

**SUPPORTING STATEMENT  
REGIONAL ECONOMIC DATA COLLECTION PROGRAM  
FOR GULF COAST ALASKA  
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.**

For the vessel surveys, the overall population consists of all fishing vessels landing raw fish at a port in Gulf Coast Region, Alaska during 2005. For that year, there were 1,846 vessels. This population consists of three vessel classes – small, medium, and large vessel classes. The population sizes are 831, 964, and 51, respectively for small, medium, and large vessels classes. An unequal probability sampling (UPS) procedure is used to determine the sample sizes needed for the analysis for small and medium vessel classes, which is described in Item #2 below and in the aforementioned supplementary document. Since the population size of the large vessel class is very small (51), we will mail out the surveys to all large vessel owners.<sup>1</sup> The population sizes of local businesses and fish processors are 102 and 44, respectively.

The expected response rates for the vessel surveys are based on consideration of the following factors. First, compared with a previous data collection project conducted for Southeast Alaska (Hartman 2002), which achieved an overall response rate of about 30%, the number of questions in the present project is much smaller and the quantity of information being asked is much smaller. Second, in the present study, questions about sensitive information such as vessel cost and expenditures are omitted. The previous Southeast study included these sensitive questions, which significantly contributed to the low response rate. Third, input from select members of the respondent populations helped guide survey design and question wording. Fourth, follow-up telephone calls will also increase the response rate. Based on these factors, it is expected that, overall, the response rate for mail survey of fishermen for the present project will be about 55% which is much higher than in the Southeast study. For telephone interviews with local businesses (including fish processors), a response rate of 65% is expected. For a more detailed description of the methods we used, and will use, to increase the response rate, see Item #3 below.

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<sup>1</sup> There is population overlap between vessels landing fish in the Gulf coast region (current project) and Southwest region. According to Commercial Fisheries Entry Commission data, there are a total of 295 vessels that land at both Gulf Coast region and Southwest region. Out of these 295 vessels, 72 are in the small vessel class, 170 are in the medium vessel class, and 48 are in the large vessel class. The remainder does not report vessel length. Thus, nearly all of the large vessel class landing at Gulf Coast ports (48 vessels out of a total of 51 large vessels) also land at Southwest ports. The questions in the surveys for Gulf Coast and Southwest data collection projects are the same except for the region name in the questions asking about the residency of crew, skipper, and owners. Therefore, if any of the 295 vessels are selected via Pareto sampling into the mailout samples for Gulf Coast project, we will send the selected vessel owners only those questions which ask about the residency of the fishermen, excluding all the other questions, thus reducing public burden. We will also acknowledge this sample overlap in our cover letter to the vessel owners who land at both Gulf Coast and Southwest regions.

Vessel Class	Population size	Mail or phone interview sample size	Expected number of respondents	Expected response rate
Small vessel	831	359	197	55%
Medium vessel	964	327	180	55%
Large vessel	51	51	28	55%
Local businesses including fish processors	146	146	95	65%

**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.**

Since the majority of gross revenue within each harvesting sector comes from a small number of vessels, a simple random sampling (SRS) of vessels would only include a small portion of the total ex-vessel value, and therefore, would be misleading. As a result, for the present project an unequal probability sampling (UPS) method without replacement is used that accounts for this unequal harvest in each target population. The objective of implementing the sampling task is to estimate the employment and labor income information for each of three disaggregated harvesting sectors using as an auxiliary variable the ex-vessel revenues provided by Commercial Fisheries Entry Commission (CFEC) earnings data. Since each sector will be used as a separate economic sector in IMPLAN model, we face three separate problems for three different sectors in sampling. For small and medium vessel sectors, we use a UPS without replacement method to identify sampling units. Since the population size of the large vessel class is small (51), we will mail out the surveys to all large vessel owners.

**3. Describe the methods used to maximize response rates and to deal with non-response. 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.**

**(a) Maximizing Response Rates**

Previous applications of voluntary commercial fishing surveys in Alaska (e.g., Hartman 2002) were hampered by low response rates that principally resulted from the use of long and complicated survey instruments. Commercial fishermen are frequently asked, and often required, to participate in surveys from numerous organizations including NOAA, Alaska Department of Fish and Game (ADF&G), and universities. As a result, commercial fishermen are less likely to complete voluntary surveys that are lengthy, poorly-designed, and do not clearly involve issues that are important to them. In this data collection, significant efforts were made to ensure the survey instruments were short in length, contained well-designed questions, and clearly conveyed the importance of the data collection to issues that are important to commercial fishermen.

The mail surveys are short (6 to 7 questions depending upon the survey version, all of which span eight pages) and avoid many sensitive questions compared with many previously-fielded commercial fishing surveys. The set of questions was limited to only those that are essential for achieving the objectives of the project as outlined in Part A, Item #1 above. There is only a fraction of the number of questions asked compared with the Southeast Alaska commercial fishing survey discussed earlier, which achieved an overall response rate of about 30%. In the mail surveys, numerous questions on vessel expenditures that are often included in surveys of commercial fishermen are omitted here to avoid the added complexity and likely sensitivity of asking for this type of information from respondents.<sup>2</sup>

The telephone scripts for use in interviews with local businesses and fish processors were developed with similar goals in mind. Specifically, each phone script was constructed to include only the most essential questions to ensure the telephone interviews were short in length to minimize the time burden on respondents.

Pretesting activities that included a small focus group and several interviews with fishermen and fish processors (totaling less than 10 individuals) were used to evaluate the content and presentation of the survey materials, as well as to ensure input by the fishing community. Feedback from these pretesting activities aided in non-trivial ways to the development of the survey questions. For instance, considerable effort was made to ensure that the survey instrument reflected considerations for the record-keeping systems kept by fishermen and used common terms and wording used by fishermen. Participants in pretesting activities also indicated that previous voluntary surveys often did not provide adequate assurances that the information being requested would be handled confidentially, which often deterred them from responding. To ensure respondents that the data they share will be kept confidential, a detailed confidentiality statement is presented on the first page of the mail survey and mentioned upfront in the telephone interviews. A similar statement is made in the cover letter accompanying the mail survey.

Another reason believed to have caused low response rates in previous survey efforts is the disinterest among respondents toward the survey purpose. Surveys that collect information that will clearly benefit or interest respondents are more likely to be completed. The importance and benefits of this data collection project to the respondents (fishermen, local businesses, and fish processors) will be emphasized in the advance letter, cover letter, mail survey, and telephone interviews. In these letters and phone interviews, the investigators clearly state that with the help of the respondents, the important role of the respondents' fishing and business activities in the regional economy can be better identified and that the information they provide will be used to enhance the fishery management practices of NMFS, and, thereby, to increase the long-run economic benefits to the fishermen and local businesses. Making a clear link between the survey, their participation, and the fishery and regional economy is expected to help increase the response rate relative to previous studies.

In addition to the above steps taken to maximize response rates, the survey instruments (mail and telephone) were subjected to significant review by several researchers with expertise on Alaska fisheries and economic surveys to ensure the quality of the materials.

In addition to high-quality survey instruments, the set of survey protocols to be followed in

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<sup>2</sup> Vessel expenditures will be estimated using (1) the sales data collected from telephone interviews with local businesses and fish processors and (2) a cost engineering approach.

implementation was designed to maximize response rates. For the mail survey, a modified Dillman (2000) approach will be employed that includes four survey contacts as follows:

- An **advance letter** notifying the respondents a few days before they receive the survey questionnaire. This will be the first contact with the respondent.
- An **initial mailing** sent a few days after the advance letter. Each mailing will contain a cover letter, personalized questionnaire, and a pre-addressed stamped return envelope.
- A **postcard follow-up reminder** mailed 5-7 days following the initial mailing.
- A **follow-up phone call** to encourage response and identify individuals that have misplaced or need another copy of the survey. If the respondent agrees, the mail survey will be completed over the phone.<sup>3</sup> Up to three attempts will be made to contact each respondent for the telephone interview. Individuals needing an additional copy of the survey will be sent one with another cover letter and return envelope.

A strict Dillman approach is not warranted given negative input from commercial fishermen about repeated contacts beyond the phone contact.

The result of the efforts described above are compact and high-quality survey instruments that contain questions vessel owners, local businesses, and fish processors can answer with minimal effort. As a result, the expected response rate for the mail survey of fishermen is expected to exceed previous survey efforts and achieve a response rate of approximately 55%. This response rate is much higher than that in the longer and more complicated Southeast Alaska study (30% response rate). For the telephone interviews with local businesses (including fish processors), a response rate of 65% is assumed based on previous experience.<sup>4</sup>

#### **(b) Non-response**

To better understand the differences between them, comparisons will be drawn between respondents and non-respondents with respect to several observable characteristics: (1) geographical area of landed fish, (2) ex-vessel value, and (3) species that vessels catch. This information is available from government data for each vessel. If significant and systematic differences between the two groups are discovered, the population parameter estimates of interest may be adjusted by using weights formed from these variables.

#### **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.**

There are no plans to conduct a pilot survey or other tests involving more than ten respondents.

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<sup>3</sup> In this case, the ex-vessel values (by species) of the vessel will be provided to the vessel owners so that they will not have to access their records, which should greatly simplify the question and allow them to calculate the crew and skipper payments easily. In doing this, we will make sure that the person we will be interviewing on the phone is the true owner of the vessel. This is because we do not want to breach the confidentiality by providing the sensitive information to the wrong person. As is seen in the mail survey questions, however, this ex-vessel information will not be given to the respondent in the mail survey.

<sup>4</sup> See Section A #12, Footnote 6.

**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 Slanta (Census Bureau) and Dr. Dan Lew (NMFS) assisted in the development and review of sampling procedures for this project. Their phone numbers are (301) 763-4773 and (206) 526-4252, respectively.

Several NMFS economists with experience in economic survey design and implementation reviewed the survey materials and survey protocols, including Dr. Dan Lew, Dr. Ron Felthoven, and Dr. Brian Garber-Yonts.

Professor Hans Geier (University of Alaska, Fairbanks) is the contractor who will conduct the data collection project, revise the IMPLAN data, and participate in developing regional economic models.

Dr. Chang Seung (Alaska Fisheries Science Center) will conduct the statistical analysis of the information collected, and develop regional economic models with Professor Geier.