SUPPORTING STATEMENT
PROFILE OF SMALL-SCALE COMMERCIAL FISHERIES IN THE U.S. CARIBBEAN
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 absence of federal fishing licenses in the U.S. Caribbean required us to draw from the local trip ticket and commercial fishermen census databases to build the sampling frames for Puerto Rico and the U.S. Virgin Islands.[1] The trip ticket database provided us with a list of active fishermen (i.e., actively landing fish) and the censuses supplied us with their most current addresses. In 2011, the Puerto Rico and U.S. Virgin Island's trip ticket databases recorded 804 and 330 active fishermen respectively.

We plan to complete 501 surveys in Puerto Rico and 472 surveys in the U.S. Virgin (Tables 1 and 2). Because of different sources and amounts of funding for the costs and earnings data collection we plan to conduct 351 surveys in Puerto Rico and 236 surveys in the U.S. Virgin Islands and for the regulatory perceptions survey we intend to conduct 150 surveys in Puerto Rico and 235 surveys in the U.S. Virgin Islands. We estimate a response rate of 80% based on Agar *et al.'s* (2008) costs and earnings work in the U.S. Caribbean.[2] Due to the size and regional variation of the Commonwealth of Puerto Rico, we plan to stratify the sample by coastal region (i.e., North, South, East and West). We will weight each coastal region by the number of fishermen in the area.

[1] The only exception is the HMS permit, which is required for those vessels harvesting tunas, swordfish, and sharks in the Atlantic Ocean, including Gulf of Mexico and Caribbean waters.

[2] Agar, J., J. Waters, M. Valdes-Pizzini, M. Shivlani, T. Murray, J. Kirkley, and D. Suman, 2008. U.S. Caribbean Fish Trap Fishery Socioeconomic Study. Bulletin of Marine Science, Vol. 82, No. 3, pp. 315-331.

Table 1: Sampling design for the Commonwealth of Puerto Rico.

Study	Strata	Population Size	Survey Sample	Expected Response Rate	Number of Expected Completed Surveys per Strata
Costs & Earnings					
	North coast	160	87	0.8	70
	West coast	316	172	0.8	138
	South coast	221	120	0.8	96
	East coast	107	58	0.8	47
Regulatory Perceptions					
	North coast	160	37	0.8	30
	West coast	316	74	0.8	59
	South coast	221	52	0.8	41
	East coast	107	25	0.8	20
Total		**804**			**501**

Table 2: Sampling design for the U.S. Virgin Islands.

Study	Strata	Population Size	Survey Sample	Expected Response Rate	Number of Expected Completed Surveys per Strata
Costs & Earnings					
	St. Thomas	170	150	0.8	120
	St. Croix	160	145	0.8	116
Regulatory Perceptions					
	St. Thomas	170	150	0.8	120
	St. Croix	160	145	0.8	116
Total		**330**			**472**

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.

One-time, voluntary surveys will be used to elicit costs and earnings, and regulatory perceptions information. A stratified random sample by coastal region will be used in Puerto Rico and simple random sample will be used the U.S. Virgin Islands. The stratification for Puerto Rico is needed because of the relatively larger size of this island (relative to the U.S. Virgin Islands) and also to better capture the economic performance of the small-scale fleet which varies geographically due to the spatial (and temporal) availability of various finfish and shellfishes species.

To minimize the burden on fishermen, a list containing a random sample of fishermen for each island will be provided to the contractor. The list will contain the following information: fisherman name, address, and phone number. A list in excess of 1,100 names will be provided to take into account the possibility that some fishermen will decline to participate in this voluntary survey. Should a fisherman decline to participate in the survey, the contractor could then select an additional fisherman from the list until the survey goal for the given stratum is reached.

The selected fishermen will be contacted by phone to set up their interviews. If their contact information is outdated, then we will ask local fish cooperative presidents and/or other fishermen for the updated information.

For outreach in Puerto Rico, we plan to put an announcement in 'Fuete and Verguilla' (Bottom Line and Leader) (local newsletter for Puerto Rican fishermen put out by Sea Grant: http://www.seagrantpr.org/catalog/publications/fuete_verguilla.html), letting the fishermen know that the survey is coming; and in USVI we plan to send letters to the local fishery advisory committees in St. Thomas and in St. Croix.

The data collected will be used for descriptive and analytical purposes. Descriptive uses include the estimation of average harvesting costs per trip and total harvesting costs for the fleet. The procedures for estimating harvesting costs in the sampling universe will be based on the standard equations available in various statistical texts such as Thompson (1992).[3] For a description of analytical purposes the reader is directed to section Part A, Question 2.

3. Describe the methods used to maximize response rates and to deal with non-response. 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.

Several steps have been taken to maximize response rates and to deal with non-response, in addition to the initial outreach regarding the surveys. First, the contractor hired has considerable survey experience and familiarity with local fishing communities and practices. She has conducted several socio-economic surveys with fishermen in the Florida Keys, Puerto Rico, and U.S. Virgin Islands. Second, the in-person interviews will be conducted at times and places convenient to fishermen. This will minimize any potential disruption to their fishing practices. Third, respondents will be asked to provide information about major gear and cost categories only, thus avoiding what respondents often perceive as unnecessary detail. Last, surveys will be available in English and Spanish to further reduce any burden to non-English speaking fishermen. The contractor, who will be conducting the interviews, is fluent in both English and Spanish. To deal with non-response we will use call-backs and two-phase sampling procedures as described in textbooks such as Lohr's. (see, Lohr's, S., 1998. Sampling: design and analysis). A sample size of 1225 will provide reliable estimates of the cost structure and regulatory perceptions of the industry.

[3] Thompson, Steven K., 1992. Sampling. John Wiley and Sons, Inc., New York, 343 p.

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.

To refine the data collection, we initially shared our straw man survey with NMFS and CFMC staff to seek feedback on its content and clarity. After detailed discussions, we incorporated their main suggestions and will pre-test the revised survey instrument with 9 fishermen to ensure that questionnaire is succinct and easy to understand.

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.

Dr. Juan Agar from the NMFS was consulted on the statistical aspects of the study design. NMFS social scientists and CFMC staff will use the data collected for regulatory analysis. Dr. Juan Agar can be reached at (305) 361-4218.

Ms. Flavia Tonioli from the University of Miami's Cooperative Institute for Marine and Atmospheric Studies (UM-CIMAS) has been hired to conduct the data collection, create a database, and assist in the analysis of the data. Ms. Tonioli can be reached at (305) 361-4567.