

SUPPORTING STATEMENT
Social Network Analysis Mail Survey
OMB CONTROL NO. 0648-xxxx

A. JUSTIFICATION

This request is for a new data collection, to implement the National Marine Fisheries Service (NMFS) Marine Recreational Information Program (MRIP) Social Network Analysis Mail Survey (SNAMS) in all states along the Atlantic and Gulf Coasts, except Texas and Louisiana.

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

Collection of recreational fisheries catch and effort data is necessary to fulfill statutory requirements of Section 303 of the [Magnuson-Stevens Fishery Conservation and Management Act](#) (16 U.S.C. 1852 et. seq.) and to comply with [Executive Order 12962](#) on Recreational Fisheries. Section 303 (a) of the Magnuson-Stevens Act specifies data and analyses to be included in Fishery Management Plans (FMPs), as well as pertinent data that shall be submitted to the Secretary of Commerce under the plan. Section 1 (e) of Executive Order 12962 orders Federal agencies to support outreach programs designed to stimulate angler participation in the conservation and restoration of aquatic systems.

Currently, MRIP administers surveys to collect data on recreational fishing catch, effort and participation statistics, which are fundamental for assessing the influence of fishing on any stock of fish. The quantities taken, the fishing effort, and the seasonal and geographical distribution of the catch and effort are required to assess the health of fish stocks and develop and evaluate national fisheries management policies and plans. The allocation of fishery resources depends, in part, on the results of the surveys MRIP administers.

In 2017, a National Academy of Sciences (NAS) review identified several strategic areas for MRIP's improvement. Among these areas for improvement, the NAS review suggested that MRIP develop the capacity to provide expertise that will help foster productive, collaborative relationships with key constituents who have valuable contributions to offer in the development of MRIP. These key constituents include the broader angling public. Further, MRIP is challenged to examine and develop strategic communications to ensure partners and constituents are engaged in the MRIP redesign process, kept well informed of opportunities to participate, and apprised of progress.

NAS recommendations include a need to "take a more active role in communication with anglers" and to match the level of understanding of recreational fisheries management by stakeholders (recreational anglers) with how the MRIP functions. The SNAMS is designed to collect information from recreational anglers in a systematic manner to ensure scientific, statistical integrity. The objective of the SNAMS is to research how marine recreational anglers gather, share, and evaluate information on topics related to fisheries data collection, fisheries regulations, stock assessments, the overall health of fisheries, fisheries science, and fisheries management. The survey results will inform NMFS and MRIP on the effectiveness of current communication strategies and will be of particular use to NMFS and MRIP for fostering productive, collaborative relationships with stakeholders.

The survey questionnaire is developed to include questions necessary for understanding saltwater recreational anglers' background, attitudes, perceptions, sources of information, and trust in those sources, for social network analysis. The preliminary survey questions assess angler participation, whether an angler fishes in State and/or Federal waters, their frequency of type of fishing (i.e. from shore, from a for-hire boat, from a private boat), and angling motivations, or reasons for going saltwater recreational fishing. NMFS is asking these questions to understand the diversity of these angler characteristics, which may be linked to the level and extent of involvement in saltwater recreational angler networks. An understanding of these characteristics is important for evaluating the social structure of anglers who may, or may not, interact in a social network. Likewise, the second section of the survey's questions concerning anglers knowledge of saltwater recreational fishing regulations, interactions with State or Federal fisheries management, knowledge and understanding of saltwater recreational fisheries data collection and data use, anglers' attitudes about the effectiveness of fisheries management rules, and perception of, and trust in fisheries managers, are important for understanding the perception of NMFS among different types of recreational anglers. These attitudes and perceptions are likely formed, in part, by their fishing background, the anglers' sources of information (and the level of trust about saltwater fishing regulations and data collection from these sources), from which anglers gather information on saltwater fishing and saltwater fisheries management. Finally, it is likely the demography of individual anglers is also an influencing component of angler perception of fisheries managers and NMFS. The availability of demographic characteristics and angler attitudes and beliefs regarding fisheries management and data collection will help NMFS understand the similarities and differences among and between different groups of anglers. Ultimately, all of these components are necessary as part of the social network analysis to identify data-driven strategies for outreach and effective communication with anglers.

2. 1Explain how, by whom, how frequently, and for what purpose the information will be used. 1If 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 SNAMS is a one-time data collection to research how marine recreational anglers gather, share, and evaluate information on topics related to fisheries data collection, fisheries regulations, stock assessments, the overall health of fisheries, fisheries science, and fisheries management. The MRIP Communication and Education Team (CET) will be the primary user of the information to be collected.

Stakeholder attitudes toward and trust in resource management agencies can play a key role in how the agencies' actions are perceived and how their messages are received (Vaske et al. 2007; Carlton 2012; Carlton and Jacobson 2013). Effective communication is critical to building trust among stakeholders, garnering support for resource management decisions, and successfully transmitting critical resource management information (Jacobson 2009). However, effective communication is a complex process, relying on an interplay between the message, the messenger, the medium, and the audience to determine how information is transmitted to and understood by the audience. The best channels for reaching stakeholders are not always obvious or direct from afar (Prokopy et al. 2015). By asking stakeholders about their attitudes toward and trust in fishery management agencies, their preferred sources of fishery information, and who they talk to about fishery data collection and management issues, their communication networks can be examined. Understanding the communication networks will elucidate how information

flows in the system, the relationship between different information sources and attitudes toward and trust in management, and regional differences in attitudes toward and trust in management. The results of the survey will be used to improve: 1) our understanding of saltwater recreational anglers' knowledge, opinions, and beliefs on data collection and fisheries management, and 2) how we communicate with saltwater recreational anglers.

The proposed questionnaire was developed in consultation with Dr. Andrew Ropicki of Texas A&M University, Dr. Stuart Carlton of Purdue University, industry experts, and NMFS staff. The survey form is organized to ease data collection and has clearly defined sections which identify the types of data being collected. The survey will collect information on 1) saltwater recreational fishing habits, 2) saltwater recreational fisheries management and data collection, 3) sources for saltwater recreational fishing information, and 4) demographic information. Collectively, these sections will provide insights into how recreational anglers gather and evaluate information on recreational fisheries.

Section 1 – Saltwater Fishing Habits

This section seeks to describe the actual level of involvement an individual has in recreational fishing. Questions are asked to determine fishing avidity, location of fishing activity, and reasons for fishing. The results of these questions will primarily be used for outreach and education purposes.

Section 2 – Saltwater Recreational Fisheries Management

This section evaluates the level of knowledge of, understanding of, trust in, and preferences for recreational saltwater fisheries regulations, management, data collection, and data use. There is also a question to determine if the respondent has attended a public meeting or contacted a fisheries agency to discuss fisheries issues in the past three years. These results will assist in building communication strategies, managing angler expectations, and targeting outreach and messaging.

Section 3 – Sources for Saltwater Recreational Fishing Information

This section asks about the sources recreational anglers use to get information on recreational saltwater fishing. Questions seek to identify the types of sources used, how often sources are used to gather information on fishing, and the level of trust in the sources. There is also a question to understand the size of angler social networks (i.e. how many other anglers' respondents discuss recreational saltwater fishing with).

Section 4 – Demographic Information

This section elicits information on the respondent; their age, level of education, household income, gender, race, and ethnicity. This standard demographic information will allow us to better understand the unique characteristics of the recreational anglers. Information collected in this section is comparable to United States (U.S.) Census information. The U.S. Census does not collect or provide the information at a level to be able to identify a specific population of anglers, or fishing as a separate industry. Information about fishing in the U.S. Census is aggregated with other industries such as forestry and agriculture. Collection of the data in the section serves to describe this specific population of anglers and will allow for comparison to the general U.S. public.

It is anticipated that the information collected will be disseminated to the public or used to support publicly disseminated information. NOAA Fisheries will retain control over the information and safeguard it from improper access, modification, and destruction, consistent

with NOAA standards for confidentiality, privacy, and electronic information. See response to Question 10 of this Supporting Statement for more information on confidentiality and privacy. The information collection is designed to yield data that meet all applicable information quality guidelines. The data collected by the SNAMS will be subject to the quality control measures and 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 proposed data collection will utilize voluntary, self-administered mail surveys. Survey responses for mail surveys will be entered into electronic databases. Entered data will be error checked for accuracy using computer programs in written in SAS.

4. Describe efforts to identify duplication.

NMFS collaborates with state natural resource agencies and regional interstate fisheries commissions on the Atlantic and Gulf coasts to ensure that recreational fisheries data collections are not duplicative. The most recent, related survey was conducted in 2013 (Brinson and Walmo, OMB # 0648-0656) on the Attitudes and Preferences of Saltwater Recreational Anglers. That survey was conducted to understand the range of attitudes, preferences, and concerns that recreational anglers hold towards saltwater fishing and elicited the type of goals and objectives that should be pursued (e.g. in developing guidelines), and overall attitudes and concerns regarding recreational fisheries management. That survey did not provide information on how recreational anglers gather, share, and evaluate information on topics related to MRIP fisheries data collection, fisheries regulations, stock assessments, the overall health of fisheries, fisheries science, and fisheries management.

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

No small businesses or other small entities will be impacted by this revision. Individuals are the respondents.

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

If the survey is not conducted, NMFS will not obtain information on how recreational anglers gather, share, and evaluate information on topics related to fisheries data collection, fisheries regulations, stock assessments, the overall health of fisheries, fisheries science, and fisheries management. NMFS may experience difficulty in effectively communicating with recreational anglers concerning MRIP. MRIP may have difficulty examining and developing strategic communications to ensure partners and constituents are engaged in the MRIP redesign process, kept well informed of opportunities to participate, and apprised of the initiative's progress. There are no current plans to implement the SNAMS beyond 2019 or on a frequent basis.

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 information on 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 recordkeeping, disclosure, or reporting format (if any), and on the data elements to be recorded, disclosed, or reported.

A Federal Register Notice published on February 2, 2018 (83 FR 4909) solicited public comments. One substantive comment was received from the Rhode Island Party and Charter Association. The commenter asked if a sample of licensed anglers would be randomly selected from the National Saltwater Angler Registry, indicated that some states do not require a fishing license for charter/party clients, that those who fish aboard for-hire vessels are often tourists, asked if there are any plans to distribute the survey to for-hire vessel operators, and requested a copy of the questionnaire.

NMFS responded by indicating that the survey sample will include licensed anglers randomly selected from the National Saltwater Angler Registry and that non-licensed anglers may be considered in the survey methodology. The NMFS response also stated that MRIP was initiating a listening tour in 2018 to meet with members of the for-hire sector, in addition to private recreational anglers, local, regional, and state partners, and the questionnaire was under development.

Ultimately, it was decided that the sampling frame for the SNAMS should not include unlicensed anglers, so they will not be part of the survey. Unlicensed anglers include those not required to have a license due to age (youth and senior anglers) and those that only fish on for-hire vessels where the vessel license covers them. Exclusion of anglers not required to have a license due to age effectively truncates the age distribution of respondents. While for-hire vessel unlicensed anglers might account for a great deal of effort it seems unlikely that they actively follow and participate in the fisheries data collection process. These anglers would most likely get any information on fisheries data collection and management from the for-hire operator they fish with. Given this, more effective communication with unlicensed anglers would involve understanding how for-hire operators gather, analyze, and disseminate information on fisheries data collection which is not within the purview of this methodology. We believe that the real-world effects of this coverage gap will be minimal and will not significantly change the outcomes.

MRIP is a collaborative effort among government agencies, independent scientists, recreational fishing groups and conservation organizations to ensure scientifically rigorous collection of appropriate information that meets manager and stakeholder needs. Subsequently, MRIP staff members maintain regular communication with customers, through workshops, workgroup meetings and one-on-one consultations. For example, The MRIP Executive Steering Committee (ESC), which includes senior managers from NOAA Fisheries, the Executive Directors of the Interstate Marine Fisheries Commissions, and a representative from the Marine Fisheries Advisory Committee, provides general oversight of MRIP and ensures that the program satisfies Federal, state and stakeholder needs for recreational fishing statistics. The ESC meets annually to review program activities, strategically allocate funds to addresses data needs and approve research priorities. Similarly, the MRIP Operations Team (OT), which is responsible for developing and testing improved data collection designs, includes representatives from NOAA

Fisheries headquarters, regional offices and science centers, the Interstate Marine Fisheries Commissions and state natural resource agencies. The OT meets 1-2 times each year to identify regional and state needs for recreational fishing statistics and develop research priorities. Finally, MRIP staff participate in numerous meetings sponsored by regional fishery management councils and state natural resource agencies to update fishery managers, scientists and stakeholders on program accomplishments and collect feedback about data needs and concerns about the program. Recent feedback and questions resulting from these forums include the following:

- How did MRIP arrive at the current design for researching how marine recreational anglers gather, share, and evaluate information on topics related to fisheries data collection, fisheries regulations, stock assessments, the overall health of fisheries, fisheries science, and fisheries management?
- Response: Each methodology that was considered reflected design elements, both positive and negative, from earlier MRIP studies. The present design provides complete (or nearly complete) coverage of the population of anglers, incorporates sampling from state angler license databases, as suggested by the NRC, and is less susceptible to nonresponse error than conducting a telephone survey.
- MRIP should expand the use of angler registries or license databases to collect information from anglers.
- Response: We agree completely with this comment and have consistently tried to incorporate angler license databases into sampling designs.
- How complete are angler registries or license databases in terms of covering all recreational fishing activity?
- Response: Coverage of license databases varies by state and type of fishing activity. Previous MRIP pilot studies suggest that coverage ranges from 20%-95% in states where pilot studies have been conducted.

The SNAMS instrument has been evaluated through cognitive testing to ensure that the instructions and questions are clear.

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 (2009) describes a small, prepaid cash incentive as a “token of appreciation” that encourages response and brings attention to the survey request. In addition to improving response rates, incentives may reduce nonresponse bias by encouraging participation from individuals with little or no interest in the survey topic (Groves et al., 2006).

Church (1993) presents a meta-analysis of 38 experimental studies testing the impact of cash incentives on mail survey response rates. The incentives, which ranged from \$0.01 to \$5.00 increased response rates over control groups by an average of 19.1%.

More recently, Trussell and Lavrakas (2004) reported that providing an incentive of at least \$1.00 increased response rates and cooperation rates to the second phase of a two-phase, mixed-mode (RDD/mail diary) survey, and that incremental increases in incentive amounts up to \$10.00 increased response rates in a linear fashion. These conclusions were consistent even for individuals who initially refused to participate in the second phase of the study.

Similarly, Brick et al. (2011) concluded that a prepaid cash incentive of \$15.00 significantly increased response rates to the second phase of a national, two-phase mail survey, and that response rates for a \$5.00 incentive treatment, while not significantly different from either a control group or the \$15.00 experimental treatment, were in the expected direction. In addition, the effect of the incentives was most pronounced for the initial mailing, which could result in decreased costs for follow-up mailings.

The initial two waves of the 2012-2013 MRIP Marine Fishing Effort Survey (MFES, OMB Control No. 0648-0652) included an experiment to test the impact of cash incentives on response rates, survey measures and cost. Three levels of incentives, \$1.00, \$2.00 and \$5.00, and a zero-dollar control were tested. Incentives were included in the initial survey mailing for each wave.

Table 1 provides the response rates, total number of completed surveys and relative cost per completed survey for each incentive treatment. Response rates increased significantly with increasing incentive amounts, and differences in response rates among incentive treatments were statistically significant ($p < 0.0001$). However, while the \$5.00 incentive resulted in the highest response rate, the \$1.00 and \$2.00 treatments were the most efficient in terms of cost; including a \$1.00 or \$2.00 cash incentive lowered the cost per completed survey by approximately 15%.

Table 1. Response rates, number of completed surveys and relative data collection costs for each incentive treatment tested during the first two waves of the 2012-2013 MFES.

Incentive Amount	Response Rate	Completed Surveys	Relative Cost per Complete ¹
\$0.00	27.0	2,154	1.00
\$1.00	37.8	3,065	0.85
\$2.00	41.8	3,415	0.87
\$5.00	46.7	3,807	1.09

Given the benefits of reduced data collection costs and higher response rates the SNAMS will include a \$2.00 cash incentive in the initial survey mailings. Based upon the results of previous pilot studies, we anticipate that a \$2.00 incentive will result in sufficiently high response rates and minimize overall survey costs by reducing the number of survey mailings. Moreover, recent (Wave 3, May-June 2018) response rates on the MFES (which still includes the \$2.00 incentive) of licensed anglers from Maine to Mississippi are approximately 45% (Personal Communication, Rob Andrews, NMFS). By using the proven tailored design method (Dillman, 2009) for survey implementation and the \$2.00 incentive we are expecting a similar response rate of 45% on the SNAMS.

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

As stated on the instrument, responses are kept confidential as required by section 402(b) of the Magnuson-Stevens Act and [NOAA Administrative Order 216-100](#), Confidentiality of Fisheries Statistics, and will not be released for public use except in aggregate statistical form without identification as to its source.

¹ Data collection costs include costs associated with printing survey materials, assembling survey packets, postage, receipting and processing completed surveys, and incentives.

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.

No sensitive questions are asked.

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

The estimated response burden per survey activity and the total response burden are shown in Table 2. The expected number of respondents and number of responses are based on the results of previous MRIP studies. The hourly rate of \$22.77 is based on the average for all civilian workers from the January 2011 National Compensation Survey (<http://www.bls.gov/ncs/ocs/sp/nctb1477.pdf>). There are no other costs to respondents. There are also no recordkeeping requirements associated with MRIP SNAMS. A total of 1,125 burden hours is anticipated, resulting in a cost to respondents of approximately \$25,616.25.

Table 2. Estimated response burden for the MRIP SNAMS.

Sample Size	Expected Response Rate	Estimated Number of Responses	Minutes per Response	Total Time (Hours)
10,000	45 ² %	4,500	15	1,125

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).

There will be no financial cost to the public to participate in this study, only the cost of their labor (i.e. response time).

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

A contract was awarded to ECS Federal for development of the survey instrument, implementing the survey, data collection and processing, quality control, and supervision. The contracted cost of the survey is \$187,431.00. Additional federal costs include the time of NMFS staff. The NMFS staff will be responsible for developing and administering the contract, providing feedback on the development of the survey, and reviewing results, done as part of regular duties. The cost of NMFS staff time is \$ 17,921.60 (based on 160 hours total X \$65.38/hr. = \$10,460.80 + 160 hours total X \$46.63/hr. = \$7460.80).

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

² Response rate based on response rates of ME-MS licensed anglers for Wave 3 (May-June) of the 2018 MFES. (Personal Communication with Rob Andrews, NMFS).

This is a new data collection.

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

Descriptive and analytical reports will include summaries of data. These reports will not release or reveal individual responses. The data summaries may support research and analyses to be presented at appropriate professional meetings (e.g. American Fisheries Society, Joint Statistical Meetings) and may be submitted for publication in appropriate statistical or fisheries peer-reviewed journals.

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.

The OMB control number and expiration date will be displayed.

18. Explain each exception to the certification statement.

There are no exceptions to the certification statement.

References

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