SUPPORTING STATEMENT

Economic Survey of Gulf of Mexico (GOM) Dealers Associated the GOM Grouper-Tilefish Individual Fishing Quota (IFQ) Program
OMB CONTROL NO. 0648-xxxx

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 population of interest consists of all Federally-licensed reef fish dealers in the survey area from Texas through West Florida. There are approximately 200 such dealers. The survey strategy calls for a census of this potential respondent universe. Twenty dealers will be interviewed in person during visits to the survey areas by trained interviewers. In-person interviews with dealers are needed as they are the primary source of referrals for in-person interviews to be conducted with hired captains and crew for the concurrent "**Economic Survey of Gulf of Mexico (GOM) Captains and Crew Associated with the GOM Grouper-Tilefish Individual Fishing Quota Program".** This survey is the subjectof an ICR pending OMB review and approval. Industry representatives known to the 20 dealers will introduce the contractor's interviewers and facilitate cooperation. We therefore expect close to 100% response from these 20 dealers. The remaining dealers (approximately 180) will be sent the questionnaire by mail. The mail and in-person questionnaires will be administered in the same way, in order to minimize any mode effects. In-person respondents will be provided a copy of the questionnaire in advance so that they can fill out the form before the interview. One of the interviewer's primary duties will be to take qualitative notes during the interview to inform interpretation of the quantitative results from both strata (i.e. in-person and mail respondents) in an effort to better understand the nuances of the effects of the IFQ on the dealer sector, but the interviewer will not alter the completed form. Additionally, the interviewer will secure appointments to interview referred hired captains and crew for the concurrent labor survey.

We anticipate a 67% response rate for the mail portion of the survey Dillman (2014) reports response rates between 53%-70% for mail surveys of the general public using his methods, as proposed here. Since the dealer survey is sponsored by a Government agency, a factor which helps improve survey response according to Dillman, and involves issues of importance to respondents, we expect the response rate to be at the higher end of the range quoted by Dillman. Thus, we estimate a total of 20 responses from the in-person portion and 120 from the mail survey, for a total of 140 completed questionnaires, a response rate of 70%. Table 1 summarizes the key statistics about the proposed sampling strategy.

Table 1: Sampling strategy for participants in the GT-IFQ Program.

Population Size	Target Sample	Expected Response Rate	Anticipated Sample
200	200	0.70	140

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.

One time, voluntary surveys will be used to elicit information on the performance of the GT-IFQ Program. The list of participants will be provided by NMFS to the contractor. The contractor will attempt to interview the entire universe of participants (approximately 200 individuals) using in-person interviews with 20 dealers and a mail census of the remaining dealers. Statistical models will include globally used summary statistics, such as median and mean values, hypothesis testing for differences in proportions for "yes/no" questions, and two-tailed t-test to examine differences in group responses. Socioeconomic impacts of the GT-IFQ Program will be estimated using multiple regression and multinomial logit models. Regression models measure the effect of independent variables, such as allocation, on the change in quantitative variables such as gross sales pre- and post-IFQ. Logit models measure the effect of independent variables, such as number of employees or opinions on the IFQ program, on qualitative outcomes such as plans to acquire additional IFQ shares. Regression and logit models will be fit using standard statistical packages such as STATA, LIMDEP or SAS.

3. 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.

Industry representatives under contract to QuanTech will introduce our interviewers to 20 dealers. Each dealer will be assigned a representative known to them and trusted by them. We expect this approach to result in cooperation of all or almost all of the contacted dealers.

For the mail portion of the survey, following Dillman (2014)[1] we plan to adopt the following plan to achieve high response rates.

We plan to make four contacts by first class mail, with an additional contact (if necessary). These contacts will include: a 'notification letter' to alert the respondent about the impending 'first survey package'; a 'thank you/reminder postcard' sent to the respondent one week after mailing the first survey package expressing appreciation for taking the time to respond to the survey and indicating that the completed instrument was not yet received; and if the completed survey

[1] Dillman, D. A., Smith, J.D. and Christian, L.M. 2014. Internet, Phone, Mail and Mixed-Mode Surveys: The Tailored Design Method. John Wiley & Sons, Inc. Hoboken, NJ.

instrument was not received within a few weeks of the earlier mailing, then a letter and replacement questionnaire will be mailed to the respondents urging them to collaborate with the data collection; a 'final phone call' within a week of sending the replacement questionnaire asking the respondent to complete the survey form, will also be conducted to increase the response rate to the mailed survey form.

If the IFQ program dealer declines to participate in the survey effort, then the contractor will not attempt further contacts. In the event we receive less than a 70% response rate, we plan to incorporate a weighting adjustment method (i.e., post-stratification by GT-IFQ Program reported landings) to deal with unit non-response. We plan to utilize a noninterview adjustment method to give a higher weight to interviewed IFQ program dealers. Nonresponse adjustment cells will be formed based on quartiles of the number of shares owned, years in the IFQ program and State (Florida further divided into NW, W and Keys regions). Some small cells may need to be combined into larger cells. A nonresponse adjustment factor will be calculated for each cell. If N_i is the number of dealers in cell "i", of which R_i complete the survey, the responses in that cell will be weighted by a factor N_i/R_i.

Respondents will be provided business reply mail envelopes so that they may easily return their completed questionnaires.

Lastly, the contractor will personalize the correspondence. Dillman (2014) notes that personalized mailings increase responses rates by 5-11% in four-contact general public surveys.

Sampling of the entire universe will provide for valid generalizations of the population. If non-response biases are detected, then standard methods described in statistical textbooks such as Cochran[2] and Lohr [3] will be employed.

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.

In addition to sharing the survey instrument with NMFS and GMFMC staff, as well as experts in academia, the attached survey was pre-tested with industry. Members of NMFS, GMFMC and industry will provide suggestions to improve the content and clarity of the final survey.

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.

Dr. David Cox is the President of QuanTech, Inc. and has extensive experience with survey design and implementation. For this project, he has supervised all aspects of survey design and planning for its implementation. He will also supervise the collection, storage, and synthesis of the collected information into a final deliverable product to the NMFS. Dr. Cox can be reached at 240-307-2993.

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[2] Cochran, W. 1977. *Sampling Techniques*. 3rd Edition. Toronto. John Wiley and Sons.

[3] Lohr, S., 1998. Sampling: Design and Analysis. Duxbury Press.

Dr. Walter Keithly from Louisiana State University was hired by QuanTech, Inc. to design the survey instrument. Dr. Keithly can be reached at 225-578-6296.

Dr. Assane Diagne is a staff economist for the GMFMC. He has reviewed the final questionnaire. He can be reached at 813-348-1630.

Drs. Larry Perruso, Michael Travis, and Michael Jepson, social scientists employed by the NMFS, were consulted on the statistical design. NMFS social scientists and GMFMC staff will also use the data for regulatory analysis. Drs. Perruso, Travis, and Jepson can be reached at 305-361-4278, 301-427-8549, and 727-551-5756, respectively.