SUPPORTING STATEMENT
U.S. Department of Commerce
National Oceanic & Atmospheric Administration
Marine Fisheries Advisory Committee Survey on Marine Mammal Deterrents
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 government units, households, or persons) in the universe covered by the collection and in the corresponding sample are to be provided in tabular form for the universe as a whole and for each of the strata in the proposed sample. Indicate expected response rates for the collection as a whole. If the collection had been conducted previously, include the actual response rate achieved during the last collection.

The Marine Fisheries Advisory Committee (MAFAC) estimates a sampling universe of approximately 257,000 individuals representing different user groups that are likely to encounter marine mammals (Table 1). Posted questionnaires typically have a response rate of 5-30%, while email questionnaires typically experience half that rate (James. T., 2012, A comparison of email and postal surveys. The Irish Journal of Psychology 28(3-4):129-137). Consequently, we expect a response rate of 2.5-15%, which should result in approximately 6,420 - 38,500 responses. User group selection is based on modes of interaction with marine mammals (e.g. commercial, recreational and subsistence fishers, aquaculturists, and dock owners). The user groups will be defined as strata for the purposes of statistical analysis. The anonymous survey will be conducted through use of a Google Form. Solicitation of respondents will be made through state and federal newsletters, industry publications, the NOAA website, Agency and partner organization listservs, and social media (Table1). Follow up solicitation on sectors with a low response rate will occur through outreach by MAFAC members to their respective user groups. Since solicitation will be broad and through public media sources, individuals will be anonymous in the responses given and no form of direct response of specific individuals will be possible. Although the response rate is expected to be low, the number of individuals contacted for participation is high, thus, we anticipate the total number of respondents will also be relatively high in a statistical sense. While estimates of encounter rates will not be possible with such a survey, trends in the use of deterrents conditioned on types of encounters by strata (user group) will be possible.

MAFAC members will receive a letter explaining the survey and its importance, and they will be requested to distribute it to their groups and networks. We recognize that there will be some overlap in respondents reached through the various methods of distribution, but there is no easy mechanism to quantify the overlap.

Table 1. Survey Distribution List

Method of distribution	# of potential recipients respondents
Seafood Source News	30, 143
National Fisherman Print Magazine	24,000
National Fisherman Website	97,000
National Fisherman E News Letter	18,000
Email to MAFAC partner organizations	2,000
NMFS Website	5,000
NMFS FishNews email list	67,000
NOAA Aquaculture Quarterly Newsletter	23,172
National Aquaculture Assoc.	1,000
Commercial /National Working Waterfront Network	265
NOAA Fisheries Tribal Contacts	427
Marine Mammal Commission	6,000
Aquarium Conservation Partnership	28
Gulf and Caribbean Fisheries Institute	100
National Shellfisheries Association	700
US Aquaculture Chapter of World Aquaculture Society	3,000
American Fisheries Society	8,000
Division of Aquaculture, Florida Department of Agriculture and Consumer Services	1,000
Total	**256,692**

2. Describe the procedures for the collection of information including:

Statistical methodology for stratification and sample selection

The data collection approach will be a census. All participants of the census in each strata will be contacted. Statistical strata are defined by user groups (commercial, recreational and subsistence fishers, aquaculturists, and waterfront property managers who all work in the marine environment). One time, voluntary surveys will be used to elicit user group membership, type of marine mammal encounter, use of deterrents if applicable, and success in the use of a deterrent if applicable. Stratification by user group will reduce within user group variation and allow comparisons of the types of marine mammal encounters and deterrent use within and between user groups. Data collection by user group is achieved by maximizing the distribution of the survey link across different media sources.

Estimation procedure

Initially, simple descriptive statistics will be used, including types of encounters experienced by user group and subgroup categories (e.g. gear, culturing equipment); deterrent used by marine mammal class, user group, and subgroup; and deterrent success rate conditioned on the use of a deterrent. Depending on the variety of marine mammal encounters and variety of deterrents used, a Classification Regression Tree (e.g. Random Forest) will be used to group success rate by category of marine mammal, gear type, and deterrent employed.

Degree of accuracy needed for the purpose described in the justification

Although a number of deterrent mechanisms have been approved for use by NOAA, very little is known with regard to their efficacy and use. The descriptive statistics gathered from this survey will provide a list of the types of marine mammals encountered by user group and subgroup, the types of deterrents used, and their success rate. The lists are not meant to be exhaustive, but indicate the types of marine mammals encounters, the types of deterrents used and their success rates to assist NOAA Fisheries in prioritizing future research programs directed at reducing marine mammal encounters. The success rate of deterrents in current use is not known, so any deterrent with a success rate that is higher than zero, would be notable.

Unusual problems requiring specialized sampling procedures

No unusual specialized sampling procedures are required. The objectives are basic given the lack of information available on this critical issue.

Any use of periodic (less frequent than annual) data collection cycles to reduce burden.

This is a one time survey. The burden is expected to be low.

3. Describe methods to maximize response rates and to deal with issues of non-response. The accuracy and reliability of information collected must be shown to be adequate for intended uses. For collections based on sampling, a special justification must be provided for any collection that will not yield "reliable" data that can be generalized to the universe studied.

This is a voluntary survey, and responses will be anonymous. Biases are not anticipated as a result of nonresponse as we will not be estimating encounter rates by user group, but only compiling a list of the types of encounters, the types of deterrents used, and the rate of success of a deterrent conditioned on the use of a deterrent. Should the number of respondents in a particular user group be viewed as low, MAFAC members associated with that group will be asked to solicit additional respondents from the sampling frames we have collected.

4. Describe any tests of procedures or methods to be undertaken. Testing is encouraged as an effective means of refining collections of information to minimize burden and improve utility. Tests must be approved if they call for answers to identical questions from 10 or more respondents. A proposed test or set of tests may be submitted for approval separately or in combination with the main collection of information.

We distributed the draft survey to nine or fewer respondents in each user group for beta testing. Feedback resulted in relatively minor corrections.

5. Provide the name and telephone number of individuals consulted on 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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