

**SUPPORTING STATEMENT**  
**PACIFIC COAST GROUND FISH FISHERY RATIONALIZATION SOCIAL STUDY**  
**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 respondent universe for this study includes those individuals, partners, businesses, etc., that have any connection to the Pacific Coast Groundfish and Whiting Fisheries. These are the fisheries that are being rationalized or managed under a limited entry program. Types of respondents expected include fishermen, vessel owners, vessel operators, groundfish limited entry permit owners, groundfish limited entry permit owners/holders, quota allocation recipients, crew aboard groundfish/whiting vessels, mothership operations, catcher-processor operations, shoreside processors, any other at-sea processors, first receivers/buyers, and other individuals who are stakeholders in the fishery such as partners or spouses. In addition, the survey/interview pool will include any businesses that are directly tied to the groundfish/whiting communities through the supply of commercial items to include, but are not limited to net suppliers, fuel suppliers, equipment suppliers, etc.

The survey will be a census of the groundfish trawl/fixed gear fishery as described; that is, all individuals who meet the descriptions above. The only known numbers are the vessel owners and permit owners, because the current Limited Entry Permit program requires this information. All other counts of the number of respondents are estimates. Calculations have been developed to estimate the number of respondents. Values for these calculations come from a combination of published data and information from personal communications. Published data including the number and size of fishing vessels is available from the Northwest Regional Office Limited Entry Permit database. Additionally, published materials provide information on the shoreside processors. Information such as the estimates of how many crew are on vessels came from personal communications during the pilot/study review process with NMFS employees and industry members. The combination of this data is utilized to estimate the number of crew on participating vessels that will be part of the survey respondent group. This is believed to be the most accurate process to estimate the field of respondents.

Another sector of the study population, shoreside processors, is not as clear as the vessel owners and permit holders, but does have a little more information based in the literature; those for both the trawl groundfish species and whiting species have been described in the Pacific Fishery Management Council documents (PFMC and NMFS 2009). The data provided identified a list of possible processors on the west coast. For this research, the processors will be confirmed and it is assumed that each processor has at least one owner, if not multiple owners. An approach to contact the owner(s) of each processor and conduct a census of the processor owner population will be taken.

Description				No. Companies	No. People	No. of Estimated Respondents	Estimated Response Rate 60%
Vessel Owners					177	200*	128
Permit Owners Only					13	20*	13
<b>Crew Estimate</b>							
Vessel Length	No. of Vessels	x Est. Crew Per Vessel	= No. Est. Crew				
33' -80'	124	3	372		372	372	238
80'-150'	41	4	164		164	164	105
Over 150'	12	100	1200		1200	1200	768
Shoreside Processors Owners (CA, OR, & WA) <sup>†</sup>				71	107	107	68
Shoreside Processors Employees (CA,OR &WA) <sup>††</sup>				71	710	710	284 <sup>+</sup>
Industry Supply Company Owners and Employees				15	15	15	10
Misc. Fishermen/Processors – Interviews ONLY					78	78	50
Fishery Related Organizations – Meetings				15	15	15	10
Misc Others					20	20	13
<b>Total (actual number contacted, not annualized)</b>						<b>2808</b>	<b>1687</b>

\*Some vessels and permits are co-owned, but both owner names are not listed in the permit data, so additional respondents were added to account for vessels with more than one boat owner.

<sup>†</sup> Personal communications alluded to some processors being owned by more than one individual. An exact number of these circumstances were not able to be obtained. As a result, to account for more than one owner, a multiplier of 1.5 was applied to the number of companies to derive an estimate number of owners to include in the calculation.

<sup>††</sup> Personal communications alluded to various numbers of employees for processors. An exact number of these circumstances were not able to be obtained. As a result, to account for an average number of employees, a multiplier of 10 was applied to the number of companies to derive an estimate number of employees to include in the calculation.

<sup>+</sup> An average response rate was calculated as 60%. For a majority of the estimated respondents (1300) a 64% response rate is estimated. For the remainder of the estimated respondents (284) a 40% response rate is estimated. Personal communications suggest access to shoreside processor employees will be extremely difficult. As a result, a lower response rate is projected from this pool of respondents

Two sub-populations of the study where no list of individuals exists are that of vessel crew and processor employees. Access to these individuals will be sought through various means. Initially, vessel owners, permit owners, and processor owners will be asked for lists of employees and/or for permission to contact their employees. We will work closely with the NMFS Observer and Survey programs as key informants to reach crew aboard vessels. There are various community organizations related to this fishery; for example, the Newport Fishermen's Wives, Inc. We will work closely with these organizations to reach members who are fishermen and processor employees. Key informants and members of the groups listed above will handle initial introductions with respondents, providing the outreach letter and informed consent form explaining the survey. All individuals who complete the survey/interview process will be shown the compiled lists and asked if there are other crew/staff not listed.

We will be taking the more traditional, direct method of outreach – sending initial letters – to all permit holders, vessel owners and processor owners for whom we have addresses.

**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.**

As previously mentioned in Question B.1, the approach to this study is to conduct a census of the study population. Individuals who meet the study criteria will be provided an opportunity to

participate in the research. The sample selection will therefore not contain a random sample or other statistical representation of the study population and their associated statistical analysis. Sample selection will be based solely on the criteria of the individuals' participation and having an active role in the Pacific Coast Groundfish Trawl Fishery, where those expected roles have been previously addressed in Question B.1.

Data collection will occur primarily through in-person survey administration and semi-structured to unstructured interviews. Researchers will discuss the research with study participants, administer the surveys, be available to answer any questions, code the surveys for anonymity and confidentiality, and collect all the surveys upon completion. In the event individuals are unavailable to meet in person, various options will be available. Hard copy surveys can be provided either in person or via the mail, electronic versions will be available either for distribution via email or accessible over the internet. In the event of any mailing costs to return the survey, postage paid envelopes will be provided as appropriate.

It is expected that a 60% response rate will be sufficient to properly represent the study population. This response rate is based on a similar study conducted by the principal investigator with the same collection methodologies (Russell and Schneider 2009). Analysis of the results will be conducted to include the response rate for each question. This is an important aspect of the research as the option to skip questions is being provided as an additional layer of confidentiality. The strength and accuracy each piece of data will therefore be represented through the response rate of the question, in addition to the overall response rates.

Data collection is not planned to be conducted on an annual basis. The first projected study year is 2010; a supplemental analysis will take place in 2012, and another full analysis, in 2015-2016. As the focus of this research is to measure changes in the communities over time due to a management change, it is not expected that there will be a great advantage to conducting the research in annual increments. The design of the program by fishery managers has elements built in that are expected to trigger events in the communities that may be measured in increments other than annually. For example, the quota shares are not authorized to be traded until after the second year the program is in effect. However, quota pounds are expected to be traded immediately. The purpose of the second year supplemental survey is to measure the initial effect of the quota pound trading. Discussions with various NMFS personnel and personal communications with industry members suggest that after the 5th year, the system will be more stabilized and settled. Trading activities should be well settled and this would be a good time to measure the overall change. In addition, the MSA Sec. 303A (1)(G) requires a five-year review of the quota management system, and the data provided from this research can inform the five-year review process. In addition, this approach, as opposed to an annual approach, will reduce the burden on the research participants significantly.

**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.**

Various steps have been, and will continue to be, taken to maximize response rates. As a reminder, no statistical sampling methodology is intended for this study population, there is no specific sampling frame applied in this case.

The first step to increase response rates has been taken in the form of working with industry members in a pilot study and providing the opportunity for them to review and contribute to the development of the survey tool. Industry members selected are all key participants in various aspects of the industry, to include geographically diverse locations within the fishery, diverse roles within the industry, as well as diverse knowledge of the fishery. Each industry member has been invited to continue to work with the study principal investigator to discuss the best approach to reach study participants. Several of the industry members have already committed to serving as key informants, gate keepers, and primary contacts to many others in the industry. These individuals will assist in the communication of the research, will have access to literature about the study to be distributed to their constituents, and will assist researchers in the field to coordinate with study participants. The action of working with industry members and including them in the survey design and study and points of contact is expected to increase the response rate dramatically.

Additional efforts to increase response rate include in-person survey administration whenever possible. It has been the experience of other research efforts that conducting the research in person and collecting completed surveys immediately, dramatically increases response rates (Russell and Schneidler 2009, Rea and Parker 1997, Robson 2002). In addition, the individuals participating in the research have the opportunity to communicate with the researcher and provide additional information that is of concern to them to be included in the data set.

Contact has also been made with other key members of NMFS, academia, and industry to better understand the study universe and to work together to collect a more complete data set. Communication with NMFS Northwest Regional Office, NMFS Observer program personnel, NMFS survey program personnel, NMFS Alaska Fisheries Science Center personnel, NMFS SWFSC personnel, other NMFS field personnel, Oregon Sea Grant Personnel, and California Sea Grant personnel are included in collaborative efforts of this research. These efforts have increased the background knowledge available to the researchers, provided additional key informants and gate keepers to the industry, and have provided a support network throughout the west coast to conduct this research. This network of information available to the researchers will contribute to an increased response rate. An example of how this will work is through coordinating our approach of fishermen with observers. This coordination will serve two functions, 1) access to vessel schedules, and 2) gate keeper assistance. The observers work with fishermen on a daily basis; they will have knowledge of the boats schedules, which would direct the researchers to be available to conduct the research at the most appropriate times for the survey respondents. It would reduce the contact burden and extensive scheduling calls, and capture the targeted respondents when they are most available. In addition, the observers know the individuals of research interest personally. Collaborating with the observers and arranging for introductions between researchers and study participants by the observers, will likely increase the willingness of study participants to work with researchers.

Multiple options will be provided to study participants to participate in the research. For individuals who are willing to work with us but don't want to fill out the survey, researchers will conduct an interview and complete the survey per the participants' responses. For those who don't want to complete the entire survey, a section completion guide directs the participants as to which sections are most important to complete for the role the individual plays in the industry, limiting the sections the participant needs to complete. It is also clearly communicated that the individuals can stop their participation at any time, stop the completion of the survey at any time,

or skip any questions of concern at any time, without any personal consequence. For those individuals who are not interested in the survey at all but are willing to participate in an interview, researchers will limit their data collection to interviews. If a participant is willing to give us only a few minutes of their time, we will ask the questions outlined in Sections A and B of the survey instrument. These sections are estimated to take approximately 5 minutes to complete. These responses will be used to analyze non-response bias.

**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.**

A full review of the study description, the study methodology, and the survey instrument has been undertaken. NMFS personnel and other federal personnel in various regions have reviewed the survey tool and provided comments on both the survey tool and the study. As previously discussed in Question 3, key industry members were provided a description of the research, discussed the research with the principal investigator, and reviewed the survey tool in a pilot study of fewer than 10 industry participants. Communication with reviewers is being maintained to 1) communicate changes to the survey tool as a result of the reviews, and 2) to lay the framework for the deployment of researchers into the field to conduct the research.

Information received from industry members and other NMFS personnel was found to be invaluable to the development of the survey tool. Significant changes were thus made to improve the tool. Their continued participation in this research is expected to contribute greatly to its success.

**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.**

The internal NMFS design, development, and review team including statistical analysis included Dr. Karma Norman, social scientist NWFSC (206) 302-2418; Anna Varney, ERT contractor at the NWFSC (206) 302-2486, Kristin Hoelting, UW Research Assistant at the NWFSC, (206) 302-2418, Todd Lee, Economist NWFSC (206) 302-2436, Carl Lian, Economist, NWFSC (206) 302-2414.

The primary individuals expected to collect the data include Suzanne Russell, social scientist, principal investigator, NWFSC, Anna Varney, ERT contractor NWFSC, Karma Norman, social scientist NWFSC, Jennifer Gilden Pacific Fisheries Management Council Staff, Christina Package, Pacific States Marine Fisheries Commission, Stacey Miller, NWFSC, and others to be identified. It is expected that at minimum two additional individuals will be collection data in collaboration with the Oregon Sea Grant Program and the California Sea Grant Program.

Individuals who are expected to analyze the data include Suzanne Russell (206) 860-3274, Karma Norman (206) 302-2418, and Anna Varney (206) 302-2486.

## Cited References

- Ecotrust Canada, 2001. *Catch-22, Conservation, Communities, and the Privatization of B.C. Fisheries*. Available on-line. Accessed February 2, 2010. <http://www.ecotrust.ca/ocean/catch22>.
- Lowe, M.E., and C. Carothers, editors, 2008. *Enclosing the Fisheries: People, Places, and Power*. American Fisheries Society, Symposium 68, Bethesda, Maryland.
- McCay, B. 1995. "Social and Ecological Implications of ITQs: An Overview." *Ocean & Coastal Management* 28(1-3):3-22.
- National Research Council. 1999. *Share the Fish: Toward a National Policy on Individual Fishing Quotas*. National Academy Press. Washington D.C.
- PFMC (Pacific Fishery Management Council) and NMFS (National Marine Fisheries Service). 2009. Rationalization of the Pacific Coast Groundfish Limited Entry Trawl Fishery; Draft Environmental Impact Statement Including Regulatory Review and Initial Regulatory Flexibility Analysis. Pacific Fishery Management Council, Portland, Or. November 2009. Accessed January 6, 2010. [http://www.pccouncil.org/wp-content/uploads/0911\\_TRatEIS\\_Cover.pdf](http://www.pccouncil.org/wp-content/uploads/0911_TRatEIS_Cover.pdf)
- 2010.
- Palsson, G, and G. Petursdottir, editors. 1996. *Social Implications of Quota Systems in Fisheries*. Nordic Council of Ministers, Copenhagen.
- Rea, L.M. and R.A. Parker, 1997. *Designing and Conduction Survey Research*. John Wiley & Sons, Inc. San Francisco, CA.
- Robson, C., 2002. *Real World Research Second Edition*. Blackwell Publishing. Malden, MA
- Russell, S.M. and M. Schneidler, 2009. A Profile of the People in the U.S. Whale Watching Industry of the Greater Puget Sound, WA." *Draft Technical Memorandum*. NMFS, Seattle, WA.

## Additional References

- Adesoji, A, J. Menzo, and B. McCay. 1998. "Market Power, Industrial Organization and Tradeable Quotas" *Review of Industrial Organization* 13: 589-601.
- Deweese, C.M. 1998. "Effects of Individual Quota Systems on New Zealand and British Columbia Fisheries." *Ecological Applications* 8 (1) Supplement: Ecosystem Management for Sustainable Marine Fisheries (Feb., 1998), S133-S138.
- Government Accountability Office. 2004. *Individual Fishing Quotas: Methods for Community Protection and New Entry Require Periodic Evaluation*. GAO-04-277.
- Huppert, D. 2005. "An Overview of Fishing Rights" *Reviews in Fish Biology and Fisheries* 15:201-215.

Pew Oceans Commission. 2003. *Socioeconomic Perspectives on Marine Fisheries in the United States*. Pew Oceans Commission, Arlington, VA.