

## **6 APPENDICES**

## 6.1 Appendix I: Advance Letter to Survey Respondents



Name  
Street address  
City, State, Zip

Month Day, Year

Dear Name,

Now is the time to demonstrate the economic importance of charter boats and head boats. The National Marine Fisheries Service (NMFS) currently has no data on the economic performance of your industry. Lack of data makes it impossible to show the New England and Mid-Atlantic Fishery Management Councils just how important you are to the economic health of your coastal community, or to accurately assess the economic impact fisheries policies have on your industry and community. The 2011 Recreational For-Hire Economic Survey (RFHES) aims to change that and we need your help. Please join us in this critical effort to establish your industry's economic importance by participating in the survey.

The enclosed RFHES questionnaire and FAQs were developed and tested with the assistance of for-hire boat captains and owners like you. Our interviewers will be calling you in the next two weeks to determine your eligibility for the survey and to request an in-person interview. We understand the confidential nature of the information sought and will take all appropriate steps to protect your privacy. We know your time is valuable, but hope you will agree to participate. A small token of appreciation is enclosed as a way of saying thanks for your help.

QuanTech is conducting the RFHES under a contract with NOAA's Northeast Fisheries Science Center, the research arm of NOAA Fisheries in the region. For more information, please contact:

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Sincerely,

A handwritten signature in blue ink that reads "David C. Cox".

Dr. David C. Cox  
President, QuanTech

# QuanTech

Quantitative Technologies for Research and Analysis

## **6.2 Appendix II: Frequently Asked Questions and Answers for Respondents**

### **Recreational For-Hire Economic Survey FREQUENTLY ASKED QUESTIONS (FAQS) AND ANSWERS**

#### **Why is this survey being conducted?**

The recreational for-hire industry is economically important up and down the East Coast. However, NMFS currently lacks the data to adequately estimate the economic impacts of changes in fishery regulations on this industry. The Recreational For-Hire Economic Survey (RFHES) is necessary to demonstrate the overall economic importance of the industry and to gauge how policies impact the economic health of head boat and charter fishing operations in New England and the Mid Atlantic (all coastal states from North Carolina north to Maine). This survey will collect financial data including trip and annual costs and revenue. The data will be used to create an economic impact model of the head boat and charter fishing industry. This economic impact model will be used to estimate the overall economic importance of the entire for-hire industry. Additionally, the model will be used to examine how changes in policy positively or negatively impact this important industry.

#### **Who is conducting the survey?**

The survey is funded by the National Marine Fisheries Service (NMFS) and is being conducted by QuanTech, Inc. of Arlington, Virginia. Survey design and testing was completed by Gentner Consulting. QuanTech's interviewers will conduct the actual in-person interviews.

#### **How was I selected and is my participation voluntary?**

You were selected randomly from the 2010 NMFS for-hire telephone survey (FHTS) directory, which is compiled from State and Federal permit lists. Your participation in this survey is voluntary.

#### **How long will it take to complete the survey?**

The survey designers aimed for a survey that takes no longer than one hour to complete. If you own a single boat and only offer one type of trip (half day, full day, or overnight), the survey will be quite short, taking only about 20 minutes.

#### **Why am I being asked to provide economic information?**

By providing information about your business, you are helping to construct a baseline assessment of the financial health and economic impact of the recreational for-hire industry. Knowing the industry's profitability and economic value is especially important when benefits and costs of new regulations are discussed by policy makers. The information is also important when determining the economic effects of other external forces, such as economic downturns, fuel prices, and natural disasters. Such information is commonly requested by decision makers and media outlets interested in publicizing the industry's economic situation. Currently, it is impossible to answer these questions due to lack of data.

#### **Will the IRS get any of my information?**

No. As fisheries economists, we are only interested in collecting appropriate data to provide an accurate snapshot of the recreational for-hire industry as a whole. Individual data is treated as confidential. When you complete your interview, identifying information will be removed from the rest of your answers and will not be submitted to NMFS.

#### **Will my answers remain anonymous?**

Yes. All individual information will be treated as strictly confidential. Individual data will be combined with information from other respondents to present an overall view of the economic health of the industry or a particular component of the industry.

## 6.3 Appendix III: Final Survey Instrument

### 2011 Recreational For-Hire Economic Survey (RFHES)

#### Screening Introduction:

May I please speak to [NAME OF CONTACT]?

Hello, this is [INTERVIEWER] calling on behalf of NOAA Fisheries and the For-Hire ECONOMIC Survey.

Are you/ is [NAME OF CONTACT] the owner of [VESSEL NAME]?

IF “YES”, CONTINUE TO SURVEY DESCRIPTION 1.

IF “NO”, CONTINUE TO SURVEY DESCRIPTION 2.

#### Survey Description 1:

We recently mailed you a package about an important economic survey. We’re surveying owners of charter and head boats to collect economic data needed to evaluate the economic importance of the for-hire fishery. The [VESSEL NAME] has been selected at random from a directory of charter and head boats to be included in this study. I would like to ask a few questions about the vessel to determine its eligibility. If we determine that the vessel is eligible for the study, we will contact you again to schedule an in-person interview. This data will remain confidential and this survey is being conducted in accordance with the Privacy Act of 1974, therefore your participation is voluntary. **[CONTINUE]**

1. Did the [VESSEL NAME] take anyone fishing for a fee in 2010?
  - a. Yes **[CONTINUE]**
  - b. No **[VESSEL IS NOT ELIGIBLE, TERMINATE]**
2. Did more than 50% of the [VESSEL NAME]’s for-hire trips in 2010 target highly migratory species (tunas, sharks, billfish, or swordfish)?
  - a. Yes **[VESSEL IS NOT ELIGIBLE, TERMINATE]**
  - b. No **[CONTINUE]**
3. The [VESSEL NAME] meets the eligibility requirements for this study. Are you willing to provide cost and earnings information associated with your for-hire fishing business?
  - a. Yes **[CONTINUE]**
  - b. No **[TRY TO CONVERT REFUSAL]**
4. One of our in-person interviewers will call you back to schedule an appointment. Our interviewer will meet you at a time and location that you designate. The best way to schedule the appointment is if the interviewer calls you directly. What is the best time for the interviewer to call you back? **[ENTER BEST TIME TO CALL, THEN TERMINATE]**

#### Survey Description 2:

We recently mailed you a package about an important economic survey. We’re surveying owners of charter and head boats to collect economic data needed to evaluate the economic importance of the for-hire fishery. The [VESSEL NAME] has been selected at random from a directory of charter and head boats to be included in this study. Could you provide the name and telephone number of the person who can provide cost and earnings information for the [VESSEL NAME]?

- a. Yes [ENTER NAME AND TELEPHONE NUMBER, THEN TERMINATE]
- b. No [TERMINATE]

**Questionnaire:**

**VESSEL CHARACTERISTICS**

1. How many boats in each of following categories do you own?
  - a. \_\_\_\_\_ **guide boats** (A guide boat is a for-hire fishing boat that carries 4 or less and mostly fishes near shore, inshore, bays, and inlet, operator must have, at a minimum, a USCG operator license to carry 6 or fewer passengers on near shore and inland waters.)
  - b. \_\_\_\_\_ **6 pack charter boats** (6 passenger charter boat is an uninspected for-hire fishing vessel that carries 6 persons or fewer and mostly fishes offshore and inshore waters. The operator must possess, at a minimum, a USCG license to carry 6 or fewer passengers in offshore waters.)
  - c. \_\_\_\_\_ **overload charter boats** (Overload or multi-passenger charter boat is a vessel that has a USCG Certificate of Inspection (COI) to carry a specified number of passengers with a specified navigation route. This vessel generally charges a fee for the vessel up to a specified number and may charge an additional fee for each passenger over the specified amount. The operator must possess a USCG license to carry the maximum number of passengers as per the COI and also the gross tonnage of the vessel along with the navigation route. They carry 7+ passengers.)
  - d. \_\_\_\_\_ **head boats** (A head boat is a vessel that has a USCG COI that generally carries a minimum of 50 passengers and charges a fee per passenger, for a specified navigation route. There may be a minimum number of passengers required in order to depart on the trip. The operator must possess a USCG license that specifies at a minimum the number of passengers allowed on the vessel for the gross tonnage and navigation route.)

**\*QUESTIONS 2-24 ARE FOR EACH VESSEL OWNED. IF YOU OWN MULTIPLE VESSELS, PLEASE MAKE A COPY OF PAGE 1 AND PAGE 2 BEFORE RECORDING INFORMATION.**

2. Is this vessel kept on the water or trailered?  Docked /  Trailered
3. In what city/town is the vessel docked, moored or launched (if trailered) the majority of the time? (City/Town) \_\_\_\_\_ (State) \_\_\_\_\_
4. What percentage of your trips in 2010 originated from this location? \_\_\_\_\_(%)
5. What percentage of this vessel's trips in 2010 targeted highly migratory species? \_\_\_\_\_%
6. What is the overall length of the vessel? \_\_\_\_\_(feet)
7. What is the total horsepower of the vessel? \_\_\_\_\_(hp)
8. Are the engines a (select one)?:  4 stroke gas /  2 stroke gas /  diesel
9. What is the legal passenger capacity of the vessel? \_\_\_\_\_(number)
10. What year was this vessel's hull built? \_\_\_\_\_ (YYYY)
11. What hull material was used in this vessel's hull (choose one)?

- Wood /  Fiberglass /  Aluminum /  Steel /  Other
12. What year did you purchase or acquire this vessel? \_\_\_\_\_(YYYY)
13. What was the purchase price of the vessel? \$\_\_\_\_\_
- a. Did you purchase this vessel new?  Yes /  No
14. What is the estimated current market value (used) of the vessel if you were to sell it today? \$\_\_\_\_\_
- See <http://www.nadaguides.com/Boats> to estimate current market value.
15. What is the number of full-time crewmembers during the season (not including the captain) on the vessel? \_\_\_\_\_(number of full-time crew)
16. What is the number of part-time crewmembers during the season (not including the captain) on the vessel? \_\_\_\_\_(number of part-time crew)

**FOR EACH TYPE OF TRIP THAT EACH VESSEL TAKES**

17. Do you offer half day fishing trips on this vessel?  Yes (go to Q17a) /  No (skip to Q18)

- a. How many ½ day trips did you take in 2010? \_\_\_\_\_(number of trips)
- b. Please break out the number of ½ day trips you took in each of the following periods.

January – March	April – June	July – September	October - December

- c. How many ½ day trips did you donate to charity in 2010? \_\_\_\_\_(number of trips)
- d. How long is the typical ½ day trip? \_\_\_\_\_(hours)
- e. On average, how many passengers do you take on ½ day trips? \_\_\_\_\_(number of passengers)
- f. What percentage of your ½ day trips took place in Federal waters? \_\_\_\_\_(%)

***\*If you own multiple vessels, please make a copy of this page before recording any information.***

18. Do you offer full day fishing trips on this vessel?  Yes (go to Q18a) /  No (skip to Q19)

- a. If yes, how many full day trips did you take in 2010? \_\_\_\_\_(number of trips)
- b. Please break out the number of full day trips you took in each of the following periods.

January – March	April – June	July – September	October - December

- c. How many full day trips did you donate to charity in 2010? \_\_\_\_\_(number of trips)
- d. How long is the typical full day trip? \_\_\_\_\_(hours)
- e. On average, how many passengers do you take on full day trips? \_\_\_\_\_(number of passengers)

f. What percentage of your full day trips took place in Federal waters? \_\_\_\_\_(%)

19. Do you offer overnight fishing trips on this vessel?  Yes (go to Q19a) /  No (skip to Q20)

- a. If yes, how many overnight trips did you take in 2010? \_\_\_\_\_(number of trips)
- b. Please break out the number of overnight trips you took in each of the following periods.

January – March	April – June	July – September	October - December

- c. How many overnight trips did you donate to charity in 2010? \_\_\_\_\_(number of trips)
- d. How long is the typical overnight trip? \_\_\_\_\_(hours)
- e. On average, how many passengers do you take on overnight trips? \_\_\_\_\_(number of passengers)
- f. What percentage of your overnight trips took place in Federal waters? \_\_\_\_\_(%)

20. Do you offer any other fishing trip lengths on this vessel?  Yes (go to Q20a) /  No (skip to Q21)

- a. If yes, how long is this type of trip? \_\_\_\_\_(hours)
- b. What do you call this type of trip?

- c. How many of this type of trip did you take in 2010? \_\_\_\_\_(number of trips)
- d. Please break out the number of this type of trip you took in each of the following periods.

January – March	April – June	July – September	October - December

- e. How many of this type of trip did you donate to charity in 2010? \_\_\_\_\_(number of trips)
- f. On average, how many passengers do you take on this type of trip? \_\_\_\_\_(number of passengers)
- g. What percentage of these trips took place in Federal waters? \_\_\_\_\_(%)

21. Do you ever take trips without patrons for the purpose of catching bait for your charter operation?

Yes (go to Q21a) /  No (skip to Q22)

- a. How many trips did you take in 2010 exclusively to catch bait? \_\_\_\_\_(number of trips)
- b. Typically how long are your bait trips? \_\_\_\_\_(hours)

22. Do you ever take trips without patrons for the purpose of scouting locations and conditions?

Yes (go to Q22a) /  No (skip to Q23)

- a. How many trips did you take in 2010 exclusively to scout? \_\_\_\_\_(number of trips)
- b. Typically how long are your scouting trips? \_\_\_\_\_(hours)

23. Do you charter the boat for nonfishing trips like sightseeing, whale watching or bird watching?

Yes (go to Q23a) /  No (skip to Q24)

a. How many nonfishing trips do you take in 2010? \_\_\_\_\_ (number of trips)

24. How much did you earn from fees on a typical trip in 2010?

Fees	Half day	Full day	Overnight
Charter (boat) fees or Head boat (per person) fees	\$ _____	\$ _____	\$ _____

**TOTAL ANNUAL REVENUE - QUESTION 25 PERTAINS TO THE BUSINESS AS A WHOLE, INCLUDING ALL VESSELS IF MULTIPLE BOATS ARE OWNED.**

25. What was your total annual revenue (gross) from the following items in 2010?

Category	Total Revenue (\$)
a. Income from charter fees	_____
b. Income from tips and fish cleaning	_____
c. Income from the sale of food and drink	_____
d. Income from souvenirs	_____
e. Income from the sale of fish	_____
f. Income from commercial fishing	_____
g. Income from other charter activities like bird watching trips, whale watching trips, sunset cruises, etc.	_____
h. Other income (list)	_____
<b>TOTAL</b>	_____

**DEBT AND DEBT SERVICE**

26. Was there a loan outstanding on any of your vessels during any part of 2010?

Yes (go to Q26a) /  No (skip to Q27)

a. What was the monthly payment (principle and interest) during 2010?

\$ \_\_\_\_\_

b. What is the outstanding balance on this loan at the end of 2010? \$ \_\_\_\_\_

c. What was the total amount of your original loan? \$ \_\_\_\_\_

d. What is the term of your current loan? \_\_\_\_\_ (years)

e. What is interest rate on this loan? \_\_\_\_\_ (%)

f. Was your home used to secure this loan?  Yes (go to Q26g) /  No (skip to Q27)

g. What percentage of the value was secured with your home? \_\_\_\_\_ (%)

27. In 2010, did you have any outstanding short term operating loans?

Yes (go to Q27a) /  No (skip to Q28)

a. What was the monthly payment (principle and interest) during 2010?

\$ \_\_\_\_\_

b. What is the outstanding balance on this loan at the end of 2010? \$ \_\_\_\_\_

c. What was the total amount of your original loan? \$ \_\_\_\_\_

- d. What is the term of your current loan? \_\_\_\_\_(years)
- e. What is interest rate on this loan? \_\_\_\_\_(%)
- f. Was (were) your vessel(s) used to secure this loan?  Yes /  No
- g. Was your home used to secure this loan?  Yes (go to Q27h) /  No (skip to Q28)
- h. What percentage of the value was secured with your home? \_\_\_\_\_(%)

28. In 2010, did you have an outstanding loan on a company owned vehicle?

Yes (go to Q28a) /  No (skip to Q29)

- a. What was the monthly payment (principle and interest) during 2010?  
\$ \_\_\_\_\_

29. In 2010, did you have an outstanding loan on any company owned buildings and/or land?

Yes (go to Q29a) /  No (skip to Q30)

- a. What was the monthly payment (principle and interest) during 2010?  
\$ \_\_\_\_\_

### TOTAL ANNUAL COSTS

30. What were your total annual expenditures on the following items in 2010?

Category	Total Expenditure (\$)
a. Fuel and Oil	
b. Captain's share	
c. Crew/mate share	
d. Office staff	
e. Bait	
f. Ice	
g. Food and drink	
h. State fishing permits	
i. Federal permits (HMS/tuna permit, USCG registration, etc.)	
j. Fishing gear and tackle	
k. Other supplies (cleaning, etc.)	
l. Electronics purchased in 2010(radio, nav, fish finding, etc.)	
m. Engine repair and boat maintenance by boatyard	
n. Engine repair and boat maintenance by your own staff	
o. Fishing association dues	
p. Professional certifications	
q. Accounting/book keeping	
r. Bank fees	
s. Legal fees	
t. Advertising and promotion	
u. Booking agent fees	

Category	Total Expenditure (\$)
v. Dock/slip fees	
w. Insurance payments	
x. Telephone (and Internet, if applicable)	
y. Electric and other utilities	
z. Weather service subscriptions	
aa. Company vehicle lease	
bb. Company vehicle maintenance	
cc. Building lease	
dd. Building maintenance	
ee. Lodging related to providing trips	
ff. Meals related to providing trips	
gg. Trailer maintenance	
hh. Tow vehicle gas	
ii. Tow vehicle maintenance	
jj. Tolls	
kk. Boat launching and parking	
ll. Other (specify)	
<b>TOTAL ANNUAL EXPENDITURES IN 2010</b>	

31. Net revenue = (Q25 TOTAL) - ((Q26a×12) + (Q27a×12) + (Q28a×12) + (Q29a×12) + Q30 TOTAL)

Does this value seem accurate?  Yes (go to Q32) /  No (go to Q31a)

a. If no, is it too high or too low? If too high, what expenses have you left out or what revenues have you overestimated? If too low, what revenue have you left out or what costs have you overestimated? Amend above responses if necessary.

32. Is calculated net revenue negative?  Yes (go to Q33) /  No (skip to Q35)

33. Did you operate at a loss in 2010?  Yes (go to Q34) /  No (go back to Q31)

34. Other than in 2010, do you typically earn a profit taking people fishing?

Yes (go to Q34b) /  No (go to Q34a)

a. Why do you take people out fishing? \_\_\_\_\_

b. What changed in 2010? \_\_\_\_\_

## RESPONDENT CHARACTERISTICS

35. Are you an:

Owner/captain OR  Owner/non-captain (go to Q36);

paid captain, private OR  paid captain, corporate (go to Q37).

36. Please indicate your business structure (select one):

sole proprietorship,  partnership,  corporation,  limited liability company  other

37. In what year were you born? \_\_\_\_\_(YYYY)

38. How many years have you been a charter owner/captain? \_\_\_\_\_(years)

39. What percentage of your personal annual gross income in 2010 was from charter fishing activities? \_\_\_\_\_(%)

## 6.4 Appendix IV: Cash Flow Summary Statistics by Survey Question

**Table A19. Charter boat summary statistics by survey question**

Survey question	Obs.	Mean	Std. err.	Min.	Max.
<b>Inflow – Gross revenue</b>					
Q25a. Income from charter fees	231	24,547	4,169	200	912,994
Q25b. Income from tips and fish cleaning	207	440	81	0	10,000
Q25c. Income from the sale of food and drink	209	8	6	0	900
Q25d. Income from souvenirs	209	39	25	0	5,000
Q25e. Income from the sale of fish	211	193	107	0	20,000
Q25f. Income from commercial fishing	209	1,997	995	0	200,000
Q25g. Income from other charter activities	214	736	208	0	35,000
Q25h. Other income	205	2	2	0	400
<b>Outflow – Expenditures</b>					
Q26a. Vessel loan principle and interest (monthly)	240	190	24	0	1,800
Q27a. Short term loan principle and interest (monthly)	241	26	8	0	1,250
Q28a. Vehicle loan principle and interest (monthly)	241	17	6	0	684
Q29a. Building/land loan principle and interest (monthly)	241	10	7	0	1,600
Q30a. Fuel and oil	227	4,661	374	100	40,000
Q30b. Captain's share	226	1,169	296	0	40,000
Q30c. Crew/mate share	236	920	183	0	20,000
Q30d. Office staff	236	19	12	0	2,000
Q30e. Bait	233	833	111	0	14,000
Q30f. Ice	233	172	19	0	2,000
Q30g. Food and drink	236	135	24	0	3,000
Q30h. State fishing permits	235	247	20	0	2,000
Q30i. Federal fishing permits	236	69	18	0	4,000
Q30j. Fishing gear and tackle	233	1,336	104	0	10,000
Q30k. Other supplies (cleaning, etc.)	234	483	77	0	10,000
Q30l. Electronics purchased	236	596	91	0	10,000
Q30m. Engine repair and boat maintenance by yard	234	2,001	230	0	25,800
Q30n. Engine repair and boat maintenance by staff	234	1,002	204	0	38,700
Q30o. Fishing association dues	235	98	12	0	1,800
Q30p. Professional certifications	235	75	11	0	1,200
Q30q. Accounting/book keeping	234	172	19	0	1,800
Q30r. Bank fees	227	51	10	0	1,000
Q30s. Legal fees	234	24	6	0	1,000
Q30t. Advertising and promotion	235	832	77	0	6,000
Q30u. Booking agent fees	235	35	12	0	1,700
Q30v. Dock/slip fees	235	2,097	148	0	9,298
Q30w. Insurance payments	237	1,500	78	0	7,000
Q30x. Telephone (and internet)	233	434	41	0	4,000
Q30y. Electric and other utilities	232	58	12	0	1,200
Q30z. Weather service subscriptions	235	21	5	0	500
Q30aa. Company vehicle lease	237	29	18	0	3,600
Q30bb. Company vehicle maintenance	237	115	31	0	4,500
Q30cc. Building lease	237	59	31	0	6,500
Q30dd. Building maintenance	238	21	14	0	3,000

Q30ee. Lodging related to providing trips	238	39	13	0	1,840
Q30ff. Meals related to providing trips	236	45	10	0	1,000
Q30gg. Trailer maintenance	234	86	17	0	1,953
Q30hh. Tow vehicle gas	232	199	34	0	4,000
Q30ii. Tow vehicle maintenance	234	65	15	0	1,904
Q30jj. Tolls	235	18	4	0	410
Q30kk. Boat launching fees	236	71	18	0	3,000
Q30ll. Other	235	0	0	0	0

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**Table A20. Head boat summary statistics by survey question**

Survey question	Obs.	Mean	Std. err.	Min.	Max.
<b>Inflow – Gross revenue</b>					
Q25a. Income from charter fees	26	202,202	25,752	20,000	500,000
Q25b. Income from tips and fish cleaning	23	942	583	0	11,000
Q25c. Income from the sale of food and drink	24	1,334	644	0	12,500
Q25d. Income from souvenirs	23	109	109	0	2,500
Q25e. Income from the sale of fish	24	0	0	0	0
Q25f. Income from commercial fishing	24	0	0	0	0
Q25g. Income from other charter activities	26	8,892	5,026	0	125,000
Q25h. Other income	23	332	289	0	6,626
<b>Outflow – Expenditures</b>					
Q26a. Vessel loan principle and interest (monthly)	33	806	209	0	4,591
Q27a. Short term loan principle and interest (monthly)	32	198	80	0	1,796
Q28a. Vehicle loan principle and interest (monthly)	33	41	22	0	590
Q29a. Building/land loan principle and interest (monthly)	33	156	114	0	3,500
Q30a. Fuel and oil	22	24,775	3,554	1,200	60,000
Q30b. Captain's share	26	17,014	3,536	0	56,400
Q30c. Crew/mate share	27	18,240	4,074	0	80,000
Q30d. Office staff	26	1,704	753	0	13,500
Q30e. Bait	25	5,498	830	0	14,000
Q30f. Ice	26	195	72	0	1,250
Q30g. Food and drink	27	289	130	0	2,500
Q30h. State fishing permits	26	308	59	0	900
Q30i. Federal fishing permits	29	381	115	0	2,800
Q30j. Fishing gear and tackle	28	2,827	536	0	10,000
Q30k. Other supplies (cleaning, etc.)	28	1,380	301	0	6,280
Q30l. Electronics purchased	30	1,339	364	0	7,000
Q30m. Engine repair and boat maintenance by yard	25	4,843	1,180	0	26,000
Q30n. Engine repair and boat maintenance by staff	28	4,823	1,065	0	19,500
Q30o. Fishing association dues	27	2596	80	0	1,500
Q30p. Professional certifications	29	112	50	0	1,400
Q30q. Accounting/book keeping	28	1,419	281	0	5,500
Q30r. Bank fees	28	229	71	0	1,200
Q30s. Legal fees	28	257	97	0	2,000
Q30t. Advertising and promotion	24	6,540	1,185	0	16,500
Q30u. Booking agent fees	29	0	0	0	0
Q30v. Dock/slip fees	29	5,430	990	0	18,000
Q30w. Insurance payments	25	6,709	849	0	16,000
Q30x. Telephone (and internet)	26	1,057	221	0	4,000
Q30y. Electric and other utilities	27	456	163	0	3,400
Q30z. Weather service subscriptions	31	0	0	0	0
Q30aa. Company vehicle lease	30	133	133	0	4,000
Q30bb. Company vehicle maintenance	30	138	61	0	1,250
Q30cc. Building lease	31	183	127	0	3,000
Q30dd. Building maintenance	30	67	67	0	2,000
Q30ee. Lodging related to providing trips	31	0	0	0	0
Q30ff. Meals related to providing trips	31	5	5	0	140
Q30gg. Trailer maintenance	31	0	0	0	0
Q30hh. Tow vehicle gas	31	0	0	0	0

Q30ii. Tow vehicle maintenance	31	0	0	0	0
Q30jj. Tolls	29	3	3	0	84
Q30kk. Boat launching fees	30	4	4	0	120
Q30ll. Other	31	0	0	0	0

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## 6.5 Appendix V: IMPLAN Modeling Approach

The IMPLAN system consists of software and data that may be purchased from the Minnesota IMPLAN Group. The software provides the mathematical algorithms to estimate input-output models, as well as a user-friendly interface for customizing input-output models to an application. Default data sets available for purchase include county-level data on the economic characteristics of 440 distinct business sectors for every county in the U.S. County-level data sets for each coastal state in the Northeast, from Maine to North Carolina, were acquired to construct the input-output model.

Unfortunately, the operation of charter fishing boats is included in an all encompassing Scenic and Sightseeing Transportation sector that includes all land, air, and water-related transportation businesses. Therefore, the underlying economic data contained in IMPLAN characterizes the aggregate activity of many businesses and will not accurately portray the operation of charter fishing boats in the Northeast. To more accurately characterize the actual operation of for-hire businesses, total charter and head boat gross revenues, expenses, and net returns, estimated from the survey data (see Table 14), were used in conjunction with IMPLAN multipliers to calculate the regionwide multiplier effects attributed to the for-hire fleet in the Northeast.

Questions concerning products and services purchased from businesses located in the Northeast versus those purchased from businesses located outside the region were not included on the survey. Purchases from businesses located outside of the Northeast impact the economies of other regions and should be excluded from the contribution assessment. Fortunately, the IMPLAN system contains regional purchase coefficients (RPCs), which can be used to estimate the portion of the total regional demand supplied by regional producers. By incorporating IMPLAN's RPCs for all commodity-based transactions, we were able to estimate the amount of each purchase that was supplied by businesses located in the Northeast.<sup>8</sup>

IMPLAN margins were used to convert retail-level prices paid by for-hire owners into appropriate producer values. Margins ensure that correct values are assigned to products (i.e., commodities) as they move from producers, to wholesalers, through transportation sectors, and finally on to retail establishments.

For-hire revenue obtained from both nonresidents and residents of the Northeast were used in the assessment. However, spending by residents of the Northeast on recreation-related activities is part of household consumption and is endogenous in the input-output model. Therefore, to avoid double-counting in the input-output model, the total value of for-hire gross revenue obtained from residents of the Northeast was subtracted from IMPLAN prior to constructing the input-output model. Using this procedure, the contribution of revenue received from resident for-hire passengers can be considered exogenous and was modeled in the same manner as the revenue received from nonresident passengers.<sup>9</sup>

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<sup>8</sup>IMPLAN's default RPC values associated with the supply of bait (frozen fish, squid, sea worms, clams, live eels, etc.) from local fishermen and wholesalers was increased to one, since virtually all locally purchased bait comes from harvesters and dealers operating in the Northeast.

<sup>9</sup>Inclusion of the passenger fees received from both nonresidents and residents is necessary to show the total contribution of the for-hire industry to the Northeast's economy. Failure to include the revenue received from residents would underestimate the contribution of the for-hire fleet. Contribution-type input-output assessments are often confused with economic impact input-output assessments, where resident expenditures are usually excluded. Further clarification of the differences can be found in Watson et. al. 2007.

### 6.5.1 For-Hire Fleet Operating Expenditures

The full list of individual expense items that were applied to the IMPLAN-generated multipliers is shown in Table A21. Several of the expense items warrant further clarification. The cost of supplies was apportioned evenly across four IMPLAN sectors that manufacture soaps, brooms, mops, clothes (e.g., uniforms) and plastic bags. These were the items that for-hire owners most commonly listed as “other supplies” on the survey. A detailed breakdown of food and drink expenditures was not requested on the survey instrument, so this cost was assigned to IMPLAN sectors according to the Personal Consumption Expenditure (PCE) activity data base for grocery store purchases created by the Bureau of Economic Analysis. This PCE vector is available in IMPLAN and represents the national average expenditure pattern by households for groceries. The total cost of state fishing permits, as well as the cost of obtaining professional certificates, was assigned to IMPLAN sectors according to the state/local government noneducation institution spending pattern available in IMPLAN. This spending pattern represents the regionwide average expenditure pattern by state/local government institutions, not involved in education-related activities, and includes goods and services purchased as well as wages and salaries paid to government employees. The total cost of federal fishing permits was assigned to the federal government nondefense institution spending pattern contained in IMPLAN.<sup>10</sup>

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<sup>10</sup>Three other expenditure categories were adjusted further prior to generating impacts. A large portion of payments for property insurance and interest on loans generate no economic impacts in an input-output model. The sales of most industries in an input-output model are expressed in terms of business receipts, but the insurance carrier and the banking sectors are measured on a net basis. The output of the insurance carrier sector is calculated by subtracting claims and policy dividends paid from premiums earned. The output of the banking sector includes interest payments on loans, but also many other income-generating activities, and takes into account the interest paid by banks on depositors’ funds and for bank services where no explicit charges are made. Therefore, if the total estimated value of the property insurance and interest payments made by for-hire vessel owners were applied to the input-output model’s multipliers, the impact on the local economy would be overstated. To provide net expenditure estimates that would equate to the values contained within IMPLAN, the insurance expenditure estimate was adjusted by the average net profit margin percentage for property and casualty insurance firms in the Northeast (7.2%), and the average net profit margin percentage for the banking industry in the Northeast was used to adjust expenditures on bank fees and interest payments (15.3%; <http://biz.yahoo.com/p/>).

**Table A21. Charter and head boat IMPLAN sectoring scheme**

<b>Expenditure/Income Category</b>	<b>IMPLAN sector(s)</b>	<b>IMPLAN description</b>
<b>Fuel and oil</b>	3115	Refined petroleum products
<b>Bait</b>	3017	Fish (squid, clams, etc.)
<b>Ice</b>	3070	Soft drinks and manufactured ice
<b>Food &amp; drink</b>	PCE , NIPA1111	IMPLAN PCE vector for grocery store purchases
<b>Tackle &amp; supplies</b>		
Fishing gear and tackle	3311	Sporting and athletic goods
Other supplies	3138, 3318, 3086, 3142	Soaps, brooms, mops, knit apparel, plastics
<b>Repair &amp; maintenance</b>		
By boatyard	418	Personal and household goods repair and maintenance
By staff	320	Retail stores - motor vehicle and parts (boat parts)
<b>Insurance</b>	357	Insurance carriers
<b>Overhead</b>		
Office staff	5001	Employee compensation
State fishing permits	State govt	State/local govt noneducation institution spending pattern
Federal fishing permits	Federal govt	Federal govt nondefense institution spending pattern
Fishing association dues	425	Civic, social, professional, and similar organizations
Professional certifications	State govt	State/local govt noneducation institution spending pattern
Accounting / book keeping	368	Accounting, tax preparation, bookkeeping, and payroll
Bank fees	354	Monetary authorities
Legal fees	367	Legal services
Advertising & promotion	377	Advertising and related services
Booking agent fees	383	Travel arrangement and reservation services
Dock/slip fees	409	Amusement parks, arcades, and gambling industries (marinas)
Telephone & internet	351	Telecommunications
Electric & other utilities	31	Electric power generation, transmission, and distribution
Weather service subscriptions	380	Miscellaneous professional, scientific, and technical services
Company vehicle lease	355	Nondepository credit intermediation and related activities
Company vehicle maintenance	414	Automotive repair and maintenance
<b>Hired captain</b>	5001	Employee compensation
<b>Crew / mates</b>	5001	Employee compensation
<b>Investments</b>		
Electronics	3249	Search, detection, and navigation instruments
<b>Loan payments</b>		
Principal	291	Boat building
Interest	354	Monetary authorities
<b>Owner net returns</b>		
Head boat owners	10008	Households 100-150K
Charter boat owners	10003	Households 15-25K

### *6.5.2 Disposable Income Spending by Owners, Hired Captains, Crew/Mates, and Office Staff*

Calculation of “induced” impacts required making assumptions about the goods and services purchased and the levels of disposable income available for spending. The IMPLAN system contains a PCE activity database that represents the national average expenditure pattern for disposable income according to nine different annual household income classes. Each of the nine household income PCE vectors show the average proportion of goods and services that will be purchased from a given IMPLAN sector for each dollar of spending. Spending patterns differ dramatically between income levels. Low-income spending is more heavily weighted toward necessities (i.e., food, clothing, shelter), while higher-income levels provide more disposable income for recreation and luxury spending. In absence of a primary expenditure survey that identifies the specific spending patterns of for-hire vessel owners, hired captains, crew/mates, and office staff, the nine IMPLAN PCE vectors provide a reasonable approximation of the goods and services that are purchased with the income earned from for-hire activities.

The regional contribution of income expenditures to the Northeast’s economy were estimated separately for vessel owners, captains, crew/mates, and office staff, to account for differences in spending across income levels. The average net return, per vessel, for head boat owners in 2010, was approximately \$95.2 thousand. Many head boat owners earned additional income from other activities though. Survey data indicated that the average head boat owner derived approximately 70% of his/her total income from for-hire activities in 2010. Therefore, it can be assumed that the average head boat owner earned a total of just over \$135 thousand ( $95/0.7=135.7$ ) in 2010 from all income-generating activities. While the contributions of non for-hire earnings to the Northeast’s economy are excluded from this study, the additional income earned by head boat owners had an effect on which PCE profile was chosen to best represent the overall spending pattern of head boat owners. Ultimately, head boat owners were assumed to spend their income according to the spending pattern represented by households with earnings of \$100-\$150 thousand in 2010.<sup>11</sup>

Charter boat net returns were assumed to have been spent according to the spending pattern represented by households with earnings of \$25-\$35 thousand. Net earnings per charter vessel averaged \$5,175, but charter owners indicated that only 17% of their total income, on average, in 2010 was derived from charter activities. Thus, total earnings from all income-generating activities in 2010 was calculated at approximately \$30.8 thousand ( $5,175/0.168=30,804$ ), and it was assumed that charter owners would spend their disposable income according to the spending pattern represented by households with incomes that range from \$25-\$35 thousand.<sup>12</sup>

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<sup>11</sup> The Household Income Change option was employed in IMPLAN to estimate the multiplier effects of the earnings by head boat owners in 2010. This option correctly removes personal taxes and savings, based on regional average rates, before calculating the contribution of disposable income expenditures to the economy.

<sup>12</sup> Income earned by spouses also contributes to the income base of households and may raise the level of disposable income available for spending. The average level of spousal earnings are unknown, however, so the PCE profile chosen for the analysis is based on personal earnings and not actual household earnings. Additionally, as indicated in Section 4.2, we consider our estimate of average charter net earnings to be a lower bound approximation of earnings. For these reasons, the average household income of charter owners was likely higher than \$25-\$35 thousand.

Hired captains, crew/mates, and office staff earnings, were assumed to be spent according to the average spending pattern across all Northeast households contained in IMPLAN (IMPLAN sector 5001, employee compensation). Because of the seasonal nature of the for-hire business in the Northeast, a substantial number of individuals employed by head boat and charter boat owners in the Northeast are likely employed in other industries during the offseason. The survey we conducted was administered to for-hire owners, and not hired employees, so we were unable to determine total annual income levels for hired employees. In the absence of this information, the employee compensation vector provides a reasonable approximation of the goods and services purchased by hired captains, crew/mates, and office staff employed by both head boat and charter boat owners in 2010.