

**SUPPORTING STATEMENT
REGIONAL ECONOMIC DATA COLLECTION PROGRAM
FOR SOUTHWEST 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 (i.e., 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, information in the AKFIN database for Year 2013 was used to determine survey population characteristics. The questions to be asked of survey participants will be for Year 2014 activity.¹ The overall population will consist of all fishing vessels (except crab rationalization fishery vessels) making deliveries to ports in SW Alaska. In 2013, there were 2,413 such vessels. This population consists of five vessel classes as shown in Table 1 in Section A. An unequal probability sampling (UPS) procedure is used to determine the sample sizes needed for each vessel class. *UPS procedures are described in Attachment C (included as a supplementary document).*

The expected response rates for the vessel surveys are based on consideration of the following factors. A previous data collection project conducted for Southeast Alaska (Hartman 2002) achieved an overall response rate of about 30%. That study contained a larger number of questions including sensitive ones. The AFSC has completed a survey similar to the proposed one for the Southwest Alaska region and the Gulf Alaska region. The average response rates were about 20% for the harvest sector survey. Most recently, a regional economic data survey for Southeast Alaska fisheries (Waters, E. and The Research Group 2012)² achieved an overall response rate of 28%. Compared with previous regional economic data surveys, the present

¹ As mentioned in a previous footnote, for sampling purpose in this document, we used 2013 fish landings data because the 2014 landings data were not available. However, when the 2014 landings data becomes available, probably after the PRA packet is approved, we will conduct the sampling job again using the 2014 data, and collect the data for year 2014.

² Waters, E. and The Research Group. 2012. *Regional Economic Data Collection Project for Southeast Alaska*. Prepared for Alaska Fisheries Science Center. Contract Number: PO 4300-043-12 (OAK Management, Inc.), Corvallis, Oregon.

survey is expected to achieve overall a higher response rate. There are two important reasons for this. One reason is that, unlike previous surveys, we obtained endorsements for the study from Trawl vessel sector and Hook and Line vessel sector industry associations, which is expected to increase the response rate (the final survey cover page will have the logos of the seafood associations). The other reason is that we went through more rigorous pretests of the survey questionnaires than in the previous surveys, obtained feedbacks from vessel owners in the pretests, and revised the surveys accordingly. Because of these reasons, it is assumed that, overall, the response rate to the mail survey of vessel owners will be about 35%. For a more detailed description of the methods we will use to increase the response rate, see Item #3 below.

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 this project, an unequal probability sampling (UPS) method without replacement is used to account for the unequal distribution of harvest in each target population. We first estimated the optimal mail-out sample sizes derived using the UPS procedure and divided that by the expected response rate. However, the mail-out sample sizes derived using this procedure are much larger than the population sizes for three vessel classes (Trawler, Hook and Line, and Pot Gear vessel classes). This means that the mail-out sample sizes for these three vessel classes should be set equal to the population sizes. In case of Gillnet Gear and Other vessel classes, the mail-out sample sizes (829 and 393, respectively) are smaller than their population sizes (1,632 and 401, respectively). See Table 1 in Section A above. Therefore, we will conduct a census (i.e., send the survey to all units in the population) for each of the three vessel classes, but will use UPS without replacement to identify the sampling units for Gillnet Gear and Other vessel classes.

The objective of the sampling task is to estimate the employment, labor income and other input cost information for each of disaggregated harvesting vessel classes using as an auxiliary variable ex-vessel revenue as provided by AKFIN. Since each vessel class will be used as a separate economic sector in a REI model, we face a separate problem for each of the different vessel classes in sampling. Details of the sampling methodology are described in Attachment C.

As stated in a footnote to A2, we will not conduct any sampling to select key informant to be interviewed. While we will contact all major seafood processors and the main input suppliers operating in the SW Alaska region, we will conduct conversations with any key informant who agrees to be interviewed.

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 vessel surveys in Alaska (e.g., Hartman 2002) tended to be hampered by relatively 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, or do not clearly involve issues that are important to them. In this data collection project, significant efforts have been made to ensure the survey instruments are short in length, contain well-designed questions, and clearly convey the relationship of the data collection to issues that are important to commercial fishermen.

The mail survey is short (i.e., 10 questions) and avoids many of the more sensitive questions included in previously-fielded commercial fishing vessel surveys. The set of questions was limited to only those that are essential for achieving the objectives of the project as outlined in Section A, Question 1 above. Compared with the Hartman (2002) Southeast Alaska commercial fishing survey, a much smaller number of questions will be asked. Questions on vessel expenditures are often included in surveys of commercial fisheries. In the effort proposed here, information on simple approximate expenditure shares rather than actual dollar values is solicited to avoid the added complexity and likely sensitivity of requesting expenditure information. It is not necessary to ask total vessel harvest revenues because that information is already known from the AKFIN database. The questions to be asked in the proposed survey are similar to those used for the most recent regional economic data collection survey for Southeast Alaska (Waters and The Research Group 2012). The difference between that effort and this proposal is that the proposed data collection will ask for more detailed information on the geographical distribution of vessel expenditures. However, unlike Waters and The Research Group (2012), in order to reduce complexity and increase the response rate, this effort will not ask respondents to break out information on their vessels' species-level employment and labor earnings.

We conducted more rigorous pretests of the mail-out survey questionnaires than in previous surveys, and revised the survey questions using feedback from vessel owners who participated in the pretests (See Section B.1 above). We have conducted extensive outreach to industry and community associations representing different sectors of the industry and engaged their support for the study. Mailing material for the vessel owner survey will display the logo(s) of the industry association(s) of which the recipient is a member, and association newsletters will promote participation in the survey.

Follow-up phone calls will be made to contact all vessel owners who either returned incomplete survey or did not respond to the survey at all. During the phone calls we will encourage a response by mail, but provide an option for the information to be collected by phone. If the mail

survey non-respondent prefers, a scripted telephone interview will be conducted to obtain the information (See Question 12 in Section A above). Individuals needing an additional copy of the survey will be provided one by mail or email, along with a cover letter and return envelope if needed. These scripted phone interviews are intended to gather information from vessel owners who did not initially respond to the mail survey. Together these efforts are expected to help increase the response rate, and reduce potential non-response bias.

The personal interviews with key informant local supplier businesses and seafood processors will be structured with similar objectives in mind. Worksheets have been developed and will be used to aid in those interviews (included in this submission). The key informant interviews are designed to acquire information on (1) seafood processors' value added components and the locations and percentages of expenditures for labor and non-labor inputs; and (2) information on the locations of input purchases and product sales by local supplier businesses.

Seafood processors' non-labor costs are grouped into broad categories including fish purchases, packaging materials, and payments for energy/utilities, etc. Worksheets containing estimates of seafood processors' expenditures on input categories (expressed as shares of total business revenues) will be used to guide the interviews. These worksheets were constructed based on data collected for previous economic models of the fishing industry. The expenditure shares and other information shown in the worksheets will serve as reasonable starting points, but seafood processor key informants will be asked to judge whether or not these estimates are representative, and if not, to update or correct them.

Questions seeking seafood processors' actual amounts of total business sales and input expenditures do not need to be asked because this information can be estimated by knowing the amounts of fish purchased (from administrative data sources available in the AKFIN database), and information collected on seafood processors' value added components and input purchase percentages during the interviews. Avoiding having to ask sensitive questions about actual dollar amounts combined with the use of personal interviews based on standardized worksheets will help increase seafood processors' responsiveness and minimize respondents' time burden.

The interviews of local input supplier businesses will also be worksheet-based but will involve fewer and less detailed questions than used in the interviews of seafood processors. The main information to be collected from local input suppliers will be the geographic distribution (percentages) of where their input purchases (including labor) and product sales are made. This data will be used to help calibrate information gleaned from the vessel surveys, seafood processor key informant interviews and the IMPLAN regional economic database regarding industry input purchases made in one of the six BCAs in the SW Alaska region and elsewhere.

To overcome respondents' concerns about confidentiality, confidentiality statements are written on and included with the mail survey form. Protection of confidentiality will also be stressed up front in the key informant interviews. Confidentiality statements will also be included with the advance and transmittal letters accompanying the mail survey, as well as in any follow-ups or reminders.

As stated above, one reason believed to have caused low response rates in prior surveys is disinterest among respondents toward the survey purpose. Surveys collecting 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 supplier businesses, and seafood processors) will be emphasized in the mail-outs and during interviews. These notices will clearly state that with their help, the important role of the respondents' commercial fishing-related business activities in the SW Alaska regional economy can be better understood. The information they provide will be used to enhance the fishery management practices of NOAA fisheries, and thereby, increase the long-run economic benefits to the fishermen and local businesses. Making a clear link between the survey, the respondents' participation, and the regional economy is expected to help increase the response rate compared with prior efforts.

In addition to the above steps taken to maximize response rates and to ensure the quality of the materials, the survey instruments (mail and telephone) were reviewed by industry representatives as well as researchers with expertise in Alaska fisheries and conducting economic surveys.

A set of survey protocols to be followed was designed to maximize response rates. For the mail-out survey, a modified Dillman (2000) approach will be employed that includes:

- 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 **second reminder letter** sent about 2-3 weeks following the initial mailing.
- A **follow-up phone call** made about 1-2 weeks following the second reminder letter.

An additional option for vessel owners to fill out a confidential and personalized web-based questionnaire hosted on a secure internet website will make responding easier for some survey participants. It is expected that this feature will also help increase the response rate.

The result of the efforts described above are compact and high-quality survey instruments that contain questions vessel owners, local businesses, and seafood processors can answer with minimal effort. As a result, the response rate for the mail survey of vessel owners is expected to be approximately 35%. Through recruitment efforts to secure candidate key informants, up to 30 personal interviews with processors (15) and local suppliers (15) will also be completed.

(b) Non-response

Extensive supplemental data sources are available that document demographic and behavioral characteristics of the individuals and establishments in the respective populations targeted in this study. In addition to information available from these secondary data sources, a follow-up phone call (Question 12, Section A; Question 3(a), Section B above) will be made to all the non-responders to the mail-out survey in order to help identify systematic differences between

respondents/non-respondents to support identification and control for non-response bias. In the call, we will ask a few questions to find the reasons why they did not respond to the mail survey.

To identify systematic differences between responders and non-responders, statistical tests will be performed to identify response bias with respect to several observable characteristics: (1) geographical area of landed fish, (2) ex-vessel value, and (3) species caught. This information is available from AKFIN data for each vessel. If significant and systematic differences between responder and non-responder groups are discovered, population parameter estimates may be adjusted, following a method such as Heckman method, using weights derived from this information.

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.

We conducted a pretest of the mail-out survey questions for fish harvesting vessels. A total of five vessel owners participated in the pretest. The results from the pretest were used to refine the survey instrument.

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) assisted in the development and review of sampling procedures (Attachment C) for this project. His telephone number is 301-763-4773.

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.

Dr. Chang Seung (Alaska Fisheries Science Center) is the AFSC contact who is responsible for project management and will participate in the development of REI models using the information from this project. Dr. Seung's contact information is (206)526-4250 chang.seung@noaa.gov.

This project consists of two phases. The first phase involves development of survey instruments including mail-out survey questions, and key informant worksheets for processor and local businesses. The second phase will administer the mail-out survey and interviews with the key informants. The contractor coordinating the first phase of the project is Cascade Economics, LLC, (360)-835-7340. Dr. Michael Taylor is the principal partner. He will be assisted by Dr. Edward Waters and Ms. Janet Baker. Cascade Economics, LLC, will also conduct interviews with the key informants in the second phase.

We have not selected any contractor who will administer the mail-out survey. Once the first phase of the project is completed and this PRA application is approved by OMB, we will hire a contractor who will administer the mail-out survey.