SUPPORTING STATEMENT
FLORIDA FISHING AND BOATING SURVEY
OMB CONTROL NO. 0648-XXXX

A. JUSTIFICATION

1. Explain the circumstances that make the collection of information necessary.

The objective of the Florida Boating and Fishing Survey (FBFS) is to understand how anglers respond to changes in trip costs and fishing regulations in the Gulf of Mexico. We are conducting this survey to improve our ability to predict changes in the number of fishing trips anticipated with changes in economic conditions and fishing regulations. This will improve the analysis of the economic effects of proposed changes in fishing regulations and changes in economic factors that affect the cost of fishing such as fuel prices. The FBFS will, therefore, produce results that will help meet the goals outlined in the National Saltwater Recreational Fisheries Implementation Plan, especially the plan to bolster understanding of the social and economic importance of recreational fishing. The work also addresses needs identified in the 2018 National Saltwater Recreational Fisheries Summit Report (NOAA 2018), in particular the need for improvements in the ability to predict changes in species-specific saltwater recreational fishing effort expected when fishing or economic conditions change. Note that, while the survey is expected to provide useful information for different stakeholders interested in analyzing effects of changes in regulations, the research is not designed to examine a specific regulation.

The FBFS will collect recreational fishing and boating information directly from the boating and fishing community with a specific focus on saltwater anglers fishing for gag grouper in the Gulf of Mexico. We will combine actual and contingent behavior data collected through the surveys to estimate a trip demand model (e.g., Alberini et al. 2007 and Whitehead et al. 2012). The model will provide estimates of hypothetical changes in recreational fishing effort expected from changes in fishing costs and gag grouper regulations. The model will also generate estimates of the potential change in fishing and boating activity anticipated with changes in trip costs. The estimates can be used to develop predictive models the forecast how fishing and/or boating effort will change when the trip costs change (e.g., via fuel price changes) and when the gag grouper fishing regulations (season length or bag limits) change. The results can also be used to determine if fishers and boaters respond the same to changes in trip costs.

This document describes a **pilot study** to test the survey and sampling strategy for the FBFS. Note that FBFS will have two survey modes: web and mail. We will use results from the survey pilot study to validate the survey design. Specifically, the results will be used to:

- Compare the actual and expected response rates. Based on typical mixed-mode survey response rates for surveys of this type, the expected response rate is approximately 30% (Messer and Dillman 2011). However, as documented below, we are expecting different response rates between the email-only contact mode with no incentive and the web-push mode with an incentive.
- Assess whether fishing avidity (number of trips) of the respondents are significantly different from the average avidity in the study region.
- Assess whether gag grouper fishing prevalence of the respondents is significantly different from the prevalence assumed in the study region.

- Identify unusual patterns, such as the majority of respondents always choosing zero trips in the contingent behavior questions. This could indicate the potential for a large number of unusable protest responses.
- Examine response rates for individual survey questions and evaluate whether adjustments to survey questions are required to promote a higher response rate.

If required, we will make the appropriate adjustments to the questionnaire or sampling frame (e.g., increase or reduce the number of contacts in each survey mode).

2. Explain how, by whom, how frequently, and for what purpose the information will be used. If the information collected will be disseminated to the public or used to support information that will be disseminated to the public, then explain how the collection complies with all applicable Information Quality Guidelines.

The information generated from the pilot survey data will be useful for Federal, state, and local management entities interested in the potential changes in effort with changes in fishing costs and regulations. These entities may use the information to examine the consequences of projects, policies, or regulations that may affect recreational fishing – favorably or adversely. The results of the pilot survey will be published and also available to anyone requesting the information. The pilot survey will collect information only on fishing or boating activity associated with the respondent effort over the previous 2 months, and very limited demographic information.

In addition, we will prepare a paper for peer-reviewed publication that describes the outcomes of this survey. Prior to dissemination, the information will be subjected to quality control measures and a pre-dissemination review pursuant to Section 515 of Public Law 106-554.

3. Describe whether, and to what extent, the collection of information involves the use of automated, electronic, mechanical, or other technological techniques or other forms of information technology.

The data will be collected via a voluntary survey that respondents will take online or on paper. Initial contacts will be made either by email or mail, but the main mode of data collection will be an online survey. The paper survey will only be sent to those not responding to the online survey. An electronic database system will be used to track respondents and those who need to receive the paper version of the pilot survey. The online survey will be programmed to include prompts and skip patterns to match the skip patterns in the paper survey. (See Part B for description of the methodology).

4. Describe efforts to identify duplication.

We will work with the State of Florida to ensure that we do not sample the same addresses as those targeted by the Gulf Reef Fish Survey (GRFS) and to coordinate responses to any questions regarding the pilot survey. We cannot use the GRFS as our sampling frame because it does not contain boaters without a license (e.g. seniors). The State of Florida starts with the saltwater license frame and then attaches an indicator as to whether or not the household has an “offshore” boat registered at the same address. This approach is “license-frame-based” as opposed to “boat-owner-frame-based”. The later approach can contact boat-based anglers with an without a license.

There are many studies related to the value of recreational fishing (see Johnston et al, 2006 for a review). The literature on saltwater recreational fishing in the Southeast US (South Atlantic or Gulf of Mexico) includes studies on reef fish species, typically red snapper, groupers as a general category, or coastal pelagics (king mackerel, dolphinfish). This body of research has focused on estimating angler WTP by species and/or

quantities of fish caught per trip (Carter and Liese, 2012; Gillig et al (2003) Haab et al 2012; Hindsley et al 2011; Lovell and Carter 2014).

Very little research focuses on predicting changes in recreational fishing behavior in the Southeast US. Whitehead et al (2011) investigate how anglers would change number of charter trips they take in North Carolina in response to hypothetical changes in the combined snapper-grouper bag limits, and bag limits for King Mackerel. While this work deals with bag limits for snapper-grouper species it is unlikely that the estimates are strictly applicable to gag grouper fishing in the Gulf of Mexico. Cross-study comparisons suggest that economic measures related to recreational fishing cannot be easily transferred from one study area or mode (charter, shore, private boat, etc.) of fishing to other contexts (Johnston et al. 2006).

Gillig et al (2000) estimated changes in effort based on changes in estimated catch, but only focused on red snapper. The trip cost and catch elasticities were estimated from a survey of anglers from 1991 who fished at sites across the Gulf of Mexico. Gillig et al (2003) extends their analysis on this same dataset to examine the impact of the revealed preference data on the overall willingness to pay using their combined stated-preference and revealed preference model. Given many changes in regulations and stock abundance during the intervening 27 years, there is a strong possibility that angler behavior and preferences with regard to red snapper and reef fish in general may have changed as well. Therefore, this work cannot reliably be used to predict current changes in fishing for gag grouper in the Gulf of Mexico.

Other related research examines the potential changes in Florida coastal recreational activity anticipated with changes in costs and quality (e.g. Bhat 2003 (marine reserves), Park et al. 2002 (snorkeling), Thomas and Stratis 2002 (boating), Milon 1988 (preferences of anglers for natural versus artificial reef habitats). A more recent study by Whitehead et al. estimated a single site travel cost model to estimate the effects of the lost recreational use values from the Deepwater Horizon oil spill on all cancelled recreational trips to northwest Florida, including uses other than fishing.

In summary, our literature review did not find any research directly useful to the objective of our proposed research which is to estimate the magnitude of potential changes (elasticities) in private boat recreational fishing effort for gag groupers in Florida associated with changes in regulations (e.g. catch) or trip costs. Given over 80% of trips from West Florida for gag grouper are from private boat anglers, there is need for more current research that is tailored to this specific mode and that can estimate how changes in bag limits or trip costs influence the number of trips taken.

5. If the collection of information involves small businesses or other small entities, describe the methods used to minimize burden.

Not Applicable.

6. Describe the consequences to the Federal program or policy activities if the collection is not conducted or is conducted less frequently.

The data and models currently used to predict changes in recreational fishing effort anticipated with change in regulations are either not available or dated. Consequently, Federal or state agencies will not be able to accurately calculate the benefits and costs of proposed changes in fishery regulations with the information collected in this survey. Inaccurate estimates of changes in benefits and costs can lead to incorrect policy conclusions and mistaken selection of regulations that are economically inefficient. This could harm the sustainability of Federal or state fishery management programs.

7. Explain any special circumstances that require the collection to be conducted in a manner inconsistent with OMB guidelines.

The collection is consistent with OMB guidelines.

8. Provide a copy of the PRA Federal Register notice that solicited public comments on the information collection prior to this submission. Summarize the public comments received in response to that notice and describe the actions taken by the agency in response to those comments. Describe the efforts to consult with persons outside the agency to obtain their views on the availability of data, frequency of collection, the clarity of instructions and record keeping, disclosure, or reporting format (if any), and on the data elements to be recorded, disclosed, or reported.

A *Federal Register* Notice 'Web Survey to Collect Economic Data from Anglers in the Gulf of Mexico' was published on Friday September 14, 2017 (81 FR 3782), soliciting public comment. No substantive comments were received.

We have already been in contact with the State of Florida regarding the pilot survey and sampling procedures. As noted above, we will work with the State of Florida to ensure that we do not sample the same addresses as those targeted by the Gulf Reef Fish Survey and to coordinate responses to any questions regarding the pilot survey. We have also discussed the availability and composition of the boating license list with the State of Florida and a private contractor who provides Florida boat license database services.

9. Explain any decisions to provide payments or gifts to respondents, other than remuneration of contractors or grantees.

The benefits of prepaid cash incentives on improving survey response rates are well documented (Dillman et al. 2014). We intend to follow a mail web-push protocol with a prepaid incentive and mail follow-up to maximize the response rate within the budget (Dillman 2017). Millar and Dillman (2011) show that this approach can improve response rates for a web survey by nearly 20 percentage points over an approach with email only contacts and no incentive. The MRIP Effort Survey of anglers currently uses a $2 prepaid incentive in a mail survey because pretesting found that "response rates increased significantly with increasing incentive amounts, but the $1 and $2 treatments were the most efficient in terms of cost" (OMB Control No. 0648-0652) . Therefore, we are proposing a $2 prepaid incentive in the mail-push portion of the pilot survey. However, we are also conducting a portion of the pilot survey using only email contacts (without an incentive) so that we can compare the relative response rates of the two strategies and the relative quality of responses.

10. Describe any assurance of confidentiality provided to respondents and the basis for assurance in statute, regulation, or agency policy.

No personally identifiable information will be collected through the pilot survey. Responses will only be associated with a unique, randomly assigned identification code. Any public release of survey data will be without identification as to its source or in aggregate statistical form. All survey data will be stored on secured, password protected servers, and all transfer of survey data will utilize secure file transfer protocols.

11. Provide additional justification for any questions of a sensitive nature, such as sexual behavior and attitudes, religious beliefs, and other matters that are commonly considered private.

There are no questions of a sensitive nature.

12. Provide an estimate in hours of the burden of the collection of information.

The pilot survey will be completed by approximately 306 respondents, resulting in a total estimated burden of 26 hours (306 * 5 minutes / 60 minutes). Based on the average hourly labor rate of $24 per hour for all civilian workers from the National Compensation Survey, the resulting total cost over all respondents will be approximately $622. There are no other costs to respondents.

13. Provide an estimate of the total annual cost burden to the respondents or recordkeepers resulting from the collection (excluding the value of the burden hours in Question 12 above).

These data collections will incur no cost burden on respondents beyond the costs of response time. Envelopes with prepaid postage will be included in the follow-up questionnaire mailing.

14. Provide estimates of annualized cost to the Federal government.

The duration of the pilot survey will be for approximately 1 month; thus, the annualized cost is the one-time cost of the pilot survey. Annual cost to the Federal government is approximately $10,000: $7,500 in data collection costs and $2,500 in professional staff, overhead and computing costs.

15. 15. Explain the reasons for any program changes or adjustments.

This is a new submission.

16. For collections whose results will be published, outline the plans for tabulation and publication.

All results will be entered in a database using standard quality assurance/quality control procedures in survey research. Economists from NOAA Fisheries will analyze the data using standard software (e.g. R or SAS) and standard statistical procedures that are appropriate for survey data. Results from this collection may be used in scientific, management, technical or general informational publications, and would follow prescribed statistical tabulations and summary table formats. Data will be available to the general public on request in summary form only.

17. If seeking approval to not display the expiration date for OMB approval of the information collection, explain the reasons why display would be inappropriate.

Not Applicable.

18. Explain each exception to the certification statement.

Not Applicable.