SUPPORTING STATEMENT
INTERNATIONAL BILLFISH ANGLER SURVEY
OMB CONTROL NO. 0648-0020

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.

NOTE: THE ANGLER SURVEY HAS NOT EMPLOYED STATISTICAL METHODS BUT THE RESULTS ARE AVAILABLE TO STOCK ASSESSMENT SCIENTISTS TO INVESTIGATE THE HEALTH AND STOCK CONDITION OF BILLFISH THROUGHOUT THE PACIFIC AND INDIAN OCEANS.

The potential respondent universe includes foreign and domestic billfish anglers participating in the SWFSC's Billfish Tagging Program. To be placed on the Angler Survey mailing list the angler (or institution) must either: 1) contact the SWFSC and request to be placed on the mailing list or 2) be a participating tagger in the Billfish Tagging Program (the reporting for which is approved under OMB Control No. 0648-0009).

Potential respondents become aware of the program by: 1) word of mouth; 2) tagging a fish on a charter trip with a participating captain; 3) catching a tagged fish; or 4) addition to the Billfish newsletter mailing list due to membership in one of the major angling clubs operating in the Pacific. The NMFS Billfish Tagging Program is widely known in the Pacific, having operated for roughly 50 years.

The primary survey targeted respondent base is the U.S. billfish angler fishing in U.S. or U.S.-adjacent waters, including Trust Territories in the South and Western Pacific. The Angler Survey also queries foreign billfish anglers fishing in Central and South American countries, New Zealand, Australia and several Asian countries. In recent years, the total respondent universe ranged from 1,000 to 2,500 anglers. Roughly 10% of the surveys were mailed to foreign anglers. We received an average of 500 responses during recent years, or about 40% of the average respondent universe.

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.

This annual billfish Angler Survey is sent to all billfish anglers and taggers that have participated in the SWFSC's billfish research programs during the prior two year period. All are encouraged to complete and return the Survey card. The data are presented as is to the public. <u>There are no statistical methods in place to stratify or sample the selection. The data are made available to quantitative experts at SWFSC.</u> If the data are to be used in support of management purposes it will require some statistical analyses which will be conducted by stock assessment scientists. Some issues that have been discussed include: Statistical analysis of regional fishing CPUE is robust in regions reporting greater than 100 days of fishing effort. Those regions reporting less than 100 days of fishing effort are acceptable when indicating a consistent trend over time. These statistical procedures are generally very accurate as they include parameters of central tendency and variability statistics. More robust statistics can be employed to analyze long term trends in CPUE, which include multiple regression and correlation with regional fishery, economic and environmental factors. These analyses are utilized by fishery stock assessment and managers in determining changes in the status of fishery resources and by the Pacific Fishery Management Council in support of regulatory options. Any reduced effort (less frequent than annual) would compromise the time series resulting in reduced ability to provide robust analyses as mandated.

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.

All individual anglers participating in the SWFSC's Billfish Tagging Program are encouraged to complete the Survey card through the Billfish Newsletter. In addition, SWFSC staff working directly with individuals, sport fishing clubs and other organizations encourage participation. The Survey currently serves as predominantly an outreach tool and the data are presented to the public without any manipulation. The data are available to both the public and Government scientists and further analysis can take place as needed. Therefore, there is no statistical method in place to deal with non-response bias. However, if stock assessment scientists wish to use the data for management purposes, then these issues will be addressed.

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.

Tests to refine the collection protocol have not been conducted. The survey results do indicate some refinements could improve the response rates, in particular making it easier for respondents to reply. This is particularly true for foreign and institutional respondents. We are pursuing establishing a web-based form which could increase outreach efforts to improve response rates by making responses easier for both parties.

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 Project Lead is James Wraith, Fishery Biologist (858.546.7107).