

SUPPORTING STATEMENT
U.S. CARIBBEAN SMALL-SCALE FLEET ECONOMIC PERFORMANCE STUDY
OMB CONTROL NO.: 0648-xxxx

A. JUSTIFICATION

1. Explain the circumstances that make the collection of information necessary.

The Magnuson-Stevens Act (MSA) mandates that conservation and management measures prevent over-fishing and obtain an optimum yield (OY) on a sustained basis. The MSA also requires that conservation and management measures take into account the importance of fishery resources to fishing communities in order to: (a) provide for the sustained participation of such communities, and (b) to the extent practicable, minimize adverse economic impacts on such communities. To foster the rational utilization of coral reef resources and habitats in the Commonwealth of Puerto Rico and in the U.S. Territory of the Virgin Islands, the Caribbean Fishery Management Council (CFMC) recently adopted the Comprehensive Amendment to the Fishery Management Plans of the U.S. Caribbean which brings the spiny lobster, queen conch, reef fish and coral fishery management plans into compliance with the Magnuson-Stevens Act. This Comprehensive Amendment, among other things, establishes gear and harvesting restrictions and seasonal closures to rebuild overexploited lobster, conch, and reef fish populations.

The paucity of socioeconomic data has been a significant hurdle in evaluation of regulatory proposals in the U.S. Caribbean. Most of the existing economic information is limited to dockside value data. With the exception of the recently completed U.S. Caribbean fish trap costs and earnings study (Agar *et al*, 2005), most of the fisheries economic studies available are limited in scope and now outdated (see, Kahn, 1948; Olsen *et al*, 1982). Because this dated research is inadequate to support current management actions and meet the requirements put forth by MSA, we are proposing expanding our knowledge of other fishing gears (i.e., non-trap gears) in the region.

These non-trap gears are increasingly being used by small-scale fishermen because of their versatility, higher yields and economic returns. In Puerto Rico alone, between 1983 and 2003, the percentage of total landings derived from lines and nets increased from 22.1% to 41.6% and 16.3% to 18.2%, respectively. In contrast, the percentage of total landings derived from traps decreased from 40.3% to 22.9% during the same period. Similarly, Crucian nets' contribution to total landings increased from 11.3% to 57.2% between 2001 and 2003, while traps' contribution to total landings decreased from 88.7% to 42.8% during the same time period.

The goal of this study is to collect socioeconomic information on small scale commercial fleets that operate in the Commonwealth of Puerto Rico and the U.S. Territory of the Virgin Islands to support the management efforts of the CFMC. This study will help us develop a socioeconomic profile of the hook and line, net and dive fisheries. The information collected will be used to 1) satisfy regulatory objectives and analytical requirements through the collection of economic data for these fleets, and 2) assist the CFMC in selecting policies that meet conservation and management goals and minimize to the extent possible any adverse economic impacts to fishery participants.

The need and the authorization to collect these socioeconomic data are found in the MSA ([16 U.S.C. 1801 et seq.](#)), the Regulatory Flexibility Act (RFA, [5 U.S.C. 601 et seq.](#)), the National Environmental Policy Act (NEPA, [42 U.S.C. 4372 et seq.](#)), and [EPA Executive Order \(EO\) 12866](#). The MSA notes that collection of reliable data is essential to the effective conservation, management, and scientific understanding of the fishery resources of the United States. The nation's fisheries should be "conserved

and maintained so as to provide OYs on a continuing basis". Furthermore, eight of the ten National Standards under the MSA, which provide guidance to the regional fishery management councils, have implications for economic analyses. For example, under section 303 (a) (9) of the MSA, a fishery management plan must include a Fishery Impact Statement (FIS), which assesses, specifies, and describes the likely effects of the conservation and management measures on participants in the fisheries being managed, fishing communities dependent on these fisheries, and participants in fisheries in adjacent areas. Under the RFA, the Small Business Administration needs a determination of whether a proposed rule has a significant impact on a substantial number of small entities that are to be directly regulated. For RFA purposes, one of the criteria to determine significant economic impact involves an assessment of the change in short-term accounting profits for small entities. The NEPA requires a determination of whether Federal actions significantly affect the human environment. This requires a number of economic analyses including the impact on entities that are directly regulated and those that are indirectly affected. Lastly, EO 12866 mandates an economic analysis of the benefits and costs to society of each regulatory alternative considered by the fishery management councils, and a determination of whether the rule is significant.

2. Explain how, by whom, how frequently, and for what purpose the information will be used. If the information collected will be disseminated to the public or used to support information that will be disseminated to the public, then explain how the collection complies with all applicable Information Quality Guidelines.

A one-time, voluntary survey will be used to collect costs and earnings information on the small scale hook and line, net and diver fleets operating in the U.S. Caribbean. Specifically, the survey intends to collect demographic, capital investment, revenue, variable and fixed cost information. A private contractor will be hired to conduct voluntary, in-person interviews. Names, addresses, and phone numbers from a stratified random sample of commercial fishermen will be provided to the contractor by NMFS staff. One thousand interviews will be conducted.

The information sought will be used by the NMFS social scientists to estimate economic and financial performance measures to gauge the health of the fishery (Figure 1). Conceptually, economic benefits measure the value of fishing to society in terms of economic cost of the resources used. On the other hand, financial benefits measure net income derived from fishing. Net income amount captures the vessel owner's labor and capital investment returns. These indicators impart different perspectives on the health of the fishery. The questionnaire seeks to collect information on the various variables that make up these performance measures (Table 1).

The proposed questionnaire has six sections: 1) demographic characteristics, 2) seasonal participation in fishing and non-fishing activities, 3) description of capital investment in fishing gears, 4) description of variable costs 5) description of fixed costs, and 6) description of vessel characteristics and fishing equipment and electronics.

The first section inquires about the fisherman's demographic characteristics. It elicits information about the fisherman's age, educational attainment, number of dependents, participation (i.e., full-time vs. part-time), percentage income derived from fishing and non-fishing activities, vessel and gear ownership, and household consumption of catch. In addition, this section asks fishermen to provide a brief overview of the gears used and species targeted to contextualize the information of latter sections. This section provides valuable data to assess fishermen's level of dependence and engagement on fishing. Knowledge of fishing dependence is necessary since the MSA requires fishery management councils considering regulatory actions to take into account, among other things, historical and present participation in the fishery, dependence on the fishery, capability of fishing vessels to switch into other fisheries, and cultural

and social characteristics of the fishery and any impacted fishing community.

The second section asks about the fisherman’s seasonal participation on fishing and non-fishing activities. It solicits information on the monthly number of fishing trips and number of days per month undertaking non-fishing activities. This information is necessary to understand fisherman’s distribution of fishing effort over the year and to assess fisherman’s opportunity cost of labor. Formally, the fisherman’s opportunity cost of labor is defined as the forgone income for not undertaking the next best employment alternative. Information on opportunity cost of labor is essential since it allows the estimation of economic profits. Economic profit is equal to total revenue minus the opportunity cost of the various inputs of production, including fishermen’s labor (see, figure 1). Factors such as age, education, number of dependents, and fishing experience are important determinants the opportunity cost of fisherman’s labor since they influence fishermen decision to participate in the fishery sector.

Section three inquires about the various gear used and also about their purchase price, replacement value and useful life. The information collected in these sections will be used to estimate the opportunity cost of capital and economic depreciation. In efficient markets, market prices should reflect the economic (opportunity) cost of inputs. Straight-line depreciation is calculated by the difference between the purchase cost of the asset and the residual value of the asset, divided over the useful economic life of the asset.

Sections four and five elicit information on variable and fixed costs. Variable costs are those expenses incurred during the operation of the vessel. These vary with the level of harvesting activity. Variable costs can be further categorized into operating expenses, which include fuel, lubricants, bait, ice, food, and supplies, and into crew labor expenses. Generally, crew wages are paid as a share of the trip’s revenue after deducting operating expenses. Fixed costs are those expenses incurred regardless whether the vessel operates or stays idle. They are independent of the level of fishing activity. Fixed costs include mooring fees, hull, engine, and fishing gear maintenance and repair expenses, fishing permit and vessel registration fees, vessel and gear mortgage payments, and insurance payments. The information collected in these sections will be used to generate net revenue, economic and financial profit estimates as shown in table 1.

The last section inquires about vessel characteristics, and vessel equipment and electronics. Specifically, this section inquires about the vessel’s age, length, and hull type, engine’s type (inboard vs. outboard), and propulsion power. It also asks about their purchase price, replacement value and remaining useful life of the hull, engine and fishing equipment and electronics replacement value. This information will be used to offer a more complete picture of economic depreciation. **A copy of the survey can be found in Appendix B.**

Table 1: Performance indicators.

| | | | | |
|-----------------------|--------------------|---|------------------------------|-------------------------|
| TOTAL REVENUE | | | | |
| Variable Costs | NET REVENUE | | | |
| Variable Costs | Fixed Costs | Capital, Crew & Captain’s Labor Opportunity Cost | Economic Depreciation | ECONOMIC PROFIT |
| Variable Costs | Fixed Costs | Crew Payments | Interest Payments | FINANCIAL PROFIT |

The information sought will be of practical use since NMFS social scientists will utilize for descriptive and analytical purposes. In addition, the information collected will be used for the development of natural resource plans. The survey will collect demographic, economic and social information, which otherwise would be unavailable. Although Puerto Rico's Department of Natural and Environmental Resources and U.S. Virgin Islands Division of Fish and Wildlife conduct surveys of fishermen, which collect information on number of active fishermen, hours fished, species targeted, vessel characteristics, and gears used, these census data are too general to assess the economic impact of proposed regulatory actions.

It is anticipated that the information collected will be disseminated to the public or used to support publicly disseminated information. As explained in the preceding paragraphs, the information gathered has utility. NOAA Fisheries 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. See response #10 of this Supporting Statement for more information on confidentiality and privacy. 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.

3. Describe whether, and to what extent, the collection of information involves the use of automated, electronic, mechanical, or other technological techniques or other forms of information technology.

The proposed survey will use voluntary, in-person interviews to collect the socioeconomic data sought. In-person interviews are more versatile and less burdensome than mail surveys and more feasible than electronic questionnaires due to the limited access to these technologies in some parts of the U.S. Caribbean.

Another reason for in-person interviews is that many of the answers do not lend themselves to simple 'yes/no' and/or 'Lickert scale' formats. There are number of open ended questions which are hard to complete in written form, inadvertently leading to higher non-response rates. We do plan to make copies of the OMB approved survey instrument available online for public printing off the internet. The data collected will not be available to the public over the internet given its confidential nature. However, a report summarizing the salient, aggregated results will be available online once the data collection and analysis is completed.

4. Describe efforts to identify duplication.

We contacted the CFMC, the U.S. Virgin Islands Department Division of Fish and Wildlife (DFW) and Puerto Rico's Department of Natural and Environmental Resources (DNER) to inquire about their upcoming data collection efforts, and to inform them about our intention to collect costs and earnings data from small scale fishermen. With the exception of the DNER, none of the above organizations planned data collection initiatives dealing with small scale fishermen in the upcoming years. DNER noted that they intended to update their 2002 fishermen

census; however, they had not been able to secure funds for this project.¹

To try to minimize the burden on fishermen, we discussed with DNER various mechanisms to better coordinate and integrate our research efforts in the area. During this discussion, it was agreed that different information needs and DNER funding uncertainty prevented us from combining the surveys. While the census information collects valuable data on fisherman demographics and their fishing operations, it does not collect revenue and cost data, which limits its contribution to socioeconomic analysis of regulatory actions as mandated by MSA. Furthermore, DNER was reluctant to commit their staff to this effort given the sensitive nature of some of our questions (e.g., income, and occupational multiplicity questions).

5. If the collection of information involves small businesses or other small entities, describe the methods used to minimize burden.

Fishermen censuses suggest that most commercial fishing operations are owner or family operated small businesses. Several steps will be taken to minimize the burden to these small businesses. First, contractors will be required to conduct their interviews at times and places that are convenient to fishermen. This will minimize any potential disruption to fishermen's fishing practices. Second, contractors will be required to interview a fraction of the population. Fishermen not selected in the sample will not be contacted to participate in the survey. Third, surveys will be voluntary. Fishermen who do not wish to participate in the survey can choose not to partake. Last, the wording of the surveys will be modified slightly to account for regional differences. Contractors will work with local authorities to ensure that the wording facilitates understanding and reflects local idioms. Surveys will be available in English and Spanish to further reduce any burden to non-English speaking fishermen.

6. Describe the consequences to the Federal program or policy activities if the collection is not conducted or is conducted less frequently.

The proposed costs and earnings survey will collect demographic, economic and social information on the hook and line, net and diver fleets. If this information was not collected (or collected less frequently), then CFMC would not be able to adequately satisfy the legal requirements put forth by the MSA, NEPA, and EO 12898. These mandates require regional fishery management councils to establish conservation and management measures which take into account the importance of fishery resources to fishing communities in order to provide sustained fishing community participation and to minimize, to the extent possible, adverse economic impacts on such communities. Furthermore, these requirements also mandate that regional fishery management councils to establish conservation and management measures using the best available information. Because the data collection is the first in its kind for these non-trap gears, the consequences will be the same that if the data was not collected at all.

The absence of detailed economic and social information would prevent the identification of communities that are engaged and dependent on fishing and the estimation of adverse economic

¹ The PR fishermen census collects information on the fisherman's demographic characteristics, vessel attributes (e.g., vessel length, horsepower, engine type), number and type of gears owned, catch handling, and perceptions of resource status.

impacts on these communities. Management proposals would continue to be debated without sound information. Another consequence of not having the appropriate economic data could be court challenges on the grounds of inadequate analysis. Last, the collection of detailed socioeconomic data will, allow fishery managers to make timely and better-informed decisions by having the best scientific information available.

7. Explain any special circumstances that require the collection to be conducted in a manner inconsistent with OMB guidelines.

There are no special circumstances that require the collection to be conducted in a manner inconsistent with OMB guidelines.

8. Provide a copy of the PRA Federal Register notice that solicited public comments on the information collection prior to this submission. Summarize the public comments received in response to that notice and describe the actions taken by the agency in response to those comments. Describe the efforts to consult with persons outside the agency to obtain their views on the availability of data, frequency of collection, the clarity of instructions and recordkeeping, disclosure, or reporting format (if any), and on the data elements to be recorded, disclosed, or reported.

A notice was published in the *Federal Register* on Friday, November 18, 2005 (Vol. 70, No. 222, p. 69954) soliciting public comments on the data collection. No public comments were received.

We consulted with DNER staff about the availability of data, frequency of collection, the clarity of instructions and recordkeeping, disclosure, or reporting format (if any), and on the data elements to be recorded, disclosed, or reported. DNER staff indicated that they lacked detailed socioeconomic data on the hook and line, net and diver fleets and that the proposed data collection would fill a void in their knowledge of these fisheries. Given that last large scale data collection took place about four years ago (i.e., fishermen census), DNER staff felt that fishermen would not find this data collection burdensome. DNER staff also reviewed and offered several suggestions on the wording and data elements (i.e., variables) to be collected to make the survey instrument more understandable to fishermen and pertinent to local fisheries agencies. Lastly, DNER staff noted that a technical report available online would be the best way to showcase the findings of the study.

9. Explain any decisions to provide payments or gifts to respondents, other than remuneration of contractors or grantees.

No payments or gifts will be provided to questionnaire respondents.

10. Describe any assurance of confidentiality provided to respondents and the basis for assurance in statute, regulation, or agency policy.

Survey respondents are being advised that any information provided will be considered private and will be treated as confidential in accordance with NOAA Administrative Order 216-100, Confidential Fisheries Statistics. It is Agency's policy not to release confidential data, other than in aggregate form, as the MSFMCA protects the confidentiality of those submitting data.

Whenever data are requested, the Agency will ensure that information identifying the pecuniary business activity of a particular individual is not identified. Only group averages or group totals will be presented in any reports, publications, or oral presentations of the study's results.

11. Provide additional justification for any questions of a sensitive nature, such as sexual behavior and attitudes, religious beliefs, and other matters that are commonly considered private.

No questions will be asked about sexual behavior and attitudes, religious beliefs, or other similar matters of a personal and sensitive nature.

12. Provide an estimate in hours of the burden of the collection of information.

We will be hiring experienced contractors to conduct voluntary, in-person interviews using OMB approved questionnaires. The statistical design calls for 1,000 surveys in three strata (Puerto Rico, and St. Thomas/St. John and St. Croix, U.S. Virgin Islands). We anticipate conducting the first leg of the study in Puerto Rico in 2007 and the final leg in U.S. Virgin Island in 2008. We estimate the total number of burden hours is going to be 1,000.

We arrived at these estimates based on our prior survey experience with a costs and earnings study for the U.S. Caribbean fish trap fishery and through discussions with federal and local fisheries agencies staff. The cost to the respondent population assuming a \$10/hr wage rate would be \$10,000.

| Total Number of Respondents | Total Number of Burden Hours For the Entire Project |
|------------------------------------|--|
| Number of Respondents | 1,000 |
| Number of Responses per respondent | 1 |
| Time per interview (hours) | 1 |
| Total Burden (hours) | 1,000 |

13. Provide an estimate of the total annual cost burden to the respondents or record-keepers resulting from the collection (excluding the value of the burden hours in #12 above).

Other than 333 annualized burden hours (1,000 hours total) listed in question 12, the survey does not impose any burden (costs) to the respondents resulting from the data collection. This voluntary, in-person survey will be conducted at times and places that are convenient to fishermen.

14. Provide estimates of annualized cost to the Federal government.

We anticipate that the data collection and analysis will cost \$ 180,000. The costs include the development of survey instrument, training interviewers, printing of forms, data collection and processing, quality control, data entry and supervision. In addition to these contractor expenses, federal costs include NMFS staff time. The NMFS staff will be responsible for developing and

administering the contract, collaborating with the development of the survey, monitoring performance and reviewing final report. We estimate that the cost NFMS supervision will be approximately \$8,000/year.

15. Explain the reasons for any program changes or adjustments reported in Items 13 or 14 of the OMB 83-I.

The program change is for the collection of new socioeconomic data.

16. For collections whose results will be published, outline the plans for tabulation and publication.

Standard stratified random sampling techniques will be applied. We anticipate completing the data collection in Puerto Rico by the end of 2007 and in the U.S. Virgin Islands by the end 2008. We expect to complete the analysis of the Puerto Rico data by October 2008 and of the U.S. Virgin Islands data by October 2009. We plan to publish a technical memorandum describing the aggregated data. This technical memorandum will be available online on January 2010.

17. If seeking approval to not display the expiration date for OMB approval of the information collection, explain the reasons why display would be inappropriate.

The OMB control number and expiration date will be displayed.

18. Explain each exception to the certification statement identified in Item 19 of the OMB 83-I.

There are no exceptions to the certification statement.