

**California Commercial Passenger Fishing Vessel (CPFV) 2012 Calendar Year
Cost and Earnings Survey
1 Responses to Supplemental Questions for PRA Clearance
OMB Review of Individual Instruments**

Project Title: California Commercial Passenger Fishing Vessel (CPFV) 2012 Calendar Year Cost and Earnings Survey

**Justification under OMB Generic Clearance:
(Economic Survey of U.S. 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 research efforts recently approved under OMB Control No. 0648-0369 (commercial fisheries) for the Pacific Islands for-hire (charter) sector. Like the Pacific Islands for-hire (charter) sector, California Commercial Passenger Fishing Vessel (CPFV) charter operations are considered commercial ventures and not recreational pursuits^{†}. Therefore, to estimate the economic contribution of the California CPFV fleet, and the impacts of federal actions on the California CPFV fishery, the survey will address the fishery as commercial rather than recreational. This request is for a one-time survey of the California CPFV 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 CPFV fishing industry has a long history in California, as residents, tourists, and big tournament fishermen have come to California to experience a myriad of fishing opportunities, from tuna and billfish fishing in Southern California to salmon fishing in Northern California, with rockfish fishing opportunities throughout the state. CPFV fishing is a notable component of tourism along the entire California coast. In 2009, charter patrons in California generated sales impacts of approximately \$133 million and value-added impacts of \$76 million[‡].

The California CPFV fleet is an important part of fishing economies and recreational charter opportunities along the tri-state Pacific coast. Of the three states, California accounted for 82% of angler days, and 84% of fish caught by charter or party boat during the 2010 and 2011

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

† CDFG- 2012 Commercial Fishing Digest

‡ NOAA – Fisheries Economics of the United States 2009.

calendar years[§]. The California CPFV fishery is also diverse in catch, targeting a wide range of species over a large geographic area. Although the California CPFV fishery represents a large portion of the Pacific coast commercial recreational fisheries, there has been little recent information collected, including costs and earnings data that are needed in order to estimate the fishery's contribution to the state's economy.

IMPLAN^{**} sector (cost and earnings) data from the California CPFV fishery is 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.

Recent studies on the California CPFV industry have primarily reported on CPFV patrons' demographics, motivations, and expenditures; not on the economic characterization of the charter operations^{††}. Current data on the operational aspects, financial performance, and economics of the California CPFV fleet have been characterized as under sampled and do include all geographic areas in the state of California^{‡‡}. The last state-wide survey of the California CPFV fleet focused on the 2000 calendar year^{§§}. Since then, major changes to the management of the fishery have occurred: (1) the implementation of the California Marine Life Protection Act (MLPA), including the 4300 square mile cowcod conservation areas in 2001, and (2) the establishment of Annual Catch Limits (ACLs) for all Federally-managed fisheries. Given the multitude of recent macroeconomic changes in the past 12 years, coupled with regulatory changes, there is a need for a collection of economic cost and earnings data and related social data on the California CPFV 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 potential respondent universe consists of owners of the approximately 300 CPFV vessels registered in the State of California. The number was estimated from the California Department of Fish and Game CPFV Registered Vessel list for 2009 and 2010, when the number of registered and active CPFV varied between 298 and 302 respectively. Owners of each of the approximately 300 vessels, rather than captains, will be the target respondents because they possess the specific economic and social data for the operations they run. The final respondent universe will be assembled using the 2012 California Department of Fish and Game (CDFG)

[§] See RecFin summary data at: <http://www.recfin.org>

^{**} IMPLAN (Impact analysis for PLANning) is a data and software package designed to estimate local economic effects from regional economic activity.

^{††} Gentner, B. and S. Steinback. 2008. The Economic Contribution of Marine Angler Expenditures in the United States, 2006. NOAA Technical Memorandum NMFS-F/SPO-94.

^{‡‡} Ecotrust. 2012. Establishing a Baseline and Assessing Spatial and Socioeconomic Change in the California Central Coast Commercial and CPFV Fisheries. Technical Report to the MPA Monitoring Enterprise, California Ocean Science Trust.

^{§§} PSMFC. 2004. West Coast Charter Boat Survey Summary Report 2000. Economics Data Program.

CPFV Permit Program database for vessels in California.

Sampling and Other Respondent Selection Methods

The survey will be distributed in two phases to all owners of the approximate 300 CPFV registered in California to ensure the highest response rate. Phase 1 will select 150 vessels from the 2012 vessel census universe following a stratified random sampling framework. Stratification details are discussed in Question 2. Previous cost earnings surveys of the commercial passenger fishing vessel fleets (charter, for-hire, head-boats) 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 primary mode for the study, and the only mode offered to Phase 1 respondents.

Phase 2 will sample the remaining approximate 150 vessels, which were not sampled during Phase 1, following the same stratified random sampling framework as Phase 1. Conditional on the response rate for each stratum in Phase 1, respondents in Phase 2 will be offered in-person, telephone or mail-in mode interviews. The two-phase approach balances data quality and response rate concerns. By incorporating a mixed mode design, we will maximize response rate and ensure the survey sample is representative of our respondent universe.

Prior to data collection, field staff will undertake outreach by contacting CPFV professional associations, and other angling groups. This will involve formal written requests for cooperation, personal visits to association meetings, and publication of information materials, such as factsheets, about the data collection and expected use of the collected information. CPFV 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. 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.

All survey recipients will be given the name, telephone number, and email of the principal investigator to contact with any questions or to schedule an interview with field staff, if desired.

Expected Response Rate

The expected combined response rate in Phase 1 and Phase 2 is approximately 50% of the estimated sample universe of 300 vessels, with an expected sample size of 150 (300*50%) completed and usable surveys. We expect to be able to reach this response rate by implementing the survey throughout the 2013 calendar year. The CPFV industry's slow season varies by strata; however, the spring is the slow season for most vessels. Interviews will be scheduled throughout the year in order to increase owner availability, and take into account differences in

*** 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.

the fishery season due to geographical factors, species availability, custom demand, seasonal closures, and vessel maintenance requirements. When possible, interviews will be scheduled in the spring directly following federal and state tax reporting deadline on April 15, 2013 as vessel owners should have cost and earnings data readily available for the 2012 calendar year, further reducing their response burden. Survey implementation may extend to February 1st, 2014, to maximize participation if required by vessel owner availability.

With the outreach described above, we expect to reach our desired response rate by increasing the industry's awareness of the study and interest in participation. Our expected response rate of 50% is admittedly low, however, a recent study of the Oregon and Washington charter boat fleet achieved a 43% response rate.⁺⁺⁺ With increased outreach to the industry we believe a 50% response rate is an achievable expectation for the proposed California CPFV survey.

To address the potential for a low response rate the sampling will be divided into two phases and will utilize a mixed mode data collection strategy⁺⁺⁺ in Phase 2 in order to increase the response rate and reach the expected sample size. Mixed mode surveys combine two or more modes of communication to collect information and can be affective at achieving a higher response rate^{sss}. Conditional on the response rate in Phase 1, participants in Phase 2 will be offered in-person, telephone or mail-in mode interviews. See Table 1. Using this mixed mode design will maximize response rate and ensure the survey sample is representative of our respondent universe.

The two phase approach balances the data quality and response rate concerns. In-person interviews are expected to be of higher data quality, but may have a lower response rate due to scheduling difficulties; whereas mixed-mode interviews offer more scheduling flexibility and are expected to have a higher response rate, but may have more data quality issues due to the lack of in-person interviewer oversight of telephone and mail survey instruments.

⁺⁺⁺Leonard, J. and P. Watson. 2012. The role of charter boat operations in fishing communities: a social and economic analysis of the marine charter boat fleets in Oregon and Washington.

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

^{sss} 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.

Table 1
Expected Response Rates for California CPFV Fleet

Phase	Number of Vessels	Contact Method	Primary Collection Method	Alternative Collection Methods	Expected Response Rate	Expected Number of Responses
1	150	Telephone	In-person	None	50%	75
2	150	Telephone	In-person	Telephone, or Mail-in	≥50%	75
Total	300					150

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

We intend to conduct a survey of the California CPFV charter fleet using a two-phase mixed-mode survey design. Data collection and sample selection methods are detailed in Question 1 of this submission.

The survey will be stratified to model current conservation and management issues in the California CPFV fishery. The most relevant stratifications include geographic fishing grounds, and vessel size. For proposed sampling, geographic fishing grounds will be into two categories: North for vessels operating north of Point Conception, and South for vessels operating south of Point Conception. Vessel Size will be divided into two categories “Small” for vessels less than or equal to 42 feet in length, and “Large” for vessels greater than to 42 feet in length. See Table 2.

Table 2
Survey Stratifications

Vessel Size	Geographic Fishing Grounds (CDFG districts)
Large	North (Central, Bay Area, Wine, and Redwood districts)
Small	South (South and Channel districts)
*Fishing grounds determined from http://www.recfin.org/	

Degree of Accuracy Needed for Intended Purpose

The primary importance of these data is to evaluate the cost and earnings structure of the entire CA CPFV fishery. To achieve this aim we plan to conduct a census of all 300 vessels in the CA CPFV fishery. Assuming a response rate of 50%, we expect to obtain 150 complete and usable surveys. This would allow us to report sample means within 10% of the population mean at 99.9% confidence across the entire fishery****. This level of accuracy is sufficient to evaluate the economic impacts from proposed management options on the CA CPFV fishery, and to contribute to the development of the coast-wide I/O model for recreational fishing.

There has been an identified need to gain more detailed estimate statistics stratified by vessel size and geographic operating area in order to provide statistical information to the public and resource managers. Assuming a 50% response rate, we expect relatively high confidence in the proposed data stratified by geographic and vessel length characteristics. See Table 3****. Without assuming a higher response rate, the constraint on our level of confidence is due to the relatively small sample populations in three of the four categories.

Table 3
Stratification Sample Size and Confidence Assuming 10% Error

	South	North
Large	137 (sample population) 69 (expected respondents) 98.1% confidence	43(sample population) 22 (expected respondents) 81.5% confidence
Small	47 (sample population) 24 (expected respondents) 83.4% confidence	66 (sample population) 33 (expected respondents) 89.3% confidence

Expected Dates of Survey Implementation

The proposed start date for initiating the mail and telephone contact is January 1, 2013. As stated previously, this will coincide with California CPFV off-season. The data collection is to be completed over a year period, with interviews beginning about a month after initiating contact, and ending February 1, 2014. This timeframe will allow time for owners to schedule interviews at their convenience; thereby maximize the response rate and facilitate respondent participation.

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

**** 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.

**** See Dillman, et. al. 2009.

We assume an estimated response rate of 50% based on the 43% response rate of the 2006 NW 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. Assuming a low response rate allows us to ensure other aspects of our survey protocol, such as stratification, are sufficiently robust, with enough sample vessels in each stratification cell to accommodate the estimated 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 50% 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 the California CPFV Cost and Earning Survey steering committee, which includes industry representatives. Outreach will occur on a number of levels and may include the following:

- Contacting California charter professional organizations and other angling groups.
- Writing a formal request for cooperation to the above-mentioned organizations and groups along with personal visits to association meeting.
- Generating a fact sheet of commonly asked questions and answers.
- Sending a formal briefing letter on the data collection effort to all registered CPFV owners.
- Maintaining information regarding the data collection effort on the internet.

Additional methods for improving the response rate include: providing a full year for respondents to schedule an interview; and conditional on response rates in Phase 1, offering participants in Phase 2 in-person, telephone or mail-in mode interviews.

Strategy to Address Non-Response

All CPFVs are required to be registered in the state of California with the CDFG. Additionally the CDFG records vessel specific fishing effort and catch data. Using these resources, we are aware of the spatial distribution of registered vessels by homeport across California, as well as the distribution of fishing effort. Based on the distribution of survey responses that we receive these databases provide a direct link, both spatial and effort-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 non-response.

Accuracy of Data Collected

NMFS needs to measure the economic performance of California CPFV charter operations in order to meet legal and regulatory requirements, support fisheries management decision making, and pursue more detailed economic research. Currently, no cost earnings data are available to meet these needs. 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 either through weighing methods or additional sampling effort 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 Hamilton (1998) and a survey recently approved for the Hawaii For-Hire Sector, in keeping with approved questions under OMB Control No. 0648-0369. The survey has been designed using 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. The proposed survey instrument is designed by NMFS Southwest Fisheries Science Center (SWFSC) staff, in consultation with project steering committee members and contractors^{*****}.

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

Use of Survey Results

NMFS needs to measure the economic performance of California CPFV charter operations in order to meet legal and regulatory requirements, support fisheries management decision making, and pursue more detailed economic research. Currently, no cost earnings data are available to meet these needs. 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 Southwest Regional Office, Pacific Fishery Management Council, and the California CPFV charter fleet including estimating the economic contribution of the California CPFV fleet and the estimated impact of changes in environmental, economic, or management conditions on the on the California CPFV fishery.

^{###} 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.

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 Southwest 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.

Agency Coordinator

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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 187.5 (188) burden hours on the California CPFV (charter) fleet.

Total Target Population	300
Average burden per initial contact	5 min
Total burden hours for contact	25 hours (300 x 5 min)
Expected survey response rate	50%
Expected # survey respondents	150
Average burden hours/survey and scheduling	1 hour, 5 min
Total burden hours for survey and scheduling	162.5 (150 x 1 hour, 5 min)
Total burden hours	187.5 (188)