SUPPORTING STATEMENT
UNDERSTANDING RECREATIONAL ANGLER ATTITUDES AND PREFERENCES
FOR SALTWATER FISHING
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 consists of saltwater recreational anglers in the contiguous U.S. and in Alaska. The sampling frame will be the National Registry of Saltwater Anglers which contains contact information for anglers who purchased a saltwater fishing license during the last year. Note that some states collect their own license information but provide that information to the National Registry. For states that are exempted from the National Registry (CA, WA, OR) we will obtain license data that includes angler contact information from either the Pacific States Marine Fisheries Commission or the state agency that collects the data, as they are required to provide NMFS with the data necessary to conduct surveys (i.e. contact information) if they are exempt from the National Registry.

Respondents will be stratified by region of fishing license.

NOAA Fisheries will use a stratified random sample (proportionally sampled from each region) to select the sampling population from the frame. The sampling frame has been cleaned to remove duplicates. Table 1 describes data on each stakeholder entity.

NOAA Fisheries attains response rates between 40 and 65% for surveys related to recreational fishing preferences. For surveys on costs and/or expenditures, response rates may be lower. For this survey we expect a slightly higher response rate of 75% for several reasons. First, there are no cost earnings questions, which may be perceived as sensitive and may dissuade potential respondents from returning their survey. The survey does not contain a choice experiment or conjoint question, which tend to be cognitively taxing for survey respondents and may decrease response rates. This survey is strictly about attitudes and opinions and does not require anglers to make trade-offs, as in a conjoint survey, or recall or calculate expenditures. Thus the cognitive burden on anglers will be relatively minimal. In addition, there is a section on angler satisfaction with recreational fisheries management which we anticipate will encourage anglers to return their completed survey. This expectation is based on focus group feedback in which anglers stated that they would like their evaluations of management to be known to managers. Finally, outreach efforts that focus on the upcoming survey have been relatively extensive via the NMFS Regional Recreational Fisheries Coordinators and the National Policy Advisor for Recreational Fisheries.

TABLE I

Column A. Respondent Entity	Column B. Number of Entries in Sampling Frame	Column C. Observations required to estimate true population value[1] using proportional sampling rate[2] (see Equation 1)	Column D. Sample size required under assumption of 75% response rate (Column C / 75%)	Column E. Sample size with 15% Buffer (Column D * 115%)
Gulf of Mexico (TX, LA, MS, AL, West Coast FL)	1,272,925	812	1,083	1,245
Northeast (CT, RI, MA, ME, NH)	502,172	320	427	491
Mid-Atlantic (VA, DE, MD, NJ, NY)	931,802	595	793	912
Southeast (NC, SC, GA, East Coast FL)	913,769	583	777	894
Alaska	435,700	278	371	426
West Coast (CA, WA, OR)	2,629,712	1,678	2,237	2,573
Total	6,686,082	4,266	5,688	6,541

[1] **n = 278 is the minimum number of observations required for true population estimate**
[2] **proportional sampling rate = 0.0638%.**

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.

A stratified random sample of the frame will be used to draw the sample population. The allocation method for each of the l strata (Respondent Entity) will be a proportional allocation ($n_1/N_1 = n_2/N_2 \ldots n_l/N_l$). This allocation method is appropriate when unequal variances for each stratum are assumed, which NOAA Fisheries assumes to be true for stakeholder entities in the frame (Rice 1995).

Note that each region is represented within each l strata. Section 1 of the instrument will be tailored to reflect the appropriate species for that particular region. The survey instrument provided is an example of a West Coast survey. Other than the different species or complexes contained in Section 1, the instrument will look the same for all regions (with exceptions for specific references to 'Southeast', 'Northeast', 'Mid-Atlantic', 'Alaska', 'West Coast' or 'Gulf of Mexico' in explanatory text or questions).

Following Equation 1 (Yamane 1967) approximately 278 observations are required to represent the true value for a population of > 100,000, assuming a +/- 6% precision rate,

$$Equation\ 1. \quad n=\frac{N}{1+N(e)^2}$$

$$Equation\ 1,\ Example. \quad 278=\frac{435,700}{1+435,700(0.06)^2}$$

where n is the sample size, N is the population size, and e is the level of precision required. The equation assumes a confidence interval of 95% and maximum variability in the sample (.50). An observation unit is an individual respondent.

To ensure proportional allocation among the strata and to ensure that the minimum number of observations is met for each strata (278 observations) requires a sampling rate of 0.0638% (278/435,700 = 0.0638%). Applying this rate to each stratum results in a combined sample of 4,266 observations (Table 1).

As explained in Question 1, we assume a 75% response rate for this survey, and funds will be available to provide a 15% sampling buffer, resulting in a combined sample of 6,541 (Table 1).

As described in Dillman (2000):
- Each respondent will receive a pre-notice letter informing the potential respondent of the survey effort, purpose, and forthcoming survey instrument.
- Approximately 9 days after the pre-notice, a survey instrument and cover letter will be mailed to all sampling units.
- A reminder postcard will be sent to all respondents 2 weeks after the survey mailing, and
- A second survey mailing will be sent to all respondents who have not completed and returned their survey within 2 weeks of the reminder postcard.

This is a one-time data collection.

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.

The mail survey implementation will follow state-of-the-art protocols described in 'The Tailored Design Method' (Dillman 2000). Protocols include 4 mailings with approximately 2 weeks between mailings: (1) a pre-notice letter informing the respondent that they have been selected to receive a survey within the next two weeks; (2) a cover letter describing the importance of filling out the survey completely and the survey questionnaire; (3) a post-card follow up thanking respondents who returned their survey and reminding respondents to complete their survey and return it if they have not already done so; (4) a final mailing including a cover letter and survey

instrument. The tailored design method is designed to maximize response rates, and components of the design have been scientifically tested and determined to increase response rates for mail surveys (Dillman 2000). In addition, the survey will be designed to be easy to understand and will minimize the response burden by providing categorical answer choices for the majority of the questions.

A small random sample of non-respondents will be contacted by telephone to determine the extent, if any, of non-response bias. All non-respondents will be asked demographic information and 5 randomly selected questions from Section 3 of 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.

Prior to the survey implementation, NOAA Fisheries conducted a focus group with 9 anglers in the southeastern U.S. Their feedback was used to revise language and questions in the instrument and to ensure that material is understood and interpreted by the respondent as intended.

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.

Sampling Design, Data Analysis and Report Writing:
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References

Dillman, D. 2000. Mail and Internet Surveys. The Tailored Design Method. John Wiley and Sons, Inc., New York, New York.

Rice, J. 1995. Mathematical Statistics and Data Analysis, Second Edition. Wadsworth Publishing Company, Belmont, California.

Yamane, Taro. 1967. Statistics, An Introductory Analysis, 2nd Ed., New York: Harper and Row.