**SUPPORTING STATEMENT A**
**U.S. Department of Commerce**
**National Oceanic & Atmospheric Administration**
**Social and Economic Survey of Hired Captains and Crew in Commercial Fisheries**
**OMB Control No. 0648-0636**

## ABSTRACT

The National Oceanic and Atmospheric Administration's (NOAA) National Marine Fisheries Service (NMFS or NOAA Fisheries) is requesting an extension and revision to this standard information collection. The proposed revisions would do the following to the currently approved information collection.

1. Expand the scope from New England, Mid-Atlantic, South Atlantic, and Gulf of Mexico commercial fisheries to Puerto Rico, U.S. Virgin Islands, West Coast, and Pacific Islands commercial fisheries;
2. Change the title from "Socio-Economic Survey of Hired Captains and Crew in New England, Mid-Atlantic, South Atlantic and Gulf of Mexico Commercial Fisheries" to "Social and Economic Survey of Hired Captains and Crew in Commercial Fisheries";
3. Replace the survey instrument that OMB approved in 2021, which included a few region-specific questions, with region specific survey instruments that NMFS produced by eliminating the few irrelevant questions for each region, adding a few region-specific questions, rewording a few questions to make them region-specific and/or OMB compliant, and giving each survey a region-specific name.
4. Adjust the burden and government cost estimates to account for those changes and a revised estimate of the burden minutes per response; and
5. Extend it for three years.

Under the revised information collection, the Northeast Fisheries Science Center (NEFSC) will conduct the survey for the New England and Mid-Atlantic fisheries; the Southeast Fisheries Science Center (SEFSC) will conduct the survey for the South Atlantic, Gulf of Mexico, Puerto Rico, and the U.S. Virgin Islands fisheries; the Northwest Fisheries Science Center (NWFSC) and the Southwest Fisheries Science Center (SWFSC) will jointly conduct the survey for the West Coast fisheries; and the Pacific Islands Fisheries Science Center (PIFSC) will conduct the survey for the Pacific Islands fisheries. Each Fisheries Science Center will conduct a social and economic survey of hired captains and crew once in the following three years for its commercial fisheries.

## A. JUSTIFICATION

### 1. Explain the circumstances that make the collection of information necessary. Identify any legal or administrative requirements that necessitate the collection. Attach a copy of the appropriate section of each statute and regulation mandating or authorizing the collection of information.

The purpose of this information collection is to provide for the ongoing collection of social and economic data for regulatory analysis related to fisheries and their communities. NMFS needs the social and economic data included in this information collection to be capable of more than cursory efforts to comply with or support the following laws, Executive Orders (EOs) and NOAA Fisheries strategies and policies, which require social and economic data and analyses. See Appendix A for a discussion of their requirements for social and economic data and analyses.

1. The Magnuson-Stevens Fishery Conservation and Management Act (MSA)
2. The National Environmental Policy Act (NEPA)
3. The Regulatory Flexibility Act (RFA)
4. EO 12898 (Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations)
5. EO 13985 (Advancing Racial Equity and Support for Underserved Communities Through the Federal Government)
6. EO 12866 (Regulatory Planning and Review)
7. EO 13771 (Reducing Regulation and Controlling Regulatory Costs)
8. EO 13840 (Ocean Policy to Advance the Economic, Security, and Environmental Interests of the United States)
9. The NOAA Fisheries Guidelines for Assessment of the Social Impact of Fishery Management Actions
10. The NOAA Fisheries Guidelines for Economic Reviews of Regulatory Actions
11. The NOAA Fisheries Strategic Plan 2019-2022 (Strategic Plan)
12. The NOAA Fisheries Ecosystem-Based Fishery Management (EBFM) Road Map
13. The NOAA Fisheries National Bycatch Reduction Strategy
14. NOAA's Catch Share Policy

There is implicit authority for the proposed information collection in each of those laws and EOs. NMFS and the Regional Fishery Management Councils need these data to support fishery management social impact assessments and analyses, such as those developed by the NMFS (Clay et al. 2013). The explicit Magnuson-Stevens Fishery Conservation and Management (MSA) authority to collect social and economic data is discussed in Section 1.4. Information Collection of Appendix A.

No other consistent source of social and economic information about hired captains and crews exists for commercial fisheries. This information collection is essential to monitor, explain and predict changes in the social and economic characteristics of commercial fisheries, which includes assessing the social and economic impacts of various fishery management policies over the near and long term, including catch share systems. Currently, very little other data exist that

allow for predicting or tracking the social impacts of fishery management policies and decisions over time, and insufficient economic trend data are available. In implementing policies and management programs, there is a need to understand how such policies and programs will affect the social and economic characteristics of those involved in the commercial fisheries and fishing communities.

**2. Indicate how, by whom, how frequently, and for what purpose the information will be used. Except for a new collection, indicate the actual use the agency has made of the information received from the current collection.**

How will this information be collected?
This information will be collected principally using a structured interview administered in-person where hired captains and crew (heretofore referred to as crew) tend to congregate such as at docks. The option to complete the structured interview later by telephone or online will be offered to those who prefer not to complete the survey at the time of intercept.

A unique set of circumstances will allow the PIFSC to use a different approach for the Hawaii small boat fishery. First, fishermen in Hawaii who catch fish for commercial purposes are required to apply for a Hawaii Commercial Marine License (CML) from the State of Hawaii and the application includes an address and an email address. Second, those fishermen, in general, are technology savvy as they are required to submit their monthly catch reports electronically to the Hawaii Division of Aquatic Resources. Therefore, the PIFSC will conduct the survey for the Hawaii small boat fishery using mail and Internet. The PIFSC will ask potential respondents to answer the survey online, using a unique login name for survey access. If fishermen choose not to fill out the survey online, the PIFSC will provide the hard copy of the survey via mail and they can return the survey by using the pre-paid return envelope.

From whom will the information be collected?

This survey is designed to obtain information from hired captains and other crew members in the commercial fisheries.

What will this information be used for?

As noted above, the primary use of these data is to monitor, explain and predict changes in the social and economic characteristics of commercial fisheries, which includes assessing the social and economic impacts of various fishery management policies over the near and long term, including catch share systems. Additionally, these data will provide useful inputs into development of policies and strategies by providing representative social and economic information on participants in commercial fisheries.

NMFS will develop reports and analyses using these data to examine trends and relationships in the data to inform policy mandates and understanding of the commercial fishing sectors. These reports will be provided to the public and to the Regional Fishery Management Councils for use in their decision-making processes.

How has NMFS used the information received from the current collection?

The information received from this current collection has been used to support required Social Impact Assessments (SIA) within the Environmental Impact Statements (EIS) for Frameworks 55[1] and 61[2], and Amendment 23[3], to the Northeast Multispecies (Groundfish) Fisheries Management Plan (FMP). This information has also been used to describe and compare characteristics of commercial fishing crews in two NMFS technical memoranda (Henry and Olson 2014; Silva et al. 2021). In addition to supplying crucial information to the process of fisheries management, the information received from the current collection contributes to scientific research publications (Cutler et al., 2022). These data have also been used to inform multiple presentations at academic conferences, including most recently at the annual meetings of the Eastern Sociological Society (Cutler et al., 2019) and the Society for Applied Anthropology (Gentile et al., 2019).

What type of information will be collected?

The survey protocol is organized into sections to help guide the collection of data. In what follows, we provide a brief description of the information being requested from the survey respondents and the reasons for collecting this information.

*a. Primary fisheries, fishing history and vessel information*

The survey asks a series of questions that relate to the respondents' primary fisheries. Specifically, to identify which fishery they consider to be their primary fishery and why. It is important to understand what fishery a respondent considers to be their primary fishery to gauge how management policies affect fishery participation decisions. Additionally, this information is useful in developing more precise sampling approaches in future years by allowing for better estimates of fishery participant populations based on self-reported primary fisheries.

Information on fishing decisions such as trip length, number of crew, and ports are also helpful in understanding how fishery management policies affect the different sectors. Tracking and predicting changes in these factors in relation to changes in fishery management policies will allow for assessing how the policies have affected these decisions.

*b. Family involvement*

Fishing has long been considered a family-oriented career and generations of families have often been involved in fishing. Thus, a key social aspect of fishing is the trend away from fishing as a family-oriented business and occupation. The survey asks a series of questions about respondents' family involvement in fishing. Tracking changes in family involvement is important to better understand the changing social landscape of fishing. Additionally, fishery management policies may have an impact on the familial nature of fishing and tracking trends in family involvement relative to fishery policies is important.

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1 https://s3.amazonaws.com/nefmc.org/160408_FW55_formal_submission_resubmit_corrected.pdf.
2 https://www.nefmc.org/library/framework-61
3 https://s3.amazonaws.com/nefmc.org/200304_Draft_Groundfish_A23_DEIS_formal_submission_corrected_200312.pdf.

*c. Crew payment methods*

The nature of payment methods for crew on fishing vessels is complex and can vary by fishery or even by vessel. Fishing crew are often paid a percentage of a trip's catch value with deductions for various vessel expenses (e.g., fuel and food). Crew payment methods reflect the contractual employment relation between crew and owners and ultimately the income earned by crew. Collecting this information is important for three reasons. First, a variety of methods are used (e.g., different formulas and deductions) and NMFS is seeking to better understand the breadth of payment structures in the industry. Second, these payment methods may change over time (e.g., in response to changes in fishery management policies), which may result in significant impacts on fishing crew livelihoods. Third, information on crew payment methods can be useful in assessing the impacts of proposed fishery management actions.

*d. Employment opportunities*

The survey asks a number of questions related to employment opportunities such as the difficulty in finding employment, number of years with the same vessel/owner, and how they found their current position. The responses to these questions will allow NMFS to predict and track the impact that fishery management policies have on employment opportunities and to track these trends.

*e. Fishing income information*

This survey asks about the extent to which commercial fishing represents a key component of respondents' income, other sources of income, and the extent to which current fishing income could sustain respondents' over the short, medium, and long term. Questions about fisheries closures and their impacts on alternative incomes for crew allow for improved analyses of governance and environmental changes relative to the commercial fishing industry, while also maintaining consistency with data collections which target fishing vessel owners. The responses to these questions provide essential information for assessing the extent to which fishing represents a viable career for crew.

*f. Insurance*

The survey asks a number of questions about respondents' insurance (health, vessel, etc.). Living or operating without insurance represents a risk to commercial fishermen. Not having insurance often indicates an inability to afford the insurance. Tracking trends in the extent to which owners and crew carry insurance provides an indication of the health of the fishing industry and of fishing as an occupation.

*g. Job satisfaction and quality of life*

This survey asks a series of questions related to job and career satisfaction and how well respondents perceive their quality of life. Tracking trends in these areas will allow NMFS to assess the extent to which "life as a fisherman" is improving or worsening and the extent to which fishing management policies are improving or hurting "life as a fisherman."

*h. Governance*

Fish are a managed resource and the management process itself is complex and involves significant public participation. The survey asks a series of questions about the extent to which respondents take part in the management process and their view of the process in terms of its characteristics, including equity, understandability, restrictiveness, adaptability, and effectiveness. The responses to these questions will allow NMFS to better understand perceptions of the fishery management process for different fisheries, which are governed by different management policies, to track trends in perceptions over time, especially in relation to changes in management policies, and better predict the effects of proposed fishery management actions.

*i. Conservation attitudes and perceptions of resource health*

Crew attitudes toward conservation are important for understanding how well the resource (fish) can be managed through the fishery management process. The survey will allow NMFS to track trends in these attitudes over time and to assess how well different management approaches may work and whether changes in management approaches affected attitudes.

Related to conservation attitudes are perceptions of the health of the resource. NMFS collects scientific data on resource health, but perceptions of resource health are also important. Restrictions placed on fisheries where there is a perception that the resource is healthy may involve significant public opposition. Additionally, fishermen's perceptions of resource health may provide important information on the actual resource health since they are interacting with the resource on a regular basis.

*j. Demographics*

Collecting information on respondent demographics is important for three reasons. First, it will allow for better interpretation of the data that are collected. Second, trends in demographics (e.g., age, income, race and ethnic group) can be tracked to assess how the demographic composition of the industry is changing over time, especially in response to changes in fishery management policies. Third, it will allow NMFS to monitor and predict how demographics affect the distribution of the benefits of current and proposed fishery management actions. That is important because crew are often from underserved communities, hence improving our understanding of hired crew serves EEJ purposes.

<u>Does the respondent have multiple options for providing information?</u>

Generally, a NMFS Fisheries Science Center will administer this survey with in-person interviews. However, the option to complete the structured interview later by telephone or online will be offered to those who prefer not to complete the survey at the time of intercept. In addition, and due to the unique set of circumstances mentioned above, the PIFSC will conduct the survey for the Hawaii small boat fishery online and via mail.

<u>Frequency of information collection?</u>

Each of five NMFS Fisheries Science Centers will conduct a survey for its commercial fisheries once during the next three years.

Data use and public dissemination

Each fishery Science Center will disseminate to the public the information collected or use that information to support publicly disseminated information. As explained in the preceding paragraphs, the information gathered has utility. The NMFS Fishery Science Centers will retain control over the information and safeguard it from improper access, modification, and destruction, consistent with NOAA standards for privacy, electronic information, and records management. This information collection is designed to yield data that meet all applicable information quality guidelines. 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.

Data sharing

NMFS will share summaries of the data and the results of its use with other organizations inside and outside the Department of Commerce or the government. NMFS will not share data from individual respondents unless it determines there are adequate mechanisms and agreements to protect the confidentiality of the data from individual respondents when the responses are not anonymous.

Have the collection requirements changed over time?

The overall collection requirements have not changed.

**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, e.g. permitting electronic submission of responses, and the basis for the decision for adopting this means of collection. Also, describe any consideration of using information technology to reduce burden.**

For this information collection, the NMFS Fisheries Science Centers will principally conduct in-person interviews, which are not well suited for respondent submission of electronic responses. However, the option to complete the structured interview later by telephone or online will be offered to those who prefer not to complete the survey at the time of intercept. In addition, and due to the unique set of circumstances mentioned above, the PIFSC will conduct the survey for the Hawaii small boat fishery online and via mail.

The data being collected under this survey will involve some additional use of technology. Specifically, tablets will be used to record respondents' answers to the survey questions. This will not only improve the accuracy of recording respondents' answers but it will also reduce the amount of data cleaning and organizing required to prepare them for analysis.

NMFS Fisheries Science Centers will utilize freely available survey software in order to

implement surveys on tablet computers. This approach involves programming that will streamline survey implementation in the field by incorporating question skip patterns, menus for answer options, and other ease of access features common to survey software programs. We also plan to make the region-specific OMB approved survey instruments available online on NMFS websites for outreach and information purposes. A report summarizing the salient, aggregated results will be available on NMFS websites once the data collection and analysis are completed.

**4. Describe efforts to identify duplication. Show specifically why any similar information already available cannot be used or modified for use for the purposes described in Question 2.**

**4.1 NEFSC and SEFSC**

We are unaware of any other data collection efforts that would duplicate our efforts. However, we are aware of a few different data collection efforts in the Southeast U.S., which have either happened in the recent past or are planned. However, the NEFSC and SEFSC survey does not duplicate the recently completed efforts since all of them were focused on specific fisheries in the Southeast U.S. alone. With regard to those efforts that are planned, none are being conducted at the regional level. Due to the ad hoc nature of the surveys, the fact they were conducted at different periods of time, the use of different questions and narrowly defined focus from a locational and fishery perspective, it would not be possible to use the information from the past studies for the purposes described in Question 2.

In the Southeast region, there have been a limited number of different social and economic surveys that included crew. An economic survey conducted in 1994 and 1995 that targeted commercial reef fish fishermen in the Gulf of Mexico (Waters, 1996) included nine surveys completed by hired captains. Rhodes (1997) conducted a socioeconomic profile of the South Atlantic Snapper Grouper commercial fishery in 1996 that included ten in-person interviews with crew. More significantly, the recent five-year review of the Gulf of Mexico Grouper and Tilefish (G-T) IFQ program included a survey of captains and crew (n=153) to evaluate perceptions and effects of the G-T IFQ program (Gulf of Mexico Fishery Management Council, 2018). Two current projects have also been identified. First, research by Dr. David Hoffman (Mississippi State University) and Dr. Rebecca Schewe (Syracuse University) focuses on Vietnamese-American commercial fishermen in Louisiana, Mississippi, and Alabama and includes interviews with Vietnamese speaking crew. Finally, a pilot study led by Dr. Tracy Yandle (Emory University) and Dr. Jennifer Tookes (Georgia Southern University) was conducted to establish a sampling strategy and survey instrument for a future survey of commercial and charter crew focused on wellbeing indicators and included approximately 30 commercial and charter boat crew in South Carolina and Georgia. None of these past surveys represent a systematic comprehensive effort to characterize crew across fisheries in the South Atlantic, Gulf of Mexico, Puerto Rico, and the U.S. Virgin Islands.

**4.2 NWFSC and SWFSC**

The social scientists and economists at both the NWFSC and SWFSC work closely with regional academics, community-based organizations, industry groups and other parties interested in this type of information. Reviews of existing information are common practice when initiating social

science studies. We have completed a thorough literature review and we are confident there is no duplication. An overall strategic research plan will also guide this process and ensure that all data collected is relevant, new and essential for achieving NMFS social science goals. NWFSC and SWFSC points of contact for this research are associated/communicate with subcommittees of the Pacific Fishery Management Council, so they are informed of the Council's activities and have verified with the organization that they have not commenced or planned duplicative social research. Under OMB Control No. 0648-0749 for the West Coast Fisheries Participation survey, NWFSC social scientists and economists have previously surveyed permit owners associated with U.S. West Coast commercial fisheries (Holland et al. 2020; Norman et al. 2022), with an information collection conducted every three years beginning in 2017. Even with a prospective iteration of this West Coast Fisheries Participation survey proposed for 2026, the proposed Social and Economic Survey of Hired Captains and Crew allows for similar, social and economic information to be collected from an entirely separate group of commercial fisheries respondents, thereby avoiding duplication. The West Coast Fisheries Participation Survey utilizes permit data to solely survey permit owners, and similar survey respondent databases do not exist for West Coast hired captains and crew, creating a critical information gap for an important segment of the commercial fishing industry. The Pacific Coast Groundfish Fishery Social Survey (PCGFSS), under OMB control number 0648-0606, surveyed fishing community members including a limited number of crew in 2010, 2012, and 2016 (Steiner et. al. 2018, PFMC and NMFS 2017). No efforts have been replicated since the 2016 data collection. As a result, any new efforts of data collection will not be duplicating an existing effort and will be filling a data gap previously identified by this study. Obtaining related information from crew on target fisheries, demographics, job satisfaction, earnings and regulatory challenges specific to hired captains and crew will greatly improve the social and economic analyses supporting West Coast federal fisheries management. Information from this dataset will also contribute to our Equity and Environmental Justice Strategy (EEJ) efforts and understanding. We will be able to better understand under-represented communities and improve management support with new data.

### 4.3 PIFSC

PIFSC economists work closely with regional academics, community-based organizations, industry groups and other parties that may be interested in this type of information. There are no comparable data collections that have been collected in our region targeting hired captains and crew for regional small boat fisheries. Additionally, PIFSC staff work closely with various subcommittees of the Western Pacific Fishery Management Council, and there are no immediate or future plans to conduct work that could be considered duplicative to this research. Recent work under OMB Control No. 0648-0773 for the Hawaii small boat fishery (Chan, 2023) hingand the American Samoa small boat fishery (Dombrow and Hospital, 2023) have collected social and economic data from self-identified non-boat owners which have been considered crew for analytical purposes, but these efforts lacked many critical social elements included in the proposed data collection such as; *family involvement, employment opportunities, insurance, job satisfaction and quality of life, conservation attitudes and perceptions of resource health*. Obtaining this information specific to hired captains and crew will greatly improve the social and economic analyses supporting Pacific Islands Region federal fisheries management. Information from this dataset will also contribute to our Equity and Environmental Justice Strategy (EEJ)

efforts and understanding. We will be able to better understand under-represented communities and improve management support with new data. As a result, any new efforts of data collection will not be duplicating an existing effort and will be filling a data gap.

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

NMFS will use several methods to minimize burden. As noted in the abstract, NMFS replaced the survey instrument that OMB approved in 2021, which included a few region-specific questions, with region specific survey instruments that NMFS produced by eliminating the few irrelevant questions for each region and renaming the survey instruments. That decreased the length of the survey instrument and eliminated any confusion by the respondents about either who the survey is for or what questions are relevant. The survey instruments are designed to request only the minimum data required for the purpose of the collection. Participation in the survey is voluntary and interviews or other information collection methods will be conducted at times and places convenient for fishermen. This will minimize any potential disruption to fishermen's fishing practices. The NMFS Fishery Science Centers will contract with a local fisheries staff or outside contractor with local community connections to conduct interviews. The interviewers are trained to request permission to do a survey. If a fisherman refuses to participate in the interview or if the interviewer senses a fisherman does not want to provide data at that time, the interviewer will terminate the interview immediately and thank the fisherman for his/her time. To minimize the language barrier and burden on non-English speaking intended respondents, NMFS Fishery Science Centers will provide interviewers who can speak the languages the intended respondents are comfortable with.

**6. Describe the consequences to the Federal program or policy activities if the collection is not conducted or is conducted less frequently, as well as any technical or legal obstacles to reducing burden.**

Not conducting this collection or conducting it less frequently would have the following adverse cascading effects. It would decrease the ability of NMFS and the Management Councils to effectively monitor, explain and predict changes in the social and economic performance and impacts of federally managed commercial fisheries. That would prevent more than cursory efforts to comply with or support a variety of laws, Executive Orders and NOAA Fisheries strategies and policies, which require socio economic analyses. That would limit their use of a well-informed, science-based approach to the conservation and management of living marine resources and marine habitat in federally managed fisheries, where crew data are particularly important for EEJ considerations because crew are often from underserved communities.

**7. Explain any special circumstances that would cause an information collection to be conducted in a manner:**

- requiring respondents to report information to the agency more often than quarterly;
- requiring respondents to prepare a written response to a collection of information in fewer than 30 days after receipt of it;

- requiring respondents to submit more than an original and two copies of any document;
- requiring respondents to retain records, other than health, medical, government contract, grant-in- aid, or tax records for more than three years;
- in connection with a statistical survey, that is not designed to produce valid and reliable results that can be generalized to the universe of study;
- requiring the use of a statistical data classification that has not been reviewed and approved by OMB;
- that includes a pledge of confidentiality that is not supported by authority established in statute or regulation, that is not supported by disclosure and data security policies that are consistent with the pledge, or which unnecessarily impedes sharing of data with other agencies for compatible confidential use; or
- requiring respondents to submit proprietary trade secrets, or other confidential information unless the agency can demonstrate that it has instituted procedures to protect the information's confidentiality to the extent permitted by law.

Each NMFS Fisheries Science would conduct a survey once in the next three years. Therefore, Center Participation in each survey would be voluntary. Therefore, NMFS would not require respondents to report information to the agency more often than quarterly.

No survey would require respondents to: 1) report information to the agency more than once every three years; 2) prepare a written response; 3) submit any document; 4) retain any records; or 5) submit proprietary trade secrets or other confidential information.

NMFS has designed and would continue to design survey methods and instruments that produce valid and reliable results that it can generalize to the universe of the study. The success of prior surveys under this information collection and past surveys of the commercial and charter harvesting sectors demonstrate that NMFS has done that.

None of the surveys NMFS would conduct under the clearance would use a statistical data classification that OMB has not reviewed and approved.

NMFS has demonstrated that it has instituted procedures to protect information confidentiality to the extent permitted by law. The survey instruments and most correspondence with potential respondents would include a pledge of confidentiality supported by disclosure and data security policies, which are consistent with the pledge and which do not unnecessarily impede sharing of data with other agencies for compatible confidential uses.

**8. If applicable, provide a copy and identify the date and page number of publications in the Federal Register of the agency's notice, required by 5 CFR 1320.8 (d), soliciting comments on the information collection prior to submission to OMB. Summarize public comments received in response to that notice and describe actions taken by the agency in response to these comments. Specifically address comments received on cost and hour burden.**

A Federal Register Notice published on May 7, 2024 (89 FR 38110) solicited public comments. We received no comments, which pertained to the PRA requirement of the information collection. NMFS contacted stakeholders 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, and on the data elements to be recorded, disclosed, or reported. No comments were received.

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

No payments or gifts will be provided to respondents.

**10. Describe any assurance of confidentiality provided to respondents and the basis for assurance in statute, regulation, or agency policy. If the collection requires a systems of records notice (SORN) or privacy impact assessment (PIA), those should be cited and described here.**

No personally identifying information such as name, address, or telephone number is collected from respondents and, typically, the respondents are anonymous.

Information collected is protected under the Privacy Act of 1974 (5 USC 552a), which prohibits disclosing information without the written consent of the subject individual, unless disclosure is pursuant to one of twelve statutory exceptions. As stated on the survey instrument, the data collected will be kept anonymous and will not be released for public use except in aggregate statistical form. If the individual data are requested, it will be provided without identification as to its source. Because no proprietary regular business data are collected (i.e., landings or value, fishing grounds), there are no issues of confidentiality with regard to business information.

Each survey instrument will include the following statements.

> Data collected will be kept anonymous and will not be released for public use except in aggregate statistical form without identification as to its source. Participation or lack of participation in the survey will remain anonymous. All economic data will be aggregated into statistical form for all reports.
>
> Notwithstanding any other provisions of the law, no person is required to respond to, nor shall any person be subjected to a penalty for failure to comply with, a collection of information subject to the requirements of the Paperwork Reduction Act, unless that collection of information displays a currently valid OMB Control Number.

COMMERCE/NOAA Privacy Act Systems of Records 6 and 19, Fishermen's Statistical Data and Permits and Registrations for United States Federally Regulated Fisheries, respectively, cover the information collected for these fisheries. Neither a SORN nor a PIA will be required.

**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. This justification should include the reasons why the agency considers the questions necessary, the specific uses to be made of the information, the explanation to be given to persons from whom the information is requested, and any**

**steps to be taken to obtain their consent.**

There are three questions in the currently approved information collection that relate to race/ethnicity and income. While these questions have already been approved, we provide here information on how this information helps to satisfy mandated social and economic analysis.

One potentially sensitive question is related to income from fishing. Household income can be an important indicator of household social and economic resiliency and can be an important factor to consider when evaluating regulatory alternatives. For example, all else being equal, a regulation that disproportionately affects low-income households may be less preferred than one that has more widely distributed economic impacts. In addition, combining respondents' income information with primary port or zip code can be used to construct an indicator on community resilience, which may be useful when analyzing social and economic impacts on communities as required under National Standard 8 of the MSA [MSA Section 301(a)(8))]. The steps to be taken to increase the response rates for this question include: 1) providing a similar explanation of the use of that information to potential respondents 2) collecting this and other demographic information directly from each individual, and 3) ensuring potential respondents that such information will be treated as confidential.

Another potentially sensitive set of questions included in this information collection are related to race and ethnicity. NMFS Fishery Science Centers will use race to identify vulnerable communities that could be impacted by regulatory alternatives and issues related to racial/ethnic background, particularly in commercial fisheries with diverse backgrounds. Hence, race and ethnicity are needed when analyzing the social and economic impacts on communities due to conservation and management measures as required under National Standard 8 of the MSA [MSA Section 301(a)(8))].

Finally, a potentially sensitive question is about a respondent's gender. NMFS Fishery Science Centers will use gender to identify shifts in the gender dynamics of commercial fisheries over time.

Further, information on minority and low-income populations is needed to conduct analyses mandated by E.O. 12898 (Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations) and E.O. 13985 (Advancing Racial Equity and Support for Underserved Communities Through the Federal Government). Questions on race and ethnicity follow the Revisions to OMB's Statistical Policy Directive No. 15: Standards for Maintaining, Collecting, and Presenting Federal Data on Race and Ethnicity.

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

The method used to estimate the target number of responses by fishery is described in the Supporting Statement B under Sample Selection. Although past experience indicates the response rates could be as high as 90%, NMFS used a conservative 80% response rate to estimate required sample size by fishery, but it also estimated the number of responses if a 90% response rate is attained again. To allow for that possibility, NMFS based the burden estimates on the higher response rate. Table 1 includes the target number of responses, the target sample size and the resulting number of responses by fishery. The estimated number of respondents and responses are the same because each respondent is expected to respond once.

Each of five NMFS Fisheries Science Centers expects to conduct its crew survey once during the next three years. That will result in three-year total estimates of 4,058 respondents, 4,058 responses, 1,014 burden hours, and a $25,625 wage burden cost. The burden hour estimate is based on the survey taking on average 15 minutes per respondent. Table 2 provides average annual and 3-year burden estimates.

**Table 1. Target Number of Responses, Required Sample Size and Number of Respondents by Fishery (Item 12).**

| Fisheries | Target Number of Responses | Required Sample Size with an 80% Response Rate | Number of Respondents if the Response Rate is 90% |
|---|---|---|---|
| New England | 371 | 464 | 417 |
| Mid-Atlantic | 359 | 449 | 404 |
| U,S. South Atlantic and Gulf of Mexico Shrimp | 351 | 439 | 395 |
| U,S. South Atlantic and Gulf of Mexico Highly Migratory Species (HMS) | 163 | 204 | 183 |
| U,S. South Atlantic and Gulf of Mexico Other Finfish | 348 | 435 | 392 |
| Puerto Rico | 313 | 391 | 352 |
| U.S Virgin Islands | 146 | 183 | 164 |
| California | 341 | 426 | 384 |
| Oregon | 322 | 403 | 362 |
| Washington | 324 | 405 | 365 |
| Hawaii small boat fisheries | 287 | 359 | 323 |
| American Samoa, Guam, and The Commonwealth of The Northern Mariana Islands Small Boat-Based Fisheries | 282 | 353 | 317 |
| **Total for 3 years** | **3,607** | **4,509** | **4,058** |
| **Average annual** | **1,202** | **1,503** | **1,353** |

**Table 2. Estimated Average Annual Burden (Item 12).**

| Information Collection | Type of Participants (e.g., Occupational Title) | Annual # of Respondents (a) | Annual # of Responses/ Participant (b) | Total # of Annual Responses (c) = (a) x (b) | Burden/ Response (minutes) (d) | Annual Burden Hours (e) = (c) x (d)/60 | Hourly Wage Rate (for Type of Respondent) (f) | Total Annual Wage Burden Costs (g) = (e) x (f) |
|---|---|---|---|---|---|---|---|---|
| Social and Economic Survey of Hired Captains and Crew in Commercial Fisheries | Hired Captains and Other Crew Members in Commercial Fisheries | 1,353 | 1 | 1,353 | 15 | 338 | $25.26 | $8,542 |
| **Annual Total** | | **1,353** | | **1,353** | | **338** | | **$8,542** |
| **3-Year Total** | | **4,058** | | **4,058** | | **1,014** | | **$25,625** |

For the hourly wage rate, we used $25.26, which we calculated using the following three mean hourly wage rates at https://www.bls.gov/oes/current/oes_nat.htm for May 2023, the latest period for which data were available.

45-1011 First-Line Supervisors of Farming, Fishing, and Forestry Workers: $29.23
53-5020 Ship and Boat Captains and Operators: $45.42
45-0000 Farming, Fishing, and Forestry Occupations: $19.22

For the following reasons, we think that hourly wage rate is a reasonable proxy for the equivalent of the hourly wage for commercial fishery crewmembers, who include hired captains and other crew. First, there is not an occupation code specifically for either the hired captains or crew in commercial fisheries. Second, the equivalent of an hourly wage rate varies among fisheries and captains. Third, we expect that hired captains receive an hourly wage equivalent that is greater than the hourly wage for all Farming, Fishing, and Forestry Occupations.

There are no capital/start-up or ongoing operation/maintenance costs associated with this information collection.

**13. Provide an estimate for the total annual cost burden to respondents or record keepers resulting from the collection of information.**

The information will be collected with in–person/telephone interviews or online & mail surveys. There are no capital/start-up or ongoing operation/maintenance costs associated with this information collection.

**14. Provide estimates of annualized cost to the Federal government. Also, provide a description of the method used to estimate cost, which should include quantification of hours, operational expenses (such as equipment, overhead, printing, and support staff), and any other expense that would not have been incurred without this collection of**

**information.**

NMFS (FTE) employees at the Science Centers will have federal oversight, data collection, analysis, report writing, and administrative responsibilities associated with these information collections. We estimated the costs of meeting those responsibilities using information provided by the NMFS Fisheries Science Centers. That information included the pay grade of each NMFS employee with those responsibilities and the percentage of each employee's time needed to meet those responsibilities. We estimated the costs of the contracts to administer the surveys based on the costs of similar current or recent contracts. The estimated total cost incurred by the federal government by implementing this information collection over three years is almost $1.4 million, with an average annual cost of approximately $454,000 over the three-year authorization period for this information collection. Table 3 provides a detailed breakdown of these cost estimates.

**Table 3. Estimated Average Annual and 3-Year Total Federal Government Costs (Item 13).**

| NMFS Fishery Science Centers | Grade/ Step | Loaded Salary Cost per FTE | % of Effort | Fringe (if Applicable) | Total Cost to Government |
|---|---|---|---|---|---|
| Federal Oversight | ZP-4 | $201,611 | 31% | | $61,827 |
| Data collection/analysis | ZP-3 | $138,165 | 57% | | $78,783 |
| Tablet/Printing/Postage | | | | | $2,559 |
| Contractor and Grant Cost | | | | | $300,835 |
| Travel | | | | | $9,775 |
| **Total** | | | 88% | | **$453,779** |
| **Total for 3 Years** | | | 263% | | **$1,361,336.23** |

**15. Explain the reasons for any program changes or adjustments reported in ROCIS.**

Adjustment to the burden of this information collection would result from the following: 1) expanding the scope from New England, Mid-Atlantic, South Atlantic and Gulf of Mexico commercial fisheries to Puerto Rico, U.S. Virgin Islands, West Coast, and Pacific Islands commercial fisheries and 2) replacing the survey instrument that OMB approved in 2021, which included a few region specific questions, with region specific survey instruments that NMFS produced by eliminating the few irrelevant questions for each region, adding a few region-specific questions, rewording a few questions to make them region-specific, and giving each survey a region-specific name. Those changes increased both the estimated numbers of

respondents and responses. The decrease in the estimated minutes per response more than offset the expansion in scope and the estimated burden hours decreased insignificantly. However, due to using a higher hourly wage rate, the estimated total wage burden increased (see Table 4). Appendix B addresses the changes to the survey instrument questions.

**Table 4. Changes in Burden Estimates (Item 14)**.

| Information Collection | Respondents | | Responses | | Burden Hours | |
|---|---|---|---|---|---|---|
| | Current Renewal/ Revision | Previous Renewal/ Revision | Current Renewal/ Revision | Previous Renewal/ Revision | Current Renewal/ Revision | Previous Renewal/ Revision |
| Social and Economic Survey of Hired Captains and Crew in Commercial Fisheries | 1,353 | 937 | 1,353 | 250 | 338 | 83 |
| **Total for Collection** | **1,353** | **937** | **1,353** | **250** | **338** | **367** |
| **Difference** | **416** | | **1103** | | **255** | |

| Information Collection | Labor Costs | | Miscellaneous Costs | | Reason for change or adjustment |
|---|---|---|---|---|---|
| | Current Renewal/ Revision | Previous Renewal/ Revision | Current Renewal/ Revision | Previous Renewal/ Revision | |
| Social and Economic Survey of Hired Captains and Crew in Commercial Fisheries | 8,542 | 5,231 | 0 | 0 | Updated, also impact from previous admin error. Increased number of fisheries to be surveyed, decreased burden per response, and increased burden wage rate. |

| | | | | | |
|---|---|---|---|---|---|
| **Total for Collection** | **8,542** | **5,231** | **0** | **0** | |
| **Difference** | **3,311** | | **0** | | |

**16. For collections whose results will be published, outline the plans for tabulation and publication. Address any complex analytical techniques that will be used. Provide the time schedule for the entire project, including beginning and ending dates of the collection of information, completion of report, publication dates, and other actions.**

The NMFS Fishery Science Centers will develop both reports and tabulations based on the data collected under this information collection. They will tabulate the responses from each survey question and provide cross-tabulations of survey questions in response to policy questions. They will publish the results as a NOAA technical report. These tabulations will be provided on the NMFS Fishery Science Centers websites.

In years following this data collection effort, the NMFS Fishery Science Centers will perform statistical hypothesis tests to determine whether the underlying population values have changed over time. These tests will be standard Students *t* or *F*-statistic tests, depending on the data under consideration.

Further detailed analyses may also be performed on these data. This could include linear regression, analysis of variance, and other more complex statistical methods used to investigate trends and hypotheses in the data. The specific analyses to be performed will be based on the summary statistics that are tabulated and on the analytical needs (e.g., current policy questions needing information). Table 4 provides a summary of the timeline for completing the study.

**Table 5. Data Collection, Analysis, and Reporting Timeline in Months (*Item 15)**.

| Activity | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Prepare logistics** | ■ | ■ | ■ | | | | | | | | | |
| **Perform Survey** | | | ■ | ■ | ■ | ■ | ■ | ■ | | | | |
| **Clean and Analyze Data** | | | | | | | | ■ | ■ | ■ | | |
| **Prepare Reports and Tabulations** | | | | | | | | | | ■ | ■ | ■ |

The implementation timeline for the data collection will vary by NMFS Fisheries Science Center, but usually each survey will take approximately one year from preparing the logistics for a survey to tabulating and reporting the results of a survey, where the results will be published in a NMFS Technical Memoranda and peer reviewed publications.

**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 collection instrument will display the OMB number and expiration date.

**18. Explain each exception to the certification statement identified "Certification for Paperwork Reduction Act Submissions."**

The agency certifies compliance with 5 CFR 1320.9 and the related provisions of 5 CFR 1320.8(b)(3).

## REFERENCES CITED:


Clay, P. M., Kitts, A., & da Silva, P. P. (2014). "Measuring the social and economic performance of catch share programs: Definition of metrics and application to the US Northeast Region groundfish fishery." *Marine Policy*. 44: 27-36.

Cutler, M., Colburn, L., Gentile, L., Silva, A. (2019.) "Tracking shifts in the structure and demographics of commercial fishing vessel crew and hired captains in the Northeast and Mid-Atlantic." Paper presented to the annual meeting of the Eastern Sociological Society. Boston, MA.

Cutler, M., Silva, A., Gentile, L., & Colburn, L. (2022). Tracking shifts in the vulnerability and resiliency of commercial fishing vessel crew and hired captains in New England and the Mid-Atlantic. Marine Policy, 138, 104980.

Dombrow C, Hospital J. 2023. Economic and social characteristics of the American Samoa small boat fishery 2021. PIFSC Administrative Report, H-23-05, 92 p. doi:10.25923/hqca-xs29

Gentile, L., Colburn, L. L., Silva, A., and Cutler, M. (2019). "Commercial Fishing Crews: Who are they and how do they work?" Paper presented to the annual meeting of the Society for Applied Anthropology. Portland, OR.

Gulf of Mexico Fishery Management Council. (2018). *Grouper-Tilefish Individual Fishing Quota Program 5-Year Review.* Gulf of Mexico Fishery Management Council. Retrieved from http://gulfcouncil.org/wp-content/uploads/B-9a-Grouper-Tilefish-Review-March-2018.pdf

Henry, A. E., & Olson, J. A. (2014). An overview of the survey on the socio-economic aspects of commercial fishing crew in the Northeast. NOAA Technical Memorandum NMFS-NE-230.

Hing Ling Chan. 2023. Economic and Social Characteristics of the Hawai‘i Small Boat Fishery 2021. U.S. Dept. of Commerce, NOAA Technical Memorandum NMFS-PIFSC-138, 178 p. doi: 10.25923/2s7e-7m45

Rhodes, R. K. (1997). *Socio-demographic Assessment of Commercial Reef Fishermen in the South Atlantic Region.* Office of Fisheries Management, Division of Marine Resources. Charleston: SC Department of Natural Resources.

Silva, A., Gentile L. E., Cutler, M. J., and Colburn, L. L. (2021). "A Comparison of Waves I (2012/2013) and II (2018/2019) of the Survey on the Socio-economic Aspects of Commercial Fishing Crew in the Northeast U.S." U.S. Department of Commerce, NOAA Technical Memorandum NMFS-NE-274.

Steiner, E., Russell, S., Vizek, A. & Amanda Warlick (2018) Crew in the West Coast Groundfish Catch Share Program: Changes in Compensation and Job Satisfaction, Coastal Management, 46:6, 656-676, DOI: 10.1080/08920753.2018.1522495

Waters, J. (1996). *An economic survey of commercial reef fish vessels in the U.S. Gulf of Mexico.* Beaufort: NOAA/NMFS.

## APPENDIX A
## Social and Economic Data Requirements for Federally Managed Commercial Fisheries

### Introduction

NMFS uses social and economic data and the models and analyses they support to monitor, explain and predict changes in the social and economic performance and impacts of federally managed fisheries. The legal and policy requirements for social and economic data and analyses are intended to promote better informed conservation and management decisions on the use of living marine resources and marine habitat in federally managed fisheries by improving the ability of NMFS and the Councils to monitor, explain and predict those changes.

In this appendix, we address the following 16 laws, Executive Orders (EOs) and NOAA Fisheries strategy and policy statements with requirements for social and/or economic data, models and analyses.

1. The Magnuson-Stevens Fishery Conservation and Management Act (MSA)
2. The National Environmental Policy Act (NEPA)
3. The Regulatory Flexibility Act (RFA)
4. EO 12898 (Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations)
5. EO 13985 (Advancing Racial Equity and Support for Underserved Communities Through the Federal Government)
6. EO 12866 (Regulatory Planning and Review)
7. EO 13771 (Reducing Regulation and Controlling Regulatory Costs)
8. EO 13840 (Ocean Policy to Advance the Economic, Security, and Environmental Interests of the United States)
9. The NOAA Fisheries Guidelines for Assessment of the Social Impact of Fishery Management Actions
10. The NOAA Fisheries Guidelines for Economic Reviews of Regulatory Actions
11. The NOAA Fisheries Strategic Plan 2019-2022 (Strategic Plan)
12. The NOAA Fisheries Ecosystem-Based Fishery Management (EBFM) Road Map
13. The NOAA Fisheries National Bycatch Reduction Strategy
14. NOAA's Catch Share Policy

We use the terms "needed" and "required", with respect to social and economic data, to refer to data that would support more than a highly superficial effort to comply with or support those laws, EOs and statements.

### 1. MSA

The Magnuson-Stevens Fishery Conservation and Management (MSA), 16 U.S.C. §§ 1801 *et seq*., establishes a national program for conservation and management of fishery resources with federal jurisdiction over such resources within the US exclusive economic zone (EEZ). 16 U.S.C. §§ 1801(a)(6), 1811(a). For purposes of the MSA, the EEZ extends from the seaward boundary of each coastal State generally out to 200 nautical miles. *Id*. § 1802(11). Key purposes

of the MSA are to "take immediate action to conserve and manage the fishery resources found off the coasts of the United States. . ." and "promote domestic commercial and recreational fishing under sound conservation and management principles. . . ." *Id*. §§ 1801(b)(1), (3). NOAA's National Marine Fisheries Service (NMFS or NOAA Fisheries[4]), acting under authority delegated from the Secretary of Commerce, is responsible for managing fisheries pursuant to the MSA. Regulation of fisheries is accomplished through fishery management plans, amendments to those plans (hereinafter, collectively referred to as "FMPs"), and implementing regulations. To assist in fishery management, the MSA established eight regional fishery councils, who prepare and submit to NMFS FMPs for fisheries within their respective geographic areas that require conservation and management. *See id*. § 1852(a), (h)(1). NMFS reviews and takes actions on FMPs pursuant to a process set forth in the MSA at 16 U.S.C. §1854(a). In addition, NMFS promulgates regulations to implement FMPs pursuant to a process in § 1854(b).

A number of provisions in the MSA integrate social and economic considerations into the decision-making process. Robust social and economic data analysis can foster better informed decisions by improving the ability of the Councils and NMFS to monitor, explain and/or predict the effect of a management decision through an improved understanding of the social and economic characteristics of the individuals likely to be impacted. For example, some of those provisions mention fishing communities or require the consideration of social and economic impacts of fishery management measures, including the impacts on fishing communities. This appendix describes those MSA provisions in the following order: (1) national standards for federally managed fisheries; (2) required and discretionary provisions for fishery management plans (FMPs); (3) region-specific provisions; and (4) information collection.

## 1.1 National Standards for Federally Managed Fisheries

The MSA sets out ten national standards for federally managed fisheries, and requires NMFS to establish advisory guidelines on them. 16 U.S.C. §§ 1851(a), (b). FMPs and implementing regulations are required to be consistent with the national standards. *Id*. § 1851(a). Although economic and social data and the analyses that use these data are relevant to all ten national standards, those data and analyses are particularly relevant to the following six National standards.

The national standards do not explicitly provide the authority to collect social and economic data. However, NMFS continuously strives to improve the available scientific information, including economic and social information, to meet its mission to provide vital services for the nation, all backed by sound science and an ecosystem-based approach to management and to improve its ability to determine if the national standards are being met or will be met by a proposed conservation and management measure. See section 4, below, describing MSA information collection provisions.

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4 Known informally as NOAA Fisheries, the official name of the agency in legislation and regulations is the National Marine Fisheries Service (NMFS).

**National Standard 1** requires that "conservation and management measures"[5] prevent overfishing while achieving, on a continuing basis, the optimum yield (OY) from each fishery for the United States fishing industry. 16 U.S.C. § 1851(a)(1). OY refers to an amount of fish which provides the greatest overall benefit to the Nation, particularly with respect to food production and recreational opportunities, and taking into account protection of marine ecosystems; and is prescribed on the basis of maximum sustainable yield "as reduced by any relevant social, economic, or ecological factor…" *Id*. § 1802(33). For social factors, the National Standard 1 guidelines provide a non-exhaustive list of potential considerations, fishery-related indicators, and other factors that may be considered, including: "...preservation of a way of life for fishermen and their families, and dependence of local communities on a fishery (e.g., involvement in fisheries and ability to adapt to change)...non-fishery related indicators (e.g., unemployment rates, percent of population below the poverty level, population density, etc.),... [and] the cultural place of subsistence fishing, obligations under tribal treaties, proportions of affected minority and low-income groups, and worldwide nutritional needs." 50 C.F.R. § 600.310(e)(3)(iii)(B)(1).

**National Standard 2** requires conservation and management measures to be based upon the best scientific information available (BSIA). 16 U.S.C. § 1851(a)(2) . One criterion for BSIA in the National Standard 2 guidelines is inclusiveness. Under that criteria, the guidelines provide that "[r]elevant local and traditional knowledge (e.g., fishermen's empirical knowledge about the behavior and distribution of fish stocks) should be obtained, where appropriate, and considered when evaluating the BSIA." 50 C.F.R. § 600.315(a)(6)(ii)(C). The guidelines further recognize that historical information "should be evaluated for [their] relevance to inform the current situation." *Id*. § 600.315(a)(6)(v)(B). Historical data (e.g., abundance, environmental, catch statistics, market and trade trends) provide time-series information on changes in fish populations, fishery participation, and fishing effort that may inform current management decisions. *Id.* Moreover, the Stock Assessment and Fishery Evaluation (SAFE) report is to include, inter alia, "the social and economic condition of…fishing communities…" *Id*. § 600.315(d). While NMFS may consider and incorporate relevant traditional ecological knowledge (TEK) as BSIA where warranted, National Standard 2 does not itself authorize data collection or study. *See e.g., id*. § 600.315(d)(2)-(3) (providing that SAFE report should contain "the following scientific information when it exists," explain information gaps, and highlight needs for future scientific work).

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5 MSA defines "conservation and management" as "all of the rules, regulations, conditions, methods, and other measures (A) which are required to rebuild, restore, or maintain, and which are useful in rebuilding, restoring, or maintaining, any fishery resource and the marine environment; and (B) which are designed to assure that— (i) a supply of food and other products may be taken, and that recreational benefits may be obtained, on a continuing basis; (ii) irreversible or long-term adverse effects on fishery resources and the marine environment are avoided; and (iii) there will be a multiplicity of options available with respect to future uses of these resources." 16 U.S.C. § 1802(5).

**National Standard 4** requires that conservation and management measures shall not discriminate between residents of different states and that allocations be fair and equitable, reasonably calculated to promote conservation, and carried out to avoid excessive shares. 16 U.S.C. §1851(a)(4). The National Standard 4 guidelines provide guidance on these requirements. 50 C.F.R. § 600.325. With regard to allocations, the guidelines provide, among other things: "Where relevant, judicial guidance and government policy concerning the rights of treaty Indians and aboriginal Americans must be considered in determining whether an allocation is fair and equitable." *Id.* § 600.325(c)(3)(i)(B). The guidelines also note factors relevant to the FMP's objectives that should be considered when designing an allocation scheme, such as "economic and social consequences of the scheme, food production, . . . dependence on the fishery by present participants and coastal communities, ...opportunity for new participants to enter the fishery…" 50 C.F.R. § 600.325(c)(3)(iv). NMFS also has a Fisheries Allocation Review Policy (NMFS Procedure 01-119-01, July 27, 2016), that encourages the use of adaptive management to help ensure that fisheries allocations are periodically evaluated. That policy uses the following terms: "social and economic impacts," "the social, economic, and ecological performance of the fishery," and "economic, social and ecological aspects of the fishery." Although demographic data are used in assessing social and economic impacts, the social and economic performance or aspects of the fishery, the use of demographic data is explicit in the following statement.

> An allocation review is a structured review of current allocations based on adaptive management (i.e., evaluating successful attainment of management objectives) to determine if further action is required. The purpose is to determine if current management objectives are being achieved through the existing allocation, with the caveat that management objectives are up to date and address the relevant operational, economic, social and ecological aspects of the fishery, including … new and expected changes in such things as climate, demography, technology, etc.

**National Standard 8** requires conservation and management measures, consistent with MSA conservation requirements, to take into account the importance of fishery resources to fishing communities by utilizing economic and social data that are based upon the best scientific information available in order to provide for the sustained participation of such communities; and to the extent practicable, minimize adverse economic impacts on such communities. 16 U.S.C. § 1851(a)(8). When addressing these requirements, the National Standard 8 (NS8) guidelines provide that both consumptive and non-consumptive uses of fishery resources should be considered. 50 C.F.R. § 600.345(c)(4). "Fishing community" is defined under the MSA as a "community which is substantially dependent on or substantially engaged in the harvest or processing of fishery resources to meet social and economic needs, and includes fishing vessel owners, operators, and crew and United States fish processors that are based in such community." 16 U.S.C. § 1802(17); 50 C.F.R. § 600.345(b)(3). The NS8 guidelines further explain: "A fishing community is a social or economic group whose members reside in a specific location and share a common dependency on commercial, recreational, or subsistence fishing or

on directly related fisheries-dependent services and industries (for example, boatyards, ice suppliers, tackle shops)." 50 C.F.R. § 600.345(b)(3). The guidelines identify the fishery impact statement (see 16 U.S.C. § 1853(a)(9) text below) as an "appropriate vehicle" for the analysis of this standard, and allow for the use of qualitative and quantitative information. 50 C.F.R. § 600.345(c)(2). National Standard 8 does not itself authorize data collection or study, but the guidelines encourage, "[i]n cases where data are severely limited, effort should be directed to identifying and gathering needed data." *Id*.

While **National Standard 9** is focused on minimizing bycatch and bycatch mortality to the extent practicable, 16 U.S.C. § 1851(a)(9), the National Standard 9 guidelines include, in addition to ecological factors, consideration of these social and economic factors: changes in fishing, processing, disposal, and marketing costs; changes in fishing practices and behavior of fishermen; changes in the economic, social, or cultural value of fishing activities and nonconsumptive uses of fishery resources; changes in the distribution of benefits and costs; and social effects. 50 C.F.R. § 600.350(d)(3)(i)(E-F, H-J).

**National Standard 10** (promoting safety of human life at sea), 16 U.S.C. § 1851(a)(10), does not explicitly mention economic or social factors. However, economic or social data may help inform consideration of the feasibility and effects of potential mitigation measures, including examples described in the National Standard 10 guidelines: tailoring gear requirements to provide for smaller or lighter gear for smaller vessels; setting seasons to avoid hazardous weather; providing for seasonal or trip flexibility to account for bad weather (weather days); limiting the number of participants in the fishery; spreading effort over time and area to avoid potential gear and/or vessel conflicts; and implementing measures that reduce the race for fish and resulting incentives to take additional risks with respect to vessel safety. 50 C.F.R. § 600.355(e)(1, 2, 4, 6-8).

### 1.2 Required and Discretionary Elements in FMPs

In addition to the national standards, the MSA contains required elements for FMPs and permissible, discretionary elements. Economic and social data and the analyses that use these data are relevant to the below-described FMP provisions.

#### 1.2.1 Required FMP Provisions

Section 303(a) of the MSA requires that FMPs shall:

- "contain a description of the fishery, including, but not limited to, the number of vessels involved, the type and quantity of fishing gear used, the species of fish involved and their location, the cost likely to be incurred in management, actual and potential revenues from the fishery, any recreational interests in the fishery, and the nature and extent of foreign fishing and Indian treaty fishing rights, if any…" (16 U.S.C. § 1853(a)(2))

- "specify the pertinent data which shall be submitted to the Secretary with respect to commercial, recreational, charter fishing, and fish processing in the fishery, including, but not limited to, … areas in which fishing was engaged in,...economic information necessary to meet the requirements of this chapter…." (*Id*. § 1853(a)(5)).

- "include a fishery impact statement for the plan or amendment … which shall assess, specify, and analyze the likely effects, if any, including the cumulative conservation, economic, and social impacts, of the conservation and management measures on, and possible mitigation measures for—

    (A) participants in the fisheries and fishing communities affected by the plan or amendment;

    (B) participants in the fisheries conducted in adjacent areas under the authority of another Council, after consultation with such Council and representatives of those participants; and

    (C) the safety of human life at sea, including whether and to what extent such measures may affect the safety of participants in the fishery…" (*Id*. § 1853(a)(9)).

- "include a description of the commercial, recreational, and charter fishing sectors which participate in the fishery, including its economic impact, and, to the extent practicable, quantify trends in landings of the managed fishery resource by the commercial, recreational, and charter fishing sectors…" (*Id*. § 1853(a)(13)).

- "to the extent that rebuilding plans or other conservation and management measures which reduce the overall harvest in a fishery are necessary, allocate, taking into consideration the economic impact of the harvest restrictions or recovery benefits on the fishery participants in each sector, any harvest restrictions or recovery benefits fairly and equitably among the commercial, recreational, and charter fishing sectors in the fishery…" (*Id*. § 1853(a)(14)).

In addition, section 304(e) of the MSA requires that, for overfished fisheries, FMPs and regulations must "allocate both overfishing restrictions and recovery benefits fairly and equitably among sectors of the fishery." *Id*. § 1854(e)(4)(B).

### 1.2.2 Discretionary FMP Provisions

The following management measures are not required in FMPs, but if included therein, must be consistent with statutory requirements.

- Section 303(b)(6) of the MSA provides that an FMP may establish a limited access system (LAS)[6] for the fishery in order to achieve optimum yield. When establishing a LAS, the Council and NMFS must take into account present participation in the fishery; historical fishing practices in, and dependence on, the fishery; the economics of the fishery; the capability of fishing vessels used in the fishery to engage in other fisheries; the cultural and social framework relevant to the fishery and any affected fishing communities; the fair and equitable distribution of access privileges in the fishery; and any other relevant considerations. 16 U.S.C. § 1853(b)(6).

- For fisheries managed under a LAS, section 303A authorizes the approval of limited access privilege programs (LAPPs). *See id*. § 1853a. LAPPs are required, among other things, to "promote…fishing safety; fishery conservation and management; and social and economic benefits," and prevent accumulation of excessive shares of privileges. *Id*. § 1853a(c)(1)(C).

    - In developing a LAPP, a Council or NMFS shall:

        - Establish procedures to ensure fair and equitable initial allocations, including consideration of "current and historical harvests; employment in the harvesting and processing sectors; investments in, and dependence upon, the fishery; and the current and historical participation of fishing communities." *Id*. § 1853a(c)(5)(A)(i)-(iv).

        - Consider the basic cultural and social framework of the fishery, especially through the (i) development of policies to promote the sustained participation of small owner-operated fishing vessels and fishing communities that depend on the fisheries, including regional or port-specific landing or delivery requirements; and (ii) procedures to address concerns over excessive geographic or other consolidation in the harvesting or processing sectors of the fishery. *Id*. § 1853a(c)(5)(B).

        - Include measures to assist, when necessary and appropriate, entry-level and small vessel owner-operators, captains, crew, and fishing communities through set-asides of harvesting allocations, including providing privileges, which may include set-asides or allocations of harvesting privileges, or economic assistance in the purchase of limited access privileges. *Id*. § 1853a(c)(5)(C).

        - Authorize limited access privileges to harvest fish to be held, acquired, used by, or issued under the system to persons who substantially

6 Limited access system (LAS) means "a system that limits participation in a fishery to those satisfying certain eligibility criteria or requirements contained in a fishery management plan or associated regulation." 16 U.S.C. § 1802(27).

participate in the fishery, including in a specific sector of such fishery. *Id*. § 1853a(c)(5)(E).

- A fishing community[7] may be eligible to participate in a LAPP if it meets eligibility requirements, which include:
  - Meeting criteria developed by the relevant Council that are approved by NMFS. *See id*. § 1853a(c)(3)(A)(i)(II). In developing participation criteria for eligible communities, the Council shall consider, among other things, traditional fishing or processing practices in, and dependence on, the fishery; the cultural and social framework relevant to the fishery; economic barriers to access to fishery; the existence and severity of projected economic and social impacts associated with implementation of LAPPs on harvesters, captains, crew, processors, and other businesses substantially dependent upon the fishery in the region or subregion; and the potential for improving economic conditions in remote coastal communities lacking resources to participate in harvesting or processing activities in the fishery. *See id*. § 1853a(c)(3)(B)(i)-(iv), (vi).
  - Submitting to NMFS for approval a community sustainability plan that demonstrates how the plan will address the social and economic development needs of coastal communities, including those that have not historically had the resources to participate in the fishery. *See id*. § 1853a(c)(3)(A)(i)(IV).

LAPPs fall under the umbrella of "catch shares." This term does not appear in the MSA, but is a general term that refers to fishery management strategies that allocate a specific portion of the total allowable fishery catch to individuals, cooperatives, communities, or other entities. In its 2017 Catch Share Policy (NMFS Policy 01-121, January 14, 2017), NMFS explicitly encouraged Councils to "*consider endorsing the obligatory submission of data, including social and economic data, in return for the use of the public's fishery resources*." Catch Share Policy at 18 (emphasis in original). NMFS explained that "[i]mproved social and economic data are also key for better conservation and management for fisheries under any management regime. These data are essential to computing and tracking allocations, and conducting analyses of the relative economic values and impacts of different fishery sectors."[8]

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7 *See* National Standard 8 explanation above for text of "fishing community" definition from 16 U.S.C. § 1802(17). Voluntary "regional fishery associations" may also be eligible to participate in LAPPs if they meet eligibility criteria, including criteria developed by the relevant Council that are approved by NMFS. *See id.* § 1853a(c)(4).

8 Catch Share Policy at 18. The MSA also provides that "[e]ach Council shall establish…a scientific and statistical committee [SSC] to assist it in the development, collection, evaluation, and peer review of such statistical, biological, economic, social, and other scientific information as is relevant to such Council's development and amendment of any fishery management plan." *Id.* § 1852(g)(1)(A). Each SSC "shall provide its Council ongoing scientific advice for fishery management decisions, including … reports on… social and economic impacts of

### 1.3. Region-Specific Provisions

Social and economic data and the analyses they support are relevant to the following two region-specific provisions.

- Western Alaska Community Development Quota Program: The goals of this program are providing eligible western Alaska villages with the opportunity to participate and invest in Bering Sea and Aleutian Islands fisheries, supporting economic development, alleviating poverty and providing economic and social benefits for residents, and achieving sustainable and diversified local economies. 16 U.S.C. § 1855(i)(1).

- Western Pacific Community Development Program: For any fishery under the authority of the Western Pacific Fishery Management Council, the MSA authorizes the establishment of a community development program in order to provide access to such fisheries for western Pacific communities that participate in the program. *Id*. § 1855(i)(2). The eligibility criteria include, among other things, that a community consist of residents who are descended from the aboriginal people indigenous to the area who conducted commercial or subsistence fishing using traditional fishing practices in the waters of the Western Pacific region. *Id*. § 1855(i)(2)(B)(iii).

### 1.4. Information Collection

This section highlights some of the MSA's provisions related to information collection. Under MSA section 303(a), FMPs are required to "specify the pertinent data which shall be submitted to the Secretary with respect to commercial, recreational, charter fishing, and fish processing in the fishery, including, but not limited to, … areas in which fishing was engaged in,...economic information necessary to meet the requirements of this chapter…." 16 U.S.C. § 1853(a)(5) (required provision). MSA section 303(b) provides that FMPs may require fish processors who first receive fish to submit data necessary for the conservation and management of the fishery. *Id*. § 1853(b)(7) (discretionary provision).

FMPs may require permits in a fishery, *id*. § 1853(b)(1), and also require observers on board fishing vessels for the purpose of collecting data necessary for the conservation and management of the fishery, *id*. § 1853(b)(8).

In addition, FMPs may "prescribe such other measures, requirements, or conditions and restrictions as are determined to be necessary and appropriate for the conservation and management of the fishery," *id*. § 1853(b)(14).

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management measures…" *Id*. § 1852(g)(1)(B).

MSA section 402(a) provides that a Council may request that NMFS implement an information collection program, if the Council determines that "additional information would be beneficial for developing, implementing, or revising a fishery management plan or for determining whether a fishery is in need of management." *Id.* § 1881a(a)(1). If NMFS determines the need is justified, the agency will promulgate regulations for the program. NMFS may also implement an information collection or observer program, on its own initiative. *Id*. § 1881a(a)(2).

**2. National Environmental Policy Act (NEPA)**

NEPA requires Federal agencies to consider the interactions of natural and human environments, and the impacts on both systems of any changes due to governmental activities or policies. NMFS is to do this with "a systematic, interdisciplinary approach which will ensure the integrated use of the natural and social sciences ... in planning and in decision-making …." [NEPA Sec. 102(2)(A)] and, further, to "identify and develop methods and procedures, ….., which will insure that presently unquantified environmental amenities and values may be given appropriate consideration in decision making along with economic and technical considerations" [NEPA Sec. 102(2)(B)]. In addition, NOAA's NEPA implementation guidelines require that the environmental impact statement (required under NEPA Sec. 102(2)(C)(i)) include biological, ecological, economic, and social consequences. NMFS needs social and economic data and the models they support to conduct the required analyses and to predict the behavioral response of fishermen and others that affect the biological, ecological, economic, and social consequences.

**3. Regulatory Flexibility Act (RFA)**

If the agency does not have a factual basis for a determination that there are not a substantial number of directly regulated small entities or that no significant adverse impact on directly regulated small entities will occur, it must prepare an initial regulatory flexibility analysis (IRFA) and a final regulatory flexibility analysis (FRFA). The IRFA: (1) describes the impact of the proposed rule on small entities [Sec. 603(a)] and (2) identifies the directly regulated small entities and any significant alternatives to the proposed rule which accomplish the stated objectives of applicable statutes and that minimize any significant economic impact of the proposed rule on small entities [Sec. 603(c)]. Each FRFA is required to describe the steps the agency has taken to minimize the significant economic impact on small entities consistent with the stated objectives of applicable statutes [Sec. 604(a)(5)]. In addition, several Sections of the RFA require Federal agencies to analyze the effects of regulations to determine whether an action will have or has had "a significant economic impact on a substantial number of small entities." Cost, revenue and ownership information for the specific activity in question (e.g., commercial fishing), as well as some level of general information on the full range of income producing activities in which firms are engaged are necessary to effectively conduct the RFA analyses. The RFA also requires that agencies consider all affiliations, worldwide, of regulated entities such as ownership affiliations and cooperative affiliations.

**4. E.O. 12898 "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations"**

NMFS *Guidelines for Assessment of the Social Impact of Fishery Management Actions* states that a Social Impact Assessment must address environmental justice issues, where they exist. E.O. 12898 requires, "To the greatest extent practicable and permitted by law, and consistent with the principles set forth in the report on the National Performance Review, each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States and its territories …"

The Executive Order directs the development of agency strategies to include identification of differential patterns of consumption of natural resources among minority populations and low-income populations; Council on Environmental Quality (CEQ) environmental justice guidance under NEPA also specifically calls for consideration of potential disproportionately high and adverse impacts to Indian tribes (a term inclusive of Native Alaskans) beyond a more general consideration of potential disproportionately high and adverse impacts to minority populations (Council on Environmental Quality 1997). NMFS needs social and economic data to conduct the required analysis.

**5. E.O. 13985 "Advancing Racial Equity and Support for Underserved Communities Through the Federal Government"**

"… the Federal Government should pursue a comprehensive approach to advancing equity for all, including people of color and others who have been historically underserved, marginalized, and adversely affected by persistent poverty and inequality… Because advancing equity requires a systematic approach to embedding fairness in decision making processes, executive departments and agencies must recognize and work to redress inequalities in their policies and programs that serve as barriers to equal opportunity." NMFS needs social data to identify where racial equity issues may exist.

**6. EO 12866 "Regulatory Planning and Review"**

EO 12866 (58 FR 51735, October 4, 1993) requires analysis of the impacts of regulations implementing fishery conservation and management actions. Specifically, it includes the following requirements.

In deciding whether and how to regulate, agencies should assess all costs and benefits of available regulatory alternatives, including the alternative of not regulating. Costs and benefits shall be understood to include both quantifiable measures (to the fullest extent that these can be usefully estimated) and qualitative measures of costs and benefits that are difficult to quantify, but nevertheless essential to consider. Further, in choosing among alternative regulatory approaches, agencies should select those approaches that maximize net benefits (including potential economic, environmental, public health and safety, and other advantages; distributive impacts; and equity), unless a statute requires another regulatory approach [Sec. 1(a)].

Each agency shall base its decisions on the best reasonably obtainable scientific, technical, economic and other information concerning the need for, and consequences of, the intended

regulation" [Sec. 1(b)(7)].

In an effort to meet the requirements of EO 12866, NMFS or a Council prepares a Regulatory Impact Review (RIR) for each proposed regulatory action. The economic data, models and analyses used in an RIR in part determine its success in meeting those requirements and contributing to having a well-informed regulatory decision.

**7. EO 13771 "Reducing Regulation and Controlling Regulatory Costs"**

EO 13771 (82 FR 9339, January 30, 2017) is intended to manage the costs of government regulation on private industry. It requires that "any new incremental costs associated with new regulations shall, to the extent permitted by law, be offset by the elimination of existing costs associated with at least two prior regulations." In addition, it states that "the head of each agency shall identify, for each regulation that increases incremental cost, the offsetting regulations … and provide the agency's best approximation of the total costs or savings associated with each new regulation or repealed regulation" (see Sec 3). NMFS needs economic data, models and analyses to meet these requirements.

**8. EO 13840 "Ocean Policy to Advance the Economic, Security, and Environmental Interests of the United States"**

Two of the seven stated policies of EO 13840 (83 FR 29431; June 22, 2018) require economic data, models and analyses. Those two policies are as follows:

(d) facilitate the economic growth of coastal communities and promote ocean industries, which employ millions of Americans, advance ocean science and technology, feed the American people, transport American goods, expand recreational opportunities, and enhance America's energy security;

(e) ensure that Federal regulations and management decisions do not prevent productive and sustainable use of ocean, coastal, and Great Lakes waters;

**9. NOAA Fisheries Guidelines for the Assessment of the Social Impact of Fishery Management Actions**

NMFS has provided operational guidance relative to social and community impacts to Regional Fishery Management Councils since 1991. NMFS provides this guidance because it holds that social impact assessment (SIA) is an essential part of the fishery management process and improves fishery conservation and management decision-making. Management decisions regarding appropriate courses of action thus cannot and should not be made without an adequate SIA. Without an SIA, a fishery management plan or amendment will not be considered complete. NMFS needs social data and analysis to meet this requirement.

**10. NOAA Fisheries Guidelines for Economic Reviews of Regulatory Actions**[9]

9 See "Guidelines for Economic Reviews of National Marine Fisheries Service Regulatory Actions" (NMFS, 2007)

NMFS issued the guidelines, in part, to assist in understanding and meeting the analytical requirements of EO 12866 and the RFA for regulatory actions it plans to promulgate. EO 12866 and the RFA are two of the most direct mandates for the preparation of economic analyses and, therefore, for economic data.

Largely, the EO 12866 and RFA include similar requirements for economic analyses. The guidelines include the following two principal differences.

1. The RFAA must address the impacts of a proposed rule only on small entities subject to the regulation (i.e., small entities to which the rule will directly apply) and not on all small entities that are affected by the regulation (i.e., small entities to which the rule will indirectly apply).

2. Impacts under EO 12866 need not be identified at the vessel or firm level in the RIR, whereas, these levels remain the focus of the RFAA.

The guidelines note the analyses are intended to identify the economic effects of the preferred action and alternative actions, in contrast to taking "no action", where "The types of effects to consider include the following:

1. Changes in net benefits within a benefit-cost framework;

2. Changes in the distribution of benefits and costs among groups of individuals, businesses of differing sizes, and other entities (including small communities and governmental entities);
3. Changes in income and employment;

4. Cumulative impacts of regulations; and

5. Changes in other social concerns.

More specifically, the guidelines include the following examples of the information that an RIR for commercial fishery management actions should provide:

1. Expected levels or changes in participation (number of fishing vessels) and activity (number of fishing trips, days at sea, etc.);

2. Expected levels or changes in harvests (commercial, recreational, and subsistence) and their distribution by sector;

3. Expected changes in commercial ex-vessel prices;

4. Expected changes in harvesting costs (fixed and variable costs, including capital and labor costs);

5. Expected levels and costs of processing.

6. Expected changes in benefits or costs incurred by specific user groups, including effects on small entities;

7. Expected effects on employment;

8. Expected effects on profits, competitive position, productivity or efficiency of individual fishermen, user groups, or fishing communities;

9. Expected effects on the reporting burden.

10. Expected impacts on consumer surplus;

11. Expected management and implementation costs attributable to the action, including enforcement costs;

12. Expected effects on non-use values; and

13. Expected effects on fishing capacity.

The guidelines state, "The proper comparison is with the action to without the action, rather than to before and after the action, since certain changes may occur even without action and should not be attributed to the regulation. "Economic data, including cost and earnings data, and the models and analyses they support are required for more than a very superficial attempt to analyze those types of effects and to provide those types of information for the proper comparison. This conclusion applies to both quantitative and qualitative analyses intended to meet the requirements of EO 12866 and the RFA.

**11. NOAA Fisheries Strategic Plan 2019-2022**

NOAA Fisheries Strategic Plan 2019-2022 (Strategic Plan) addresses the importance of economic data. For example, the Mission and Mandates Section includes the following three statements concerning the requirements for economic data.

NOAA Fisheries is responsible for the stewardship of the nation's ocean resources and their habitat. We provide vital services for the nation … all backed by sound science and an ecosystem-based approach to management.

The U.S. science-based fishery management process, as mandated by the Magnuson-Stevens Fishery Conservation and Management Act (MSA) and other acts, is designed to provide optimum yield while preventing overfishing and taking into account the protection of habitat and marine ecosystems.

We also conduct extensive data collection programs in collaboration with states, and provide … social and economic information required for the federal management of fisheries and their essential habitats.

The first two statements make it clear that: (1) NOAA Fisheries meets its stewardship responsibilities and provides vital services for the nation using sound science and an ecosystem-based approach to management and (2) a science-based fishery management process is mandated. The third statement and the separate discussions of the MSA and the NOAA Fisheries EBFM Roadmap make it clear that economic data for federally managed commercial fisheries are among the information NOAA Fisheries requires for the successful implementation of a science-based ecosystem approach to management. For example, the determination of optimum yield (OY) requires economic data because the MSA defines OY partly in terms of the amount of fish that will provide the greatest overall benefit to the Nation.

The Meeting the Challenges Section of the Strategic Plan lists 12 "high-priority areas of focus highlighted in this plan." Below, we discuss two of those high-priority areas of focus and the associated need for economic data.

**Maximize the economic yield of U.S. fisheries**, enhancing the value of our fisheries to local fishing communities and the U.S. economy.

NOAA Fisheries requires economic data to determine the fishery conservation and management actions that it expects to enhance the value of our fisheries, as well as to measure and explain changes in their value.

**Integrate ecosystem considerations** into stock assessments, fishery management, and aquaculture.

As noted above and in the separate discussions of the NOAA Fisheries EBFM Road Map, EBFM, which Integrates ecosystem considerations into fishery management, requires economic data.

The Strategic Plan identifies three Plan goals and key strategies for meeting them, which provide additional information concerning the requirements for economic data.

**Goal 1: Amplify the economic value of commercial and recreational fisheries while ensuring their sustainability**

The Strategic Plan states "NOAA Fisheries expects to amplify the economic value of U.S. seafood production by optimizing commercial harvest… Effective science-based management is essential to reaching optimum yield while preventing overfishing." Economic data are among the information NOAA Fisheries uses for effective science-based management, which includes determining the optimum commercial harvest and identifying the conservation and management actions that it expects will increase the economic value of commercial fisheries while ensuring their sustainability.

With respect to the requirements for economic data, the two most relevant key strategies for meeting Goal 1 and the identified requirements for economic data are discussed below.

**Manage stocks for Optimum Yield**

The stated strategy is to, among other things, "improve economic performance." NOAA Fisheries requires economic data to identify OY, to identify the expected effects on economic performance of alternative conservation and management actions and to monitor and explain changes in economic performance.

**Modernize fishery information collection, management, and dissemination systems, and enhance cooperative data collection and sharing**

The stated strategy is to "Support and coordinate with states to advance user-centered fishery information networks and data platforms, with greater efficiency and lower cost, to improve the ability to effectively manage stocks. Partner with industry to supplement the collection of additional valuable data and share fishery data (as appropriate) with the public and other industry partners." The strategy applies to a broad range of data including economic data.

**Goal 2: Conserve and recover protected species while supporting responsible fishing and resource development**

With respect to the requirements for economic data, the most relevant key strategy for meeting Goal 2 and the identified requirements for economic data are discussed below.

**Minimize bycatch and entanglement of protected species while supporting fisheries**

The stated strategy is to "Support continued fishing opportunities and aquaculture by understanding and minimizing protected species interactions and mortality. Work with the fishing industry, scientists, environmental organizations, academia, and other stakeholders to develop bycatch and entanglement prevention measures domestically and internationally." The separate discussion of the National Bycatch Reduction Strategy recognizes the need for economic data to identify effective and efficient bycatch and entanglement prevention measures.

**Goal 3: Improve organizational excellence and regulatory efficiency**

The Strategic Plan states, "Improving business processes and implementing best practices conducted in a priority-based environment, along with continuous regulatory reform, will ensure our operations best support our customers and partners." With respect to the requirements for economic data, the three most relevant key strategies for meeting Goal 3 and the identified requirements for economic data are discussed below.

**Institutionalize prioritization and performance management practices**

For this key strategy, NOAA Fisheries is to "Use priority-based methodologies to optimize investments for maximum economic return while meeting conservation mandates. Analyze

performance, risk and opportunities to ensure the best value to the American public." Economic data are required to assess economic return and to analyze performance, risk and opportunities.

**Review agency regulations and remove or modify rules that unnecessarily burden businesses and economic growth**

To meet this key strategy, NOAA Fisheries will "Implement Executive Order 13771 by reviewing regulations to identify and modify or repeal rules that are outdated, unnecessary, or ineffective. Continue to work with the regional fishery management councils to identify additional potential flexibilities for regulated entities that maximize fishing opportunities, while continuing to meet conservation objectives." As noted in the separate section on EO 13771, economic data are required for the effective and efficient implementation of that EO. For example, NOAA Fisheries uses economic data to estimate how alternative management actions will burden businesses and economic growth.

**Institutionalize the use of innovative technologies**

To meet this key strategy, NOAA Fisheries intends to "Support the development, leveraging, and use of powerful technologies (e.g., … advanced … electronic reporting) for … enhancing and improving the accuracy of observing systems, and collecting and sharing data in cost-effective, transparent, and real-time approaches. Work with industry, academia, and other partners to test, deploy, and use these technologies." Some of these technologies apply to economic data. For example, electronic reporting and observing systems, such as observer and electronic logbook programs, can be efficient methods for collecting economic data.

**12. <u>EBFM Roadmap</u>**

The NOAA Fisheries Ecosystem-Based Fisheries Management (EBFM) Road Map includes many statements that demonstrate the importance of economic data, models and analyses for successfully implementing EBFM. The following are four examples of those statements.

1. NOAA Fisheries defines EBFM as "a systematic approach to fisheries management in a geographically specified area that contributes to the resilience and sustainability of the ecosystem; recognizes the physical, biological, economic, and social interactions among the affected fishery-related components of the ecosystem, including humans; and seeks to optimize benefits among a diverse set of societal goals."

2. A national review of the data collection programs is needed across a wide range of disciplines, including but beyond the typical abundance and basic biological and catch data. For instance, needs that warrant inventory to identify gaps include … broader economic data …

3. NOAA Fisheries supports the consideration of and efforts to take into account various trade-offs when considering the independent and the cumulative effects of natural and human pressures on the ecosystem, including: Analyze trade-offs to optimize total benefits from all fisheries within each ecosystem or jurisdiction. This will be done by

taking into account statutory mandates (e.g., MSA, Marine Mammal Protection Act (MMPA), ESA, National Aquaculture Act, etc.), regional socio-economic considerations ….

4. Evaluating cumulative impacts of proposed management actions for LMRs, their ecosystems, and associated coastal communities, as well as identifying alternative actions that achieve societal goals will further inform EBFM decisions. Cumulative and synergistic impacts are difficult to identify on a species-by-species basis, and systemic analyses will help to identify any such impacts.

**13. National Bycatch Reduction Strategy**

The National Bycatch Reduction Strategy includes various statements that demonstrate the importance of economic data, models and analyses for reducing bycatch and discard mortality effectively and efficiently. They include the following two selected research and development actions.

1. Improve understanding of the economic and other social factors contributing to bycatch, and identify regulatory and market incentives that might increase utilization of economic discards.

2. Assess how technology is developed and adopted in fisheries and how technological advances can affect bycatch reduction, including improvements in post-release mortality.

They also include the following two selected conserve and manage actions.

1. Analyze the effectiveness of incentive-based approaches to environmental management, (e.g., catch shares, risk pools, cooperatives, dynamic area management), and consider their application to bycatch reduction programs.

2. Improve understanding of the socio-economic, and other environmental trade-offs of bycatch reduction to better inform stakeholders and to support management decisions and postregulation analyses.

**14. NOAA's Catch Share Policy**

NOAA's Catch Share Policy contains many guidance, requirements and commitment statements that NOAA Fisheries cannot meet more than superficially without basic social and economic data and the models and analyses they support. Here are three examples.

1. Councils and NOAA must establish relevant performance measures. Performance metrics for some of the typical fishery goals may include … what were the impacts on fishing communities, participation and entry into the fishery; what happened to prices, revenues and profits.

2. Performance measures need to be linked back to the initial objectives in a FMP. Many current FMPs have general and sometimes vague objectives. Objectives for biological, economic and social outcomes should be readily measurable, such as … improving socio-economic conditions for fishery participants and/or fishery-dependent communities.

3. Catch shares can result in fishery improvements in many areas but the metrics chosen to monitor performance should not be limited by the current availability of data. It is important to ensure in the catch share design stage that shareholders will supply relevant data to monitor program performance in return for their allocation. This includes obtaining more specific biological and economic performance data from the participants, all in accordance with applicable law governing maintenance of business trade secrets and confidentiality of data.

## APPENDIX B

## Changes to the Survey Question

As before, the list of fisheries/species is region-specific for each survey instrument. The changes to the previously approved survey instrument are addressed by region below.

**NEFSC**

There were no changes to the NEFSC survey questions.

**SEFSC**

The SEFSC deleted the following 15 questions, two of which were covered adequately for the SEFSC by other questions. The question numbers are those from the previously approved survey instrument.

3. **Are any members of your family (for example, parents, children, siblings, uncles/aunts, cousins, in- laws) involved in commercial fishing or other fishing-related activities (for example, book-keeping, provisioning vessels, marketing)?**

a. YES
b. NO

**5. How many generations of your family have fished commercially including yourself?**
_____ Generations

**7. How many days (24 hour periods) does a typical trip last before returning to port?**
_____Days

**8. What was the average size of the crew in the last year (including the captain)?**
_____Members

**9. How many hours per day (24-hour period) did you usually work while on a fishing trip?**
_____Hours

**12. For share systems, what were the typical percentages distributed to the boat (the vessel owner) and crew?**

_____% Boat (owner) share
_____% Crew share
_____Don't Know

**13. For share systems, which trip expenses were usually deducted? (CHECK ALL THAT APPLY)**

a. Fuel/Oil
b. Ice
c. Fishing quota or days-at-sea
d. Food
e. General fishing supplies (hooks, bags, totes, gloves, etc.)
f. Bait
g. Other _

**15. Which of the following was the first crew position you ever had when you began fishing?**

a. Captain
b. Deck hand
c. Engine Mechanic
d. Cook
e. Other (please specify): _____

**16. How were you hired for the vessel you currently work on? (CHECK ONE RESPONSE)**

a. Word of mouth
b. Referred by a friend
c. Related to owner
d. Related to non-owner crew member (may include hired captain)
e. Previous work with the same vessel
f. Advertisement
g. Other _

**17. How difficult was it for you to find employment on your vessel? (CHECK ONE RESPONSE)**

a. Very easy
b. Easy
c. Neither easy nor difficult
d. Difficult
e. Very difficult

**20. About how many miles do you travel from where you live to where your primary vessel docked for the past year? (Please circle only one response).**

_____Miles

**22. Have you ever participated in any aspect of federal fisheries management (such as attending meetings, writing letters, or serving on a committee)?**

a. YES (CONTINUE)

b. NO (SKIP TO Q24)

**23. Please indicate the extent to which you agree or disagree with the following statements about fishing as a career. (CHECK ONE ITEM PER RESPONSE)**

| | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|---|---|---|---|---|---|
| a. Fishing is just a job to me. | 1 | 2 | 3 | 4 | 5 |
| b. Leaving the fishing industry is something that I have considered. | 1 | 2 | 3 | 4 | 5 |

**27. In general, how satisfied are you with: (CHECK ONE ITEM PER RESPONSE)**

| | Extremely dissatisfied | Somewhat dissatisfied | Neither satisfied or dissatisfied | Somewhat satisfied | Extremely satisfied |
|---|---|---|---|---|---|
| a. Your life | 1 | 2 | 3 | 4 | 5 |
| b. Your physical health | 1 | 2 | 3 | 4 | 5 |
| c. The overall health of the marine environment | 1 | 2 | 3 | 4 | 5 |

The SEFSC added the following 8 questions, where the numbers are those on the revised SEFSC survey instrument.

**2.1 Are you currently working as a hired captain or hired crew member, full time or part time, on one or more commercial fishing vessels?**

1. Yes
2. No (discontinue interview)

**2.3 How many different vessels did you work on in the past year?**

_____ Vessels

**2.5 How many years have you worked for the vessel owner or company that you have worked for the longest?**

_____ Years

**2.7 Are you related by family ties (e.g. sibling, cousin, in-laws) to the owner of your primary vessel?**

1. Yes

2. No

**2.10 Did you work in more than one commercial fishery last year?**

1. Yes
2. No

**2.12 Approximately how many days total did you spend working at sea in the past year?**

_____

(If they only worked in one fishery, skip to question 2.14)

**2.17 Do you regularly take catch home after a commercial fishing trip for your household?**

1. Yes
2. No

**6.1 Is there anything else you would like to tell us that you think fisheries managers should know about?**

The SEFSC made significant changes in wording of the following five questions, where the numbers are those on the SEFSC survey instrument.

**3.1 Please indicate the extent to which you agree or disagree with the following statements regarding the rules and regulations in your primary fishery. (CHECK ONE RESPONSE PER ITEM)**

| | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|---|---|---|---|---|---|
| a. I am very familiar with the fishing regulations in my primary fishery | 1 | 2 | 3 | 4 | 5 |
| b. I feel safe when fishing on my primary vessel | 1 | 2 | 3 | 4 | 5 |
| c. The regulations in my primary fishery are too restrictive. | 1 | 2 | 3 | 4 | 5 |

**3.4 How satisfied or dissatisfied are you with the following aspects of your fishing job? (CHECK ONE RESPONSE PER ITEM)**

| | Very Dissatisfied | Dissatisfied | Neutral | Satisfied | Very Satisfied |
|---|---|---|---|---|---|
| a. Your earnings | 1 | 2 | 3 | 4 | 5 |
| b. The predictability of your earnings | 1 | 2 | 3 | 4 | 5 |
| c. Level of enjoyment | 1 | 2 | 3 | 4 | 5 |
| d. Levels of Safety/Danger | 1 | 2 | 3 | 4 | 5 |
| e. The amount of time spent away from home | 1 | 2 | 3 | 4 | 5 |
| f. Physical nature of the job | 1 | 2 | 3 | 4 | 5 |
| g. Impacts on your health | 1 | 2 | 3 | 4 | 5 |

**4.3 Please list the three largest sources of your household's overall income in the past year (e.g., commercial fishing, other employment, government assistance, or investment income), starting with the largest. Please consider all sources of income from everyone that lives in your household.**

1. Largest source of income

_____

2. Second largest source of income

_____

3. Third largest source of income

_____

**4.4 Approximately what percentage of your total household income in the past year came from commercial fishing activities? _____%**

**5.3 In what year were you born? _____**

**NWFSC/SWFSC**

The NWFSC and SWFSC added the following three questions, where the numbers are those on the NWFSC/SWFSC survey instrument.

**4. Are you currently working as a hired captain or hired crew member, full time or part time, on one or more commercial fishing vessels?**

1. Yes
2. No (discontinue interview)

**42. Given the choice between fishing and an alternative job for which you are qualified, would you prefer fishing or the alternative job if the expected pay for both was the same (check one)?**

❑ Fishing

❑ Alternative work

**43. If you answered “Fishing” in question 42, how much more would the other job have to pay for you to prefer it to fishing?**

- ❑ 1– 10% more
- ❑ 11 – 25% more
- ❑ 26 – 50% more
- ❑ 51 – 100% more
- ❑ Greater than 100% more
- ❑ I would never choose another job