SUPPORTING STATEMENT
ALASKA SALTWATER SPORT FISHING ECONOMIC SURVEY
OMB CONTROL NO. 0648-0639

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 2016. The sport fishing license program is administered by the Alaska Department of Fish and Game (ADF&G). In 2015, approximately 479,000 U.S. residents purchased Alaska fishing licenses—we expect a similar number for 2016. 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 6,000—2,445 non-Alaska U.S. resident license holders and 3,555 Alaska resident license holders–will be used in the full survey, with the Alaska resident license holders split between residents of Southeast Alaska (1,333 of the 3,555) and the rest of Alaska (2,222 of the 3,555). In 2015, about 60% of the licenses sold to U.S. residents were to non-Alaskans (288,915 licenses). From 1991 and 2000, the annual percentage of Southeast Alaskan license holders averaged 13.7% of all Alaska resident license holders (Walker, et al., 2003). 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 50% is anticipated. This estimate is based on the 2012 survey that used similar survey protocols and materials. The study achieved response rates of 53.7%, 41.1%, and 46.1% 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 6,000 U.S. residents who purchased an Alaska sport fishing license during 2016. 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 Southcentral 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 boat services more often. Among Alaskans, SE residents are more likely to have access to private boats 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 Southeast 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 1,333 and 2,222 license holders, respectively, while the non-Alaska sample stratum will consist of 2,445 license holders (a total of 6,000 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 1,200, 2,000, and 2,200, respectively (see table below).

Sample Stratification Breakdown: Full Survey Implementation

Sample Stratum	2015 Licenses[a]	Sample size (total mailed)	Valid sample size (assuming 10% bad addresses)	Expected returns (assuming 50% response rate)
Residents – Southeast Alaska	33,728	1,333	1,200	600
Residents – Rest of Alaska	247,505	2,222	2,000	1,000
Non-residents	228,965	2,445	2,200	1,100
Total	**510,198**	**6,000**	**5,400**	**2,700**

[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 50% 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 50%, the valid sample sizes of 1,200 for SE, 2,000 for SC, and 2,200 for NR are anticipated to yield 600, 1,000, and 1,100 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 was spent on developing a good survey instrument. The current survey instrument was modified slightly from the 2012 survey, which itself was based on the survey instrument used in the 2007 survey (Lew, et al. 2010). Compared to the 2007 survey instrument, the current survey instrument has a significantly improved layout and question wording, as well as added or modified questions that address information gaps realized from analysis of the 2007 survey data. Only minor modifications have been made to the current survey relative to the 2012 survey. A number of cognitive interviews were conducted to evaluate the survey instrument and the changes made from the 2012 survey. The current survey has also been peer reviewed 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 current 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, 2014), which consists of multiple contacts. The specific set of contacts that will be employed is the following:

1. An **advance letter** notifying respondents one week prior to the questionnaire arriving. This will be the first contact with the sample.
2. An **initial mailing** sent one week 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. The **second full mailing** will be sent to anyone who has yet to complete and return the survey.

5. A **follow-up phone call** to encourage response. Individuals contacted via phone who need or request new survey materials, will be provided with them.

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 and 2012 surveys.

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 Portland, Anchorage, and Juneau during 2016. 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 (with minor revisions) 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 survey firm that will conduct the survey (QuanTech) has used the identical survey implementation protocols in recent surveys with NMFS.

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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