SUPPORTING STATEMENT
ALASKA SALTWATER SPORT FISHING 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. residents who purchased an Alaska sport fishing license during 2011. The sport fishing license program is administered by the Alaska Department of Fish and Game (ADF&G). In 2009, approximately 447,000 U.S. residents purchased Alaska fishing licenses. Thus, the population consists of all U.S. residents who could legally sport fish in the saltwater off Alaska during the year.

A stratified random sample of approximately 2,200 non-Alaska U.S. resident license holders and 2,400 Alaska resident license holders will be used in the full survey, with the Alaska resident license holders split evenly between residents of Southeast Alaska and the rest of Alaska. In 2003, about 54% of the licenses sold to U.S. residents were to non-Alaskans (232,259 licenses), and approximately 11% of the Alaska license holders were residents of Southeast Alaska (20,627 licenses).[1] The oversampling of Southeast Alaska residents will ensure a sample sufficient to estimate statistically significant results for Southeast Alaska separate from the rest of Alaska.

For the collection as a whole, an overall response rate of 55% is anticipated. This estimate is based on the 2007 survey described in Lew, Lee, and Larson (2010) that used similar survey protocols and materials. This study achieved response rates of 61.9%, 53.8%, and 52.2% for non-residents, Southeast Alaska residents, and other Alaska residents, respectively.

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 implementation will use a stratified random sample of approximately 4,600 U.S. residents who purchased an Alaska sport fishing license in 2011. For purposes of sampling, the population is divided into three strata: non-Alaska U.S. residents (NR), Southeast Alaska (SE) residents, and non-Southeast (SC) Alaska residents (i.e., all other Alaska residents, the vast majority of which live in South Central Alaska). Alaskans and non-Alaskans use the fishery resource and participate in the fishery in substantively different ways. Non-Alaskans are more likely to fly or take a cruise ship to Alaska, fish less frequently than residents, and use charter

[1] From 1991 and 2000, the annual percentage of Southeast Alaskan license holders averaged 13.7% (Walker, et al., 2003).

boat services more often. Among Alaskans, SE residents are more likely to have access to a private boat they can use to fish for halibut and other saltwater fish and fish more frequently in saltwater compared to anglers living in other areas of state (Lew, Lee, and Larson, 2010). These behavioral differences lead to differing spending behavior and may be indicative of differences in preferences for, and expectations of, fishing trips in Alaska. As a result, fishery regulations, which often differ in SE Alaska from the rest of Alaska, may affect each stratum differently. Consequently, a stratified sampling method is employed to ensure that separate, statistically significant, estimates for each of the three strata can be obtained and differences between the strata can be detected.

The Southeast Alaska and non-Southeast Alaska sample strata will consist of 1,200 license holders each, while the non-Alaska sample stratum will consist of 2,200 license holders. The samples will be drawn from the Alaska Department of Fish and Game's Fish License Data file, which contains the names and addresses of all individuals who have purchased a license to sport fish in the state. Address information will be used to construct the three sampling frames representing SE resident license holders, non-SE (SC) Alaska resident license holders, and non-resident U.S. license holders. A random sample of license holders will be selected from each of the Alaska resident and the non-Alaska resident sampling frames. From previous experience, up to 10% of the addresses in the license file may be invalid, leading to valid stratified samples of 1,080, 1,080, and 1,980, respectively (see table below).

Sample Stratification Breakdown: Full Survey Implementation

Sample Stratum	**2003 Licenses[a]**	**Sample size (total mailed)**	**Valid sample size (assuming 10% bad addresses)**	**Expected returns (assuming 55% response rate)**
Residents – Southeast Alaska	20,627	1,200	1,080	594
Residents – Rest of Alaska	174,565	1,200	1,080	594
Non-residents	232,259	2,200	1,980	1,089
Total	**427,451**	**4,600**	**4,140**	**2,277**

[a] Source: Alaska Department of Fish and Game, License Data File

Sample Size Considerations

Sample sizes for the full implementation were chosen primarily so the expected number of returns by strata, under the assumption of a uniform 55% response rate across samples, was sufficiently large to allow estimation of separate, statistically significant recreation demand and stated preference models for the different strata. Based on previous experience and other studies in the recreation demand and stated preference valuation literature, the sample sizes proposed above for each subpopulation are sufficient for estimating model parameters with acceptable precision in the random utility-based models that will be employed. Moreover, in both models, the Alaska data will be pooled in the unexpected event that statistical tests reject significant differences between the SE and non-SE Alaska data. Given the expected response rate of 55%, the valid sample sizes of 1,080 for SE, 1,080 for SC, and 1,980 for NR are anticipated to yield 594, 594, and 1,089 returned surveys, respectively.

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, which was modified from the survey instrument used in the 2007 survey (Lew, et al. 2010). The survey instrument for the current study has improved layout and question wording, as well as added or modified questions that address information gaps realized from analysis of the 2007 survey data. An expert on economic survey design and stated preference techniques was hired to assist in the design and testing of the updated survey. The current survey instrument has also benefited from input on earlier versions from one-on-one interviews (verbal protocols and cognitive interviews), and peer review by experts in survey design, recreational fishing issues, and non-market valuation. In the interviews, the information presented was tested to ensure key concepts and terms were understood, figures and graphics (color and black and white) were tested for proper comprehension and appearance, and key economic and design issues were evaluated and to ensure the survey instrument used words and fishing terms 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 Tailored Design Method (Dillman, Smyth, and Christian, 2009), 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 with 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 a small incentive.
3. A **postcard follow-up reminder** to be mailed 5-7 days following the initial mailing.
4. A **follow-up phone call** to encourage response.
5. A **second full mailing** will be mailed concurrently with the follow-up phone calls for individuals for whom no telephone number information is available. For individuals contacted via phone, the second full mailing will occur following the conclusion of the telephone reminder calls.

An honorarium of $1 will be provided to respondents for participating in the mail survey. This honorarium is the same amount used in the previously-fielded 2007 survey.

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 the follow-up phone call and identified as non-respondents will be asked a few questions to gauge their reasons for not responding to the mail survey. These include select socioeconomic and demographic classification questions and a few behavioral questions. Information collected from non-respondents will aid in improving the survey implementation and to correct for non-response bias where necessary (e.g., using the Heckman method).

Additionally, and as necessary, respondent socio-demographic characteristics will be compared to previous samples drawn from the same population (Alaska sport fishing license holders).

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.

Several cognitive interview sessions with fewer than ten members of the general public were conducted during the survey design phase to test the revised survey instruments. These interviews were conducted in Seattle, Berkeley, Sacramento, Anchorage, and Juneau. Both verbal protocol (talk aloud) and self-administered interviews were conducted with follow-up debriefing by team members. Moreover, the survey design and implementation plan have benefited from review by individuals with expertise in fishing economic survey design and implementation.

Note that since this survey is an updated version of a previously-fielded survey, we do not anticipate the need for a formal pretest implementation, as the survey protocols and instruments are similar to those fielded before, and the same survey firm that conducted the previous implementation (ICF Macro) is once again implementing the survey.

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.

The following individuals were consulted on the statistical aspects of the design:

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Drs. Dan Lew and Doug Larson are responsible for analyzing the data.

The contractor who will collect the data is:

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