

SUPPORTING STATEMENT

Socio-Economic Assessment of Gulf of Mexico Fisheries Under the Limited Access Privilege 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 764 individuals. These individuals were the initial recipients of IFQ shares when the program started in 2007. Prior to the adoption of IFQs, there were 136 ‘Class I’ permit holders, who could harvest up to 2,000 lbs of red snapper per trip, and 628 ‘Class II’ permit holders, who could harvest up to 200 lbs of red snapper per trip. Class I permits were granted to those individuals who routinely targeted red snapper (i.e., dedicated fleet) whereas Class II permits were assigned to those individuals that incidentally caught red snapper (i.e., by-catch fleet). Following the adoption of IFQs, Class I permit holders were awarded more IFQ shares than Class II permit holders because the allocation of IFQ shares was based entirely on an individual’s catch history.

The proposed sampling design calls for the census of the 764 individuals who were initially granted IFQ shares. Although we intend to sample the entire universe of present and past shareholders (764 individuals), we expect to complete 384 surveys. This figure assumes a 43% response rate for small and medium shareholders, which was observed in a similar study conducted by Knapp¹. The study by Knapp surveyed 129 Alaska halibut IFQ shareholders to assess their perceptions about the performance of the program. We anticipate an 80% response rate for the large shareholders because of the contractor’s earlier outreach work with Gulf of Mexico Reef Fish Shareholders’ Alliance, to which the largest red snapper IFQ shareholders belong. Table 1 summarizes the key statistics about the proposed sampling strategy.

¹ Knapp, G., 1997. Initial Effects of the Alaska Halibut IFQ Program: Survey Comments of Alaska Fishers. *Marine Resource Economics*, Volume 12, pp. 239–248

Table 1: Sampling strategy for red snapper IFQ shareholders.

Tier	Population Size	Target Sample	Expected Response Rate	Anticipated Sample*
Class I	136	136	0.80	108
Class II	628	628	0.43	270
Total	764	764		378

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 red snapper IFQ program. The list of shareholders will be provided by NMFS to the contractor. The contractor will attempt to survey the universe of shareholders using a self-administered questionnaire and conducting in person interviews with non-respondent large shareholders (if necessary). The approach is needed because otherwise, the sampling strategy could inadvertently marginalize or exclude some of the user groups. Preliminary analyses suggest that the red snapper fishing industry is highly concentrated. It has been estimated that 6% of the shareholder population owns about 60% of the red snapper quota.

During the large shareholder interviews (again, if they are necessary), the contractor will go over the survey questions to ensure that their perceptions and beliefs about the performance of the IFQ program are adequately recorded. There will no script when discussing the survey questions given the familiarity of the contractor with many of these large shareholders. The contractor knows many of the shareholders from many years of working with them on various panels convened by the Gulf of Mexico Fishery Management Council.

The data collected will be used for descriptive and analytical purposes. Descriptive uses include the estimation of indexes of community dependence. The procedures for estimating these indexes will be based on the standard equations available in various statistical texts such as Thompson (1992)².

² Thompson, Steven K., 1992. Sampling. John Wiley and Sons, Inc., New York, 343 p.

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.

Following Dillman (2007)³ we plan to adopt the following plan to achieve high response rates.

First, we plan to draft a respondent-friendly questionnaire. For example, several questions about the program's biological, economic and social performance can be simply answered using Lickert scale type responses (e.g., strongly agree, agree, neutral, disagree, strongly disagree), basic ranking responses (e.g., 0 to 10) and/or multiple choice type answers. In addition, the survey has few open-ended questions.

Second, we plan to make five contacts (if necessary) by first class mail. These contacts will include: a) a 'pre-notice letter' to alert the respondent about the impending questionnaire; b) a certified letter with the survey, c) a 'thank you postcard' sent to the respondent a few days after mailing the survey expressing appreciation for taking the time to respond to the survey and indicating that the completed instrument was not received; d) if the completed survey 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; and e) a 'final letter' within a week of sending the replacement questionnaire asking the respondent to fill the survey form..

Third, respondents will be provided first class pre-paid envelopes so that they easily return their completed questionnaires. In addition, the contractor will personalize the correspondence the mailings. Dillman (2007) notes that personalized mailings increase responses rates by 5-11% in multiple-contact general public surveys.

Last, if the shareholder belongs to the largest shareholder group (most likely former Class I fishers), then two telephone contacts will be made to solicit the opportunity to conduct an in-person interview at times and locations that are convenient to the fishers. If the shareholder belongs to the medium and smaller group (most likely Class II), then three telephone contacts will be made to impress the importance of their input in the evaluation of the program and to solicit their cooperation. The combination of the above described steps is intended to raise our anticipated non-response rate, particularly for those small and medium sized shareholders. If the fisher declines to participate in the survey effort, then the contractor will not attempt further contacts. However, the contractor will inquire about their reasons for not wanting to participate in order to identify potential non-response biases. If non-response biases are detected then standard methods described in standard textbooks such as Cochran⁴ and Lohr's⁵ will be employed. NMFS databases contain ancillary information on fishers operations that can be used to correct for non-response biases.

3 Dillman, D. A., 2007. Mail and Internet Surveys: The Tailored Design Method 2007 Update with New Internet, Visual, and Mixed-Mode Guide. 2nd Edition. John Wiley & Sons, Inc. Hoboken, NJ.

4 Cochran, W. 1977. Sampling Techniques. 3rd Edition. Toronto. John Wiley and Sons.

5 Lohr, S., 1998. Sampling: Design and Analysis. Duxbury Press.

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, the contractor made it available to the leadership of the Gulf of Mexico Reef Fish Shareholders' Alliance, which concentrates the largest red snapper IFQ shareholders. Members of NMFS, GMFMC and the Shareholder Alliance provided suggestions to improve the content and clarity of the questions.

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. Walter Keithly from Louisiana State University was hired to design a statistically sound data collection strategy, conduct the data collection and analyze the survey information for the NMFS. Dr. Keithly can be reached at 225-578-6296.

Drs. Jim Waters and Juan Agar, social scientists employed by the NMFS, were consulted on the statistical design. NMFS social scientists and GFMC staff will also use the data for regulatory analysis. Drs. Jim Waters and Juan Agar from the National Marine Fisheries Service can be reached at 252-728-8710 and 305-361-4218, respectively.