SUPPORTING STATEMENT
INPUT FROM HAWAII'S BOAT-BASED ANGLERS
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 State's boat registry contains approximately 15,000 boat owners. This is the potential respondent universe. We will extract a random sample of 3,000. We will conduct proportional sampling, according to the relative percentage of people in the registry from each island (Oahu, Maui, etc.). Based on previous mail surveys of recreational fishermen and boaters that utilized similar methodology we anticipate a response rate of approximately 50%, which would result in about 1,500 cases available for analysis.

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.

Procedures for the Collection. We will send the questionnaires to respondents in several mailings using aspects of the Dillman (1978) Total Design Method (TDM).

Stratification and Sample Selection. We will stratify the database (n=15,682) according to island (Oahu, Maui, etc.). Our initial examination revealed that Oahu should receive 59% of the surveys, followed by the island of Hawaii (19%), Maui (12%), Molokai (11%), Kauai (10%), and Lanai (3%). These values are not too extreme (too large or too small). The advantage of proportional sampling is that we can lump observations from all strata to get an average (e.g., # of trips per person or per boat).

Sample Size Considerations. Realistically, sample size typically depends upon funds. We chose to sample 3,000 based on our project budget. However, at a 50% response rate, we should have enough to provide reasonably accurate averages by island, as Fowler (2008) notes that in general populations only modest gains come with increasing the number of observations beyond 150-200 individuals. The exceptions here will be Lanai and Molokai. The number of registered boaters on these islands is very small, and sampling would result in very low returns. We will survey all of their boat owners and combine them with Maui respondents for some analyses. A total respondent pool of 1,500 will provide enough cases for good descriptive analysis of the entire sample, as well as for good inferential power for a number of sub-comparisons.

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.

The Dillman TDM emphasizes personalization of the survey materials to enhance response rates. NMFS will send all potential study participants a packet of survey materials in an official envelope. We will include a personalized cover letter that explains the study, offers thanks for participation, and ensures confidentiality. A paid reply envelope will be enclosed. Prior to the first survey mailing, we will send an advance notice postcard. Non-respondents will receive replacement surveys at three-week intervals. The most mailings a non-respondent will receive are three. We expect our methodological approach, including sample size, to yield reliable data which we can generalize to the entire boat registry.

In terms of non-response bias, we have very little information from other sources that would help describe differences between respondents and non-respondents to this survey. The State has never surveyed registered boaters in any systematic manner on recreational fisheries issues, and until recently, it had not allowed NOAA Fisheries access to the boat registry. We do have data from a recent Pacific Islands Fisheries Science Center study of small boat pelagic fishermen in Hawaii that may be narrowly instructive, because the purpose of that study was different from the study we propose. It is tempting to use recent Census data from each Hawaii island for comparison. However, we expect that boat owners differ from the general population in key ways, since boating entails a number of costs (maintenance, fuel, gear, insurance, etc.) and thus tends to be a leisure activity for people with increased means. Therefore, we will compare scores on key metrics from both the initial respondents and the late respondents, since late-respondents, or those that respond after several attempts, are theorized to have some similarities with non-respondents. Any differences would be considered an estimate of non-response bias. We also plan to send a one-page non-response survey to a random sample of non-respondents. This form will include the few demographic questions and several key topic questions from the original survey (Questions 1, 2, 5, 8, 22, 23 and 24).

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.

We will not be undertaking any tests of procedures or methods in this study. During the development stage of the survey instrument, we convened an informal working group of boat-based anglers to provide input on question topics and to review several draft instruments. Following that, we requested and received input from Hawaii's Division of Boating and Ocean Recreation and Division of Aquatic Resources, as well as the Pacific Islands Fisheries Science Center – Western Pacific Fisheries Information Network.

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.

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