**SUPPORTING STATEMENT**
**COOK INLET BELUGA WHALE ECONOMIC SURVEY**
**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 potential respondent universe is all U.S. households (approximately 114 million according to the 2010 Census).  A stratified random sampling approach involving an initial mailing to 4,200 Alaska and non-Alaska households will be utilized that we expect will result in approximately 510 Alaska households and 1,275 non-Alaska U.S. households completing the survey (based on the expected number of completed surveys in Part A, Question 12).  Alaskan households are oversampled to ensure the inclusion of their preferences, since they are potentially more directly affected by actions to protect CIBWs and are likely to have more familiarity with CIBWs.  The non-Alaska U.S. household sample is larger, recognizing the importance of sample size considerations for the ultimate goal of generating reliable national estimates.

For the collection as a whole, a response rate of 50% is anticipated for the mail survey.  This estimate is based on the results from the formal pretest, which used nearly identical survey protocols and survey instrument.

**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.**

The full survey implementation will use a stratified random sample of approximately 4,200 households purchased from a professional sampling vendor.  The population is stratified into Alaska and non-Alaska households with the Alaska household stratum consisting of approximately 1,200 households and the non-Alaska stratum consisting of approximately 3,000 households.  The cover letter accompanying the initial mailing will solicit the participation of a male or female head of household to complete the survey.

For each stratum, a sample of households will be purchased.  Up to 15% of the purchased sample may be invalid, leading to valid samples of 1,020 and 2,550, respectively, for the two strata.  The number of expected survey responses from these stratified samples will be sufficient for detailed analysis of individual question responses, as well as econometric analysis of the stated preference choice experiment questions.

**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.**

Numerous steps have been, and will be, taken to maximize response rates and deal with non-response behavior.  These efforts are described below.

## Maximizing Response Rates

The first step in achieving a high response rate is to develop an appealing questionnaire that is easy for respondents to complete.  Significant effort has been spent on developing a good survey instrument.  The research team developing the survey has considerable experience in economic survey design and testing, as well as stated preference techniques.  The current survey instrument has also benefited from input on earlier versions from several focus groups and one-on-one interviews (verbal protocols and cognitive interviews), and peer review by experts in survey design and non-market valuation, and by scientists who study CIBWs and other marine mammals.  In the focus groups and interviews, the information presented was tested to ensure key concepts and terms were understood, figures and graphics were tested for proper comprehension and appearance, and key economic and design issues were evaluated.  In addition, cognitive interviews were used to ensure the survey instrument was not too technical, used words people could understand, and was a comfortable length and easy to complete.  The result is a high-quality and professional-looking survey instrument.

The implementation techniques that will be employed are consistent with methods that maximize response rates.  Implementation of the mail survey will follow the Dillman Tailored Design Method (2007), which consists of multiple contacts.  The specific set of contacts that will be employed is the following:

1.  An **advance letter** notifying respondents a few days prior to the questionnaire arriving.  This will be the first contact for households in the sample.
2.  An **initial mailing** sent a few days after the advance letter.  Each mailing will contain a personalized cover letter, questionnaire, and a pre-addressed stamped return envelope.  The initial mailing will also include an incentive of $1, $5, or $10, depending upon the treatment.
3.  A **postcard follow-up reminder** to be mailed about a week after the initial mailing.
4.  **A follow-up phone call** to encourage response.  Individuals needing an additional copy of the survey will be sent one with another cover letter and return envelope.
5.  **A second full mailing** sent about one week after the conclusion of the telephone interview effort.

## Non-respondents

To better understand why non-respondents did not return the survey and to determine if there are systematic differences between respondents and non-respondents, those contacted in follow-up

phone call(s) and identified as non-respondents will be asked a few questions to gauge their reasons for not responding to the mail survey. These questions include select socioeconomic and demographic classification questions and two attitudinal questions. Information collected from non-respondents will aid evaluating whether or not non-response bias is present and provides the data necessary to correct for non-response bias where necessary (e.g., Heckman method).

Specific steps that will be employed to assess the presence and extent of non-response bias are the following:

- As a first step, demographic characteristics collected from respondents and non-respondents will be used in two comparisons: a comparison of respondents to non-respondents and a comparison of respondents to U.S. Census data. For respondents, age, gender, income, and education information will be available from the completed survey. The same information will be available from non-respondents who participate in the telephone interview. A comparison of the demographic differences may indicate how respondents and non-respondents are different with respect to these characteristics. We will also compare demographic information for survey respondents with U.S. Census data to evaluate sample representativeness on observable data.

- Questions Q2 and Q4 from the questionnaire are also included in the telephone interview, and therefore can be used in a parallel fashion to compare respondents and non-respondents based on attitudinal dimensions. The demographic and attitudinal question comparisons will enable us to assess how similar respondents and non-respondents are to each other and to the general population.

After taking the steps above, we will evaluate the potential magnitude of potential non-response bias on the valuation results. If the potential is large, we will evaluate additional actions, such as employing the approach of Cameron, Shaw, and Ragland (1999) (or newer approaches along these lines) to explicitly account for sample selection in the model estimates. Their approach extends the general Heckman (1979) sample selection bias correction model to the specific case of mail survey non-response bias. The approach involves using zip code level Census data as explanatory variables in the sample selection decision to explain an individuals' propensity to respond to the survey.

**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 the pilot pretest survey, three focus groups with fewer than ten members of the general public (with different questions for each group) were conducted during the survey design phase to test concepts and presentation of elements of the survey. These focus groups were conducted in Denver, Colorado, and in Sacramento and Marin County in California. The survey instrument was then further evaluated and revised using input from one-on-one interviews conducted in Salt Lake City, Utah. Both verbal protocol (talk aloud) and self-administered interviews were conducted, both with follow-up debriefing by team members. Moreover, the survey design and implementation plan have benefited from expert review by Dr. Kristy Wallmo

of the Office of Science and Technology within NMFS, as well as reviews by environmental economists, Dr. Elizabeth Pienaar (NYU) and Dr. Kora Dabrowska (NOAA Knauss Fellow).

**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.**

Several individuals were consulted on the statistical aspects of the design:

Dr. Dan Lew
Economist
National Marine Fisheries Service
(206) 526-4252

Dr. Brian Garber-Yonts
Economist
National Marine Fisheries Service
(206) 526-6301

Dr. Kristy Wallmo
Economist
National Marine Fisheries Service
(301) 713-2328

Drs. Dan Lew and Brian Garber-Yonts will be involved in the analysis of the survey data.

The contractor who will collect the data is

Zachary Lewis, Senior Study Director
Synovate
7600 Leesburg Pike
East Building, Suite 110
Falls Church, VA  22043
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