SUPPORTING STATEMENT
FOR-HIRE SURVEY
OMB CONTROL NO. 0648-0709

B. COLLECTIONS OF INFORMATION EMPLOYING STATISTICAL METHODS

1. Describe (including a numerical estimate) the potential respondent universe and any sampling or other respondent selection method to be used. Data on the number of entities (e.g. establishments, State and local governmental units, households, or persons) in the universe and the corresponding sample are to be provided in tabular form. The tabulation must also include expected response rates for the collection as a whole. If the collection has been conducted before, provide the actual response rate achieved.

The For-Hire Telephone Survey (FHTS) is a weekly telephone survey of for-hire fishing vessels. The survey, which estimates for-hire fishing effort, is conducted in all coastal states from Maine through Louisiana. The FHTS will be conducted for five, two-month reference waves (March/April – November/December) in the states along the Atlantic Coast, with the exceptions of Maine, New Hampshire, North Carolina and Florida. The survey will be conducted for three waves (May/June – September/October) in Maine and New Hampshire. In North Carolina and the Gulf States (including both coasts of Florida, the FHTS will be conducted for six reference waves (January/February – November/December).

The sample universe for the FHTS includes all for-hire fishing vessels that operate within the study area. Sampling is stratified by state and type of for-hire fishing vessel; charter boats are generally smaller vessels (6 or fewer passengers) that charge a fee for the entire fishing party, while headboats are larger vessels that charge a fee for each passenger. Each week, a simple random sample of vessels is selected within each stratum, and sampled vessels are contacted via telephone and asked to describe fishing activity during the preceding week. Table 1 provides the sample universe, target sample sizes and estimated number of completed telephone interviews for each stratum for a given reference week, Table 2 provides the annual target sample size and expected number of completed interviews for each state. These expected numbers of completed interviews are based on 2017 results.

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Table 1. Estimated number of for-hire vessels in the population, number of vessels sampled each week, expected response rates, and estimated number of completed interviews per sample week for the For-Hire Telephone Survey.

State	Type of Fishing Vessel	Estimated Total Number of Vessels	Weekly Sample Size	Expected Response Rate[1]	Estimated Completed Weekly Interviews
AL	Charter	256	26	57	15
CT	Charter	121	12	65	8
CT	Headboat*	8	3	65	2
DE	Charter	98	10	57	6
DE	Headboat	6	3	57	2
FL	Charter	2,059	206	52	107
GA	Charter	162	16	92	15
MA	Charter	999	100	67	67
MA	Headboat	27	3	67	2
MD	Charter	509	51	66	34
MD	Headboat	11	3	66	2
ME	Charter	159	16	76	12
ME	Headboat	9	3	76	2
MS	Charter	47	5	57	3
NC	Charter	682	68	72	49
NH	Charter	99	10	56	6
NH	Headboat	10	3	56	2
NJ	Charter	666	67	59	40
NJ	Headboat	31	3	59	2
NY	Charter	410	41	60	25
NY	Headboat	69	7	60	4
RI	Charter	189	19	66	13
RI	Headboat*	6	3	66	2
SC	Charter	326	33	57	19
VA	Charter	139	14	62	9

Expected Response Rate[1][1] Response rates for the most recent administration of the for-hire telephone survey

VA	Headboat	9	3	62	2
Total		7,107	728	65	473

*It is important to mention that the minimum sample size per type of fishing vessel is 3.

Table 2. Estimated annual sample size, response rates and completed number of interviews For-Hire Telephone Survey.

State	**Type of Fishing Vessel**	**Annual Sample Size**	**Expected Response Rate**	**Estimated Completed Annual Interviews**
AL	Charter	1,352	57	771
CT	Charter	528	65	343
CT	Headboat	132	65	86
DE	Charter	440	57	251
DE	Headboat	132	57	75
FL	Charter	10,712	52	5,570
GA	Charter	704	92	648
MA	Charter	4,400	67	2,948
MA	Headboat	132	67	88
MD	Charter	2,244	66	1,481
MD	Headboat	132	66	87
ME	Charter	416	76	316
ME	Headboat	78	76	59
MS	Charter	260	57	148
NC	Charter	3,536	72	2,546
NH	Charter	260	56	146
NH	Headboat	105	56	59
NJ	Charter	2,948	59	1,739
NJ	Headboat	132	59	78
NY	Charter	1,804	60	1,082
NY	Headboat	308	60	185
RI	Charter	836	66	552
RI	Headboat	132	66	87

SC	Charter	1,452	57	828
VA	Charter	616	62	382
VA	Headboat	132	62	82
Total		33,923		22,050

2. Describe the procedures for the collection, including: the statistical methodology for stratification and sample selection; the estimation procedure; the degree of accuracy needed for the purpose described in the justification; any unusual problems requiring specialized sampling procedures; and any use of periodic (less frequent than annual) data collection cycles to reduce burden.

2.1 Sampling Design

The sampling unit for the FHTS is the for-hire vessel. The FHTS sample frame is constructed from a comprehensive directory of all known for-hire vessels operating within the study area. The FHTS vessel directory consists of a unique for-hire vessel identifier, the vessel name and/or registration number (state registration number or Coast Guard number) as well as the vessel operator's name, address, and telephone number.

The directory is continually updated with information collected from licenses or fishing permits, as well as through advertisements and field observations. Directory updates are incorporated one week prior to sample selection for each data collection period. Once the FHTS directory has been finalized and the frame created, the frame is stratified by vessel type, and a 10% random sample of for-hire vessels is selected from each stratum for each sample week.

2.2. Data Collection Procedures

An advance letter is mailed to a representative of each sampled for-hire vessel one week prior to each reference week. The letter notifies the representative that the vessel has been selected for the survey, the week for which he or she will be asked to provide data, and the week in which the interview will take place. Representatives are also provided with Internet, fax and phone contact information, as well as instructions for completing the survey through alternative reporting modes (described below).

Data collection for each reference week begins on the first day immediately following the reference week and continues for a period of seven days. Interviews are conducted by trained Interviewers utilizing a Computer Assisted Telephone Interviewing (CATI) system to log call attempt and survey results, schedule call-back interviews, and ensure that dialing protocols are satisfied for each sampled number. The CATI is used to navigate the interview through complex skip patterns and identifies suspect or illogical responses at the point of data entry for verification or correction.

Up to ten call attempts are conducted to reach a representative for each sampled vessel. When each number is dialed, the telephone is allowed to ring five times before being classified as a "no answer." Telephone calls are distributed among weekend/weekday and day/evening, such that the following criteria are satisfied:

- All initial attempts are made on the day immediately following the end of the reference week.
- Three out of four call attempts are at night for each sampled vessel. The time delineating day and night is 5:00 PM local time.
- Calling is completed before 9:00 PM local time.

Once a vessel representative has been contacted, the Interviewer uses the CATI to collect data on the vessel's activity during the reference week including detailed information about each for-hire fishing trip that occurred during the reference week. In the event that the interview cannot be completed at the time of the initial contact future calls to that individual are made on an appointment basis.

The FHTS provides three alternative response options in lieu of a CATI interview. First, vessel representatives are permitted to fax a log sheet (included with the advance letter) to a toll free number. Similarly, vessel operators may fax VTRs for each trip taken during the reference week[1]. Finally, vessel representatives have the option of submitting data via an online instrument that was developed specifically for the FHTS. The tool is PIN-protected. A unique PIN is assigned during sample selection. PIN numbers and instructions for submitting data through the online instrument are included in the advance letter.

2.3 Estimation Design

The estimation weights for the FHTS are formed in stages. The first stage is the creation of a base weight for the sampled vessel, which is the inverse of the selection probability. The second stage is a non-response adjustment, which is applied at the stratum level.
Estimates of total for-hire fishing effort ($\hat{Y}_f$) are produced using these nonresponse adjusted weights.

$$\widehat{Y}_f = \sum_{h=1}^{H} \sum_{i=1}^{n_h} \omega_{hi}^{¿} y_{hi}$$

where $\omega_{hi}^{¿}$ and y_{hi} are the final, nonresponse adjusted weight and reported number of recreational fishing trips, respectfully, for vessel *i* of stratum *h*.

3. <u>Describe the methods used to maximize response rates and to deal with nonresponse. The accuracy and reliability of the information collected must be shown to be adequate for the intended uses. For collections based on sampling, a special justification must be provided if they will not yield "reliable" data that can be generalized to the universe studied</u>.

The FHTS utilizes a multi-faceted approach to maximize response rates and minimize potential nonresponse bias. First, intensive interviewer training and tested methodological approaches are employed to maximize response. Interviewers are tested for skills in effective communication with potential respondents, and/or accurate coding of responses before they are hired for training. Training familiarizes interviewers with a procedures manual, develops interviewing skills through role-playing exercises and builds interviewer confidence. Supervision and additional training of interviewers occurs during the conduct of all telephone surveys. Call-center supervisors monitor in-progress interviews and provide immediate feedback and additional training as needed.

In addition, the FHTS utilizes a multi-mode approach to encourage survey participation.

[1] Vessel Trip Reports (OMB Control no. 0648-0212) are mandatory logbook reporting requirements for all vessels permitted under the Atlantic mackerel, squid, butterfish, Atlantic sea scallop, Atlantic surf clam, ocean quahog, Northeast (NE) multispecies, monkfish, summer flounder, scup, black sea bass, Atlantic bluefish, spiny dogfish, Atlantic herring, tilefish, red crab and skate fishery management plans.

Representatives of selected vessels can proactively submit fishing information through an online instrument, by faxing completed logbook entries to a toll-free fax number or by calling a toll-free number to initiate a telephone interview. Vessel operators who do not proactively report will be contacted and asked to participate in a telephone interview. Response options are described in the advance letter.

Finally, residual nonresponse will be handled through nonresponse weighting adjustment. Specifically, the weights of non-responding vessels will be transferred to respondents within adjustment cells. Generally, nonresponse adjustment cells will be defined at the stratum level.

4. Describe any tests of procedures or methods to be undertaken. Tests are encouraged as effective means to refine collections, but if ten or more test respondents are involved OMB must give prior approval.

NOAA Fisheries staff is currently examining sampling allocations in an effort to optimize data collection. No additional studies are planned.

5. Provide the name and telephone number of individuals consulted on the statistical aspects of the design, and the name of the agency unit, contractor(s), grantee(s), or other person(s) who will actually collect and/or analyze the information for the agency.

John Foster (301-427-8130) is the current NMFS contact for the FHTS. Data collections are performed under grant and contract, while NOAA Fisheries staff performs the statistical analyses. A current grant supports state agency FHTS data collection in Maine, North Carolina, Georgia, Florida, Alabama, and Mississippi. The current contractor conducting FHTS data collection for the other states is QuanTech, Inc. of Rockville, Maryland.