Washington and Oregon Marine Charter Fishing 2012 Calendar Year Cost and Earnings Survey
1Responses to Supplemental Questions for PRA Clearance
OMB Review of Individual Instruments

Project Title: Washington and Oregon Marine Charter Fishing 2012 Calendar Year Cost and Earnings Survey

Justification under OMB Generic Clearance:
(Economic Survey of US Commercial Fisheries, OMB Control No. 0648-0369)

Commercial fisheries economic data collection programs implemented by National Marine Fisheries Service (NMFS) address statutory and regulatory mandates to determine the quantity and distribution of net benefits derived from living marine resources as well as predict the economic impacts from proposed management options on fishing vessels, shore side industries, and fishing communities. In particular, these economic data collection programs contribute to legally mandated analyses required under the Magnuson-Stevens Fishery Conservation and Management Act (MFCMS), the National Environmental Policy Act (NEPA), the Regulatory Flexibility Act (RFA), and Executive Order 12866 (E.O. 12866).

This particular survey instrument closely mirrors an instrument successfully fielded by the Northwest Fisheries Science Center (NWFSC) and Pacific States Marine Fisheries Commission in 2007 and research efforts recently approved under OMB Control No. 0648-0369 (commercial fisheries) for the California Commercial Passenger Fishing Vessel (CPFV), charter sector. Like the California charter sector, Washington and Oregon charter vessels are considered commercial ventures and not recreational pursuits. Therefore, to estimate the economic contribution of Washington and Oregon charter sector, and the impacts of federal actions on the Washington and Oregon charter sector, the survey will address the fishery as commercial rather than recreational. This request is for a one-time survey of the Washington and Oregon charter fleet which has been developed based on previously approved question categories as outlined in the OMB Control No. 0648-0369 (commercial fisheries) supporting statement.

Objective: The charter fishing industry has a long history in Washington and Oregon, as residents and tourists have come to experience a myriad of fishing opportunities, from salmon fishing in the Puget Sound and the Columbia River area to tuna fishing and rockfish fishing opportunities throughout both states. Charter fishing is a notable component of tourism along the Washington and Oregon coasts. In 2009, charter patrons in Washington and Oregon generated sales impacts of approximately $34 million and value-added impacts in the form of wages, salaries, and profits of $19 million[*].

[*] NOAA – Fisheries Economics of the United States 2009.

Timely costs and earnings data are needed in order to estimate the fishery's contribution to the state's economy. IMPLAN[†] sector (cost and earnings) data from Washington and Oregon charter vessels are required in the estimation of the Input Output Model for Pacific Coast Fisheries (IO-PAC) which is used to provide statutorily required estimates to the Pacific Fishery Management Council for fisheries under Fishery Management Plans (FMPs) administered in the Northwest and Southwest regions.

A prior study of the Washington and Oregon charter fleet, with a similar survey instrument, was completed in 2007 and collected cost earnings data pertaining to 2006. Since then, the industry has faced a variety of difficult circumstances. In 2008, Secretary of Commerce Carlos M. Gutierrez declared a commercial fishery failure for the West Coast salmon fishery (Upton, 2010), and the prior 2007 survey indicated that the industry was still highly dependent on salmon. In Washington, where salmon charter licenses are distinguishable from non-salmon licenses[‡], there are still nearly five times as many salmon licenses as non-salmon licenses. Additionally, nominal marine fuel prices increased 47% in the six-year period from 2006 to 2012[§], and the 2007 survey indicated that fuel was the single largest non-labor expense of operating. Given the recent macroeconomic changes in the past 7 years and the regulatory changes, particularly for salmon, there is a need for a collection of economic cost and earnings data and related social data on the Washington and Oregon charter fleet to support the fishery management process.

1. The potential respondent universe and any sampling or other respondent selection method to be used and the expected response rate.

Potential Respondent Universe

The number of charter vessel license holders in Washington and Oregon in 2012 was 369. However, following the findings of the Washington and Oregon charter survey in 2007, a substantial portion of the 369 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 2012 is unknown. Consequently, the number of marine charter fishing vessels is estimated to be the same proportion as in 2007, which was 70% or 258 vessels. Owners of each of the approximately 258 vessels, rather than captains, will be the target respondents because they possess the specific economic and social data for the operations they run. Contact information on the 2012 charter license holders was obtained from the Washington Department of Fish and Wildlife and the Oregon Department of Fish and Wildlife.

Sampling and Other Respondent Selection Methods

[†] IMPLAN (IMpact analysis for PLANning) is a data and software package designed to estimate local economic effects from regional economic activity.

[‡] In Oregon there is not such distinction, so such a comparison is not easily made.

[§] See Pacific States Marine Fisheries Commission Washington and Oregon State average monthly marine fuel prices. www.psmfc.org/efin/data/fuel.html

The survey will be conducted as a census of all charter license holders that actively engaged in marine charterboat fishing in 2012. The survey will be conducted in two phases. Phase 1 will consist of a telephone pre-survey to determine license holders that actively engaged in marine charter fishing. Phase 2 consists of a mixed mode design to collect detail cost earnings data from active marine charterboat participants. Active marine charter vessel owners will then receive a formal letter of invitation to participate in the survey as well as a fact sheet of the commonly asked questions and answers about the survey. Following mailing of the letter of invitation, owners will be contacted by phone to confirm receipt of the letter of invitation, and asked to schedule a one hour interview appointment. Interviews will be conducted in-person for each owner during the scheduled time. Previous cost earnings surveys of charter vessels have demonstrated the effectiveness of in-person interviews in collecting data and obtaining accurate information[**]. In order to improve the quality of information collected, in-person survey administration will be the preferred mode for the study. However, to maximize the response rate and ensure the survey sample is representative of our respondent universe, respondents will be offered telephone or mail-in mode interviews.

Expected Response Rate

The expected rate among the target population of charter license holders actively engaged in marine charter fishing in 2012 is 55%. The response rates achieved in the 2007 marine charter survey in Washington and Oregon are instructive to determine the expected response rate. The initial contact (Phase 1) to determine the active marine charter vessels was done via telephone as currently planned. However, Phase 2 was a different because surveys were completed via mail only. In the prior survey, there were 287 license holders. 47 license holders or 16% of the total were unable to be contacted due to either bad contact information or failure to return phone calls. Of the remaining 240 license holders for which contact was made, 71 did not participate in marine charter fishing, 70 refused to participate in the survey, and 99 completed the survey. Using the conservative assumption that all 70 who refused to participate in the survey were active marine charter vessels, the total number of active participants was 169, and the percentage of active license holders was 70% (169/240). For the 47 vessels in which contact was not achieved, some were likely active marine charter vessels and some were not. Assuming that the non-contacts were distributed between active and not-active marine charter vessels in the same manner as the vessels in which contact was achieved, 70% or 33 of the vessels not contacted were active. The total population of active charter vessels in the 2007 survey was 202 (completes+refusals+non-contact amount). The 99 surveys received were 49% of active vessels. We expect to be able to increase the response rate from the 2007 survey. We expect to reach our desired response rate by increasing the industry's awareness of the study and interest in participation through outreach and by offering a flexible mode design.

[**] Hamilton, M. and S. Huffman, *Cost-Earnings Study of Hawaii's Small Boat Fishery, 1995-1996*, 104 pp, University of Hawaii, Joint Institute for Marine and Atmospheric Research, 1000 Pope Road, Honolulu, HI 96822, 1997

Hospital, J., S. Scholey and M. Pan. 2011. *Economic and Social Characteristics of the Hawaii Small Boat Pelagic Fishery*. Pacific Islands Fisheries Science Center. Administrative Report H11-01. 78p.

Washington has two formal charter vessel associations: Westport Charterboat Association and Charterboat Association of Puget Sound. Field staff have been working with leaders of these associations to improve the questionnaire and build support for the survey. Leaders in these organizations have agreed to promote the survey among their members and have provided positive feedback about the effort. These leaders have requested that prior to the initial telephone calls that they be notified, so that they can encourage their members to participate.

There is no formal association of vessels in Oregon. However, leaders in the Washington associations provided contact information for an influential Oregon charter owner who is involved in fishery management issues through his appointment in the Pacific Fishery Management Council. He has also agreed to promote the survey among Oregon charter vessel owners.

To address the potential for a low response rate a mixed mode data collection strategy[††] will be employed to increase the response rate. Mixed mode surveys combine two or more modes of communication to collect information and can be affective at achieving a higher response rate[‡‡]. The prior Washington and Oregon charter survey employed only a mail-only design. The mixed mode strategy employed in this study is expected to increase the overall response rate.

2. Data collection procedures, including the statistical methodology for stratification and sample selection, the estimation procedures, the degree of accuracy needed for the intended purpose, expected dates of survey implementation, and any unusual problems requiring specialized sampling procedures.

Data Collection Procedures, Sample Selection and Stratification

Data collection and sample selection methods are detailed in Question 1 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 entire Washington and Oregon marine charter fishery. To achieve this aim we plan to conduct a census of all 258 vessels actively involved in the fishery. Assuming a response rate of 55%, we expect to obtain 142 complete and usable surveys. This would allow us to report sample means within 10% of the population mean at 99% confidence across the entire fishery[§§]. This level of accuracy

[††]de Leeuw, E., J. Hox and D. Dillman. 2008. *International Handbook of Survey Methodology*. New York, NY: European Association of Methodology/Lawrence Erlbaum Associates.

[‡‡] Dillman et al. 2009. Response rate and measurement difference in mixed-mode surveys using mail, telephone, interactive voice response (IVR) and the Internet. Social Science Research (38) 1-18.

[§§] 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.

is sufficient to evaluate the economic impacts from proposed management options on the marine charter fishery, and to contribute to the development of the coast-wide I/O model for recreational fishing.

Expected Dates of Survey Implementation

The proposed start date for initiating the mail and telephone contact is August 1, 2013. The data collection is to be completed over a six month period ending January 31, 2014.

3. The methods used to maximize response rates and address non-response. The accuracy and reliability of the information collected must be shown to be adequate for the intended uses.

Strategy to Maximize Response Rates

We assume an estimated response rate of 55% based on the 49% response rate of the 2007 Washington and Oregon marine charter survey, our comprehensive outreach plan, and the mixed mode nature of the interviews. There are no previous studies of the fleet to suggest a higher expected response rate. A higher than expected response rate will increase the statistical confidence in the study's findings.

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 survey 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.
- Generating a fact sheet of commonly asked questions and answers.
- 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.

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.

Accuracy of Data Collected

NMFS needs to measure the economic performance of Washington and Oregon charter operations in order to meet legal and regulatory requirements, support fisheries management decision making, and pursue more detailed economic research. Currently, the cost earnings data that are used to meet these needs are seven years old. This study will collect data that is needed to construct key economic performance measures such as profitability, productivity, economic impacts, and social aspects of the fishery. The data gathered and performance measures constructed will be used to address a wide range of issues.

While the data will be used to comply with legal and regulatory requirements, these requirements do not specify a level of data accuracy. Being able to detect a non-response bias, and correct through weighing methods will enable sufficient accuracy and fleet representation.

4. How the survey instrument was developed, including the steps taken to validate the questionnaire design.

The survey administration protocol is similar to the ones used for Oregon Trawl and Pacific Coast Open Access surveys conducted by Carl Lian at the Northwest Fisheries Science Center[***] and the For-Hire Cost and Earnings Survey for the Mid-Atlantic and New England conducted by Scott Steinback of the Northeast Fisheries Science Center[†††].

The survey instrument closely mirrors an instrument successfully fielded by the NWFSC and Pacific States Marine Fisheries Commission in 2007 and a survey recently approved for the California Commercial Passenger Fishing Vessels (CPFV) OMB Control No. 0648-0369. The survey has been designed using the prior, 2007, survey of Washington and Oregon charter vessels and feedback from representatives of the Westport Charterboat Association, Charterboat Owners of Puget Sound and an Oregon charter vessel owner who is involved in fishery management issues through his appointment in the Pacific Fishery Management Council. The proposed survey instrument also utilizes feedback from a pilot study of the San Diego CPFV industry consisting of interviews of eight CPFV owners representing 10 vessels from a total of 76 vessels registered in San Diego County in 2011.[‡‡‡]

5. The reporting and use of the results of the survey

[***] Lian, C. 2012. West Coast open access groundfish and salmon troller survey: Protocol and results for 2005 and 2006. U.S. Dept. of Commerce, NOAA Tech. Memo., NMFS-NWFSC-116, 52 p

[†††] QuanTech and Gentner. 2011. Recreational For-Hire Economic Survey for the Mid-Atlantic and New England: Summarization and Results Report of Total In-Person Interviews Completed by Stratified Region.

[‡‡‡] Hanan, Doyle and Zachary Hanan. 2012. West Coast Charter Boat Cost-Earning Pilot Survey for FY 2011. NOAA commissioned pilot study.

Use of Survey Results

NMFS needs to measure the economic performance of Washington and Oregon charter operations in order to meet legal and regulatory requirements, support fisheries management decision making, and pursue more detailed economic research. Currently, the cost earnings data used to meet these needs are seven years old. This study will collect data that is needed to construct key economic performance measures related to profitability, productivity, economic impacts, and social aspects of the fishery. The data gathered and performance measures constructed will be used to address a wide range of issues important to the Northwest Regional Office, Pacific Fishery Management Council, and the Washington and Oregon charter fleet including estimating the economic contribution of the Washington and Oregon fleet and the estimated impact of changes in environmental, economic, or management conditions on the on the Washington and Oregon charter fishery.

Reporting of Survey Results

Survey results will be reported through a series of reports and project summaries prepared for the survey respondents, general fishing public, fisheries managers, and academics. It is anticipated that results will also be reported in the form of a technical memorandum of the Northwest Fisheries Science Center, academic publications, presentations at conferences, and public meetings. All reporting of survey results will conform to data confidentiality requirements. Qualified researchers with data access and confidentiality agreements will have access to raw data for performing future analyses, if requested.

Information Quality Guidelines and Confidentiality

It is anticipated that the information collected will be disseminated to the public or used to support publicly disseminated information. NMFS will retain control over the information and safeguard it from improper access, modification, and destruction, consistent with NOAA standards for confidentiality, privacy, and electronic information. In particular, the data collected will be kept confidential as required by section 402(b) of the Magnuson-Stevens Act and NOAA Administrative Order 216-100, Confidentiality of Fisheries Statistics, and will not be released for public use except in aggregate statistical form without identification as to its source.

The information collection is designed to yield data that meet all applicable information quality guidelines. Prior to dissemination, the information will be subjected to quality control measures and a pre-dissemination review pursuant to Section 515 of Public Law 106-554.

6. Contact information for agency coordinator and principal investigator.

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7. Estimated burden and number of respondents

Completing the survey is expected to take 1 hour per respondent. As a result, the survey is expected to impose a total of 180 burden hours on the Washington and Oregon charter license holders. The burden hours per respondent are based on the results of a NOAA commissioned pilot study completed in West Coast Charter Boat Cost-Earning Pilot Survey for FY 2011 (Hanan and Hanan, 2012), which had a survey instrument very similar to the one for this study.

Total Charter License Holders Population	369
Average burden per initial telephone screen	5 min
Number reached for initial telephone screen	310
Burden hours for contact	26
Expected number active marine fishing charter operators	258
Expected survey response rate	55%
Expected # survey respondents	142
Average burden hours/survey and scheduling	1 hour, 5 min
Burden hours for survey and scheduling	154
Total burden hours (initial contact + survey and scheduling)	180.00