charter Operation[1]

In order to assist charter operators in their financial planning and decision-making, operating budgets were developed from survey data. The representative vessel, upon which the budgets are based, was assumed to be 36-40 feet in length with a 250-350 hp diesel engine, which is the average range for vessels surveyed. It was also assumed that this vessel was equipped with radar, VHF and CB radios, a digital fathometer, a chart recorder and a loran.

The budgets, presented in Table 5, show annual fixed costs, per trip variable costs, price per trip and returns above variable costs for three types of charter excursion: the half-day trip, all-day trip and offshore trip. A description of each cost component follows:

Annual Fixed Costs. Annual fixed costs are those expenses associated with vessel ownership. These costs do not vary with the number of trips taken in a given season. The fixed costs reported here include:

Depreciation: It was assumed that the representative vessel was purchased between 1973 and 1978 for $50,000 with a down payment of $10,000. Assuming a $10,000 salvage value and a ten year useful life for the vessel, annual depreciation cost was estimated to be $4,000 by means of the following formula:

$$\text{Annual Depreciation} = \frac{\textit{Purchase Price of Vessel} - \textit{Salvage Value}}{\textit{useful life}}$$

Interest Payment: The interest rate paid on the principal of $40,000 was determined by using a weighted average of the prime rate plus 2% during the years the interviewed captains purchased their vessels (1973-78). The average interest rate calculated for this period was 10%.

1 Since limited financial information was available for party-boat operations, the budgets presented here are for charter boat operations only.

Table 5

Annual Fixed Costs, Per Trip Variable Costs, and Returns Above Operating Costs for Half-day, All-day, and Offshore Charter Trips.

Annual Fixed Costs	
Depreciation	$4,000.00
Interest payment	2,343.32
Insurance	1,400.00
Hauling, storage, refitting	1,300.00
Dockage	500.00
Property taxes	500.00
Dues	50.00
Total Fixed Costs	$10,093.32

Per Trip Variable Costs	**Half-day**	**All-day**	**Offshore**
Fuel and Oil	$ 38.50	$ 51.00	$ 63.50
Crew's Wages	25.00	35.00	45.00
Maintenance and repair	10.00	20.00	40.00
Bait	2.00	2.00	100.00
Payroll taxes	1.53	2.15	2.76
Legal and accounting	1.50	1.50	1.50
Advertising	3.00	3.00	3.00
Vehicle	1.00	2.00	2.00
Office	1.00	1.00	1.00
Total Variable Costs	$83.53	$117.65	$258.76
Price Per Trip	$235.00	$315.00	$425.00
Total Variable Costs	− 83.53	− 117.65	− 258.76
Returns Above Variable Costs	$151.47	$197.35	$166.24

Insurance: The average annual insurance payment is approximately $1,400. Insurance premiums vary according to the number of months the charter boat is in operation. Coverage includes hull insurance, as well as protection and indemnity insurance covering liability claims resulting from injury to passengers.

Hauling, Storage and Spring Refitting: This item will vary according to the work required, such as rebuilding an engine, hull work or unexpected repairs. However, it is assumed that high cost years will be offset by seasons requiring less extensive repairs, and that hauling and storage costs will be predictable from year to year. Consequently the $1,300 cost is a figure averaged over the 10 year vessel life.

Dockage: The most common dockage charge in the New London area was $500, while dockage costs in western Long Island Sound ports were considerably higher. The $500 fee used in the budget reflects the concentration of vessels in New London county.

Property Taxes: A local property tax of $500 was included in the representative budget. During 1979 not every charter boat owner paid property taxes on his boat as some coastal towns allowed charter and party boats to qualify for the property tax exemption for commercial fishing boats. As of July 1981, the local property tax (and exemption) was replaced by a state registration fee amounting to the following for selected boat lengths: 36' ($240), 38' ($300) and 40' ($360).

Dues: Most captains surveyed were members of the Connecticut Boatmen's Association (dues: $45) with a smaller number also members of the National Party-Boat Owner Alliance (dues: $20). An average annual dues of $50 was included in the budget.

Variable Costs Per Trip. Variable costs represent those expenses which vary directly with number of trips taken in a given season. The variable costs are reported here on a per trip basis and include the following:

Fuel and Oil: Diesel fuel is priced at $1.25 per gallon and $1.00 per trip is budgeted for oil. Fuel requirements for half-day, all-day and offshore trips are given at 30, 40, and 50 gallons per trip, respectively. It should be noted that these represent fuel consumption

averages. Actual fuel consumption will depend upon tides, weather, area fished, hull design and other variables.

Crew's Wages and Payroll Taxes: Charter boats in the 36-40 foot range are manned by a captain and a mate. However, some captains run trips in the early season without mates and charge a lower price reflecting both the lack of a mate and the sluggish demand during early spring.

The mate is paid a flat wage per trip. The amount budgeted for crew's wages is $25 for a half-day trip, $35 for an all-day trip and $45 for offshore trips. Payroll taxes are 6.13% of crew's wages. It should be noted that some captains consider mates to be self-employed and do not file payroll taxes.

Maintenance and Repair: A flat rate per trip was assigned for maintenance and repair of the hull, engine, electronics and tackle. The costs calculated for half-day, all-day and offshore trips are $10, $20 and $40, respectively. This assumes that the longer the vessel is in operation, the higher the per day maintenance costs.

Bait: Bait is supplied by the vessel. Offshore trips often require chum averaging $100 per trip. Bait for all other trips (half and all-day) is budgeted at $2.00 per trip.

Legal and Accounting: Legal and accounting fees were estimated at $1.50 per trip. These costs would be expected to increase as the charter boat operation increased the number of trips offered per year. Seventy-eight percent of the captains surveyed used an accountant to prepare annual tax forms. All but one of the captains surveyed had daily records kept by their spouses or themselves.

Advertising: The actual amount a captain spends on advertising and promotional activities varies according to the number of regular customers he has and the state of the economy. According to the survey, at least $3.00 per trip should be budgeted for advertising if a captain wishes to attract new customers.

Vehicle: Daily vehicle expenses were estimated at $2.00. Since two half-day trips per day are common, vehicle costs for each half-day trip are $1.00.

Office: The cost of office supplies and equipment is $1.00 per trip.

Returns. Prices for chartering a vessel for half-day, all-day or offshore trips averaged $235, $315 and $425, respectively for up to 6 individuals. There was very little variation in prices per type of trip charged by the captains. Total per trip operating costs were subtracted from the trip price to determine returns above variable costs.

Budgets for Selected Income Levels

It became evident while interviewing charter captains that many different factors combined to play a major role in motivating captains to enter the industry. This is reflected in the various financial goals among operators. For example, a full-time captain may be more interested in obtaining maximum net returns from his operation than a part-time captain, whose financial goal may be to achieve a break-even point.

In this section, operating budgets are presented which can be adapted to any type of charter operation. Break-even budgets, which indicate the number of trips needed to cover total operating costs, are developed for the three most common charter trip types. Also, budgets are developed which maximize net returns within a given season and which determine the minimum number of operating days required to achieve net income levels of $8,000 and $12,000, representing returns accruing to part-time operations.

Break-even Budgets. Break-even budgets are developed for half-day, all-day and offshore charter trips. These budgets estimate the minimum number of trips necessary to meet total costs for each of the three specified trip types. The results, presented in Tables 6, 7, and 8, are summarized below:

1. HALF-DAY TRIPS: At least 67 half-day trips are necessary to cover total annual expenses for an entire season limited to half-day trips.
2. ALL-DAY TRIPS: It will take 52 all-day trips to cover total annual expenses for an entire season limited to all-day trips.

Table 6

Break-even Budget, Half-day Trips

Returns:		
Gross receipts from 67 half-day trips		$15,745.00
Costs:		
Variable Costs		
Fuel and oil	$ 2,579.50	
Crew's wages	1,675.00	
Maintenance and repair	670.00	
Bait	134.00	
Payroll taxes	102.51	
Legal and accounting	100.50	
Advertising	201.00	
Vehicle	67.00	
Office	67.00	
	$ 5,596.51	
Fixed Costs		
Depreciation	$ 4,000.00	
Interest payment	2,343.32	
Insurance	1,400.00	
Hauling, storage, refitting	1,300.00	
Dockage	500.00	
Property taxes	500.00	
Dues	50.00	
	$10,093.32	
Total Costs of Operation		$15,689.83
Returns to Owner's Labor and Management		**$ 55.17**

3. **OFFSHORE TRIPS: A charter boat running 61 offshore trips would break-even for a season of offshore trips only.**

Break-even budgets are useful not only to the part-time operator interested only in covering his operating costs, but also to the potential operator who is interested in that key financial reference point when considering a charter business.

Maximization of Net Returns. Given the operating budgets presented here, and assuming a fishing season of 150 days, the highest level of net income attainable is $45,441. This figure is based on returns from chartering two half-day trips per day for the entire season and represents the most intensive use of resources within the given time period. Since an entire season of half-day trips is beyond the physical capabilities of most captains, constraints were imposed limiting half-day trips to approximately 80 percent of fishing effort or less and allowing for time off within the 150 day season. Given these constraints and by utilizing a computer selection procedure, the "maximum level" of net income was found to be $30,114.72 (Table 9), based on returns from 242 half-day trips and 18 all-day trips.

Net Returns Approximating $12,000 and $8,000. Among the many trip combinations possible for approximating net returns of $12,000, two basic scenarios were explored. If a captain wishes to offer only half-day trips, about $12,000 could be earned in a season by making 146 half-day trips (Table 10). When half-day trips are limited, a trip mix including 117 half-day trips and 23 all-day trips would approximate the same income level (Table 11).

Without limiting half-day trips, an income level approximating $8,000 can be earned in 60 days with 120 half-day trips (Table 12). A possible trip mix excluding half-day trips would be 88 all-day trips and 5 offshore trips (Table 13). Table 14 summarizes trip mixes and amounts of labor and fuel needed to achieve the selected income levels.

Effects of Rising Fuel Costs and Interest Rates

Partial budgeting is a simple technique which an operator can use to determine the increase or decrease in net income due to minor changes in cost or revenue components, such as trip price or fuel costs, if the complete budget for the existing operation is known. As previously noted, rising fuel costs and fluctuating interest rates

have caused serious concern in recent years among charter captains. In order to indicate the effect of these changes on the complete budgets developed earlier, partial budgets are prepared using various fuel prices and interest rates.

Impact of Rising Fuel Prices. The recent rapid rise in fuel prices has heightened the income uncertainty under which charter captains operate. When fuel costs jumped during the summer of 1979, some operators added a fuel surcharge to the original price quoted in their spring brochure. Other operators absorbed the unexpected cost.

In order to assess the impact of future fuel price increases on operator income and resource use, partial budgets approximating three income levels, $30,000, $12,000, and $8,000, were prepared with fuel price per gallon increasing from $1.25 to $3.00 (Tables 15, 16 and 17). When fuel price increases from $1.25 to $2.00 per gallon, for example, the full-time operator can expect about a 20% drop in income, from a level of $30,114.72 to $24,129.72. Part-time operators earning about $12,000 and $8,000 per year can expect reductions in income amounting to 27 and 33 percent respectively.

Impact of Fluctuating Interest Rates. The average interest rate paid on boat loans by the operators surveyed was estimated to be 10%. With 1982 interest rates at much higher levels, annual interest payments on new boat loans would now be considerably higher, even without considering increases in boat prices brought about by inflation.

To show the effect of rising interest rates on net returns, partial budgets were developed from the original budgets assuming changes in the interest rate from the original 10% on a $40,000 loan to 12 1/2%, 15%, 17 1/2%, 20% and 25% (Tables 18, 19 and 20). Net returns for the highest level of income ($30,114.72 at 10%) drop to $28,713.96 at a 15% rate of interest and $25,538.04 at 25%. An income of $12,167.72 at a 10% interest rate drops to $10,766.96 at 15% and $7,591.04 at 25%. Similarly, net returns of $8,083.08 at 10% become $6,682.32 at an interest rate of 15% and $3,506.40 at 25%.

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Table 7

Break-even Budget, All-day Trips

Returns:		
Gross receipts from 52 all-day trips		$16,380.00
Costs:		
Variable Costs		
Fuel and oil	$ 2,652.00	
Crew's wages	1,820.00	
Maintenance and repair	1,040.00	
Bait	104.00	
Payroll taxes	111.80	
Legal and accounting	78.00	
Advertising	156.00	
Vehicle	104.00	
Office	52.00	
	$ 6,117.80	
Fixed Costs		
Depreciation	$ 4,000.00	
Interest payment	2,343.32	
Insurance	1,400.00	
Hauling, storage, refitting	1,300.00	
Dockage	500.00	
Property taxes	500.00	
Dues	50.00	
	$10,093.32	
Total Costs of Operation		16,211.12
Returns to Owner's Labor and Management		**$ 168.88**

Table 8

Break-even Budget, Offshore Trips

Returns:		
Gross receipts from 61 offshore trips		$25,925.00
Costs:		
Variable Costs		
Fuel and oil	$ 3,873.50	
Crew's wages	2,745.00	
Maintenance and repair	2,440.00	
Bait	6,100.00	
Payroll taxes	168.36	
Legal and accounting	91.50	
Advertising	183.00	
Vehicle	122.00	
Office	61.00	
	$15,784.36	
Fixed Costs		
Depreciation	$ 4,000.00	
Interest payment	2,343.32	
Insurance	1,400.00	
Hauling, storage, refitting	1,300.00	
Dockage	500.00	
Property taxes	500.00	
Dues	50.00	
	$10,093.32	
Total Costs of Operation		$25,877.68
Returns to Owner's Labor and Management		**$ 47.32**

Table 9

Budget and Trip Mix for Maximum Annual Net Returns

Returns:		
Gross receipts from 242 half-day trips and 18 all-day trips		$62,540.00
Costs:		
Fixed Costs		
Interest payments	$ 2,343.32	
Depreciation	4,000.00	
Insurance	1,400.00	
Hauling, storage, refitting	1,300.00	
Dockage	500.00	
Property taxes	500.00	
Dues	50.00	
Total Fixed Costs	$10,093.32	
Variable Costs		
Fuel and oil	$10,235.00	
Crew's wages	6,680.00	
Maintenance and repair	2,780.00	
Bait	520.00	
Payroll taxes	408.96	
Legal and accounting	390.00	
Advertising	780.00	
Vehicle	278.00	
Office	260.00	
Total Variable Costs	$22,331.96	
Total Costs of Operation		$32,425.28
Returns to Owner's Labor and Management		**$30,114.72**

Table 10

Budget and Trip Mix for Annual Net Returns Approximating $12,000

Returns:		
Gross receipts from 146 half-day trips		$34,310.00
Costs:		
Fixed Costs		
Interest payments	$ 2,343.32	
Depreciation	4,000.00	
Insurance	1,400.00	
Hauling, storage, refitting	1,300.00	
Dockage	500.00	
Property taxes	500.00	
Dues	50.00	
Total Fixed Costs	$10,093.32	
Variable Costs		
Fuel and oil	$ 5,621.00	
Crew's wages	3,650.00	
Maintenance and repair	1,460.00	
Bait	292.00	
Payroll taxes	223.38	
Legal and accounting	219.00	
Advertising	438.00	
Vehicle	146.00	
Office	146.00	
Total Variable Costs	$12,195.38	
Total Costs of Operation		$22,288.70
Returns to Owner's Labor and Management		**$12,021.30**

Table 11

Budget and Trip Mix for Annual Net Returns Approximating $12,000

Returns:		
Gross receipts from 117 half-day trips and 23 all-day trips		$34,740.00
Costs:		
Fixed Costs		
Interest payments	$ 2,343.32	
Depreciation	4,000.00	
Insurance	1,400.00	
Hauling, storage, refitting	1,300.00	
Dockage	500.00	
Property taxes	500.00	
Dues	50.00	
Total Fixed Costs	$10,093.32	
Variable Costs		
Fuel and oil	$ 5,677.50	
Crew's wages	3,730.00	
Maintenance and repair	1,630.00	
Bait	280.00	
Payroll taxes	228.46	
Legal and accounting	210.00	
Advertising	420.00	
Vehicle	163.00	
Office	140.00	
Total Variable Costs	$12,478.96	
Total Costs of Operation		$22,572.28
Returns to Owner's Labor and Management		**$12,167.72**

Table 12

Budget and Trip Mix for Annual Net Returns Approximating $8,000

Returns:		
Gross receipts from 120 half-day trips		$28,200.00
Costs:		
Fixed Costs		
Interest payments	$ 2,343.32	
Depreciation	4,000.00	
Insurance	1,400.00	
Hauling, storage, and refitting	1,300.00	
Dockage	500.00	
Property taxes	500.00	
Dues	50.00	
Total Fixed Costs	$10,093.32	
Variable Costs		
Fuel and oil	$ 4,620.00	
Crew's wages	3,000.00	
Maintenance and repair	1,200.00	
Bait	240.00	
Payroll taxes	183.60	
Legal and accounting	180.00	
Advertising	360.00	
Vehicle	120.00	
Office	120.00	
Total Variable Costs	$10,023.60	
Total Costs of Operation		$20,116.92
Returns to Owner's Labor and Management		**$ 8,083.08**

Table 13

Budget and Trip Mix for Annual Net Returns Approximating $8,000

Returns:		
Gross receipts from 88 all-day trips and 5 offshore trips		$29,845.00
Costs:		
Fixed Costs		
Interest payments	$ 2,343.32	
Depreciation	4,000.00	
Insurance	1,400.00	
Hauling, storage and refitting	1,300.00	
Dockage	500.00	
Property taxes	500.00	
Dues	50.00	
Total Fixed Costs	$10,093.32	
Variable Costs		
Fuel and oil	$ 4,805.50	
Crew's wages	3,305.00	
Maintenance and repair	1,960.00	
Bait	676.00	
Payroll taxes	203.00	
Legal and accounting	139.50	
Advertising	279.00	
Vehicle	186.00	
Office	93.00	
Total Variable Costs	$11,647.00	
Total Costs of Operation		$21,740.32
Returns to Owner's Labor and Management		**$ 8,104.68**

Table 14. Summary of Trip Mixes and Resource Requirements for Achieving Selected Levels of Net Income for a Representative Charter Boat Operation.

Net Income Level	Half-day Trips	All-day Trips	Offshore Trips	Trip Totals	Captain's Labor Hours	Fuel in Gallons
$30,114.72	242	18		260	1,856	7,980
$12,021.30	146			146	1,022	4,380
$12,167.72	117	23		140	1,026	4,430
$ 8,083.08	120			120	840	3,600
$ 8,104.68		88	5	93	857	3,770

TABLE 15. Effect of Varying Fuel Costs on $30,000 Annual Net Income

Fuel Price Per Gallon		*1.25*	*1.50*	*2.00*	*2.50*	*3.00*
Returns	Gross receipts from 242 half-day trips and 18 all-day trips	$62,540.00	$62,540.00	$62,540.00	$62,540.00	$62,540.00
Costs	Fixed Costs					
	Interest payments	$ 2,343.32				
	Depreciation	4,000.00				
	Insurance	1,400.00				
	Hauling, storage, refitting	1,300.00				
	Dockage	500.00				
	Property taxes	500.00				
	Dues	50.00				
	Total Fixed Costs	$10,093.32	$10,093.32	$10,093.32	$10,093.32	$10,093.32
	Variable Costs					
	Fuel & oil	$10,235.00	$12,230.00	$16,220.00	$20,210.00	$24,200.00
	Crew's wages	6,680.00				
	Maintenance & repair	2,780.00				
	Bait	520.00				
	Payroll taxes	408.96				
	Legal & accounting	390.00				
	Advertising	780.00				
	Vehicle	278.00				
	Office	260.00				
	Total Variable Costs	$22,331.96	$24,326.96	$28,316.96	$32,306.96	$36,296.96
	Total Costs of Operation	$32,425.28	$34,420.28	$38,410.28	$42,400.28	$46,390.28
Returns to Owner's Labor and Management		**$30,114.72**	**$28,119.72**	**$24,129.72**	**$20,139.72**	**$16,149.72**

TABLE 16. Effect of Varying Fuel Costs on $12,000 Annual Net Income

Fuel Price Per Gallon		*1.25*	*1.50*	*2.00*	*2.50*	*3.00*
Returns	Gross receipts from 146 half-day trips	$34,310.00	$34,310.00	$34,310.00	$34,310.00	$34,310.00
Costs	Fixed Costs					
	Interest payments	$ 2,343.32				
	Depreciation	4,000.00				
	Insurance	1,400.00				
	Hauling, storage, refitting	1,300.00				
	Dockage	500.00				
	Property taxes	500.00				
	Dues	50.00				
	Total Fixed Costs	$10,093.32	$10,093.32	$10,093.32	$10,093.32	$10,093.32
	Variable Costs					
	Fuel & oil	$ 5,621.00	$ 6,716.00	$ 8,906.00	$11,096.00	$13,286.00
	Crew's wages	3,650.00				
	Maintenance & repair	1,460.00				
	Bait	292.00				
	Payroll taxes	223.38				
	Legal & accounting	219.00				
	Advertising	438.00				
	Vehicle	146.00				
	Office	146.00				
	Total Variable Costs	$12,195.38	$13,290.38	$15,480.38	$17,670.38	$19,860.38
	Total Costs of Operation	$22,288.70	$23,383.70	$25,573.70	$27,763.70	$29,953.70
Returns to Owner's Labor and Management		**$12,021.30**	**10,926.30**	**$ 8,736.30**	**$ 6,546.30**	**$ 4,356.30**

TABLE 17. Effect of Varying Fuel Costs on $8,000 Annual Net Income

Fuel Price Per Gallon		1.25	1.50	2.00	2.50	3.00
Returns	Gross receipts from 120 half-day trips	$28,200.00	$28,200.00	$28,200.00	$28,200.00	$28,200.00
Costs	Fixed Costs					
	Interest payments	$ 2,343.32				
	Depreciation	4,000.00				
	Insurance	1,400.00				
	Hauling, storage, refitting	1,300.00				
	Dockage	500.00				
	Property taxes	500.00				
	Dues	50.00				
	Total Fixed Costs	$10,093.32	$10,093.32	$10,093.32	$10,093.32	$10,093.32
	Variable Costs					
	Fuel & oil	$ 4,620.00	$ 5,520.00	$ 7,320.00	$ 9,120.00	$10,920.00
	Crew's wages	3,000.00				
	Maintenance & repair	1,200.00				
	Bait	240.00				
	Payroll taxes	183.60				
	Legal & accounting	180.00				
	Advertising	360.00				
	Vehicle	120.00				
	Office	120.00				
	Total Variable Costs	$10,023.60	$10,923.60	$12,723.60	$14,523.60	$16,323.60
	Total Costs of Operation	$20,116.92	$21,016.92	$22,816.92	$24,616.92	$26,416.92
Returns to Owner's Labor and Management		**$ 8,083.08**	**$ 7,183.08**	**$ 5,383.08**	**$ 3,583.08**	**$ 1,783.08**

TABLE 18. Effect of Varying Interest Rates on $30,000 Annual Net Income

Interest Rate		10%	12½%	15%	17½%	20%	25%
Returns	Gross receipts from 242 half-day trips and 18 all-day trips	$62,540.00	$62,540.00	$62,540.00	$62,540.00	$62,540.00	$62,540.00
Costs	Fixed Costs						
	Interest payments	$ 2,343.32	3,026.12	$ 3,744.08	$ 4,495.04	$ 5,276.36	$ 6,920.00
	Depreciation	4,000.00					
	Insurance	1,400.00					
	Hauling, storage, refitting	1,300.00					
	Dockage	500.00					
	Property taxes	500.00					
	Dues	50.00					
	Total Fixed Costs	$10,093.32	$10,776.12	$11,494.08	$12,245.04	$13,026.36	$14,670.00
	Variable Costs						
	Fuel & oil	$10,235.00					
	Crew's wages	6,680.00					
	Maintenance & repair	2,780.00					
	Bait	520.00					
	Payroll taxes	408.96					
	Legal & accounting	390.00					
	Advertising	780.00					
	Vehicle	278.00					
	Office	260.00					
	Total Variable Costs	$22,331.96	$22,331.96	$22,331.96	$22,331.96	$22,331.96	$22,331.96
	Total Costs of Operation	$32,425.28	$33,108.08	$33,826.04	$34,577.00	$35,358.32	$37,001.96
Returns to Owner's Labor and Management		**$30,114.72**	**$29,431.92**	**$28,713.96**	**$27,963.00**	**$27,181.68**	**$25,538.04**

TABLE 19. Effect of Varying Interest Rates on $12,000 Annual Net Income

Interest Rate		10%	12½%	15%	17½%	20%	25%
Returns	Gross receipts from 117 half-day trips and 23 all-day trips	$34,740.00	$34,740.00	$34,740.00	$34,740.00	$34,740.00	$34,740.00
Costs	Fixed Costs						
	Interest payments	$ 2,343.32	$ 3,026.12	$ 3,744.08	$ 4,495.04	$ 5,276.36	6,920.00
	Depreciation	4,000.00					
	Insurance	1,400.00					
	Hauling, storage, refitting	1,300.00					
	Dockage	500.00					
	Property taxes	500.00					
	Dues	50.00					
	Total Fixed Costs	$10,093.32	$10,776.12	$11,494.08	$12,245.04	$13,026.36	$14,670.00
	Variable Costs						
	Fuel & oil	$ 5,677.50					
	Crew's wages	3,730.00					
	Maintenance & repair	1,630.00					
	Bait	280.00					
	Payroll taxes	228.46					
	Legal & accounting	210.00					
	Advertising	420.00					
	Vehicle	163.00					
	Office	140.00					
	Total Variable Costs	$12,478.96	$12,478.96	$12,478.96	$12,478.96	$12,478.96	$12,478.96
	Total Costs of Operation	$22,572.28	$23,255.08	$23,973.04	$24,724.00	$25,505.32	$27,148.96
Returns to Owner's Labor and Management		**$12,167.72**	**$11,484.92**	**$10,766.96**	**$10,016.00**	**$ 9,234.68**	**$ 7,591.04**

TABLE 20. Effect of Varying Interest Rates on $8,000 Annual Net Income

Interest Rate		10%	12½%	15%	17½%	20%	25%
Returns	Gross receipts from 120 half-day trips	$28,200.00	$28,200.00	$28,200.00	$28,200.00	$28,200.00	$28,200.00
Costs	Fixed Costs						
	Interest payments	$ 2,343.32	3,026.12	$ 3,744.08	$ 4,495.04	$ 5,276.36	$ 6,920.00
	Depreciation	4,000.00					
	Insurance	1,400.00					
	Hauling, storage, refitting	1,300.00					
	Dockage	500.00					
	Property taxes	500.00					
	Dues	50.00					
	Total Fixed Costs	$10,093.32	$10,776.12	$11,494.08	$12,245.04	$13,026.36	$14,670.00
	Variable Costs						
	Fuel & oil	$ 4,620.00					
	Crew's wages	3,000.00					
	Maintenance & repair	1,200.00					
	Bait	240.00					
	Payroll taxes	183.60					
	Legal & accounting	180.00					
	Advertising	360.00					
	Vehicle	120.00					
	Office	120.00					
	Total Variable Costs	$10,023.60	$10,023.60	$10,023.60	$10,023.60	$10,023.60	$10,023.60
	Total Costs of Operation	$20,116.92	$20,799.60	$21,517.68	$22,268.64	$23,049.96	24,693.60
Returns to Owner's Labor and Management		**$ 8,083.08**	**$ 7,400.40**	**$ 6,682.32**	**$ 5,931.36**	**$ 5,150.04**	**$ 3,506.40**

IV. CONCLUDING REMARKS

When captains were asked about their views on the future of the Connecticut charter boat industry, several areas of concern were frequently mentioned, the most serious being the economy. High interest rates and rapidly increasing new vessel prices have raised the cost of entry into the industry beyond the reach of most individuals interested in starting their own charter operation. The average number of years in the industry was found to be 15 with only 15% of the businesses having begun operation within the past 5 years. Consequently, the average age of operators is increasing. As these older captains retire from chartering their ranks may not be filled, causing the number of charter operations in Connecticut to decline. As mentioned previously, the rising new vessel costs and mortgage rates are forcing some established operators to hold on to their vessels beyond their expected 10-year useful life. This, in turn, limits the number of used vessels available for sale to those considering entering the industry.

An equally important financial concern is the price of fuel (diesel and gasoline), the major component of operating costs. Rising fuel costs have forced some operators to substantially increase the price of charter fishing trips in recent years. Other operators have been reluctant to raise the price of their trips as evidenced by the number who refused to add a fuel surcharge when fuel prices leaped during the summer of 1979. These operators are fearful that recreational sportfishers might look for a less expensive leisure activity if trip prices continue to rise.

A well-managed New England fishery is essential to the charter industry. Most operators reacted favorably when asked about the impact of 200-mile limit legislation on their industry. Captains commented that the tuna catch had improved as well as the stock of certain groundfish. However, it is not possible to say this was due to new regulations or the cyclical nature of certain species.

At the time of the survey, there were no laws regulating the recreational catch. However, there was much discussion within the industry as to which species might be regulated and how. Most

operators stated that they would be in favor of reasonable quotas on landed fish as it was generally agreed that several species had been overfished in the past.

As of January 1981, charter and party-boat operators must comply with new Connecticut state laws regulating the recreational catch of certain species. Striped bass is the most protected species with limits of 4 fish per day per angler for fish measuring between 16 and 24 inches fork length. Striped bass measuring less than 16 inches must be thrown back; catch is unlimited for fish over 24 inches long. Other protected species are limited only in terms of the minimum lengths of fish landed. Fluke must measure at least 14 inches, winter flounder, 8 inches, and scup (porgy) must measure at least 7 inches. Pending federal regulations include a 15-inch minimum for cod and haddock and an 11-inch minimum for yellowtail flounder.

A growing concern for the increase in the number of small recreational vessels was expressed by several captains. It was disturbing to operators that the waters of Long Island Sound were becoming increasingly crowded with commercial and pleasure craft. Charter captains found these crowded conditions,coupled with many inexperienced boat operators, to be extremely dangerous, particularly on weekends. Previous studies have shown concern for the growing demand for limited dock space because of the increase in recreational boaters. While dock space for charter vessels was not a major concern of most operators surveyed, it may be a constraining factor in the future.

The future viability of the Connecticut charter boat industry will probably depend more on innovation and adaptability to exogenous economic and institutional factors, such as rising fuel prices and interest rates and government regulations, than in previous years, with the industry's major barrier to entry being the cost of purchasing a suitable charter vessel. It is hoped that the budgeting analysis presented here will in some way aid charter boat captains in achieving their individual financial objectives, as well as assist others concerned with the development of the charter and party boat industry within the state.