

**SUPPORTING STATEMENT
COOK INLET BELUGA WHALE PROTECTION PRETEST 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 106 million according to the 2000 Census). A stratified random sampling approach involving an initial mailing to 600 Alaska and non-Alaska households will be utilized that we expect will result in approximately 58 Alaska households and 262 non-Alaska U.S. households completing the mail survey and providing information in the pretest (based on the expected maximum number of completed surveys in Part A.12). Alaskan households are oversampled to ensure the inclusion of their preferences, since they are potentially more directly affected by actions to protect Cook Inlet beluga whales and are likely to have more familiarity with Cook Inlet beluga whales. 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 in excess of 60% is anticipated for the mail survey. This estimate is based on the results from a previously fielded stated preference valuation survey (the Steller sea lion economic survey), which used similar 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 pretest will use a stratified random sample of approximately 600 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 110 households and the non-Alaska stratum consisting of approximately 490 households. The advance letter and 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 94 and 417, respectively, for the two strata.

As noted earlier, survey responses will be used to evaluate the feasibility of the set of attributes and attribute levels. Given the expected response rates, the sample sizes described above should be sufficiently large for basic data analysis to evaluate these features of the survey. Summary statistics (means, medians, standard deviations, minimums, and maximums) will be calculated for responses to questions.

In addition, the overall sample will be stratified by incentive amount provided in the initial mailing. This stratification will be done to ensure an equal number of surveys are sent out with each of the three monetary pre-incentives being tested (\$1, \$5, and \$10).

- 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 Cook Inlet beluga whales 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 are the 78 individuals who do not complete the survey but provide responses to the follow-up telephone survey in the table in Part A.12). These include select socioeconomic and demographic classification questions and a few attitudinal questions. Information collected from non-respondents will aid in improving the survey implementation and potentially to correct for non-response bias where necessary (e.g., Heckman method).

In the final survey implementation we anticipate additional steps to further address potential combined coverage and non-response bias, but this is not a key component of the pretest given that small sample sizes will limit the effectiveness of such exercises. Additional steps anticipated in the final survey include comparing respondent socio-demographic characteristics to the population (U.S. and Alaska) based on the Current Population Statistics and comparing responses to environmental and social attitude questions in the survey to responses reported in established national surveys.

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.

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 Seattle, Sacramento, and Marin County. The survey instrument was then further evaluated and revised using input from one-on-one interviews conducted in Salt Lake City. 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).

As noted in previous sections, three pre-incentive amounts will be tested in the formal pretest. Three treatments will be implemented, each with a different monetary pre-incentive--\$1, \$5, or \$10. The overall sample of 600 will be divided evenly between these treatments so that a total of 200 surveys will be sent with each of the three incentive amounts. The response rates resulting

from each of these treatments will be tested to determine whether there are statistically significant differences.

- 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 pretest data.

The contractor who will collect the data has yet to be selected.

References:

- Bosetti, V. and Pearce, D. (2003) "A study of environmental conflict: the economic value of Grey Seals in southwest England." *Biodiversity and Conservation*. 12: 2361-2392.
- Cummings, Ronald G. and Laura O. Taylor (1999) "Unbiased Value Estimates for Environmental Goods: A Cheap Talk Design for the Contingent Valuation Method," *American Economic Review*, 89(3): 1999.
- Dillman, D.A. (2000) *Mail and Internet Surveys: The Tailored Design Method*. New York: John Wiley & Sons.
- Dunlap, Riley E., Kent D. Van Liere, Angela G. Mertig, and Robert Emmet Jones (2000) "Measuring Endorsement of the New Ecological Paradigm: A Revised NEP Scale," *Journal of Social Issues*, 56(3): 425-442.
- Fredman, P. (1995) "The existence of existence value: a study of the economic benefits of an endangered species." *Journal of Forest Economics*. 1(3): 307-328.
- Hagen, D., Vincent, J., and Welle, P. (1992) "Benefits of preserving old-growth forests and the spotted owl." *Contemporary Policy Issues*. 10: 13-25. (1992),
- Jakobsson, K.M. and Dragun, A.K. (2001) "The worth of a possum: valuing species with the contingent valuation method." *Environmental and Resource Economics*. 19: 211-227.
- Langford, I.H., Skourtos, M.S., Kontogianni, A., Day, R.J., Georgiou, S., and Bateman, I.J. (2001) "Use and nonuse values for conserving endangered species: the case of the Mediterranean monk seal." *Environment and Planning A*. 33: 2219-2233.
- Lesser, V., Dillman, D.A., Lorenz, F.O., Carlson, J., and Brown, T.L. (1999). "The influence of financial incentives on mail questionnaire response rates." Paper presented at the meeting of the Rural Sociological Society, Portland, OR.
- Lew, D., Layton, D., and Rowe, R. (2010) "Valuing Enhancements to Endangered Species Protection under Alternative Baseline Futures: The Case of the Steller Sea Lion." *Marine Resource Economics*. 25: 133-154.
- Loomis, J., and White, D. (1996) "Economic Benefits of Rare and Endangered Species: Summary and Meta-Analysis." *Ecological Economics*, 18: 197-206.

Olar, M., Adamowicz, W., Boxall, P., and West, G. (2007) "Estimation of the Economic Benefits of Marine Mammal Recovery in the St. Lawrence Estuary." Report to the Policy and Economics Branch, Fisheries and Oceans Canada, Regional Branch Quebec.

Richardson, L., and Loomis, J. (2009) "The Total Economic Value of Threatened, Endangered and Rare Species: An Updated Meta-analysis." *Ecological Economics*, 68: 1535-1548.

Singer E. (2002) "The use of incentives to reduce nonresponse in household surveys.: In *Survey Nonresponse*, ed. R Groves, D Dillman, J Eltinge, R Little, pp. 163-78. New York: John Wiley & Sons