SUPPORTING STATEMENT
WEST COAST LIMITED ENTRY GROUNDFISH FIXED GEAR
ECONOMIC DATA COLLECTION
OMB CONTROL NO. 0648-0369

Project Title: West Coast Limited Entry Groundfish Fixed Gear Economic Data Collection

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

This request is for a one-time survey of the West Coast Limited Entry groundfish fixed gear fleet which has been developed based on previously approved question categories as outlined in the generic clearance (OMB Control No. 0648-0369) supporting statement.

Commercial fisheries economic data collection projects implemented by the Northwest Fisheries Science Center (NWFSC) have contributed 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). Economic data collection has also supported analysis of the size and distribution of economic benefits used in fisheries management, such as economic analysis of the groundfish trawl catch shares program presented in the trawl rationalization Environmental Impact Statement (EIS).

Surveys implemented since 2005 have covered West Coast harvesters, processors, and coastal communities. These surveys have focused on the federally managed groundfish and salmon fisheries as well as the closely related crab and shrimp fisheries. This document describes a data collection covering those harvesting vessels that operate with a limited entry groundfish permit that has a fixed gear (longline and/or pot) endorsement.[1] During 2010 there were 153 vessels active on the West Coast that held a federal groundfish limited entry permit with a fixed gear (longline and/or pot) endorsement. These 153 vessels landed $32.4 million of fish on the West Coast, including $17.4 million of groundfish (including $15.0 million of sablefish) and $11.4 million of crab.

The data collected in this survey for the operating years 2009 and 2010 will cover the same period as the base year data being collected for the limited entry groundfish trawl fleet under the West Coast Groundfish Trawl Economic Data Collection (OMB Control No. 0648-0618) approved in December 2010, per Final Rule RIN 0648-AY68. As a result, analysis of the effects of the catch shares program (which took effect in the limited entry groundfish trawl fishery in January 2011) will have data on the same two base years for both the limited entry groundfish trawl fleet to which catch shares directly apply and the limited entry fixed gear fleet for which catch shares may have an indirect impact.

Like the previously approved survey of the limited entry groundfish trawl fleet, this survey collects data which can be used to calculate economic performance measures, perform economic

[1] Vessels landing fish with a limited entry permit having a trawl endorsement are subject to a mandatory data collection program approved in OMB 0648-0618.

analysis, and estimate the size and distribution of economic benefits derived from fishery resources. While previous surveys of the limited entry fixed gear fleet (conducted in 2006 and 2009) collected data entirely through in-person interviews, discussions with members of the survey population have indicated that some individuals would prefer responding by mail or on-line. As a result, members of the survey populating will be given the choice of in-person interview, mail response, or on-line response.

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 population of interest for this survey is the owners of all active commercial fishing vessels holding a West Coast (Washington, Oregon, and California) limited entry groundfish permit with a fixed gear endorsement, that were active during 2010. The fixed gear endorsement may be for the use of longline gear and/or pots. Active fishing vessels are defined as having at least $1,000 of West Coast landings (over all species and gear types) during 2010. Vessels with less than $1,000 landings are considered to have too low a level of activity to provide useful cost earnings data. Fishticket data obtained through the PacFIN (Pacific Coast Fisheries Information Network) system indicates that there are 153 vessels in the survey population.

While vessels associated with a limited entry groundfish fixed gear permit are covered by the survey described in this document, vessels associated with a limited entry groundfish trawl permit are covered by a mandatory data collection as part of the West Coast trawl rationalization catch shares program. Because the trawl and fixed gear components of the West Coast groundfish species target many of the same species of groundfish, management measures in one fishery can affect the economic performance of the other fishery. As a result, it is desirable to coordinate economic data collection in the trawl and fixed gear components of the West Coast limited entry groundfish fishery. The data collection described in this documents covers the same period (2009 and 2010) as the mandatory base year economic data collection already approved by the Office of Management and Budget (OMB) for the West Coast limited entry trawl groundfish fishery.

Sampling and Other Respondent Selection Methods

This survey will be performed on a census of the 153 vessels in the survey population. That is, there will be no sampling to determine which vessel owners in the population of interest receive the survey. The survey sample and the survey population are identical.

Expected Response Rate

The NWFSC has conducted two previous economic cost earnings surveys of the limited entry fixed gear fleet. A survey fielded during 2006 obtained a 58% response rate. A second survey fielded during 2009 obtained responses from 50% of vessel owners. Given the response rates to these two previous surveys where only the option of an in-person interview was offered, a response rate of 65% is expected for the survey described in this document due to the availability of in-person, mail, and on-line response options. With a survey sample of 153 vessels, this implies 99 survey responses.

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

Stratification and Sample Selection

There is no stratification and sample selection in the survey design. All members of the survey population are included in the survey sample.

Estimation Procedures

National Marine Fisheries Service (NMFS) needs to measure the economic performance of catcher vessels in the West Coast limited entry groundfish fixed gear fishery in order to meet legal and regulatory requirements, support fisheries management decision making, and undertake economic research. Currently available cost earnings data from non-survey sources is very limited and does not meet these needs. This survey collects the data that is needed (but not currently available from other sources) to construct key economic performance measures such as profitability, quasi-rents, capacity utilization, efficiency, and economies of scale.

The data gathered and performance measures constructed will be used to address a wide range of issues; these issues include (but are not limited to) the economic effects of catch share management in the trawl sablefish fishery on the fixed gear sablefish fishery, regional economies, and net benefits to the nation, as well as how the distribution of those measure may have changed. While the data will be used to comply with legal and regulatory requirements, these requirements do not specify a level of data accuracy.

Much of the data requested will be used to compute total (or average) revenue, cost, profits, and quasi-rents (revenues less variable costs). This information is useful in and of itself to help understand the economic condition of the fishery and how it may have changed. Such data summaries are the type of information that fishery managers, participants and the public commonly wish to have provided. These data summaries will also be used in a regional economic impact model that has been developed by the NWFSC. A basic input to this model is the average expenditure (by cost category) as a percentage of revenue. The output of the regional economic impact model is used by NMFS and the Council to report on the economic contribution of the fishery to regional economies.

To understand the relationships between the quasi-rents/profits and the variables we collect that affect quasi-rents/profits, econometric models will be used. NWFSC analysts will use the data collected by this survey to construct statistical models that characterize the determinants and factors affecting the costs and revenues of limited entry fixed gear vessels. These statistical techniques can be used to disentangle the influence of particular economic variables on quasi-rents from “policy” or “management” variables that change directly as a result of managers’ choices over policies or regulations. Examples of economic variables include the prices of fuel, materials, or other inputs used in fishing and processing.

Desired Accuracy Needed for the Intended Purpose

Important objectives of survey design include data accuracy and data precision. Data precision is discussed in the next sub-section. Measuring and minimizing non-response bias (an important aspect of assuring accurate data) is addressed under Question 3. The degree of accuracy needed is not established by economic theory or legislative mandates. Data collected through this survey will be used for both statistical inference of population values from sample respondents and for estimation of econometric models used for policy making purposes. While more accurate data is clearly preferred, 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.

As discussed in the response to Question 3, data on vessel physical characteristics and landings (location, timing, gear, species, weight, and revenue) is available for both survey respondents and non-respondents, and will be used to test the representativeness of survey respondents. This data will also be used to adjust the models and/or data for any non-response bias that is detected.

Desired Precision and Response Rate

The desired degree of precision, and corresponding desired response rate, depends upon the application for which the data is being used. Some applications may use data from all survey respondents, while others applications will only use data from vessels that operate in specific fisheries or geographic locations.

A basic application of the survey data will be the inference of population mean values from the observed sample mean values. The following table shows the number of responses (and corresponding response rate) needed to get a response sample mean within 10%, 15%, and 25% of the population mean at the 95% confidence level. In this calculation, revenues associated with West Coast landings (which are known for all vessels) are used as a proxy for revenues from other sources and for expenditures (which are not known and are the focus of this survey).

N Population	N 10%	N 15%	N 25%	Response Rate 10%	Response Rate 15%	Response Rate 25%
153	89	69	28	58%	45%	18%

As shown in the accompanying table, having a sample mean within 15% of the population mean at the 95% confidence level requires a response rate of 45%. The expected 65% response rate allows calculation of a sample mean within 10% of the population mean. At least two reasons can be identified for desiring higher response rates than those needed to support inference of population means from sample means:

1) Data from this survey will be used to develop a variety of economic models covering applications such as fleet efficiency and fishery participation. In these applications, error

will arise not only from the representativeness of data used for model development, but also from model specification and estimation. Since it is not possible to completely avoid specification and estimation error in model development, there is good reason to desire a higher response rate and higher degree of accuracy in the data collection process.

2) Future applications of the data may require further disaggregating the population into smaller groups according to factors such as state of operation or species targeted. Identification of all such future disaggregated data needs is not possible at the present time. A higher response rate and higher degree of accuracy in the current data collection process will facilitate such future population disaggregation.

Survey Fielding

The PSMFC and its subcontractor will field the survey. The PSMFC will send an initial mailing with a cover letter, a copy of the questionnaire, and an explanation of how data collected by the survey will be used by economists. This will provide survey recipients with an opportunity to see first-hand the data being collected by the survey. Survey recipients will receive a self-address stamped envelope for responding to the survey by mail, instructions for using an on-line response site if they would prefer to respond on-line, and information on the in-person interview procedure if they prefer providing data through an in-person interview.

About ten days after the initial mailing , attempts to contact all non-respondents via telephone will begin (telephone numbers are available for all members of the survey population). It is anticipated that at the time these calls begin, most survey recipients will not have responded to the survey. These calls will be made by an expert recruiter with the objective of getting the survey recipient to agree to participate in the survey, and determining the response method (mail, on-line, or in-person interview). For those choosing an in-person interview, an interview time and location will be scheduled.

For purposes of survey fielding, information on the vessel owner and mailing address will be taken from federal permit and vessel registration files.

Expected Dates of Survey Implementation

The NWFSC intends to field the survey during October and November 2011. This schedule avoids the peak of the crab season (December through February). It also avoids the most active months of the seven-month (April to October) directed sablefish season. As a result, fielding the survey during October and November 2011 is a good time for maximizing survey response.

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.

Methods Used To Maximize Response Rates

A number of methods were used to maximize survey response during the previous two surveys of the limited entry fleet, and will also be used during this survey. . First, the survey is short, consisting of only five pages. Second, respondents are asked only to provide information about major cost and earnings categories, thus avoiding what may seem to survey respondents like

unnecessary detail. Third, survey recipients will not only have the option of responding through in-person interviews as on the previous two surveys, but will also have the option (for the first time) of responding via mail or an on-line questionnaire. Fourth, extensive discussions have been held with members of the limited entry fleet in an on-going effort to clarify questions and revenue and cost categories on the questionnaire correspond to the financial records maintained by vessel owners as much as possible.

Finally, initial contact with vessel owners via telephone will be made by an expert recruiter, and there will be extensive follow-up telephone calls and mailings for non-respondents. Previous surveys of the limited entry fleet have demonstrated the value of using an expert recruiter to make the first telephone contact and schedule the interview time and location. Follow-up telephone calls will be distributed among weekend/weekday and day/evening time periods to maximize the likelihood of reaching the contact person. About one week after the questionnaire is mailed to all members of the survey population, attempts to schedule in-person interview dates by telephone will begin. Up to six attempts to contact survey recipients will be made for each member of the survey population. When contacted, survey recipients will be offered the choice of responding through an in-person interview, on-line survey, or mail survey.

Addressing Non-Response

Testing for non-response bias will be based on the considerable amount of data that is available for all members of the survey population. Variables that will be used for non-response bias testing fall into the categories of vessel physical characteristics and vessel landings. Vessel physical characteristics such as length provide an indication of whether the data collected through the survey on fixed cost items such as repair and maintenance is likely to differ for survey respondents and survey non-respondents. Other vessel characteristics such as engine horsepower indicate whether variable costs such as fuel vary between survey respondents and non-respondents.

Tests for non-response bias will be based not only on vessel physical characteristics, but also on West Coast (Washington, Oregon, and California) landings. PacFIN provides vessel level information on West Coast landings (weight and dollar value) by date, species, gear type, and port for all vessels in the survey population. As a result, it is possible to compare respondents and non-respondents with regard to seasonal patterns, species landed, and location of landings.

Data on vessel landings makes possible a comparison between respondents and non-respondents of species landed, port of landings, and gear type. Available landings data will allow testing for differences between respondents and non-respondents for total dollar value and weight of total landings, dollar value and weight of groundfish landings, dollar value and weight of crab landings, dollar value and weight of shrimp landings, dollar value and weight of salmon landings, and dollar value and weight of highly migratory species (primarily tuna) landings.

While PacFIN provides information on West Coast landings, information on landings in Alaska is provided by the Alaska Fisheries Information Network (AKFIN). NWFSC employees do not have full access to AKFIN data, and as a result it is not possible to compare respondents and non-respondents Alaska landings by revenue, weight, species, gear type, time of year, and port. While NWFSC employees do not have full access to AKFIN data, it is possible for NWFSC

employees to obtain information on which members of the limited entry groundfish fixed gear fleet landed fish in Alaska during 2009 and 2010. As a result, it is possible to compare the percentage of respondents and non-respondents participating in Alaska fisheries (although it is not possible to compare the pounds landed, revenue earned, species harvested, or gear used in Alaska by respondents and non-respondents due to the limited access to AKFIN data).

If non-response bias is detected, procedures will be used to reweight the data or the estimated model to correct for any known bias.

Adequacy of Accuracy and Reliability of Information for Intended Uses

NMFS needs to measure the economic performance of West Coast commercial fisheries in order to meet legal and regulatory requirements, support fisheries management decision making, and undertake economic research. Currently available limited entry fixed gear fleet cost earnings data for 2009 and 2010 from non-survey sources is very limited and does not meet these needs. The NWFSC's Cost Earnings Program will collect the additional data that is needed to construct key economic performance measures such as profitability, capacity utilization, efficiency, productivity, and economic impacts. The data gathered and performance measures constructed will be used to address a wide range of issues; these issues include (but are not limited to) the effect of alternative catch share programs and predicting fishery participation under alternative regulatory regimes. While the data will be used to comply with legal and regulatory requirements, these requirements do not specify a level of data accuracy.

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

The survey instrument is an updated version of the survey instrument used for the previous two limited entry trawl and limited entry fixed gear surveys. This updating facilitates using data collected from this data collection with data collected through the limited entry groundfish trawl survey, while staying within the framework of the 0648-0369 approved questions. Since the survey development process for the prior limited entry trawl and limited entry fixed gear surveys has already been documented in prior OMB submissions, it is provided in a footnote in this document.[2]

[2] Survey development for the previous limited entry trawl and limited entry fixed gear surveys began with the formulation of the Cost Earnings Program Plan. This plan outlines the reasons for collecting cost earnings data, identifies the population(s) of interest among west coast vessel owners, and prioritizes data needs. Based on this long-term plan, objectives for this survey and survey content were developed through a series of meetings by representatives of the (NWFSC), Northwest Regional Office (NWR), Southwest Fisheries Science Center (SWC), and Pacific States Marine Fisheries Commission (PSMFC). These meetings identified key objectives as collecting data which could be used to measure fisheries profitability, economic impacts, efficiency, and economic benefits of regulatory measures. The academic literature, both within and outside of fisheries, was reviewed in order to determine the data requirements of models which would likely be used to measure fisheries profitability, economic impacts, efficiency, and economic benefits of regulatory measures.

This process allowed prioritization of data needs and choice of survey content. After survey content was determined, a draft questionnaire was prepared. This draft questionnaire was discussed with members of the limited entry trawl fleet by PSMFC personnel. In addition, NOAA personnel provided a presentation on survey content and timing to the Pacific Fisheries Management Council Groundfish Advisory Panel (a group of fishing industry

The development of the catcher vessel questionnaire for the mandatory limited entry trawl survey (documented in a prior OMB filing) affected the questionnaire for this limited entry fixed gear survey in two ways. First, the extended conversations with fishery participants that were part of the mandatory survey development process led to a revision of some questions to improve clarity and more closely conform with the financial record keeping of limited entry vessel owners. Second, the mandatory limited entry trawl survey is significantly longer than the voluntary surveys used for previous limited entry trawl and limited entry fixed gear surveys. While it is desirable to maintain a similar questionnaire for the limited entry trawl fleet and the limited entry fixed gear fleet, the NWFSC does not believe that it is possible to obtain satisfactory response rates with a questionnaire the length of the mandatory limited entry trawl questionnaire.[3]

As a result, the questionnaire for this survey has a limited number of changes designed to facilitate using data from both the mandatory limited entry trawl survey and this voluntary limited entry fixed gear survey. In particular, the revenue and cost categories in questions 11 through 13 have been updated to closely match those in the mandatory limited entry trawl survey.[4] The limited entry fixed gear survey now also contains the question on days at sea while participating in various fisheries found on the mandatory limited entry trawl questionnaire, as this information will provide a measure of effort as well as a means of allocating capital costs to different fisheries.

These changes were reviewed with industry participants and personnel who serve as industry representatives on advisory committees to the Pacific Fisheries Management Council. The wording and content of questions was revised until deemed acceptable by both agency economists and industry participants and representatives.

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

Use of Survey Results

The NMFS needs to measure the economic performance of West Coast commercial fisheries in order to meet legal and regulatory requirements, support fisheries management decision making, and undertake economic research. The NWFSC's Cost Earnings Program is an on-going program that collects data, which when combined with other existing sources of data, provides

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members including harvesters and processors) and the Council's Scientific and Statistical Committee (a group responsible for reviewing the methodology used in scientific and statistical studies) . Comments received through these discussions and presentations improved questionnaire content and format.

[3] The limited entry trawl and limited entry fixed gear fleets target many of the same species of groundfish, such as sablefish, Dover sole, and rockfish. As a result, it is desirable to collect data covering the same time periods using similar questions from the limited entry trawl and limited entry fixed gear fleets. In particular, the potential for fishermen in the limited entry trawl fishery to harvest their sablefish quota using fixed gear (sablefish caught with fixed gear sell for a higher price than trawl caught sablefish) make it likely that some economic questions will require use of data from both the trawl and fixed gear components of the limited entry fishery.

[4] Some differences in the two questionnaires reflect differences in regulation of the two fisheries. For example, the mandatory limited entry trawl survey collects data on quota expenditures. Since there is no quota system in the limited entry fixed gear fishery, there is no question about quota expenditures on the limited entry fixed gear questionnaire.

data that is needed to construct key economic performance measures such as profitability, capacity utilization, efficiency, productivity, and regional economic impacts. The data gathered and performance measures constructed will be used to address a wide range of issues; these issues include (but are not limited to) the effect gear switching in the limited entry sablefish fishery under catch shares and the economic impact of fisheries management measures on economic conditions in coastal communities.

Analysis based on data from the previous limited entry fixed gear has already been incorporated into the NWFSC's input-output model (IO-PAC). This model requires information on expenditures by fishing vessel owners in order to estimate the economic impact of changing harvest levels or other fisheries restrictions. Results from IO-PAC are used in the Pacfiic Fisheries Management Council's Groundfish Specifications process which helps determine groundfish harvest levels for groundfish species on the West Coast. Data collected in this survey will be used to update this analysis.

Reporting of Survey Results

A descriptive summary of results from the survey will be prepared and posted on the PSMFC web site. This summary will include descriptive statistics (such as mean and standard deviation) of the various cost and earnings categories being collected. This descriptive summary will also be distributed to survey respondents via paper mail.

Survey results will be reported over time through a series of studies prepared for fisheries management. It is anticipated that results will also be reported through academic publications, presentations at conferences, and technical guides. All reporting of survey results will conform to data confidentiality requirements.

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. As explained in the previous paragraphs, the information gathered has utility. 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 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 principle investigator.

Agency Coordinator:
Carl Lian
Northwest Fisheries Science Center

2725 Montlake Boulevard East
Seattle, WA 98112
206-302-2414 (voice)
206-860-6792 (fax)
carl.lian@noaa.gov (email)

Principal Investigator:
Dave Colpo
Pacific States Marine Fisheries Commission
205 SE Spokane Street
Portland, OR 97202
503-595-3100 (voice)
503-595-3232 (fax)
dave_colpo@psmfc.org (email)

7. Estimated burden and number of respondents.

Reviewing the survey, collecting requested data, and the in-person interview is expected to take two hours per respondent. With the expected 65% response rate, a total of 99 responses will be received. As a result, the survey is expected to impose a total of 198 burden hours on the West Coast limited entry fixed gear fleet.