

SUPPORTING STATEMENT
Washington and Oregon Charter Vessel 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.

Potential Respondent Universe

The number of charter vessel license holders in Washington and Oregon in 2017 was 472. However, following the findings of the Washington and Oregon charter survey in 2012, a substantial portion of the 472 license holders will not go fishing in marine waters. Many will fish only in fresh water and others will carry passengers in marine waters but will do so for purposes other than fishing, such as wildlife watching. Absent contacting the vessels to ascertain their activities, the number of active marine fishing vessels in 2017 is unknown. Consequently, the best estimate of the number of active marine charter fishing vessels is estimated to be the same as in 2012, which was 277 vessels. Owners of each of the approximately 277 vessels will be the target respondents for the second phase of the survey (the complete survey) because they possess the specific economic and social data for their operations. Contact information on the 2017 charter license holders was obtained from the Washington Department of Fish and Wildlife and the Oregon Department of Fish and Wildlife.

Expected Response Rate

The expected rate among the target population of charter license holders actively engaged in marine charter fishing in 2017 is 55%. The response rates achieved in the 2012 marine charter survey in Washington and Oregon are instructive to determine the expected response rate. The full details of the response rate estimation in that survey are detailed in (Leonard 2016) In brief, we received 152 completed surveys from active marine charter vessels. However, to calculate the effective response rate, we needed an estimate of the total number of active marine charter businesses in 2012. Knowledge of whether a license holder participated in marine charter fishing could not be ascertained unless the holder was (1) reachable during the telephone screen phase of the survey and (2) willing to give some indication that he or she participated in marine charter fishing in 2012. For several types of outcomes of the survey outcome categories, it was unknown whether or not the licensee operated a marine charter fishing vessel in 2012. The unknown categories include left voicemail, wrong or inactive number, no answer, said it was mailed in, incomplete, and refusal. These unknown categories were multiplied by the ratio of known 2012 participants to non-participants. Known participants includes those who completed surveys, and non-participants includes those who didn't fish during the target season, sick or ill,

and retired or didn't own charter vessel. The percent of known participants was calculated at 81.7%. Applying this 81.7% to the total unknown participants and adding the known participants resulted in an estimated count of 277 active charter companies. Using this estimate of active charter businesses, the 152 completed surveys yields a response rate estimate of 55%.

In this survey, which follows the same survey design, methods of collection, and same questionnaire, we expect similar results.

Total Population of License Holders	472
Percent Reached via Telephone Screen	68%
Number Reached	320
Expected Number of Active Marine Charter Vessels from 2012 Survey	277
Response Rate from 2012 Survey	55%
Expected Number of Completed Second Phase Responses	152

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.

Data Collection Procedures, Sample Selection and Stratification

Data collection and sample selection methods are detailed in questions A12 and B1 of this submission. Since we intend to conduct a census of all active marine charter vessels in Washington and Oregon, there is no stratification of the population.

Degree of Accuracy Needed for Intended Purpose

The primary importance of these data is to evaluate the cost and earnings structure of the Washington and Oregon marine charter fishery. To achieve this aim we plan to conduct a census of all 277 vessels actively involved in the fishery. Assuming a response rate of 55%, we expect to obtain 152 complete and usable surveys. This would allow us to report sample means within 10% of the population mean at 99% confidence across the entire fishery¹. This level of accuracy is sufficient for use in the IO-PAC model, which will be used evaluate the economic impacts from proposed management options on the marine charter fishery. For more information on the IO-PAC model, please see Leonard and Watson (2011), and related documents.

With regard to reducing 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.

¹ Percent confidence was calculated using equations adapted from Dillman, D.A., J.D. Smyth and L.M. Christian. 2009. *Internet, Mail, and Mixed-Mode Surveys: The Tailored Design Method*. Hoboken, New Jersey: John Wiley & Sons, Inc.

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.

There are numerous methods we will administer to achieve the estimated 55% response rate. Extensive outreach activities informing the fishermen and fishing associations of the purpose and need for the cost-earnings surveys are expected to facilitate survey participation and completion. Outreach efforts will be coordinated with industry representatives. Outreach will occur on a number of levels and may include the following:

- Contacting Westport Washington and Puget Sound charter professional organizations and an influential Oregon charter vessel owner.
- Sending a formal briefing letter on the data collection effort to all active charter license holders.
- Maintaining information regarding the data collection effort on the internet.

Previous surveys of this population have indicated that respondents prefer completing the survey in-person, and this is expected to be the primary mode of data collection during this survey. However, if respondents indicate a preference to complete the survey via telephone or mail, these modes will be offered. Additional methods for improving the response rate include offering participants in-person, telephone or mail-in mode interviews.

Strategy to Address Non-Response

All charter vessels in Washington and Oregon are required to be registered with the respective state fish and wildlife agencies. Using these resources, we are aware of the spatial distribution of registered vessels by homeport across Washington and Oregon. Additionally, the length of the vessel is maintained in the state databases. Based on the distribution of survey responses that we receive, these databases provide a link, both spatial and length-based, to validate the representativeness of our sample. If non-response bias appears evident in our survey responses, weighting methods will be developed to account for at least part of any non-response.

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.

Because this survey effort mirrors a prior effort by the NWFSC, Leonard (2016), and there are no changes in either the questionnaire or the methods employed, we do not intend to conduct formal tests of our methods.

The IO-PAC model has been applied in several peer-reviewed studies (Kaplan and Leonard 2012; Seung et al. 2014; Leonard and Steiner 2017; Richerson et al. 2018; Hodgson et al. 2018).

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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References

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