

SUPPORTING STATEMENT
Washington Steelhead Anglers 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 population of interest for this survey is Washington State fishing license holders who are resident adults and have fished for steelhead in the preceding 12 month period. The sample frame consists of a recreational fishing license database maintained and held by the state of Washington. The sample frame includes only individuals who, when purchasing their license, indicated they intended to fish for steelhead and requested the necessary steelhead harvest tag. Our initial estimate of the size of this universe is 239,000 anglers overall. Our estimate of the population size will be revised through this process. We plan to select 5,100 individuals from the population using the Washington Department of Fish and Wildlife license database. We expect that mailing addresses will be available for 4,590 of the selected individuals, and those individuals will be contacted by mail. We further expect that of the selected individuals, 1,652 will complete the screening survey and a total of 1,124 individuals will complete the full survey. Thus, for the screener and full surveys we expected response rates of 32% and 22%, respectively. Our assumptions are based on prior economic surveys conducted by NOAA Fisheries including the West Coast Saltwater Fishing Survey and the Puget Sound Recreational Shellfish Harvesting Survey.

Universe	Total Contacted	Total Completed Mail/Web Surveys Steelhead Anglers	Total Completed Mail / Web Surveys Non-steelhead Anglers	Total Completed Web Screening Surveys
239,000	5,100	472	652	1,652

Individuals who purchase a fishing license are asked if they intend on fishing for steelhead. We will sample from the licensing databases where the angler indicated they intended to fish for steelhead.

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.

We will use simple random sampling from the population of anglers in the Washington licensing database that held a steelhead harvest tag, required to fish for steelhead. We estimated that we need about 300-500 responses from steelhead anglers to adequately characterize steelhead trip-taking preferences among multiple angler groups in our population. This estimate is based on previous survey collection efforts targeting similar populations and estimating similar types of statistical models.

Data collected through this survey will be used for the estimation of economic models of steelhead behavior intended to support ongoing recreational fishing and conservation policy making on the West Coast. Specifically, we will estimate probabilistic choice models such as the mixed logit using the single trip discrete choice experiment questions (Section 3 in the survey) and we will estimate count models of annual steelhead trips (effort) such as the Poisson and negative binomial using the season-long contingent behavior questions (Section 4 in the survey).

While more accurate data are clearly preferred for both sets of models, standards do not exist regarding the accuracy of data required for estimation of an econometric model. Factors such as the minimization of model specification error also contribute to the quality of the empirical results obtained using survey data. It is not possible to state a level of accuracy that is required for all uses and applications of data collected by this survey. However, 300-500 responses has yielded acceptable results in our previous work, allowing us to test for competing model specifications and uncover both discrete as well as continuous preference heterogeneity in the angling population.

In order to reduce the time cost of reporting, as well as the financial cost to the federal government, we intend to collect similar data no more than every five years. This frequency is adequate to capture changing environmental conditions and angler preferences over time.

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 information collection will attempt to maximize response rates by following the suggestions of Dillman (2009). In particular, the repeated contacts through multiple mediums (phone and mail) attempt to increase the percentage of sampled anglers who are reached by one or more contacts as well as to allow flexibility with regard to how the respondents choose to respond. Both of these factors are intended to maximize response rates.

Unit nonresponse will be examined through two comparisons. First, we will compare respondent demographics with the demographics available in the license databases. Second, we will

compare the answers from the brief screening and demographics survey given to non-steelhead anglers to answers from the full online and mail surveys. The results of these comparisons will inform the potential benefit of applying weights to address any observed differences.

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.

We will conduct an informal pretest of the survey using all of the protocols that will be used in the final survey. The pretest, which will be administered informally to colleagues, will likely consist of around 50 completed surveys. The purpose of the pretest is to determine whether the survey instrument provides the data needed, as well as to test survey procedures and protocol. If the survey needs revision, we will submit the revised instruments as part of a non-substantive change request.

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.

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