

SUPPORTING STATEMENT
U.S. Department of Commerce
National Oceanic & Atmospheric Administration
Gulf of Mexico Electronic Logbook
OMB Control No. 0648-0543

SUPPORTING STATEMENT PART B

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 potential respondent universe is the permit holders in the Gulf commercial shrimp fishery. As of May 1, 2023, there were 1,319 valid and renewable federal Gulf Shrimp permits. Approximately 610 vessels (46 percent) of these permit holders were randomly selected to carry an electronic logbook. We use stratified random sampling based on the strata described below. It is expected that at most 610 vessels would be active and have an electronic logbook (ELB) onboard at any one time. Thus, 610 participants are used for this collection. Since the selected vessels are required to have the ELBs installed, the response rate is 100 percent.

Description	Number of Respondent Universe	Number of Sample Respondents (46%)	Response Rate	Expected Number of Respondents
Federal Shrimp Permit Holders	1,319	610	100%	610

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

- Statistical methodology for stratification and sample selection,

At the onset of this ELB program, a stratified random selection of 610 federally permitted vessels will be made using the following steps:

- vessel must be associated with an active and valid SPGM permit
- vessel must have landings (catch) in previous 2 years
- those landings (catch) must come from one of 9 geographic zones of the Gulf of Mexico
- within the geographic zone a split of vessel refrigeration method (Ice or Freezer)

These rules above lead to 14 geographical and refrigeration method strata. For each stratum, the sample function from the R statistical program was used to randomly select, without replacement, using the fraction of weighted landings for the vessel to total weighted landings for all vessels to influence the probability of a vessel's selection from the appropriate number of vessels from the list of permitted vessels.

Thus, of the total number of potential respondents of 1,319 active federal permitted vessels, based on the strata described above we randomly select approximately 46% (or 610) permit holders to participate in the program. That means, at most 610 vessels would be active and have an ELB on board at any one time.

- Estimation procedure,
 - The ELB units are data recording devices that are simple time-stamped global positioning system units that record and hold a vessel's location at 10-minute time intervals. From these time-stamped locations, vessel speed between points can be estimated and then evaluated with mathematical algorithms (i.e., stopped, towing fishing gear, moving between towing points). Thus, effort by location can be calculated for a given fishing trip. Shrimp catch data for the trip is then used to estimate catch-per-unit-effort for the trip at various fishing locations. Shrimp effort estimates for various locations, time periods and depth zones are calculated based on the collected data and expansions to account for vessels not providing data.
- Degree of accuracy needed for the purpose described in the justification, --
 - Monitoring shrimp vessels, operating together with many other fishing vessels of differing sizes, gear types used, and fishing capabilities, is made even more challenging by seasonal variability in shrimp abundance and price, and the broad geographic distribution of the fleet. ELBs provide a more precise means of estimating the amount of fishing effort than paper logbooks. Using ELBs to estimate fishing effort serves an important role to help estimate bycatch in the Gulf shrimp fleet. Because of the high degree of stratification and, thus estimation, that is required to capture the diversity of the Gulf shrimp industry, a large sample size was needed. Additionally, this was an agreement made in consultation with the industry in the interest of fairness and burden sharing.
- Unusual problems requiring specialized sampling procedures –
 - No unusual problems require specialized sampling procedures.
- Any use of periodic (less frequent than annual) data collection cycles to reduce burden. –
 - The cellular component of the cellular electronic logbook changed in December 2020 when the 3G cellular technology was discontinued. In order to continue data collection, NMFS started requiring selected participants to retrieve the SD memory card from the device, return the card to NMFS, and replace the removed card with a new one provided by NMFS. This exchange is made twice per year. This six-month cycle was selected as a compromise between timely reporting and burden on the participant (i.e. not requiring swapping the SD card after every shrimping trip).

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 information collection is mandatory and passive, if the participant is selected; once the ELB is installed, there is no nonresponse.

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.

No additional tests will be conducted.

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.

Alan Lowther, NMFS Southeast Region Science Center, Miami, Florida, (305) 209-7586, will analyze the data and provide consultation on the statistical aspects of the design.